

ATTACHMENT C
(PART 1)

APPENDIX B

Walleye Wind, LLC – A Large Wind Energy Conversion System
Site Permit Application –Application Amendment

MPUC Docket No. IP7026/WS-20-384

SOUND LEVEL ASSESSMENT REPORT

Walleye Wind Project Rock County, Minnesota

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1.0 EXECUTIVE SUMMARY

The Walleye Wind Project (Project) is a proposed wind power generation facility proposed to consist of 40 wind turbines in Rock County, Minnesota. The Project is approximately 109 megawatts (MW) and is being developed by Walleye Wind, LLC, (Walleye Wind) an indirect, wholly owned subsidiary of NextEra Energy Resources, LLC (NEER). Environmental Consulting & Technology, Inc. (ECT), retained to assist in the permitting of the Project, has retained Epsilon Associates, Inc. (Epsilon) to conduct a pre-construction sound level assessment for the proposed wind turbines for this Project.

In general, this sound level assessment has been designed based on procedures identified in the Guidance for Large Wind Energy Conversion System Noise Study Protocol and Report (LWECS Guidance) published by the Minnesota Department of Commerce, Energy Environmental Review and Analysis, dated July 2019. The assessment included computer modeling to predict worst-case future L₅₀ sound levels from the Project which, when combined with existing non-Project wind turbine sound levels and non-wind-turbine ambient sound levels, were evaluated with respect to the total sound level limit. The assessment accounted for various factors in the Project vicinity including other existing wind turbines (Prairie Rose Wind Farm and MinWind I and II) not associated with the Project. The analysis includes a total of 46 Project-related wind turbines (40 proposed + 6 alternates) including five (5) GE 2.32-116¹ wind turbines and 41 GE 2.82-127 wind turbines. The array was designed to ensure that Project Only sound at Noise Area Classification 1 (NAC 1) receptors were 47 dBA or less. All wind turbines will have Low Noise Trailing Edge (LNTE) blades.

This Project is required to comply with Minnesota Pollution Control Agency (MPCA) State Noise Ordinance Standards, which are set forth in Section 4 of this report. For this analysis, all receptors with land use considered as NAC 1 were included in the modeling and evaluated as per Minn. Rule 7030.0040. The most restrictive of the noise limit is the nighttime L₅₀ sound level for NAC 1 of 50 dBA.

An ambient sound level measurement program for the Project was conducted by Hankard Environmental, Inc. (HEI) in the late winter/early spring of 2020. This report utilizes the findings of the sound level measurement program.

¹ Walleye Wind, LLC is considering operating wind turbines under different modes if wind turbine #4 is not constructed. Epsilon performed sound level modeling for this alternative array and the results showed minimal differences (less than 1 dBA) at all receptors compared to the results presented in this report. Under the alternative scenario 227 receptors decreased, 429 receptors were unchanged, and 9 receptors increased in the Project Only sound level modeling. All increases were less than 1 dBA with modeled sound levels at or below 47 dBA at all locations.

Under conditions resulting in non-wind-turbine ambient sound levels of 47 dBA or less, total sound levels (Project + existing non-Project wind turbines + non-wind-turbine ambient) will meet the MPCA limit of 50 dBA. As found in the study performed by HEI, ambient nighttime sound levels can exceed 47 dBA. Non-wind-turbine ambient sound levels can fluctuate due to sound sources such as ground-level winds, vehicular traffic, birds, and vegetation rustle, all of which have the potential to cause non-wind-turbine ambient sound levels to be equal to or exceed the MPCA L₅₀ nighttime limit of 50 dBA. In these instances, the increase to the non-wind-turbine ambient sound level due to the Project will be zero to two decibels since the highest modeled Project-Only sound level is 47 dBA. Under conditions where two sound levels have the same or very similar characteristics a 2-dBA change is imperceptible to the average person.

2.0 INTRODUCTION

The Initial Application included 51 prospective turbine locations; five of those locations were removed for the Application Amendment. The five locations that were removed included two primary turbines and three alternate turbines. The wind turbine array is numbered in a way that spatially matches the Initial Application, including the terms “primary” and “alternate”. The removal of two primary turbines lowers the count for turbines designated as primary to 38 turbines. Walleye Wind, however, is proposing to construct 40 of the 46 prospective locations presented in the Application Amendment.

The Project will consist of 40 wind turbines using a combination of three potential General Electric (GE) models including the 2.82 MW, 114-meter hub height turbine; the 2.82 MW, 89-meter hub height turbine; and the safe harbor 2.32 MW, 80-meter hub height turbine. Of the modeled 46 wind turbines, six (6) GE 2.82-127 wind turbines are proposed to operate under a noise reduction operation (NRO). All wind turbines will have Low Noise Trailing Edge (LNTE) blades. A collector substation is proposed for the Project with a 125 megavolt-ampere (MVA) transformer. Figure 2-1 shows the locations of the 40 proposed and six (6) alternate wind turbines and the substation in Rock County over aerial imagery.

Wind turbine sound can originate from two different sources: mechanical sound from the interaction of turbine components, and aerodynamic sound produced by the flow of air over the rotor blades. Prior to the 1990’s, both were significant contributors to wind turbine sound. However, recent advances in wind turbine design have greatly reduced the contribution of mechanical sound. Aerodynamic sound has also been reduced from modern wind turbines due to slower rotational speeds and changes in materials of construction. Aerodynamic sound, in general, is broadband (has contributions from a wide range of frequencies). It originates from encounters of the wind turbine blades with localized airflow inhomogeneities and wakes from other turbine blades and from airflow across the surface of the blades, particularly the front and trailing edges. Aerodynamic sound generally increases with increasing wind speed up to a certain point, then typically remains constant, even with higher wind speeds. However, sound levels in general also increase with increasing wind speed with or without the presence of wind turbines.

²

This report presents the findings of a sound level modeling analysis for the Project. The Project wind turbines were modeled in Cadna/A using sound data from GE technical reports. Existing non-Project wind turbines were also included in the analysis. The results of this analysis are found within this report.

² Renewable Energy Research Laboratory, Department of Mechanical and Industrial Engineering, University of Massachusetts at Amherst, [Wind Turbine Acoustic Noise](#), June 2002, amended January 2006.

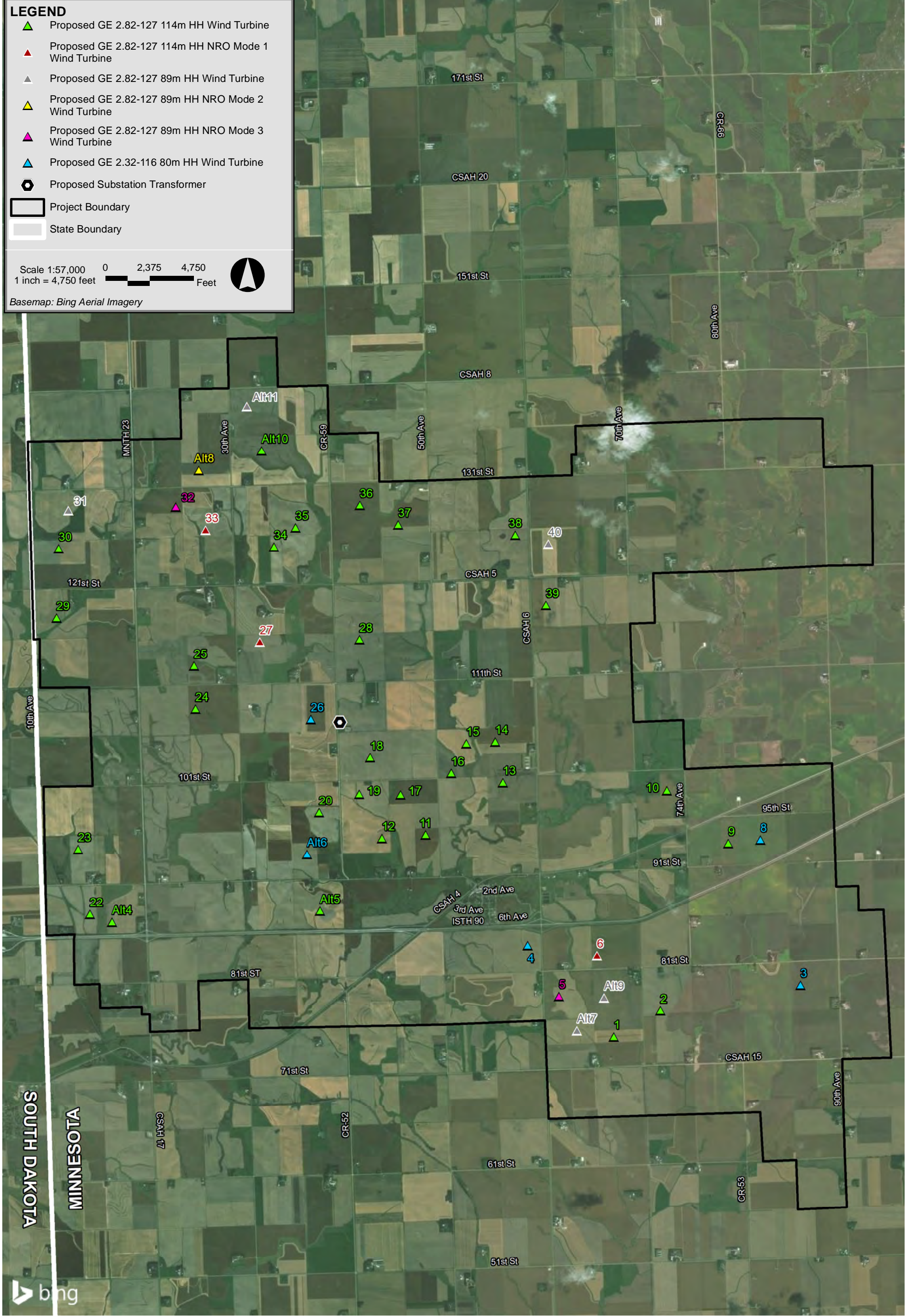
LEGEND

- ▲ Proposed GE 2.82-127 114m HH Wind Turbine
- ▲ Proposed GE 2.82-127 114m HH NRO Mode 1 Wind Turbine
- ▲ Proposed GE 2.82-127 89m HH Wind Turbine
- ▲ Proposed GE 2.82-127 89m HH NRO Mode 2 Wind Turbine
- ▲ Proposed GE 2.82-127 89m HH NRO Mode 3 Wind Turbine
- ▲ Proposed GE 2.32-116 80m HH Wind Turbine
- ⬡ Proposed Substation Transformer
- ▭ Project Boundary
- ▭ State Boundary

Scale 1:57,000
1 inch = 4,750 feet

0 2,375 4,750 Feet

Basemap: Bing Aerial Imagery



Walleye Wind Project Rock County, Minnesota

3.0 SOUND TERMINOLOGY

There are several ways in which sound levels are measured and quantified. All of them use the logarithmic decibel (dB) scale. The following information defines the sound level terminology used in this analysis.

The decibel scale is logarithmic to accommodate the wide range of sound intensities found in the environment. A property of the decibel scale is that the sound pressure levels of two or more separate sounds are not directly additive. For example, if a sound of 50 dB is added to another sound of 50 dB, the total is only a 3-decibel increase (53 dB), which is equal to doubling in sound energy, but not equal to a doubling in decibel quantity (100 dB). Thus, every 3-dB change in sound level represents a doubling or halving of sound energy. The human ear does not perceive changes in the sound pressure level as equal changes in loudness. Scientific research demonstrates that the following general relationships hold between sound level and human perception for two sound levels with the same or very similar frequency characteristics³:

- ◆ 3 dBA increase or decrease results in a change in sound that is just perceptible to the average person,
- ◆ 5 dBA increase or decrease is described as a clearly noticeable change in sound level, and
- ◆ 10 dBA increase or decrease is described as twice or half as loud.

Another mathematical property of decibels is that if one source of sound is at least 10 dB louder than another source, then the total sound level is simply the sound level of the higher-level source. For example, a sound source at 60 dB plus another sound source at 47 dB is equal to 60 dB.

A sound level meter (SLM) that is used to measure sound is a standardized instrument.⁴ It contains “weighting networks” (e.g., A-, C-, Z-weightings) to adjust the frequency response of the instrument. Frequencies, reported in Hertz (Hz), are detailed characterizations of sounds, often addressed in musical terms as “pitch” or “tone”. The most commonly used weighting network is the A-weighting because it most closely approximates how the human ear responds to sound at various frequencies. The A-weighting network is the accepted scale used for community sound level measurements; therefore, sounds are frequently reported as detected with a sound level meter using this weighting. A-weighted sound levels emphasize middle frequency sounds (i.e., middle pitched – around 1,000 Hz), and de-emphasize low and high frequency sounds. These sound levels are reported in decibels designated as “dBA”. The C-weighting network has a nearly flat response for frequencies between 63 Hz and 4,000 Hz and is noted as dBC. Z-weighted sound

³ Bies, David, and Colin Hansen. 2009. *Engineering Noise Control: Theory and Practice*, 4th Edition. New York: Taylor and Francis.

⁴ *American National Standard Specification for Sound Level Meters*, ANSI S1.4-1983 (R2006), published by the Standards Secretariat of the Acoustical Society of America, Melville, NY.

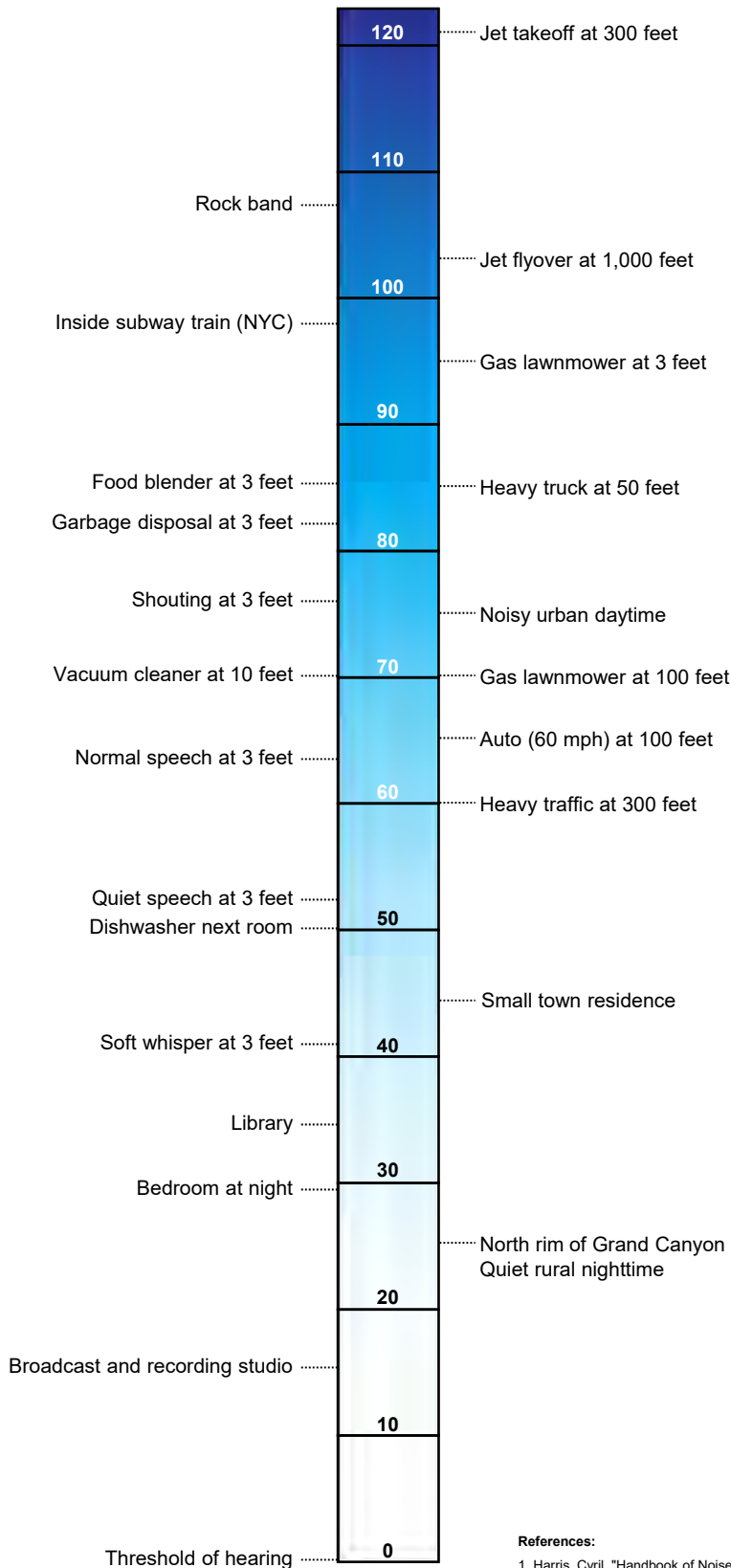
levels are measured sound levels without any weighting curve and are otherwise referred to as “unweighted”. Sound pressure levels for some common indoor and outdoor environments are shown in Figure 3-1.

Because the sounds in our environment vary with time they cannot simply be described with a single number. Two methods are used for describing variable sounds. These are exceedance levels and the equivalent level, both of which are derived from some number of moment-to-moment A-weighted sound level measurements. Exceedance levels are values from the cumulative amplitude distribution of all of the sound levels observed during a measurement period. Exceedance levels are designated L_n , where n can have a value between 0 and 100 in terms of percentage. Several sound level metrics that are reported in community sound monitoring are described below.

- ◆ L_{10} is the sound level exceeded only 10 percent of the time. It is close to the maximum level observed during the measurement period. The L_{10} is sometimes called the intrusive sound level because it is caused by occasional louder sounds like those from passing motor vehicles.
- ◆ L_{50} is the sound level exceeded 50 percent of the time. It is the median level observed during the measurement period. The L_{50} is affected by occasional louder sounds like those from passing motor vehicles; however, it is often found comparable to the equivalent sound level under relatively steady sound level conditions.
- ◆ L_{90} is the sound level exceeded 90 percent of the time during the measurement period. The L_{90} is close to the lowest sound level observed. It is essentially the same as the residual sound level, which is the sound level observed when there are no obvious nearby intermittent sound sources.
- ◆ L_{eq} , the equivalent level, is the level of a hypothetical steady sound that would have the same energy (*i.e.*, the same time-averaged mean square sound pressure) as the actual fluctuating sound observed. The equivalent level is designated L_{eq} and is typically A-weighted. The equivalent level represents the time average of the fluctuating sound pressure, but because sound is represented on a logarithmic scale and the averaging is done with linear mean square sound pressure values, the L_{eq} is mostly determined by loud sounds if there are fluctuating sound levels.

Sound Pressure
Level, dBA

COMMON INDOOR SOUNDS **COMMON OUTDOOR SOUNDS**



References:

- Harris, Cyril, "Handbook of Noise Acoustical Measurements and Noise Control", p 1-10., 1998
- "Controlling Noise", USAF, AFMC, AFDT, Elgin AFB, Fact Sheet, August 1996
- California Dept. of Trans., "Technical Noise Supplement", Oct, 1998

4.0 NOISE REGULATIONS

4.1 Federal Regulations

There are no federal community noise regulations applicable to this Project.

4.2 Minnesota State Regulations

The Project, located within Rock County, MN, is required to comply with MPCA's 7030.0040 sound standard, which states:

Subpart 1. Scope. These standards describe the limiting levels of sound established on the basis of present knowledge for the preservation of public health and welfare. These standards are consistent with speech, sleep, annoyance, and hearing conservation requirements for receivers within areas grouped according to land activities by the noise area classification (NAC) system established in part 7030.0050. However, these standards do not, by themselves, identify the limiting levels of impulsive noise needed for the preservation of public health and welfare. Noise standards in subpart 2 apply to all sources.

Subpart 2. Noise Standards.

Noise Area Classification	Daytime		Nighttime	
	L ₅₀	L ₁₀	L ₅₀	L ₁₀
1	60	65	50	55
2	65	70	65	70
3	75	80	75	80

Minn. Rule 7030.0020 defines daytime hours as 7:00AM to 10:00PM and nighttime hours from 10:00PM to 7:00AM. All daytime and nighttime limits are expressed in A-weighted decibels (dBA) and are applicable over the duration of an hour. These are to be measured using the fast response characteristic of the measurement instrumentation per Minn. Rule 7030.0060.

Noise is defined by the State of Minnesota⁵ as “any sound not occurring in the natural environment, including, but not limited to, sounds emanating from aircraft and highways, and industrial, commercial, and residential sources.”

The methodology for evaluating these limits are set forth in the Large Wind Energy Conversion System Noise Study Protocol and Report (LWECS Guidance) published by the Minnesota Department of Commerce, Energy Environmental Review and Analysis, dated July 2019.

⁵ Minnesota Statutes 2017 Section 116.06

NAC 1⁶ receptors are protected by the lowest sound level limits of the MPCA. Since wind turbines can operate under conditions resulting in maximum sound power during both the day and at night, the Project would need to comply with the more stringent nighttime limits. Furthermore, because wind turbine sound is generally steady during a relatively constant wind speed there would be minimal difference, i.e. < 5 dBA, between the L₅₀ and L₁₀ sound levels due to a wind turbine. As the L₅₀ and L₁₀ noise limits differ by 5 decibels, the L₅₀ limit is more restrictive for a wind energy facility. Therefore, NAC 1 receptors have been evaluated against the L₅₀ sound level limit of 50 dBA in this analysis.

⁶ NAC 1 is defined per Rule 7030.0050 as household units (including farm houses); hotels, motels or other overnight lodging; mobile home parks or courts; other residential units; motion picture production; medical and other health services; correctional institutions; educational services; religious activities; cultural activities and nature exhibitions; entertainment assembly; camping and picnicking areas (designated); resorts and group camps; other cultural, entertainment, and recreational activities.

5.0 EXISTING SOUND LEVELS

An ambient sound level measurement program for the Project was conducted by Hankard Environmental, Inc. (HEI) in the late winter/early spring of 2020 and is included in this report as Appendix A. Hourly sound level and ground level wind speed data were continuously measured at five (5) locations for approximately two weeks. Global coordinates of the measurement locations are provided in Table 5-1 as shown in Table 4-1 of the HEI report. This report utilizes the findings of the sound level measurement program; details of the program methodology, a figure showing the measurement locations, and results may be found in Appendix A.

Table 5-1 Sound Level Measurement Location Coordinates

Location	Coordinates UTM NAD83 Zone 14N	
	X (m)	Y (m)
M1	709648	4843917
M2	708707	4836216
M3	712652	4835806
M4	715330	4837480
M5	714062	4831110

As shown in Table 5-2 below, nighttime measurements showed non-wind-turbine ambient L_{50} sound levels range from 22 to 59 dBA when ground-level wind speeds were at or below 11 mph and winds at hub height corresponded to conditions in the modeling (Section 6). The A-weighted L_{50} sound pressure levels had no contribution from existing wind turbines based on in-person observations.

In order to calculate ‘total’ sound levels (ambient + Project) at the five measurement locations, a single, representative L_{50} ambient nighttime sound level has been assigned to each location. Table 5-2 presents the median nighttime L_{50} sound pressure level measured at each location when ground-level wind speeds were at or below 11 mph and winds at hub height corresponded to conditions in the modeling as shown in Table 5-6 of Appendix A. As these are the median sound levels, there will be times under comparable hub height wind speeds when the ambient sound levels at these locations will be lower and other times when the sound levels will be higher.

Table 5-2 Establishment of Ambient Sound Levels at Measurement Locations

Location	Range of Ambient Nighttime L₅₀ Sound Levels (dBA)¹	Representative (Median) Ambient Nighttime L₅₀ Sound Level (dBA)
M1	25 to 49	38
M2	22 to 59	37
M3	28 to 50	37
M4	26 to 55	36
M5	29 to 43	35

Notes:

1. Ground-level wind speeds at or below 11 mph, and winds at hub height correspond to conditions in the modeling.

6.0 MODELED SOUND LEVELS

6.1 Sound Sources

6.1.1 *Project Wind Turbines*

The sound level analysis for the Project conservatively includes 46 wind turbines, including 40 primary locations and six (6) alternates. The Project will consist of wind turbines using a combination of three potential General Electric (GE) models including the 2.82 MW, 114-meter hub height turbine; the 2.82 MW, 89-meter hub height turbine; and the safe harbor 2.32 MW, 80-meter hub height turbine. All wind turbines will have Low Noise Trailing Edge (LNTE) blades.

The GE 2.82-127 LNTE wind turbines have a rotor diameter of 127.2 meters. Thirty-three (33) have a hub height of 114 meters and the other eight (8) have a hub height of 89 meters. A technical report from GE⁷ was provided to Epsilon which documented the expected sound power levels associated with the GE 2.82-127 LNTE. These sound power levels are defined as “calculated apparent” by the turbine manufacturer and therefore do not include any uncertainty factor. Six (6) GE 2.82-127 LNTE wind turbines (three with a hub height of 114 meters and three at 89 meters) are proposed to operate under NRO as identified in applicable figures within this section (wind turbine numbers 5, 6, 27, 32, 33, and Alt 8). As described by the acoustic document from GE⁸, a wind turbine in NRO mode operates at a reduced rotor speed and with an optimized blade pitch angle, lowering the sound emitted by the wind turbine. The GE acoustic document provides sound power levels for four (4) NRO modes. In this report, the modes are referred to as NRO Mode 1 through 4; NRO Mode 4 is the quietest mode.

The GE 2.32-116 wind turbines have a rotor diameter of 116.5 meters with a hub height of 80 meters. The technical report for the GE 2.32-116 wind turbine⁹ documented the expected sound power levels. These sound power levels are defined as “calculated apparent” by the turbine manufacturer and therefore do not include any uncertainty factor.

⁷ General Electric Company, Technical Documentation Wind Turbine Generator Systems 2.x-127 with LNTE – 60 Hz Product Acoustic Specifications, 2018.

⁸ General Electric Company, Technical Documentation Wind Turbine Generator Systems 2.5-127 and 2.8-127 with LNTE 60 Hz Product Acoustic Specifications Noise Reduction Operation according to IEC, 2018.

⁹ General Electric Company, Technical Documentation Wind Turbine Generator Systems 2.3-116 with LNTE – 50 Hz and 60 Hz Product Acoustic Specifications, 2015.

6.1.2 Project Substation Transformer

The proposed substation will be located east of wind turbine 26 as shown in Figure 6-1. The substation will feature a 125 megavolt-ampere (MVA) transformer. Epsilon has estimated octave-band sound power levels using the MVA rating provided by ECT and methods outlined in the Electric Power Plant Environmental Noise Guide¹⁰ (EEI Noise Guide). Table 6-1 summarizes the sound power level data used in the modeling.

Table 6-1 Modeled Substation Transformer Sound Power Levels

Maximum Rating	Sound Power Levels per Octave-Band Center Frequency [Hz]									
	Broadband dBA	31.5 dB	63 dB	125 dB	250 dB	500 dB	1k dB	2k dB	4k dB	8k dB
125 MVA	100	96	102	104	99	99	93	88	83	76

6.1.3 Existing Non-Project Wind Turbines

Existing non-Project wind turbines are currently in the vicinity of the Project area and are assumed to remain operational. To predict the future wind turbine sound levels in the Project vicinity, a desktop cumulative modeling analysis was conducted which included the sound level contribution from these non-Project turbines. Coordinates and descriptions for the turbines associated with Prairie Rose Wind Farm and MinWind I and II were based upon publicly available data from the USGS Wind Turbine Database¹¹. According to the database, Prairie Rose Wind Farm consists of 119 wind turbines that were included in the modeling. Based on the USGS Turbine Database, the wind turbines were modeled as GE 1.68-82 units with 80 meter hub heights and 82.5 meter rotor diameters. Sound power level data and octave band sound power levels for the wind turbine type were not available; however, data for a similar wind turbine type (GE 1.85-82) were available in the WindPRO WTG Catalog. WindPRO is a software suite developed by EMD International A/S and is used for assessing potential environmental impacts from wind turbines.

According to the database, MinWind I and II consists of four (4) non-Project wind turbines. Based on the USGS Turbine Database, the wind turbines were modeled as NEG Micon NM54 units with 70 meter hub heights and 54 meter rotor diameters. Broadband sound power levels were available. Epsilon accessed sound power level data using the WindPRO WTG Catalog.

¹⁰ Bolt Beranek and Newman Inc. (1984). *Electric Power Plant Environmental Noise Guide* (2nd ed.). Edison Electric Institute.

¹¹ USGS (2019). U.S. Wind Turbine Database. U.S. Wind Turbine Database View. [Online.] Available at <https://eerscmap.usgs.gov/uswtodb/viewer/#10/44.2225/-96.2195>

Perch Wind, formerly MinWind III-IX, was not included in the analysis because these wind turbines will be decommissioned in 2021. NEER acquired the project from RES in 2019. Perch Wind consists of seven (7) wind turbines (11.5 MW) located within the Project area and was originally built in 2004.

6.2 Modeling Methodology

The sound impacts associated with the proposed wind turbines were predicted using the Cadna/A sound level calculation software developed by DataKustik GmbH. This software uses the ISO 9613-2 international standard for sound propagation.¹² The benefits of this software are a more refined set of computations due to the inclusion of topography, ground attenuation, multiple building reflections (if applicable), drop-off with distance, and atmospheric absorption. The Cadna/A software allows for octave band calculation of sound from multiple sources as well as computation of diffraction.

Inputs and significant parameters employed in the model are described below and summarized in Table 6-2:

- ◆ *Project Layout:* On September 28, 2020 the Project boundary was provided to Epsilon. This analysis is for the wind turbine array dated October 21, 2020. The proposed Project layout is identified in Figure 6-1 and location coordinates are provided in Appendix B.
- ◆ *Existing Non-Project Wind Turbine Locations:* A publicly available database was utilized for the coordinates for the existing non-Project wind turbines within the vicinity of the Project Area. These wind turbines are shown in Figure 6-2.
- ◆ *Parcel Participation:* A dataset containing participation status information for property parcels in the proximity of the Project was provided by ECT on October 27, 2020. Parcels identified as leased within the dataset are participating and are indicated as such on Figure 6-1. Certain parcels in the vicinity of the Project are targeted to be leased by Walleye Wind and these parcels shown on Figure 6-1. All other parcels are considered non-participating.
- ◆ *Modeling Receptor Locations:* A modeling receptor dataset was provided by ECT on January 20, 2020. A subset of these receptors, 512, were classified as Noise Area Classification (NAC 1) and input into the sound level model. An additional dataset with 153 receptors was provided on June 12, 2020. Therefore, a total of 665 receptors were included in the modeling. Two hundred and twenty-two (222) of these receptors are in South Dakota and have been included for informational purposes only. All modeling

¹² *Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation*, International Standard ISO 9613-2:1996 (International Organization for Standardization, Geneva, Switzerland, 1996).

receptors were input as discrete points at a height of 1.5 meters above ground level to mimic the ears of a typical standing person. Participation status for each modeling receptor was assigned based on the data presented in Figure 6-1. All modeling receptors are identified in Figure 6-3 and receptors in Minnesota are distinguished as either participating, targeted, or non-participating.

- ◆ *Modeling Grid:* A modeling grid with 20-meter spacing was calculated for the entire Project Area and the surrounding region. The grid was modeled at a height of 1.5 meters above ground level for consistency with the discrete modeling points. This modeling grid allowed for the creation of sound level isolines.
- ◆ *Terrain Elevation:* Elevation contours for the modeling domain were directly imported into Cadna/A which allowed for consideration of terrain shielding where appropriate. The terrain height contour elevations for the modeling domain were generated from elevation information derived from the National Elevation Dataset (NED) developed by the U.S. Geological Survey.
- ◆ *Source Sound Levels:* Sound power levels used in the modeling were described in Section 6.1. Documentation from GE provided levels that represent “worst-case” operational sound level emissions for the Project’s proposed wind turbines. The WindPRO software package provided sound levels for the existing non-Project wind turbines to represent “worst-case” emissions.
- ◆ *Uncertainty factor:* No uncertainty factor was provided by the wind turbine manufacturers; however, based on experience with other wind turbine manufacturers and wind turbine sound modeling, an uncertainty factor of 2.0 dBA was assumed and conservatively added to the sound power level for each modeled wind turbine (Project and existing non-Project).
- ◆ *Meteorological Conditions:* A temperature of 10°C (50°F) and a relative humidity of 70% was assumed in the model.
- ◆ *Ground Attenuation:* Spectral ground absorption was calculated using a G-factor of 0.5 which corresponds to “mixed ground” consisting of both hard and porous ground cover. This method yields more conservative results (i.e., higher sound levels) as the vast majority of the area is actually agricultural.

Octave band sound power levels corresponding to the highest available wind turbine broadband sound power level for each wind turbine type including uncertainty were input into Cadna/A¹³ to model wind turbine generated L_{eq} sound pressure levels during conditions when worst-case sound

¹³ The one exception to this approach was for the NEG Micon wind turbine where only a broadband sound level was available.

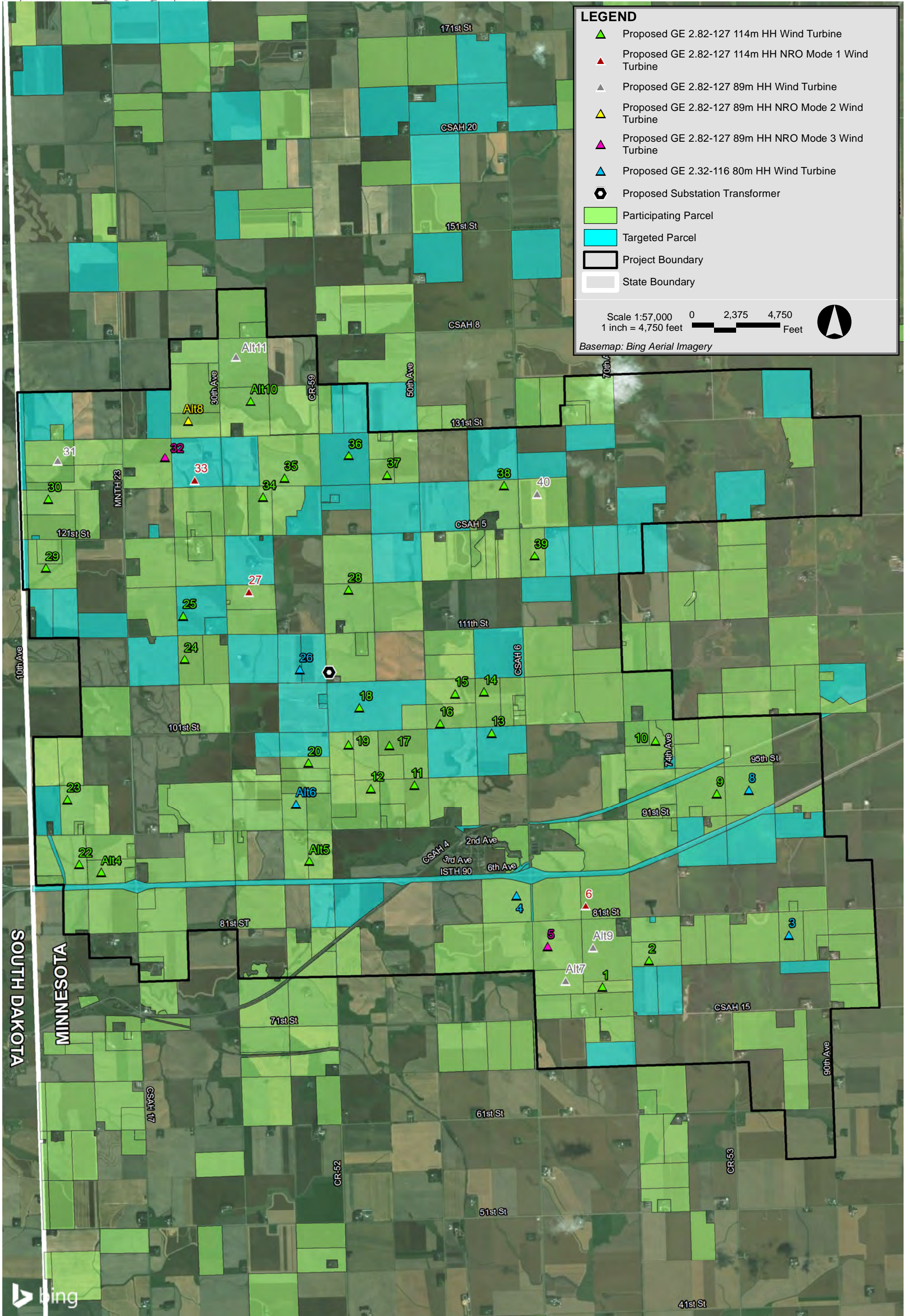
power levels are expected. These calculations were performed for Project plus existing non-Project wind turbines, Project wind turbines only, and the existing non-Project wind turbines only. Sound pressure levels were modeled at 665 receptors within the vicinity of the Project area including those in SD. In addition to modeling at discrete points, sound levels were also modeled throughout a large grid of points, each spaced 20 meters apart to allow for the generation of sound level isolines.

Several modeling assumptions inherent in the ISO 9613-2 calculation methodology, or selected as conditional inputs by Epsilon, were implemented in the Cadna/A model to ensure conservative results (i.e., higher sound levels), and are described below:

- ◆ All modeled sources were assumed to be operating simultaneously and at the design wind speed corresponding to the greatest sound level impacts.
- ◆ As per ISO 9613-2, the model assumed favorable conditions for sound propagation, corresponding to a moderate, well-developed ground-based temperature inversion, as might occur on a calm, clear night or equivalently downwind propagation.
- ◆ Meteorological conditions assumed in the model (T=10°C/RH=70%) were selected to minimize atmospheric attenuation in the 500 Hz and 1 kHz octave bands where the human ear is most sensitive.
- ◆ No additional attenuation due to tree shielding, air turbulence, or wind shadow effects was considered in the model.

Table 6-2 Summary of Key Sound Level Modeling Inputs

Modeling Parameter	Description / Value
Wind Turbine Layout	Provided by Walleye Wind and ECT
Terrain	U.S.G.S. Data
Wind Turbine Sound Power Levels	GE Specifications Documentation, WindPRO Catalog
Uncertainty (Added to Wind Turbine Sound Power Levels)	2 dBA
Meteorological Conditions	T=10°C / RH=70%
Ground Absorption Factor	0.5



Walleye Wind Project Rock County, Minnesota

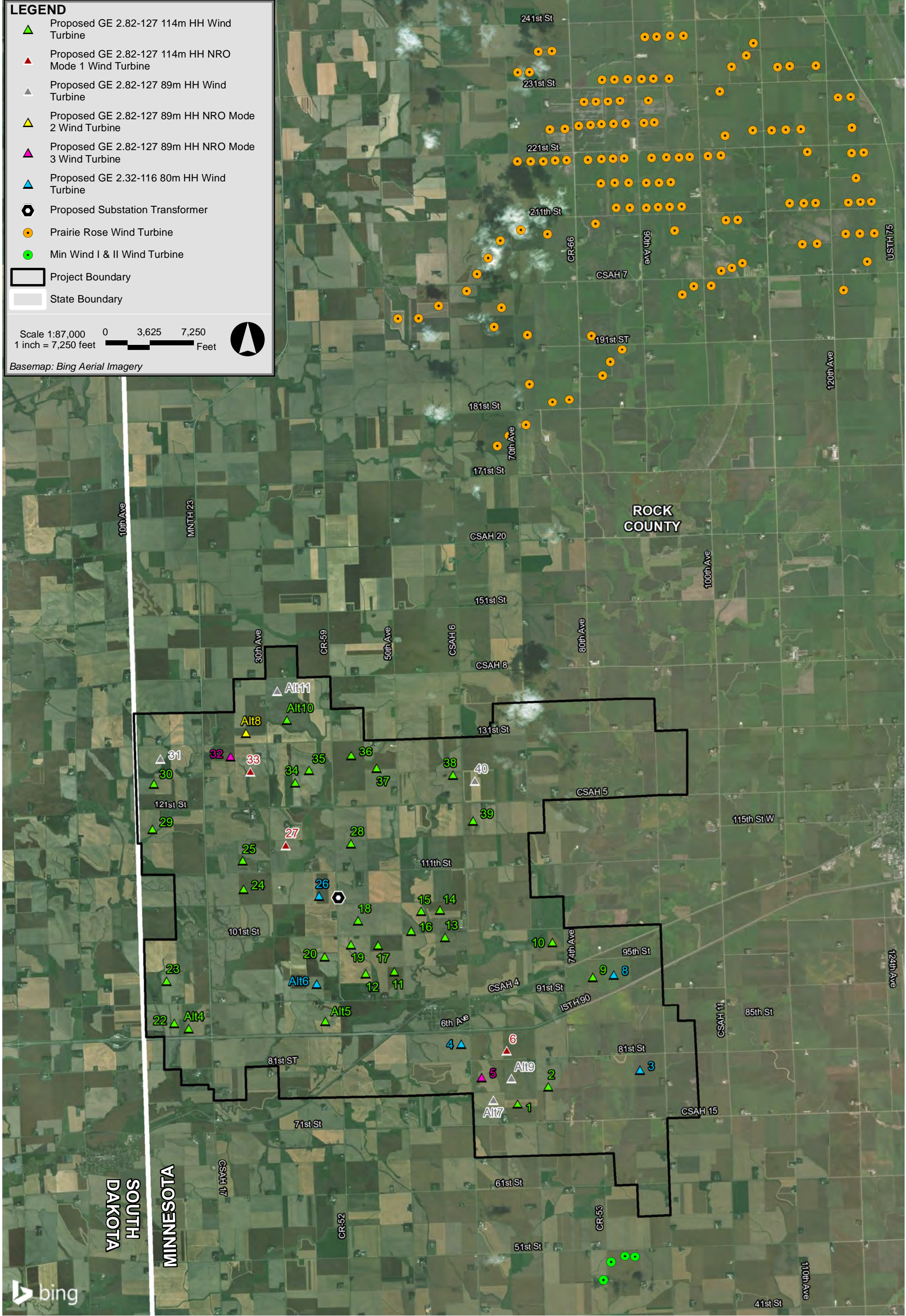
LEGEND

- ▲ Proposed GE 2.82-127 114m HH Wind Turbine
- ▲ Proposed GE 2.82-127 114m HH NRO Mode 1 Wind Turbine
- ▲ Proposed GE 2.82-127 89m HH Wind Turbine
- ▲ Proposed GE 2.82-127 89m HH NRO Mode 2 Wind Turbine
- ▲ Proposed GE 2.82-127 89m HH NRO Mode 3 Wind Turbine
- ▲ Proposed GE 2.32-116 80m HH Wind Turbine
- ⦿ Proposed Substation Transformer
- Prairie Rose Wind Turbine
- Min Wind I & II Wind Turbine

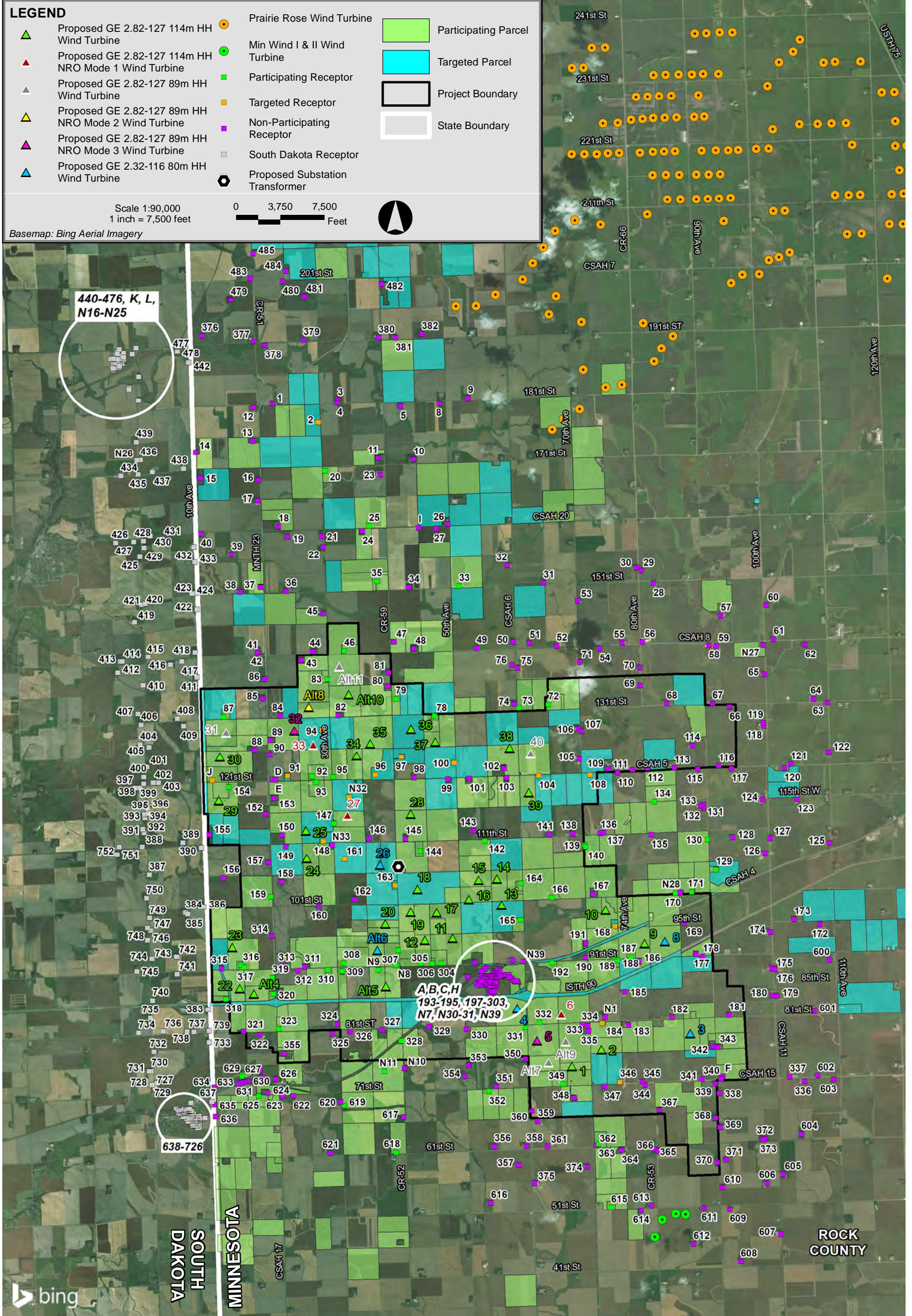
▭ Project Boundary
▭ State Boundary

Scale 1:87,000 0 3,625 7,250
1 inch = 7,250 feet

Basemap: Bing Aerial Imagery



Walleye Wind Project Rock County, Minnesota



Walleye Wind Project Rock County, Minnesota

6.3 Sound Level Modeling Results

All modeled sound levels, as output from Cadna/A are A-weighted equivalent sound levels (L_{eq} , dBA). Based on Epsilon's experience in conducting post-construction sound level measurement programs for wind energy facilities, the equivalent sound level has been comparable to the median (L_{50} , dBA) sound level when the wind turbine sound was prevalent and steady under ideal wind and operational conditions.¹⁴ Therefore, the modeled sound levels may be considered as L_{50} sound levels and directly compared to the Minnesota L_{50} limit.

6.3.1 *Project + Existing Non-Project*

Table C-1 in Appendix C shows the predicted "Project + Existing Non-Project" broadband (dBA) sound levels at the 665 NAC 1 receptors modeled within proximity to the Project. These broadband L_{50} sound levels range from 22 to 47 dBA and represent the worst-case future L_{50} sound levels produced solely by wind turbines near the Project following the Project construction. The maximum modeled sound level of 47 dBA is at nine (9) receptors in Minnesota (6 participating and 3 targeted receptors). In addition to the discrete modeling points, sound level isolines generated from the modeling grid are presented in Figure 6-4. The sound levels presented in the tables and in the figure do not include any contribution from other existing sound sources in the area.

6.3.2 *Project Only Results*

Table C-2A in Appendix C shows the predicted "Project Only" broadband (dBA) sound levels at the 665 NAC 1 receptors modeled within proximity to the Project. These broadband L_{50} sound levels range from 14 to 47 dBA and represent the worst-case future L_{50} sound levels produced solely by the Project wind turbines. The maximum modeled sound level of 47 dBA is at eight (8) receptors in Minnesota (6 participating and 2 targeted receptors). In addition to the discrete modeling points, sound level isolines generated from the modeling grid are presented in Figure 6-5. The sound levels presented in the tables and in the figure do not include any contribution from other existing sound sources in the area. Table C-2B shows the predicted "Project Only" sound levels sorted from high to low.

In the event wind turbine #4 is not constructed, Walleye Wind, LLC will operate:

- ◆ Wind turbine #5 under NRO Mode 2 instead of NRO Mode 3
- ◆ Wind turbine #6 under normal operations instead of NRO Mode 1

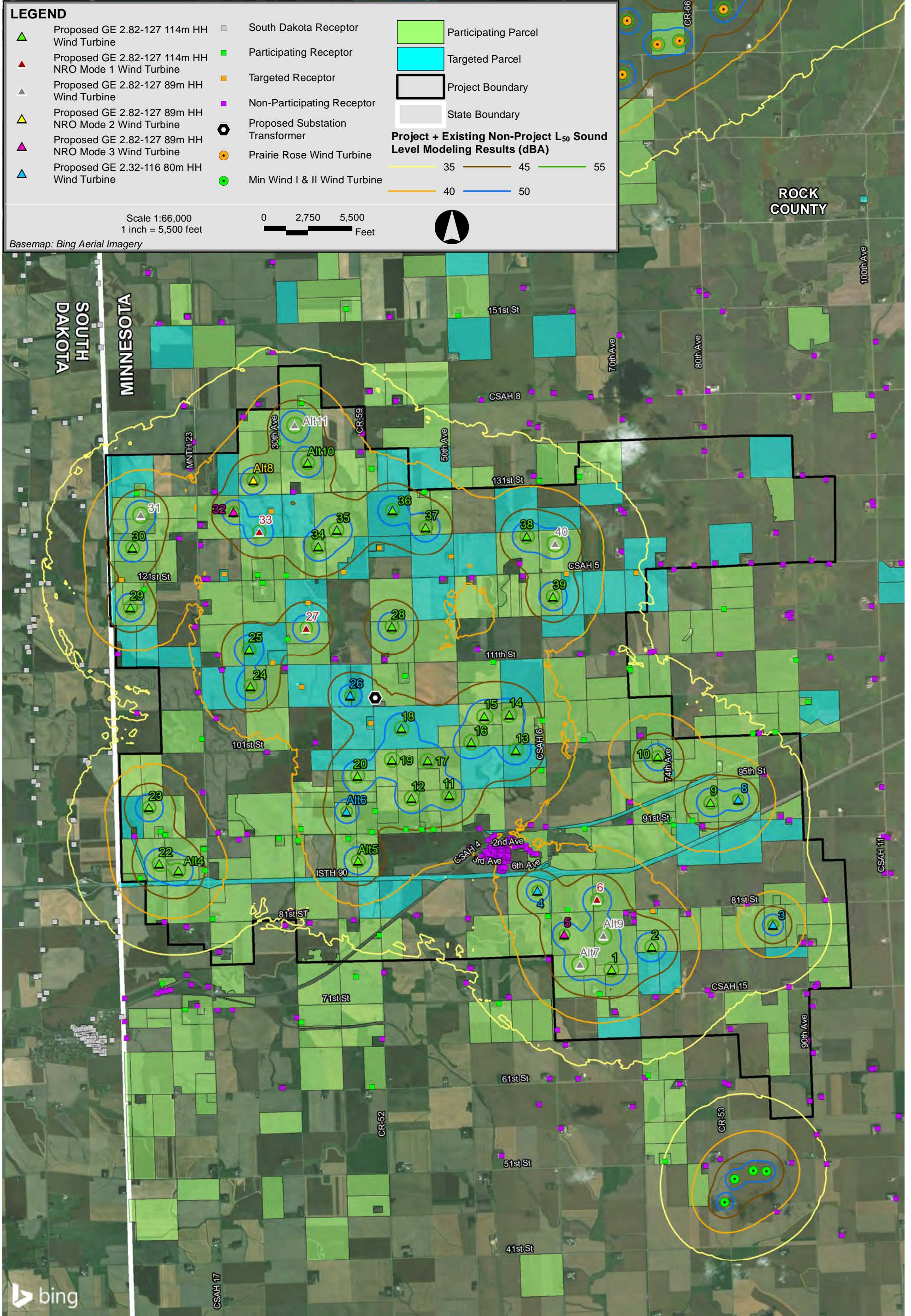
To ensure compliance with this scenario, Epsilon performed sound level modeling for this alternative scenario and the results showed minimal differences (less than 1 dBA) at all receptors compared to the results presented in this report. Under the alternative scenario 227 receptors

¹⁴ Within 0.4 decibels.

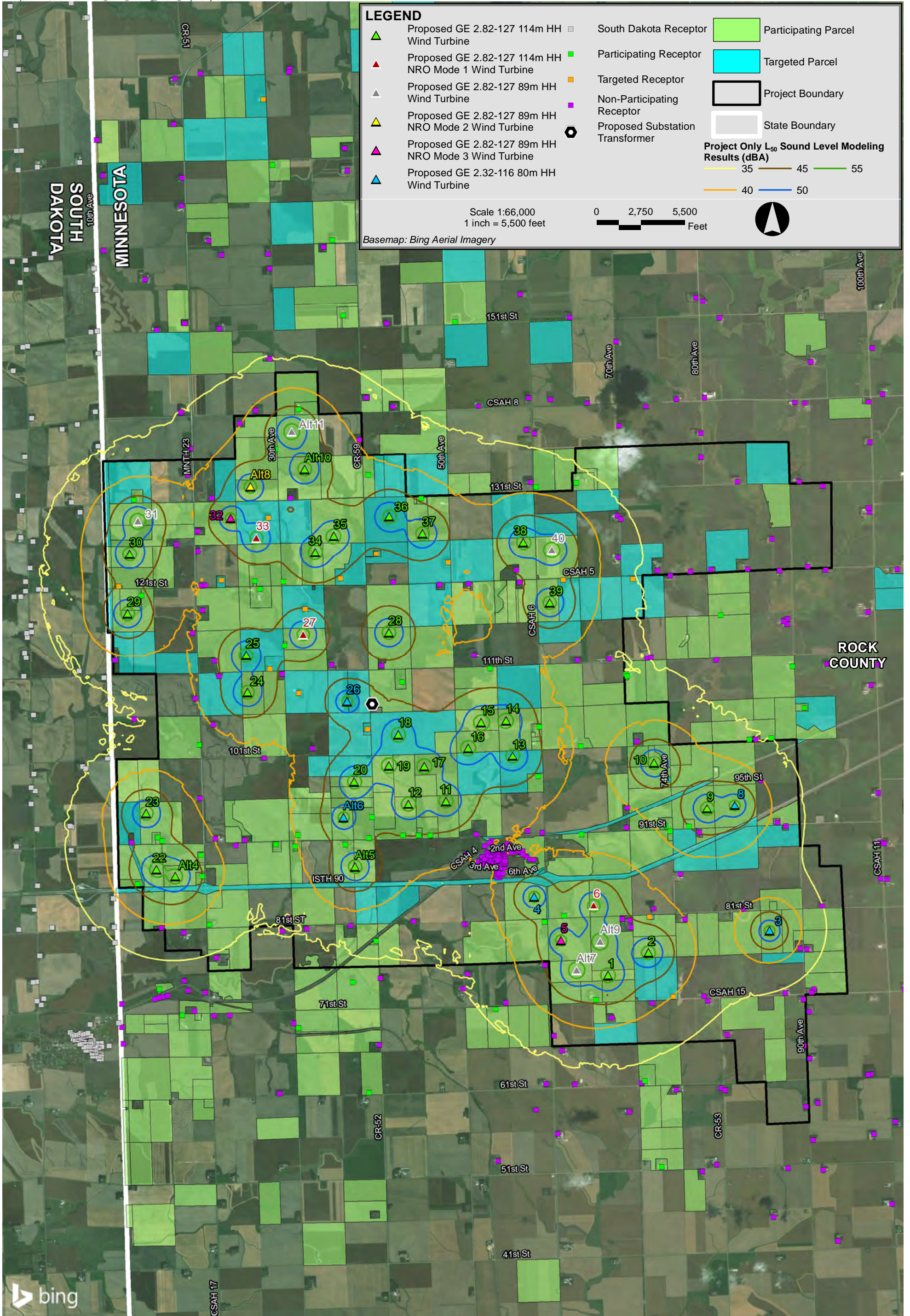
decreased, 429 receptors were unchanged, and 9 receptors increased. All increases were less than 1 dBA with modeled sound levels at or below 47 dBA at all locations. Table D-1 in Appendix D shows the predicted “Project Only” broadband (dBA) sound levels at the 665 NAC 1 receptors modeled within proximity to the Project. In addition to the discrete modeling points, sound level isolines generated from the modeling grid are presented in Figure D-1.

6.3.3 Existing Non-Project Only Results

Table C-3 in Appendix C shows the modeled broadband (dBA) sound levels at the 665 NAC 1 receptors from Existing Non-Project wind turbines within proximity to the Project. These broadband L₅₀ modeled sound levels range from 6 to 43 dBA. The sound levels presented in the table do not include any contribution from other existing sound sources in the area nor from the Project.



Walleye Wind Project Rock County, Minnesota



Walleye Wind Project Rock County, Minnesota

7.0 EVALUATION OF SOUND LEVELS

The Project, located within Rock County, MN, is required to comply with the sound level requirements in Minn. R. Ch. 7030 for Noise Pollution Control. NAC 1 (primarily residential) receptors are protected by the lowest sound level limits of the MPCA. Since wind turbines can operate under conditions resulting in maximum sound power, during both the day and at night, the Project would need to comply with the more stringent nighttime limits. Furthermore, because wind turbine sound is generally steady, the L_{50} (median) sound level is more likely to be affected by wind turbine sound than the L_{10} which is controlled more by unsteady sound. The L_{50} limit is also more restrictive than the L_{10} limit. Therefore, NAC 1 receptors have been evaluated against the L_{50} sound level limit of 50 dBA in this analysis. This is a total sound level limit which includes sound from the Project and existing sound sources.

7.1 Measurement Locations

Table 7-1 below presents an evaluation of total (wind turbine + ambient) sound levels at the five measurement locations utilized in the pre-construction measurement program performed by HEI. The nighttime L_{50} ambient sound levels from Table 5-2 has been reproduced in the table. These sound levels represent the ambient experienced during nighttime hours when the Project would be operating under worst-case sound level conditions. As these are median sound levels, there will be times under comparable hub height wind speeds when the ambient sound levels will be lower and other times when the sound levels will be higher. Modeled Project Only and Existing Non-Project wind turbine L_{50} sound levels for the respective modeling receptor locations are provided in the table. The non-wind-turbine ambient sound levels are logarithmically added to the modeled sound levels to determine a representative total nighttime L_{50} sound level for each measurement location. The values in Table 7-1 demonstrate compliance with the MPCA L_{50} nighttime total sound level limit of 50 dBA. However, non-wind-turbine ambient sound levels in the Project region may fluctuate due to sound sources such as ground-level winds, vehicular traffic, birds, and vegetation rustle, all of which have the potential to cause total sound levels to exceed the limit at times.

Table 7-1 Evaluation of Total Sound Levels at Measurement Locations

Measurement Location	Representative (Median) Ambient Nighttime L ₅₀ Sound Level (dBA) ³	Modeled Project Only L ₅₀ Sound Level (dBA) ²	Modeled Existing Non-Project Wind Turbines L ₅₀ Sound Level (dBA) ²	Total L ₅₀ Sound Level (dBA) ¹	Meets MPCA Nighttime L ₅₀ Limit?
M1	38	29	26	39	YES
M2	37	47 ⁴	14	47	YES
M3	37	42	18	43	YES
M4	36	36	22	39	YES
M5	35	47 ⁴	19	47	YES

Notes:

1. Sound pressure levels rounded to the nearest whole decibel are shown. Sound level addition was performed with greater precision.
2. Modeled at receptors 25, 147, 142, 108, and 332 for Locations M1 through M5, respectively.
3. As shown in HEI measurement report.
4. Highest modeled Project Only L₅₀ sound level.

7.2 Modeling Locations

Since ambient sound levels in the Project area vary, modeled Project-Only sound levels have been combined with modeled Existing Non-Project wind turbines sound levels and a range of non-wind-turbine ambient sound levels in order to evaluate the Minnesota limit of 50 dBA. These total L₅₀ sound levels are presented in Table E-1 in Appendix E. A review of Table C-2B in Appendix C shows the highest Project-Only L₅₀ sound level to be 47 dBA at receptors #94, 147, 83, 332, N9, 163, 316, 148, and 87. This includes 6 participating receptors and 3 targeted receptors. Accordingly, total sound levels (Project + Existing Non-Project + non-wind-turbine ambient) will meet the Minnesota limit of 50 dBA when non-wind-turbine ambient sound levels are less than or equal to 47 dBA.¹⁵ The predicted total sound levels are shown for when ambient (non-wind-turbine) L₅₀ sound levels are 35, 40, 45, 47, and 50 dBA. As found in Appendix A ambient nighttime sound levels can exceed 47 dBA. Non-wind-turbine ambient sound levels can fluctuate due to sound sources such as ground-level winds, vehicular traffic, birds, and vegetation rustle, all of which have the potential to cause ambient sound levels to be equal to or exceed the MPCA L₅₀ nighttime limit of 50 dBA. In these instances, the increase to the non-wind-turbine ambient sound level will be zero to two decibels since the highest modeled Project-Only sound level is 47 dBA. Under conditions where two sound levels have the same or very similar characteristics, a 2-dBA change is imperceptible to the average person.

¹⁵ The maximum modeled Project Only L₅₀ sound level is 47.0 dBA. When the 47.0 dBA is combined with a hypothetical ambient sound level of 47.0 dBA, the resulting sound level is 50.0 dBA (47.0 dBA + 47.0 dBA = 50.0 dBA).

8.0 LOW FREQUENCY AND INFRASOUND

An evaluation of low frequency (LF) and infrasound levels from a wind energy center at receptors is not required by the State of Minnesota. However, a discussion of LF and infrasound, as it pertains to wind turbines, is provided below for informational purposes.

Low frequency (LF) and infrasound are present in the environment due to other sources besides wind turbines. For example, refrigerators, air conditioners, and washing machines generate infrasound and low frequency sound as do natural sources such as ocean waves. The frequency range of low frequency sound is generally from 20 Hz to 200 Hz, and the range below 20 Hz is often described as “*infrasound*”. However, audibility can extend to frequencies below 20 Hz if the energy is high enough. Since there is no sharp change in hearing at 20 Hz, the division between “low-frequency sound” and “infrasound” should only be considered “practical and conventional.” The threshold of hearing is standardized for frequencies down to 20 Hz.¹⁶ Based on extensive research and data, Watanabe and Moeller have proposed normal hearing thresholds for frequencies below 20 Hz.¹⁷ These sound levels are so high that infrasound is generally considered inaudible. For example, the sound level at 8 Hz would need to be 100 dB to be audible.

A detailed infrasound and low frequency noise measurement program of wind turbines was conducted from 2013-2015 by the Ministry for the Environment, Climate and Energy of the Federal State of Baden-Wuerttemberg, Germany.¹⁸ The conclusions of the German study were:

“Infrasound and low-frequency noise are an everyday part of our technical and natural environment. Compared with other technical and natural sources, the level of infrasound caused by wind turbines is low. Already at a distance of 150 m (~500 ft), it is well below the human limits of perception. Accordingly, it is even lower at the usual distances from residential areas. Effects on health caused by infrasound below the perception thresholds have not been scientifically proven. Together with the health authorities, we in Baden-Württemberg have come to the conclusion that adverse effects relating to infrasound from wind turbines cannot be expected on the basis of the evidence at hand.”

¹⁶ Acoustics - Normal equal-loudness-level contours, International Standard ISO 226:2003, International Organization for Standardization, Geneva, Switzerland, (2003).

¹⁷ T. Watanabe, and H. Moeller, “Low Frequency Hearing Thresholds in Pressure Field and in Free Field”, J. Low Frequency Noise and Vibration, 9(3), 106-115, (1990).

¹⁸ *Low frequency noise incl. infrasound from wind turbines and other sources*, LUBW, Baden-Wuerttemberg, Germany, September 2016.

The Massachusetts Department of Environmental Protection (MA DEP) and the Massachusetts Department of Public Health commissioned an expert panel who found that: “Claims infrasound from wind turbines directly impacts the vestibular system have not been demonstrated scientifically. Available evidence shows that the infrasound levels near wind turbines cannot impact the vestibular system.”¹⁹

Health Canada, in collaboration with Statistics Canada, conducted one of the most extensive studies to understand the impacts of wind turbine noise to-date.²⁰ A cross-section epidemiological study was carried out in 2013 in the provinces of Ontario and Prince Edward Island on randomly selected participants living near and far from operating wind turbines. Many peer-reviewed publications have been written based on the Health Canada research, including an analysis of low frequency and infrasound data. For example, Keith et al concluded that there was no advantage of using C-weighting to measure low frequency sound since the relationship between A-weighting and C-weighting are so highly correlated.²¹ In other words, acceptable A-weighted limits also eliminate low frequency and infrasound impacts.

Low frequency and infrasound have also been studied extensively in Japan. Tachibana et al conducted extensive measurements of 34 wind farms nationwide and concluded that infrasound from wind turbines is not audible/sensible, and that wind turbine noise is not a problem in the infrasound region.²²

As noted in the 2011 NARUC report, “the widespread belief that wind turbines produce elevated or even harmful levels of low frequency and infrasonic sound is utterly untrue as proven repeatedly and independently by numerous investigators.”²³

¹⁹ *Wind Turbine Health Impact Study: Review of Independent Expert Panel*, Massachusetts Department of Environmental Protection and Massachusetts Department of Public Health, January 2012.

²⁰ Health Canada website: <http://www.hc-sc.gc.ca/ewh-semt/noise-bruit/turbine-eoliennes/summary-resume-eng.php>

²¹ *Wind turbine sound pressure level calculations at dwellings*, S. E. Keith et al, J. Acoustical Society of America, 139(3), March 2016.

²² *Nationwide field measurements of wind turbine noise in Japan*, H. Tachibana et al, Noise Control Engineering Journal, 62(2), March-April 2014.

²³ *Assessing Sound Emissions from Proposed Wind Farms & Measuring the Performance of Completed Projects*, NARUC, prepared by Hessler Associates, Inc., October 2011.

9.0 CONCLUSIONS

A comprehensive sound level modeling assessment was conducted for the Project. The study included modeling of the Project and existing non-Project wind turbines in the vicinity of the Project. An ambient sound level measurement program was conducted by Hankard Environmental, Inc. in the late winter/early spring of 2020 (Appendix A). This report utilizes the findings of the sound level measurement program.

Under conditions resulting in non-wind-turbine ambient sound levels of 47 dBA or less, total sound levels (Project + existing non-Project wind turbines + non-wind-turbine ambient) will meet the MPCA limit of 50 dBA. As found in Appendix A, ambient nighttime sound levels can exceed 47 dBA. Non-wind-turbine ambient sound levels can fluctuate due to sound sources such as ground-level winds, vehicular traffic, birds, and vegetation rustle, all of which have the potential to cause non-wind turbine ambient sound levels to be equal to or exceed the MPCA L_{50} nighttime limit of 50 dBA. In these instances, the increase to the non-wind turbine ambient sound level due to the Project will be zero to two decibels since the highest modeled Project-Only sound level is 47 dBA. Under conditions where two sound levels have the same or very similar characteristics, a 2-dBA change is imperceptible to the average person.

Appendix A

Hankard Environmental, Inc. Pre-Construction Ambient Measurement Report

Pre-Construction Ambient Noise Study

for the proposed

Walleye Wind Project

October 28, 2020



Prepared for:

NextEra Energy Resources, LLC
Juno Beach, Florida

Prepared by:

Hankard Environmental, Inc.
Verona, Wisconsin



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- A: Photographs of Monitor Placements
- B: Long-Term Measurement Results per Hub Height Wind Speed Condition
- C: Long-Term Noise Measurements Over Time Plots

1. Introduction

This report describes the results of a pre-construction ambient noise study conducted by Hankard Environmental for the proposed Walleye Wind Project (Project). The Project will be constructed in a primarily agricultural area in western Rock County, Minnesota, as shown in Figure 1-1. The Project is an approximately 109-megawatt (MW) wind powered electric-generating facility consisting of up to 40 turbines. It is currently anticipated that the Project will utilize General Electric 2.32-116 and 2.82-127 wind turbines. Per the Minnesota Department of Commerce (DOC) *Application Guidance for Site Permitting of Large Wind Energy Conversion Systems in Minnesota*, July 2019 (Application Guidance) the Project must provide existing ambient noise levels in the Project area. In addition, the Project is required to report total projected noise levels which consist of existing noise levels added to expected noise levels from Project operation. To satisfy the requirement for existing ambient noise levels NextEra Energy Resources engaged Hankard Environmental to conduct an ambient noise survey to measure and characterize existing noise levels at multiple locations in the Project area. This report describes and documents the methods and equipment used to measure existing noise levels, the measurement locations, and the measurement results.

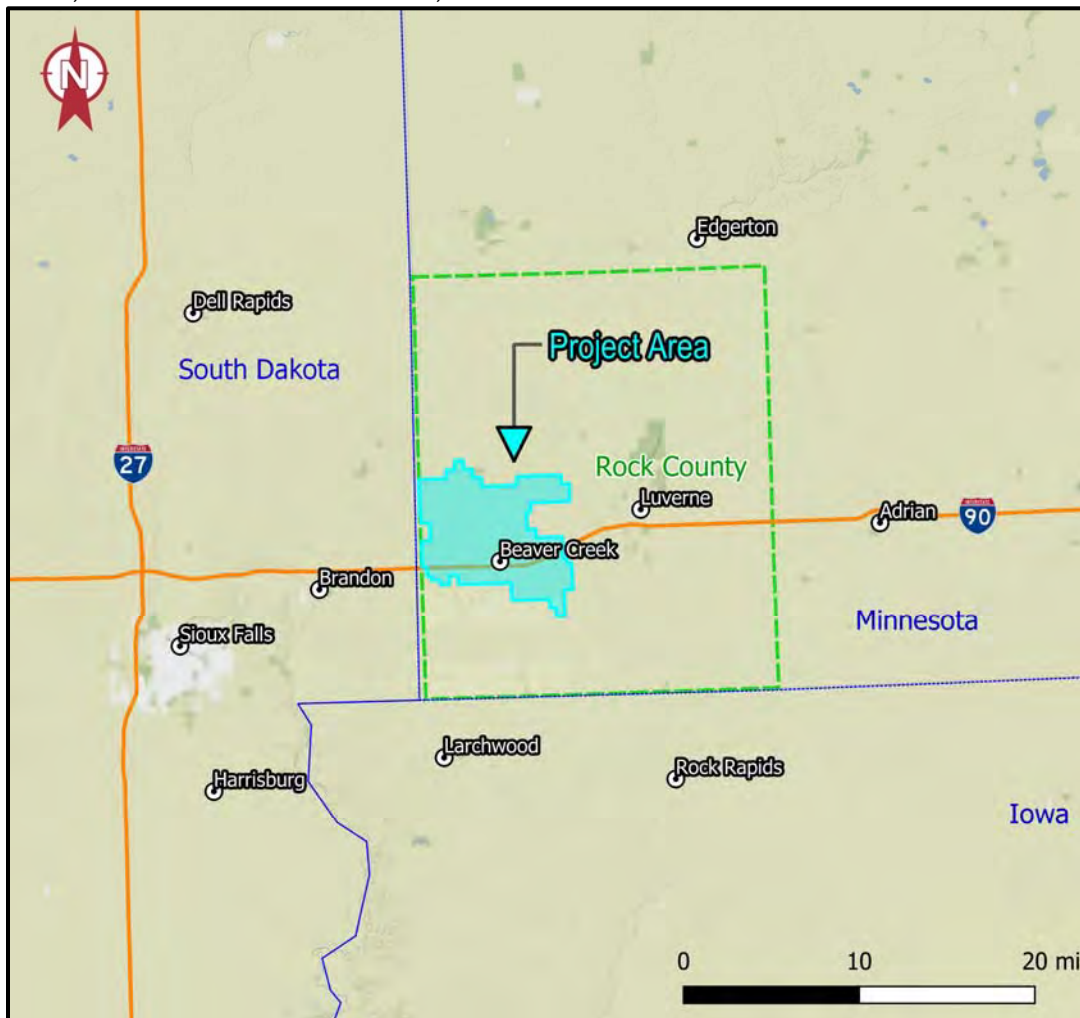


Figure 1-1. General Location of the Walleye Wind Project

2. Applicable Regulations and Guidance

The DOC Application Guidance requires measurement of existing ambient sound levels in the Project area as well as the prediction of total noise level at all residences located in the Project area. Total noise level equals the sum of existing ambient noise level and predicted noise level from Project operation.

The Application Guidance does not prescribe a method for collecting or analyzing ambient noise levels. Guidance regarding the number and placement of measurement locations, the duration of the measurements, the noise level metrics to collect, and how to analyze and report the data was taken from the sources listed below. The resulting survey methodology is described in Section 4.

- State of Minnesota noise rules (Minn. Rule 7030) as administered by the Minnesota Pollution Control Agency (MPCA): These regulations require adherence to noise limits that are expressed in terms of the one-hour L_{50} and L_{10} . In addition to these parameters the L_{90} was measured as this is a common descriptor of ambient noise levels, and the L_{eq} which is a commonly used metric in acoustics.
- Guidance for Large Wind Energy Conversion System Noise Study Protocol and Report (Protocol Guidance) issued by the DOC in July 2019: While geared toward post-construction measurements, this protocol calls for the measurement of noise levels for at least one week. To ensure sufficient data collection for this study, noise levels were measured for approximately two weeks, such that after certain data were removed due to storms or very high wind speeds, there remained at least one week of data left for analysis.
- The Protocol Guidance requires the measurement of unweighted, A-weighted, and C-weighted one-third octave band levels from 16 to 8,000 Hz. The Protocol Guidance also requires the measurement and reporting of L_{eq} , L_{10} , L_{50} , and L_{90} levels, in both A-weighted (dBA) and C-weighted (dBC) decibels.
- All the measurement equipment used on this Project meet (1) the Type 1 specifications of American National Standards Institute (ANSI) standard S1.4-1983 (R2006) American National Standard Specification for Sound Level Meters; (2) ANSI S1.11-2004 (R2009), American National Standard Specification for Octave-band and Fractional-Octave-Band Analog and Digital Filters; and (3) ANSI S1.40-2006 (R2016), American National Standard Specifications and Verification Procedures for Sound Calibrators.
- The measurement procedures followed the applicable portions of ANSI S12.18-1994 (R2019) Outdoor Measurement of Sound Pressure Level. This standard provides guidance regarding the measurement of sound levels, the sufficiency of the quantity of data acquired, and the measurement of wind and other atmospheric conditions.
- Hankard Environmental has been conducting ambient noise surveys for power plants for 30 years and has conducted dozens of these surveys across the U.S. We relied on our experience in the selection of general and specific measurement locations, the design of the measurement systems, and the collection of attended measurement data.

3. Project Site

The Project plan calls for the construction of a total of up to 40 turbines including a mix of GE 2.82-127 and GE 2.32-116 wind turbines. Figure 3-1 shows the layout of the proposed turbines and alternate locations. All wind turbines will be installed with an optional noise-reducing technology known as Low Noise Trailing Edge (LNTE) blades.

Current land use within the Project area is primarily agricultural. Across most of the Project area, residences are widely spaced with the exception of the small city of Beaver Creek where homes are more tightly clustered. Beaver Creek is also in close proximity to Interstate 90 (I-90), the only major highway intersecting the Project. Other roadways in the area are a mix of two-lane rural highways and unpaved roads.

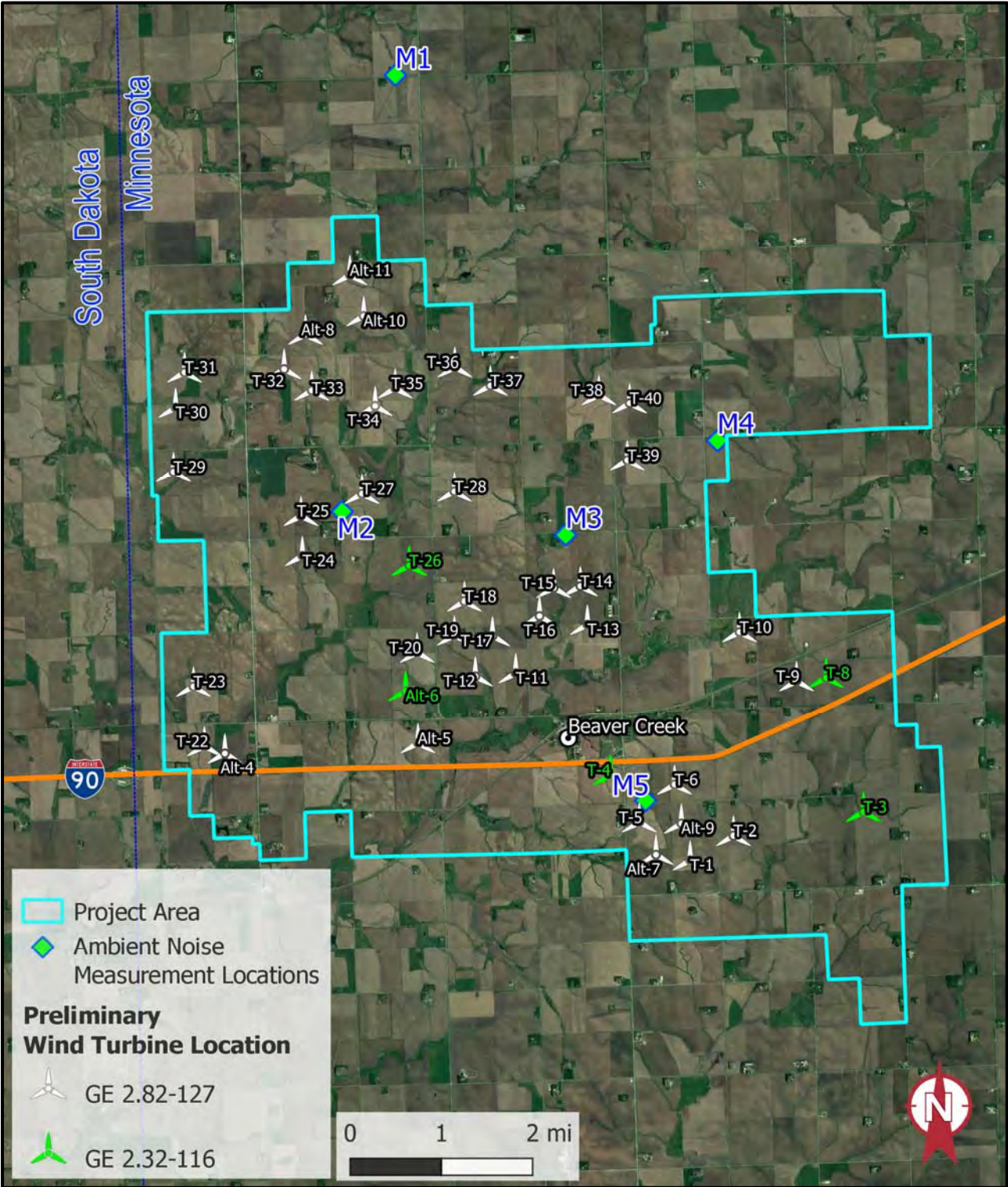


Figure 3-1. Project Study Area

4. Survey Equipment and Methodology

Survey Purpose

The purpose of this survey is to measure and document existing levels of sound (noise) in the Project Study Area, the sources of noise, how existing levels vary over time both day to day and daytime versus nighttime, how levels vary by location, and how levels vary with wind conditions. Regarding the latter, wind turbine projects are unique in the field of environmental acoustics in that the operation of the source (turbines) is correlated with increased wind speed, which in turn affects existing levels of noise due to the rustle of vegetation. To accomplish these goals the study was conducted over a wide range of locations (five spread throughout the Project Study Area), over a long period of time (approximately two weeks), included a combination of attended and unattended noise measurements, and included the concurrent measurement of wind conditions.

Measurement Locations

Hankard Environmental selected five representative measurement locations geographically distributed throughout the Project Study Area. The five measurement locations, identified as M1 through M5, are shown in Figure 3-1 above and more detailed views for each location are shown in Figures 4-2 through 4-6 below. Measurements were conducted at properties belonging to Project-participating landowners. The properties were chosen to be representative of locations with the highest predicted future turbine noise levels based on the Project layout at the time of the survey.

Most of the selected measurement locations are near roadways that have only sparse or intermittent traffic (typical of most of the Project area), while one location (M5) was deliberately selected to be in the vicinity of I-90, which crosses the southern portion of the Project area. All of the monitor positions were in close proximity to residences that are co-located with farming operations, which is typical of most residences across the Project area (outside of Beaver Creek).

At the measurement locations the monitors were positioned to be representative of the noise environment near the residential dwelling, meaning that the monitor was placed away from roadways and other obvious noise sources, while also remaining more than thirty feet away from any large structures that might reflect sound. All of the residences were surrounded by trees to some degree (as is typical in the area), but consideration was given to allow as much space as practical between the monitor and any trees and to completely avoid positioning monitors directly under tree cover.

Close-up views showing each monitor in position (composite views from four cardinal directions) are presented in Appendix A, and sample views are presented in Figure 4-1. Specific location coordinates for each of the five monitors are listed in Table 4-1. The following descriptions of the measurement locations are each accompanied by an aerial image showing the monitor's position relative to the residence and nearby features on the properties.



Figure 4-1. Example Views of Monitor Placements

Table 4-1. Coordinates of Sound Measurement Locations

Location	Coordinates UTM NAD83 Zone 14N	
	X (m)	Y (m)
M1	709648	4843917
M2	708707	4836216
M3	712652	4835806
M4	715330	4837480
M5	714062	4831110

Location M1

Measurement location M1 is approximately 12,150 feet from the nearest proposed wind turbine (Alt-11) in the farmyard of receptor #25. This location is approximately 3.3 miles from the nearest existing non-Project (Prairie Rose) wind turbine. This receptor location was representative of the residences in the northern part of the Project area based on the turbine layout at the time of the survey. The parcel on which the house sits is bordered by mature trees to the north and west. The parcel is surrounded by cropland, but no farming activity was observed in the area during site visits. The microphone was placed approximately 60 feet southeast of the house and about 35 feet from the corner of a pole building. The residence is located along 161st Street (Highway 20), a paved road with intermittent traffic, including heavy trucks, traveling at highway speeds. The property is home to a dog and numerous cats.



Figure 4-2. Measurement Location M1

Location M2

Measurement location M2 is approximately 1,360 feet from the nearest proposed wind turbine (T-27) at the edge of the yard of receptor #147. This location is representative of the residences in the west-central part of the Project area. The parcel on which the house sits is bordered by trees (mostly evergreens) on all sides. The parcel is surrounded by cropland, but no farming activity was observed in the area during site visits. The monitor was positioned approximately 70 feet south of the residence, at the edge of a field just beyond the trees. The residence is located along 20th Avenue, a gravel road with very little traffic, but traffic on 60th Avenue can occasionally be heard.

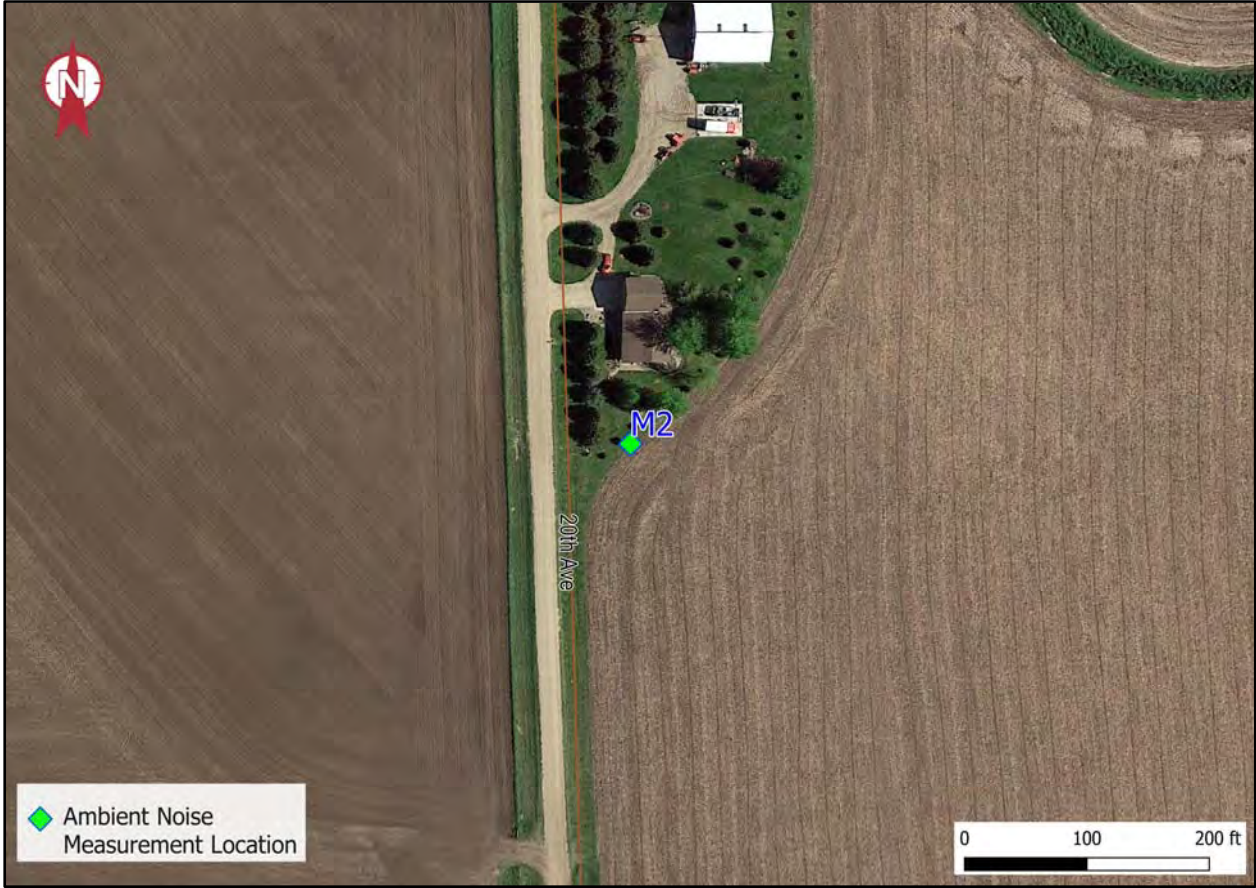


Figure 4-3. Measurement Location M2

Location M3

Measurement location M3 is approximately 3,350 feet from the nearest proposed wind turbine (T-14) in the farmyard of receptor #142. This location is representative of the residences in the central part of the Project area. This is an active livestock farm (hogs and cattle) with pastures to the west and cropland to the east. Trees surround the house and line the roadway. The monitor was positioned to the east of the residence between the road (approximately 100 feet north) and a barn (approximately 65 feet south). The residence is located on 111th Street, a gravel road with very little traffic, but traffic on 60th Avenue can be heard.



Figure 4-4. Measurement Location M3

Location M4

Measurement location M4 is approximately 5,400 feet from the nearest proposed wind turbine (T-39) in the farmyard of receptor #108. This location is representative of the residences in the northeastern part of the Project area. The house is surrounded by trees and there are several barns, outbuildings, and a small pasture nearby. The parcel is surrounded by cropland on all sides. The monitor was positioned in an open area between the house and a barn (approximately 50 to 60 feet from each). The residence is located along 121st Street (Highway 5), a paved road with intermittent traffic traveling at highway speeds. There were numerous animals in the area of the monitor, including a dog, many cats, geese, and roosters.



Figure 4-5. Measurement Location M4

Location M5

Measurement location M5 is approximately 1,570 feet from the nearest proposed wind turbine (T-5) in the farmyard of receptor #332. This location is representative of the residences in the southern part of the Project area (including Beaver Creek residences) which experience noise from I-90. The residence is located along 81st Street, a gravel road with very little traffic. Traffic on I-90 can be heard, even in the presence of strong wind and other background sounds. Occasional traffic on 60th Avenue to the west can also be heard. M5 is approximately 3.6 miles from the nearest existing non-Project wind turbines, which are part of the MinWind I-II project.



Figure 4-6. Measurement Location M5

Equipment

Ambient sound levels were measured using Larson Davis sound level meters (models 831 and 831C), both of which conform to Type 1 specifications for sound level measurement systems as defined in ANSI S1.4-1983 (R2006), *American National Standard Specification for Sound Level Meters*. All noise measurement and field calibration equipment were certified by a traceable laboratory within the past year. Laboratory calibration certificates and records are available upon request. Field calibrations were conducted upon equipment installation and retrieval with a Larson Davis CAL200 microphone calibrator, and the drift in the measured noise level was minimal (-0.2 to +0.2 dB over the measurement period) and well within the accepted limit of ± 1.0 dB per ANSI S12.18.

At each measurement location, the microphone was mounted on a steel pole and positioned 1.5 meters above the ground per ANSI S12.18-1994 (R2019), in an open area, and away from acoustically reflective surfaces. The microphones were covered with hydrophobically treated seven-inch-diameter 80 pores-per-inch density windscreens (ACO Pacific model WS7-80T). All electronic equipment was contained in locked weatherproof cases and was powered by batteries with solar panels.

Anemometers were also installed at each location. One-second averages of ground wind speed and direction were measured using Vaisala WXT532 or WMT52 sonic anemometers mounted on steel poles approximately 2 meters (6 feet) above the ground (per ANSI S12.18), and located within approximately three meters of the microphones. Upper-level wind speed and direction were provided by the Project from ongoing measurements at a meteorological tower located in the Project area. Each monitoring system also included a digital audio recorder which continuously recorded audible sound throughout the study. These recordings would only be utilized if they were needed to identify or disambiguate sources of unique noise events that might be found within the noise-level data.

Unattended Measurement Methodology

The noise monitors and anemometers were installed at each location on March 17, 2020. The monitors were left to continuously measure and record noise levels and wind speeds for approximately two weeks. All meters and audio recorders were time-synchronized using a modern cellular telephone (which synchronizes its own time based on GPS satellites). The meters were configured to continuously measure and record noise levels at one-second intervals, capturing the L_{10} , L_{50} , L_{90} and L_{eq} metrics, as well as one-third octave band levels as required by the Protocol Guidance. Audio recorders operated continuously, storing data into files every 30 minutes (approximately). Ground-level wind speeds were continuously measured by the anemometer and recorded by the Larson Davis 831. Upper-level wind speeds from a nearby meteorological tower were provided by the Project. These data were reported in ten-minute intervals from two different measurement heights, 60 and 26 meters. Data on rain and storms were obtained from the National Weather Service (NWS) station at Quentin Aanenson Field Airport (KLYV) near Luverne and cross-checked with similar NWS data from Foss Field (KFSD) at Sioux Falls.

The measured data were sorted into daytime and nighttime categories such that they could be used in comparison to the standards of Minn. Rule 7030. Periods of precipitation were removed from the analysis, as were times when the wind speed at the monitor was above 5 m/s (11 mph).

Of particular interest are the levels measured during periods of certain wind conditions. Below approximately 4 m/s at hub-height¹ there is not enough wind for the turbine to operate and the blades will not rotate. As the wind speed increases, the blades spin faster and turbine acoustic emissions increase. At approximately 10 m/s at hub-height the turbine reaches its maximum rotational speed and acoustical output is at its maximum. At higher wind speeds the turbines do not spin any faster nor emit additional noise. For the purpose of this analysis the measured noise levels were divided into three categories: hub height wind speed 0 to 4 m/s (turbines off), 4 to 10 m/s (turbines partial), and 10 m/s and greater (turbines full). The hub height wind speeds used for this analysis were predicted based on wind speeds measured at two different heights on the Project's meteorological tower.

¹ This is called the wind turbine cut-in speed

5. Results

In-Person Observations

Each measurement location was visited at least five times during the study for in-person observations in order to understand the noise environment. These visits typically lasted 20 minutes with the exception of the night of March 17 when rain was approaching and measurements were taken for only 10 minutes. Table 5-1 lists the dates, times, and conditions of the in-person observations.

Table 5-1. In-Person Observation Periods

Visit	Date	Day or Night	Time Range	Duration (min)	Wind Speed (mph)	Temperature (°F)	RH (%)
1	3/16/2020	Night	22:00 - 23:00	20	2 - 6	28 - 30	80
2	3/17/2020	Day	13:00 - 17:00	20	9 - 14	37 - 39	65
3	3/17/2020	Night	22:00 - 23:00	10	5 - 8	37	87
4	3/18/2020	Day	12:00 - 16:00	20	0 - 6	45 - 46	78
5	4/1/2020	Day	08:00 - 11:00	20	12 - 18	55 - 62	60

All measurement locations had seasonal bird sounds during the daytime observations. During periods with higher winds, all sites also had substantial noise from nearby trees. Overhead aircraft and distant trains were also heard at all locations. While all locations were located near agricultural fields, there was no activity observed in the fields during the visits. Most of the locations have grain silos and associated dryers located nearby; one property owner mentioned that they had grain dryers running during the study period, but none of these dryers were operating during the in-person visits. Table 5-2 summarizes the different sources of noise that were observed during each visit.

Table 5-2. Sources of Sounds Witnessed at Each Location During Site Visits

Location	Visit	Audible Sounds
M1	1	Aircraft, distant vehicles, numerous distant train whistles, barking dog (~30% time) at neighbor, two vehicle pass-bys, unidentified thumping/knocking sound
	2	Birds nearly constant, multiple vehicle pass-bys, wind in pine trees, aircraft, distant traffic, cats vocalizing (high pitch, low level) in pole shed (?)
	3	Trains rumble and repeating whistles, small/prop aircraft, spruce trees whistle in breeze, clicking almost rhythmic sound from west may be branches of tall deciduous trees
	4	Many birds, dog barking, car pulling out of driveway, car pass-by, aircraft, semi-truck pass-by was audible for a long time
	5	Wind through vegetation is totally dominant
M2	1	Multiple train whistles, multiple aircraft, few distant vehicles, creaking noise (?) from the direction of large neighboring farm (NW)
	2	Distant traffic, some birds, wind slowing, distant sound SW like a dryer or scraping(?), aircraft, no cars or human activity nearby
	3	General wind noise, a train rumble and whistle from the S, distant traffic south (I-90?)
	4	Birds incl. owl, aircraft, tractor/front-loader on road to the south, distant traffic on 40th Ave (east), distant train whistle (SW)
	5	Wind through vegetation is totally dominant
M3	1	Distant barn fan, distant train horn, distant traffic (minimal). One plane
	2	Breezy, many birds, wind in pine trees, distant voices (farm workers), distant traffic, four-wheeler passing, semi-trucks clearly audible on 60th Ave.
	3	Wind in trees (pines) totally dominant, distant truck
	4	Birds, semi-truck idling near barn, distant worker conversations/hammering/clanging
	5	Wind through vegetation is totally dominant
M4	1	Occasional distant coyote and dog. No audible traffic, local or distant
	2	Breezy, birds, multiple cars pass-by, wind in pines to the east, aircraft
	3	Distant traffic, hum from fans/dryer at neighbor farm, livestock at neighbor, aircraft, cows in nearby barn, car (pickup) pass-by at high speed (~70 mph)
	4	Birds, cars pass-by, roosters crowing repeatedly
	5	Wind through vegetation is totally dominant
M5	1	I-90 traffic almost constant (some vehicles louder than others), one small plane
	2	Windy. Traffic noise (I-90), train whistle, one car pass-by, wind noise often dominates over traffic
	3	I-90 audible but not constant (levels rise then fall to almost inaudible), no local traffic, slight electrical/mechanical hum not identifiable, aircraft, car on 60th Ave
	4	Birds incl. owl and crows, I-90 traffic audible but light except for some trucks, aircraft
	5	Wind through vegetation is totally dominant, trucks on I-90 audible when there is a lull in the wind

Unattended Measurement Results

The five monitoring systems were installed on March 17, 2020 and data was collected until April 1, 2020, a span of fifteen days. Data collection at two of the monitors, M1 and M4, was interrupted on March 28 as a result of a severe storm and subsequent electric power issues, therefore these two locations only include eleven days of measurement data. In accordance with the Protocol Guidance, one-hour data samples were eliminated whenever the one-hour average wind speed at the ground (WSg) was 5 m/s (11 mph) or higher. One-hour samples were also eliminated for periods where precipitation was reported. Table 5-3 shows the number of hours collected at each monitoring station and the number of hours that were eliminated from further analysis due to either high winds or precipitation. The data retained after this point are referred to herein as “valid hours” and only these hours are included in the analysis.

Table 5-3. Summary of Hours Measured

Location	M1	M2	M3	M4	M5
Start	3/17/2020 12:00	3/17/2020 11:00	3/18/2020 13:00	3/17/2020 10:00	3/17/2020 9:00
End	3/28/2020 19:00	4/1/2020 10:00	4/1/2020 10:00	3/28/2020 18:00	4/1/2020 11:00
Total Hours	271	359	333	272	362
Days	11.3	15.0	13.9	11.3	15.1
Hours WSg >=5 m/s	24	40	77	16	94
Precipitation Hours	16	16	16	16	16
Total Valid Hours	231	303	240	240	252

The Protocol Guidance prescribes that monitored noise data should include both A-weighted and C-weighted levels for L_{10} , L_{50} , L_{90} , and L_{eq} sound level metrics. The average hourly A-weighted levels for each measurement location are listed in Table 5-4. C-weighted levels are listed in Table 5-5. Here, and throughout this report, “day” and “night” hours are as defined in the Minnesota Noise Pollution Control regulation 7030.0050 (Minnesota Rule 7030): daytime is from 7:00 a.m. to 10:00 p.m., and nighttime is from 10:00 p.m. to 7:00 a.m. For reference, the NAC-1 standard levels are also included in Table 5-4 where applicable.

Measured daytime L_{50} noise levels ranged from 38 to 43 dBA across the five sites. Measured nighttime L_{50} levels ranged from 30 to 35 dBA. Other statistics are also included in the tables to summarize the distribution of levels for each metric across the five measurement locations. The one-hour L_{10} sound levels at location M1 ranged from 22 to 68 dBA and the one-hour L_{50} sound levels ranged from 19 to 54 dBA during the measurement program (valid periods). At M2 the one-hour L_{10} sound levels ranged from 25 to 65 dBA and the one-hour L_{50} sound levels ranged from 21 to 59 dBA. The one-hour L_{10} sound levels at location M3 ranged from 27 to 58 dBA and the one-hour L_{50} sound levels ranged from 22 to 56 dBA. At M4 the one-hour L_{10} sound levels ranged from 25 to 68 dBA and the one-hour L_{50} sound levels ranged from 22 to 57 dBA. The one-hour L_{10} sound levels at location M5 ranged from 30 to 65 dBA and the one-hour L_{50} sound levels ranged from 25 to 49 dBA.

Table 5-4. Average A-Weighted L_n Statistics for Valid Measurement Hours (dBA)

Day/ Night	Metric	Measurement Location					Minimum	Average	Maximum	MN NAC-1 Standard
		M1	M2	M3	M4	M5				
Day	L ₉₀	33	34	39	37	36	33	36	39	-
	L ₅₀	38	38	43	42	40	38	40	43	60
	L ₁₀	45	44	47	48	46	44	46	48	65
	L _{eq}	49	42	46	49	44	42	46	49	-
Night	L ₉₀	27	30	31	30	29	27	29	31	-
	L ₅₀	30	33	34	33	35	30	33	35	50
	L ₁₀	36	38	38	38	42	36	38	42	55
	L _{eq}	38	36	36	38	39	36	37	39	-

Table 5-5. Average C-Weighted L_n Statistics for Valid Measurement Hours (dBC)

Day/ Night	Metric	Measurement Location					Site	Site	Site
		M1	M2	M3	M4	M5	Minimum	Average	Maximum
Day	L ₉₀	51	49	51	50	51	49	51	51
	L ₅₀	55	52	54	53	55	52	54	55
	L ₁₀	61	56	58	59	60	56	59	61
	L _{eq}	65	57	60	61	62	57	61	65
Night	L ₉₀	46	46	46	45	45	45	46	46
	L ₅₀	49	49	49	47	50	47	49	50
	L ₁₀	55	53	52	51	56	51	53	56
	L _{eq}	57	52	52	52	56	52	54	57

In order to characterize how ambient noise levels change according to turbine operations, arithmetic average and median noise levels were calculated for three different hub-height wind speed ranges. The first range is from 0 to 4 m/s when the primary turbines (GE 2.82-127) will not be operating at all² and the only sources of noise will be non-turbine environmental sounds. The second range is from 4 to 10 m/s (Turbines-Medium) encompasses the range of hub-height wind speeds during which the turbines would be operating but at less than their maximum acoustical output. Under these conditions, turbines would be producing varying levels of noise that increase with wind speed. The turbine noise may or may not be audible above the level of environmental noise. The third range is from 10 m/s and higher (Turbines-Full) when the turbines would be producing maximum acoustical output. Table 5-6 lists the median L₅₀ (dBA) levels measured at each site for each of the wind speed ranges. A similar presentation of additional metrics (L₁₀, L_{eq}, L₉₀) is provided in Appendix B.

Table 5-7 shows the range of L₅₀ values measured at each location during nighttime hours when upper-level winds were strong enough to produce maximum turbine output (Turbines-Full).

² Based on the manufacturer's technical specifications for the primary turbine model, specifically the *Technical Documentation Wind Turbine Generator Systems 2.x-127 with LNTE - 60 Hz, Product Acoustic Specifications Normal Operation according to IEC (2018)* provided by GE Renewable.

Table 5-6. Median One-Hour L₅₀ Values at Different Hub Height Wind Speeds

Metric	Time of Day	Condition	Location				
			M1	M2	M3	M4	M5
L ₅₀ dBA	Day	Turbines-Off	33	28	37	40	38
		Turbines-Medium	35	36	41	41	41
		Turbines-Full	44	45	49	48	44
		All Conditions	37	37	43	43	41
L ₅₀ dBA	Night	Turbines-Off	23	23	25	27	34
		Turbines-Medium	27	29	32	31	34
		Turbines-Full	38	37	37	36	35
		All Conditions	28	30	33	31	35

Table 5-7. Range of Nighttime One-Hour L₅₀ Values During Turbines-Full Conditions

Metric	Location				
	M1	M2	M3	M4	M5
Minimum Nighttime L ₅₀ (dBA)	25	22	28	26	29
Maximum Nighttime L ₅₀ (dBA)	49	59	50	55	43

Hourly noise level measurements were summarized in time series format for each measurement location. The time series data for the first week of dBA noise metrics at location M1 is presented in Figure 5-1 below for illustration. A full set of time series charts for all locations and time periods is presented in Appendix C. These plots show the one-hour values of the L₁₀, L₅₀, L₉₀ and L_{eq} aligned with the measured ground wind speeds and projected hub-height wind speeds. The plots use shading to indicate time periods that were excluded due to precipitation. Periods of high wind speeds at the monitor are identifiable based on where the “10-min Wind Speed Ground” trace exceeds 5 m/s (equivalent to 11 mph). These plots are repeated to show both A-weighted (dBA) and C-weighted (dBC) noise measurements for each measurement location.

As an indication of the spectral characteristics of the ambient noise, Figure 5-2 presents an example of one-third octave band sound levels for location M2 from a representative one-hour data sample where the hub-height wind speed was high enough to produce maximum turbine noise levels and the ground wind speed was relatively low. These are essentially the conditions under which maximum turbine noise could be heard, high winds aloft with relatively calm conditions at ground level. The figure includes A-weighted, C-weighted, and Z-weighted metrics for one-third octave-band frequencies ranging from 25 Hz to 10 kHz.

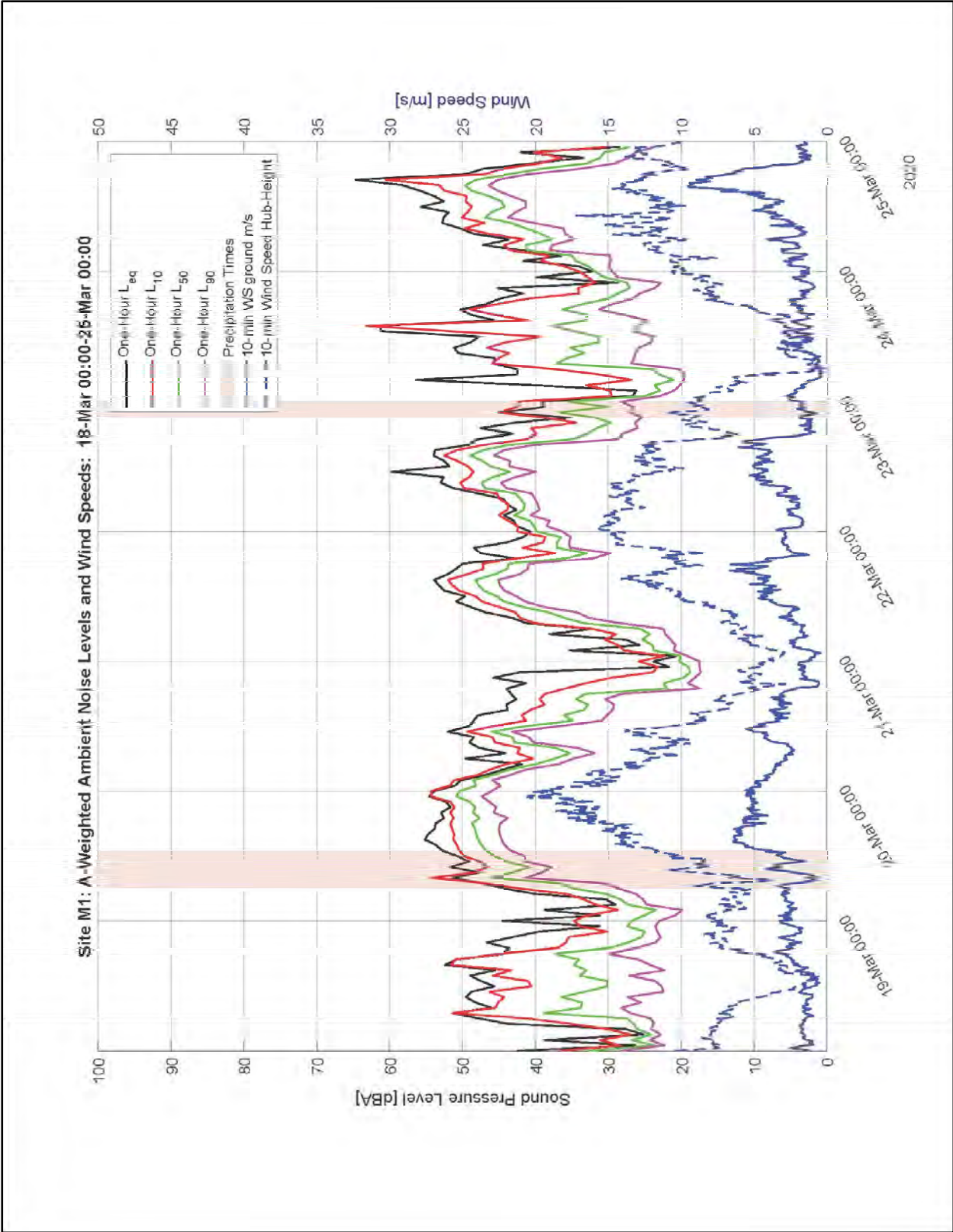


Figure 5-1. Example Time Series Plot

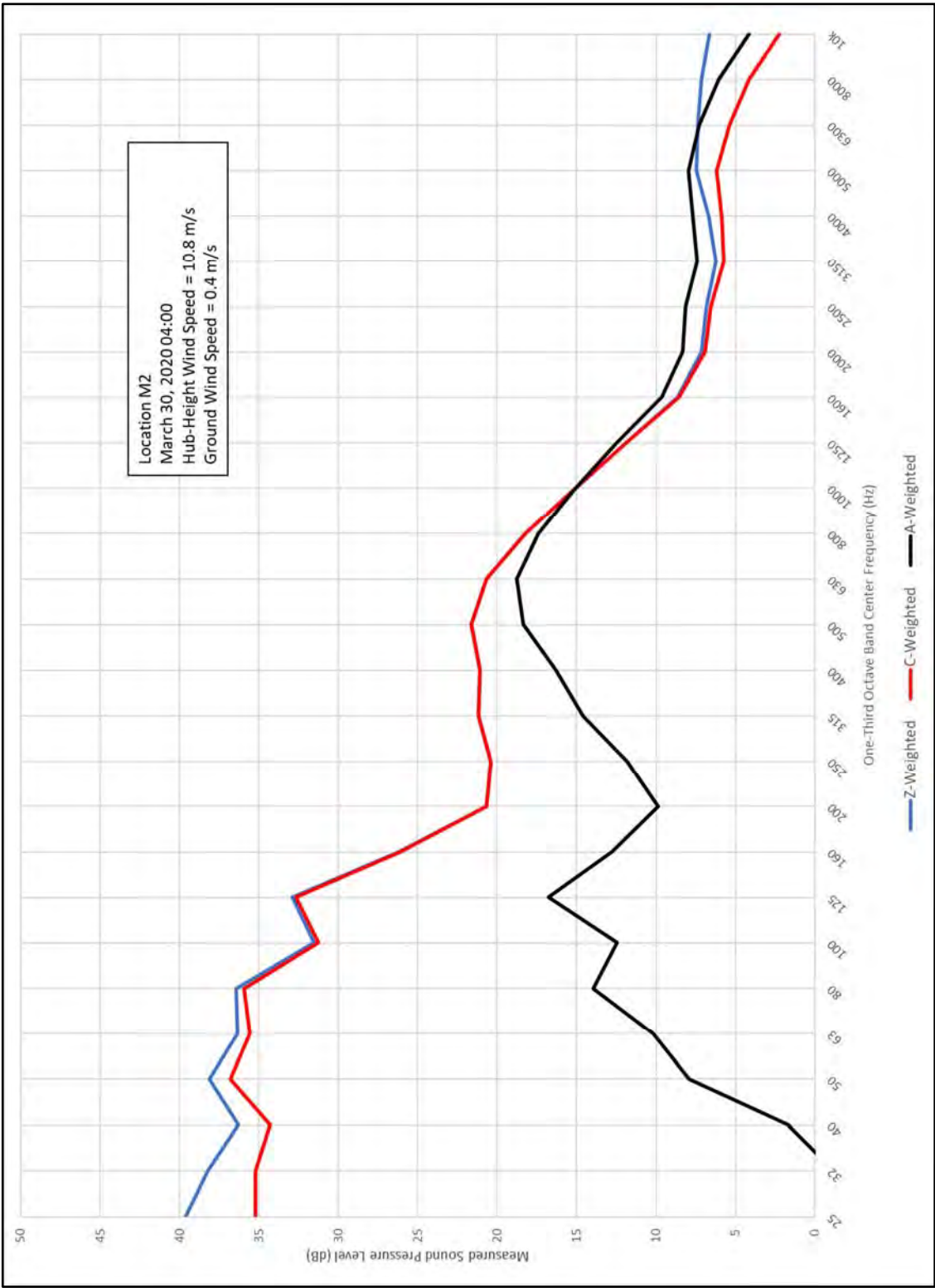


Figure 5-2. One-Third Octave Band Sound Levels for a Representative Hour

APPENDIX A

Photographs of Monitor Placements



Figure A-1. Measurement Location M1 Photographs



Figure A-2. Measurement Location M2 Photographs



Figure A-3. Measurement Location M3 Photographs



Figure A-4. Measurement Location M4 Photographs



Figure A-5. Measurement Location M5 Photographs

APPENDIX B

Long-Term Measurement Results per Hub Height Wind Speed Condition

Table B-1. Average A-Weighted Noise Levels Corresponding to Hub Height Wind Speed Ranges

Metric (one- hour)	Time of Day	Condition	Location				
			M1	M2	M3	M4	M5
L ₁₀ dBA	Day	Turbines-Off	46	41	44	47	42
		Turbines-Medium	43	42	46	47	46
		Turbines-Full	48	49	51	51	47
		All Conditions	45	44	47	48	46
L ₁₀ dBA	Night	Turbines-Off	31	29	30	37	40
		Turbines-Medium	34	34	37	35	42
		Turbines-Full	41	44	41	41	42
		All Conditions	36	38	38	38	42
L ₅₀ dBA	Day	Turbines-Off	34	33	37	41	37
		Turbines-Medium	35	35	41	40	40
		Turbines-Full	43	44	47	46	43
		All Conditions	38	38	43	42	40
L ₅₀ dBA	Night	Turbines-Off	23	24	25	29	33
		Turbines-Medium	28	29	32	30	34
		Turbines-Full	37	39	38	37	35
		All Conditions	30	33	34	33	35
L ₉₀ dBA	Day	Turbines-Off	26	28	32	34	34
		Turbines-Medium	31	31	36	35	36
		Turbines-Full	40	40	44	42	39
		All Conditions	33	34	39	37	36
L ₉₀ dBA	Night	Turbines-Off	20	21	23	26	27
		Turbines-Medium	24	26	29	28	28
		Turbines-Full	34	35	35	34	30
		All Conditions	27	30	31	30	29
L _{eq} dBA	Day	Turbines-Off	50	41	43	48	42
		Turbines-Medium	48	40	44	46	44
		Turbines-Full	51	47	49	51	46
		All Conditions	49	42	46	48	44
L _{eq} dBA	Night	Turbines-Off	34	28	29	37	37
		Turbines-Medium	36	32	35	37	39
		Turbines-Full	42	42	39	41	40
		All Conditions	38	36	36	38	39

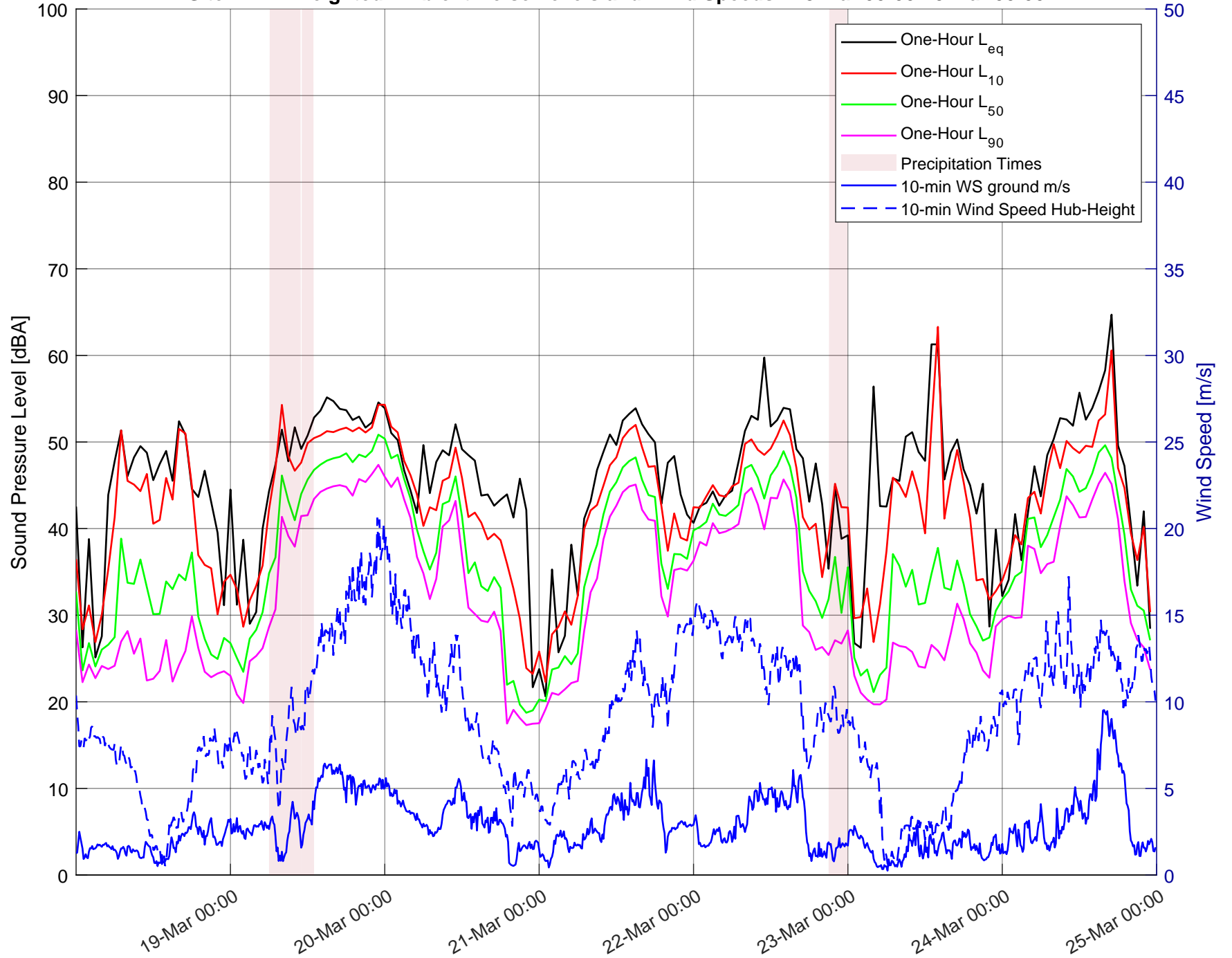
Table B-2. Average C-Weighted Noise Levels Corresponding to Hub Height Wind Speed Ranges

Metric (one- hour)	Time of Day	Condition	Location				
			M1	M2	M3	M4	M5
L ₁₀ dBC	Day	Turbines-Off	57	53	55	54	59
		Turbines-Medium	60	54	57	57	60
		Turbines-Full	65	60	61	63	63
		All Conditions	61	56	58	59	60
L ₁₀ dBC	Night	Turbines-Off	51	48	48	47	53
		Turbines-Medium	53	50	51	49	55
		Turbines-Full	58	56	54	56	57
		All Conditions	55	53	52	51	56
L ₅₀ dBC	Day	Turbines-Off	48	50	50	48	54
		Turbines-Medium	53	50	53	51	55
		Turbines-Full	61	56	57	58	58
		All Conditions	55	52	54	53	55
L ₅₀ dBC	Night	Turbines-Off	43	43	45	43	47
		Turbines-Medium	48	46	48	45	49
		Turbines-Full	53	52	51	52	51
		All Conditions	49	49	49	47	50
L ₉₀ dBC	Day	Turbines-Off	44	47	49	46	50
		Turbines-Medium	49	47	50	48	51
		Turbines-Full	56	53	54	54	54
		All Conditions	51	49	51	50	52
L ₉₀ dBC	Night	Turbines-Off	39	40	43	41	43
		Turbines-Medium	44	43	46	43	45
		Turbines-Full	49	49	49	47	50
		All Conditions	46	46	46	45	45
L _{eq} dBC	Day	Turbines-Off	59	53	55	56	57
		Turbines-Medium	63	55	58	58	61
		Turbines-Full	71	61	64	66	67
		All Conditions	65	57	60	61	62
L _{eq} dBC	Night	Turbines-Off	50	47	47	47	52
		Turbines-Medium	56	49	51	49	55
		Turbines-Full	61	56	55	59	58
		All Conditions	57	52	52	52	56

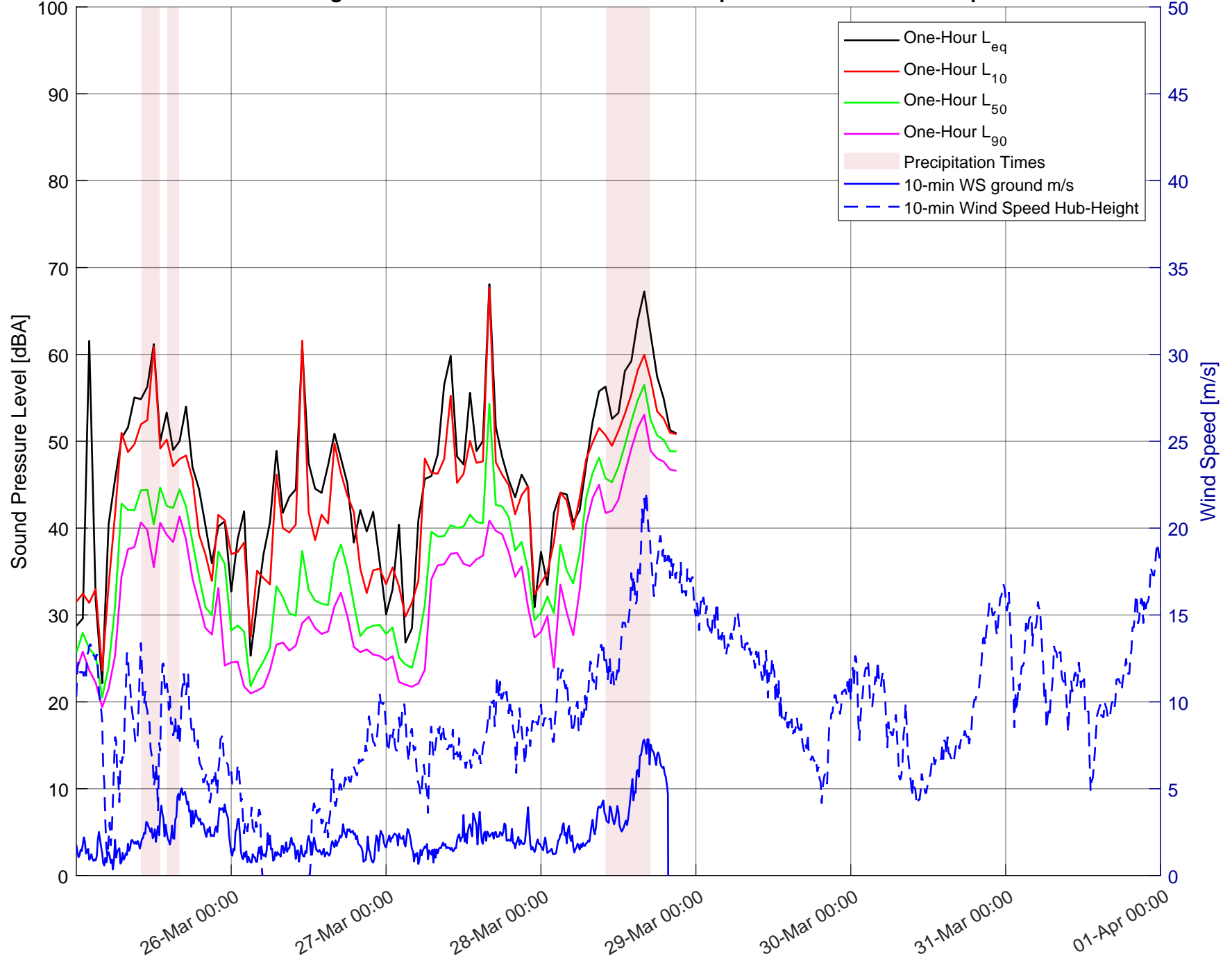
APPENDIX C

Long-Term Noise Measurements Over Time Plots

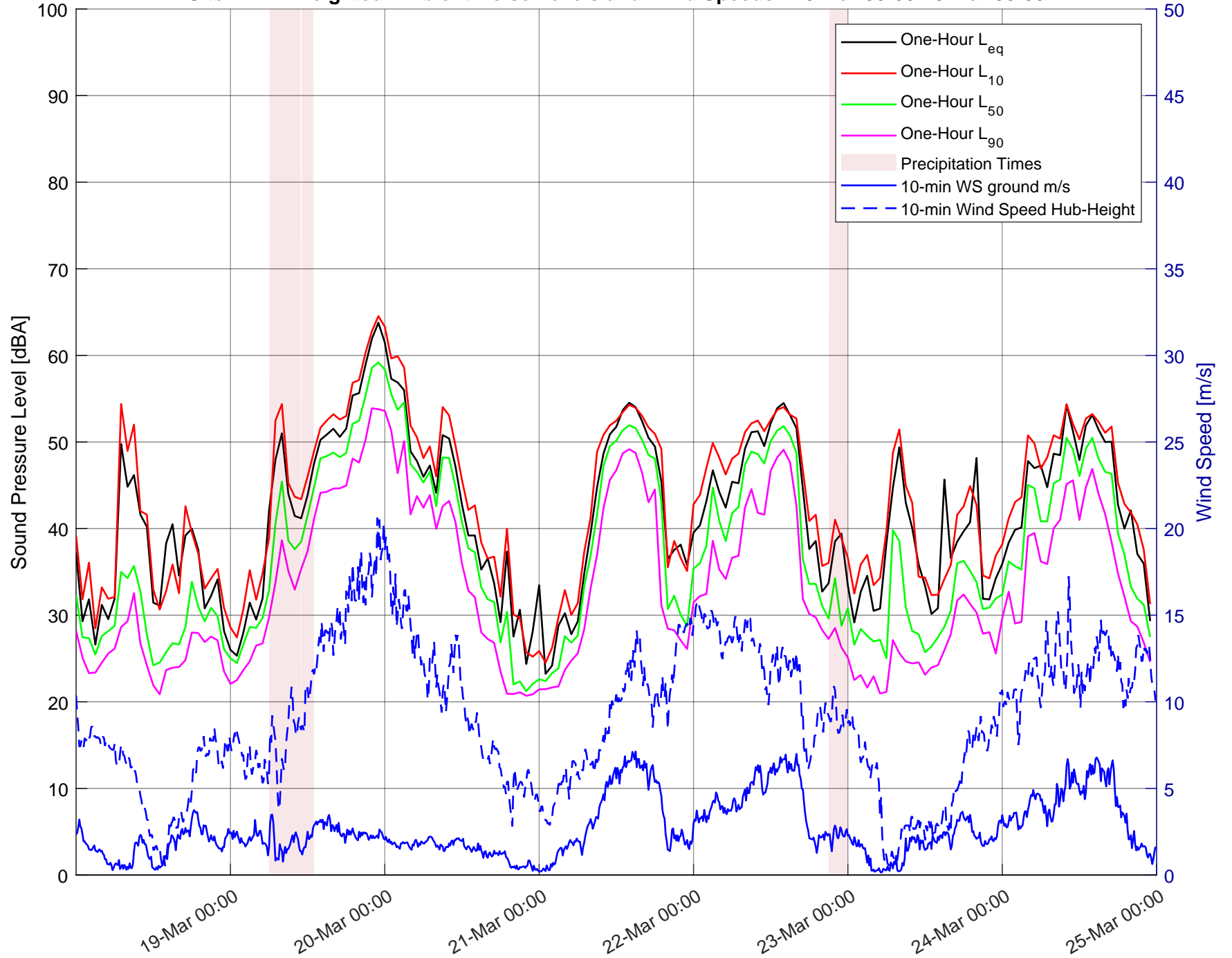
Site M1: A-Weighted Ambient Noise Levels and Wind Speeds: 18-Mar 00:00-25-Mar 00:00



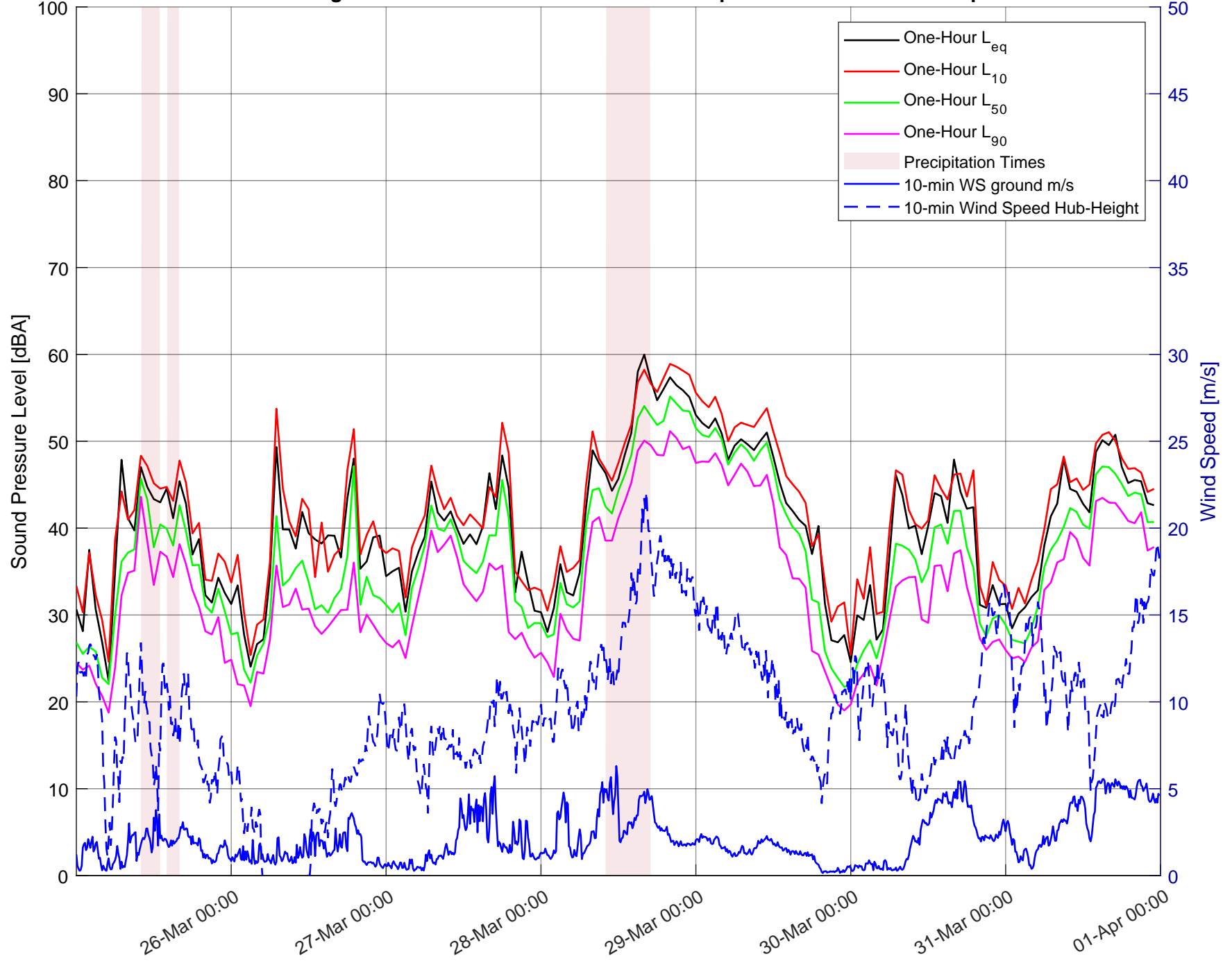
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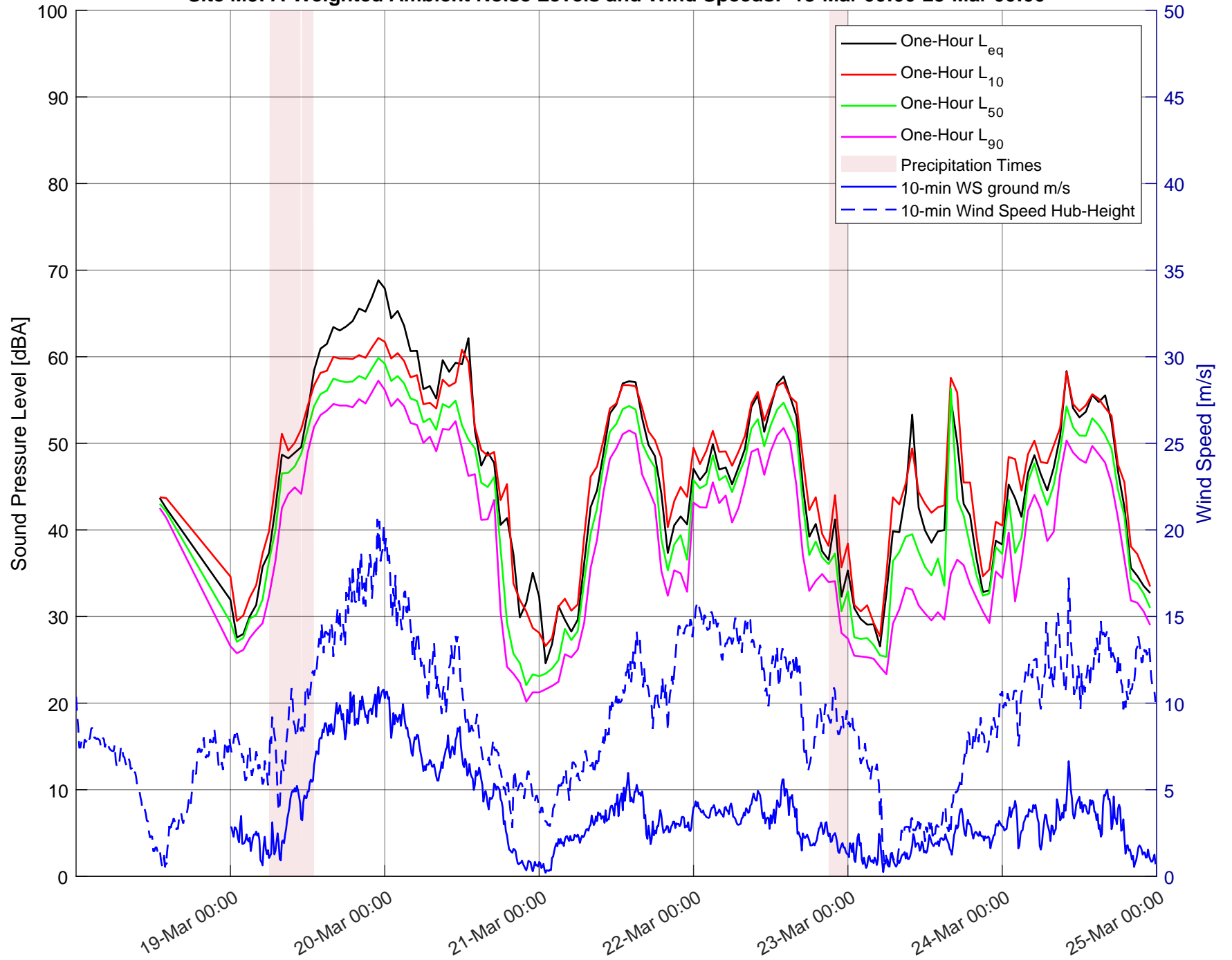
Site M2: A-Weighted Ambient Noise Levels and Wind Speeds: 18-Mar 00:00-25-Mar 00:00



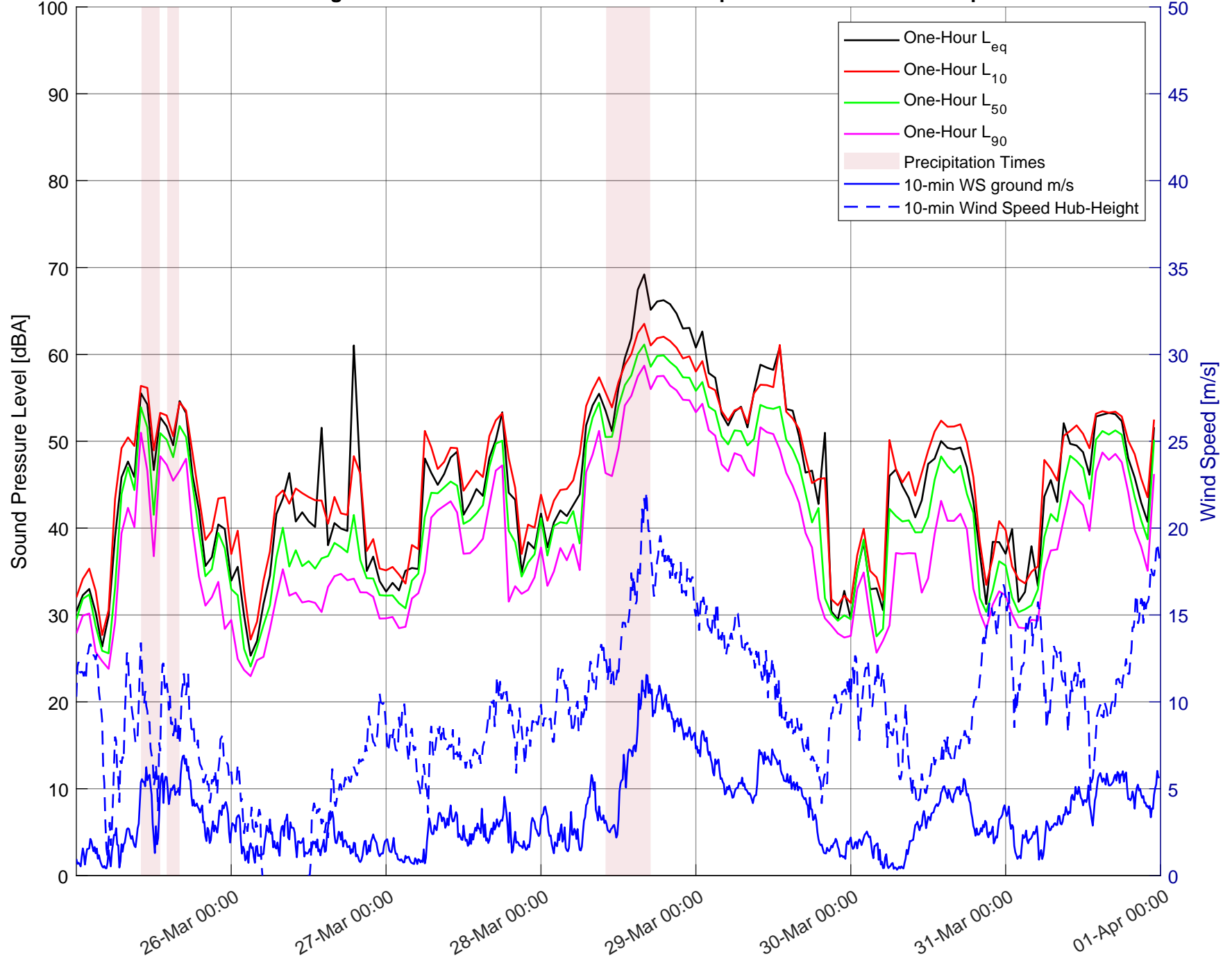
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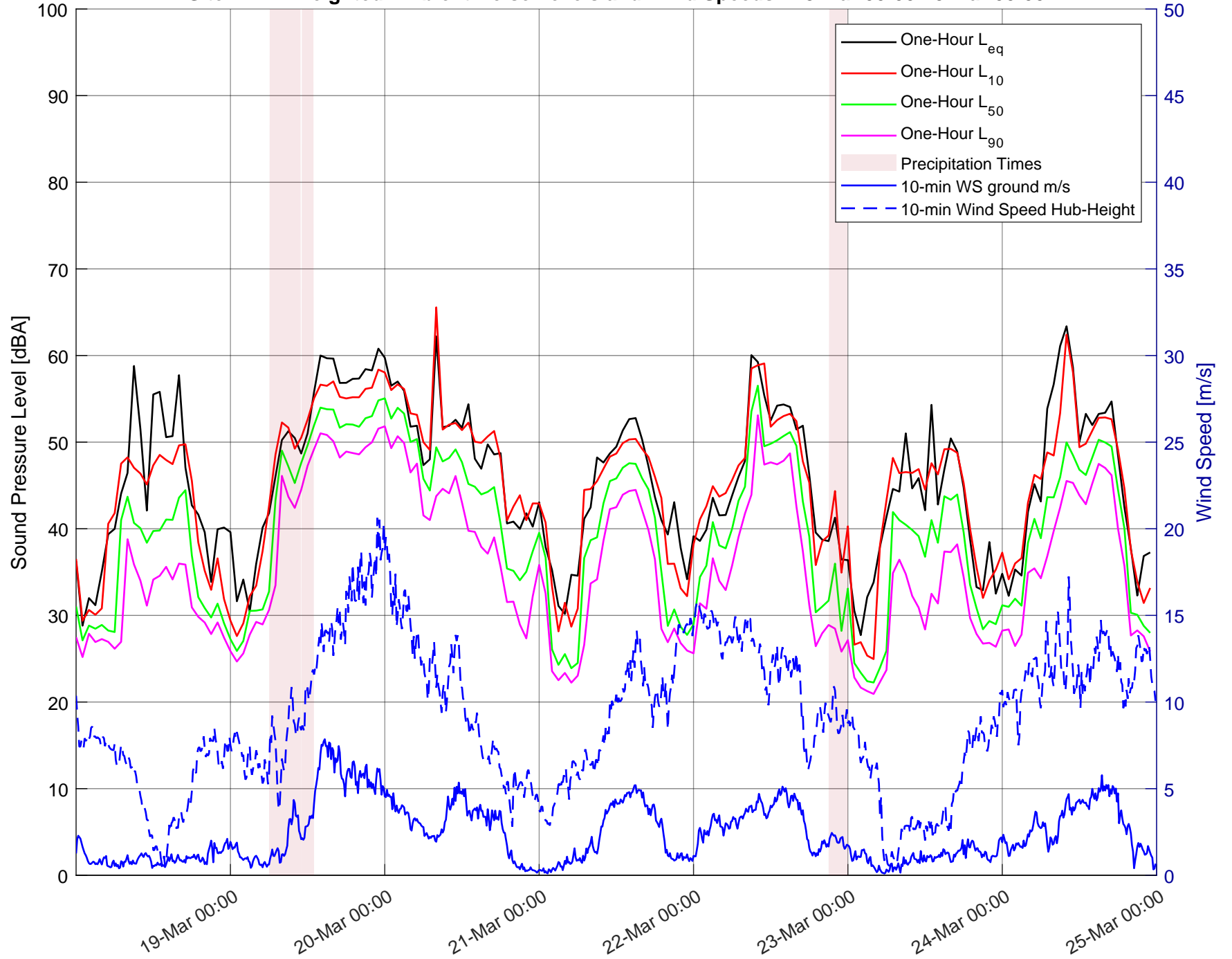
Site M3: A-Weighted Ambient Noise Levels and Wind Speeds: 18-Mar 00:00-25-Mar 00:00



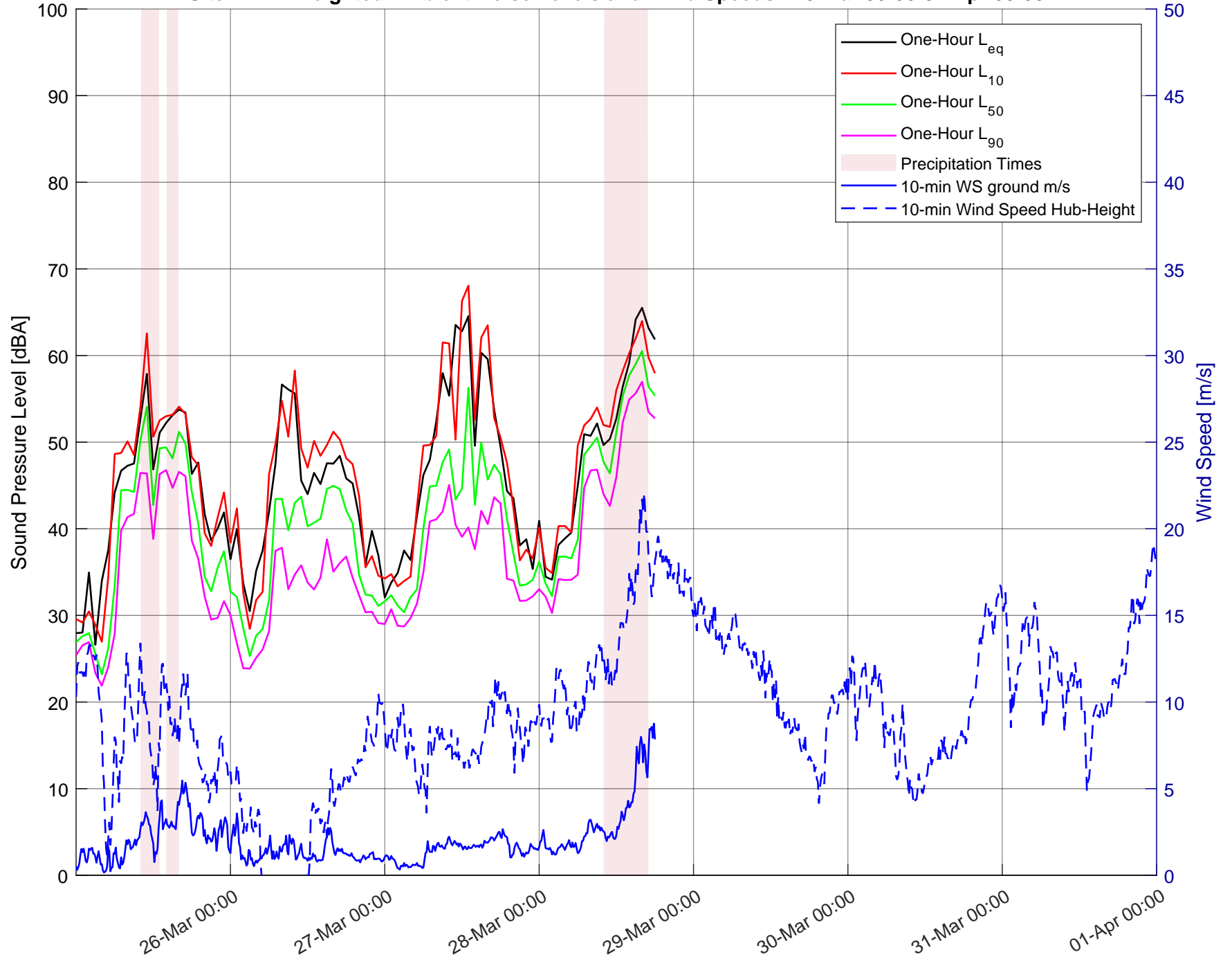
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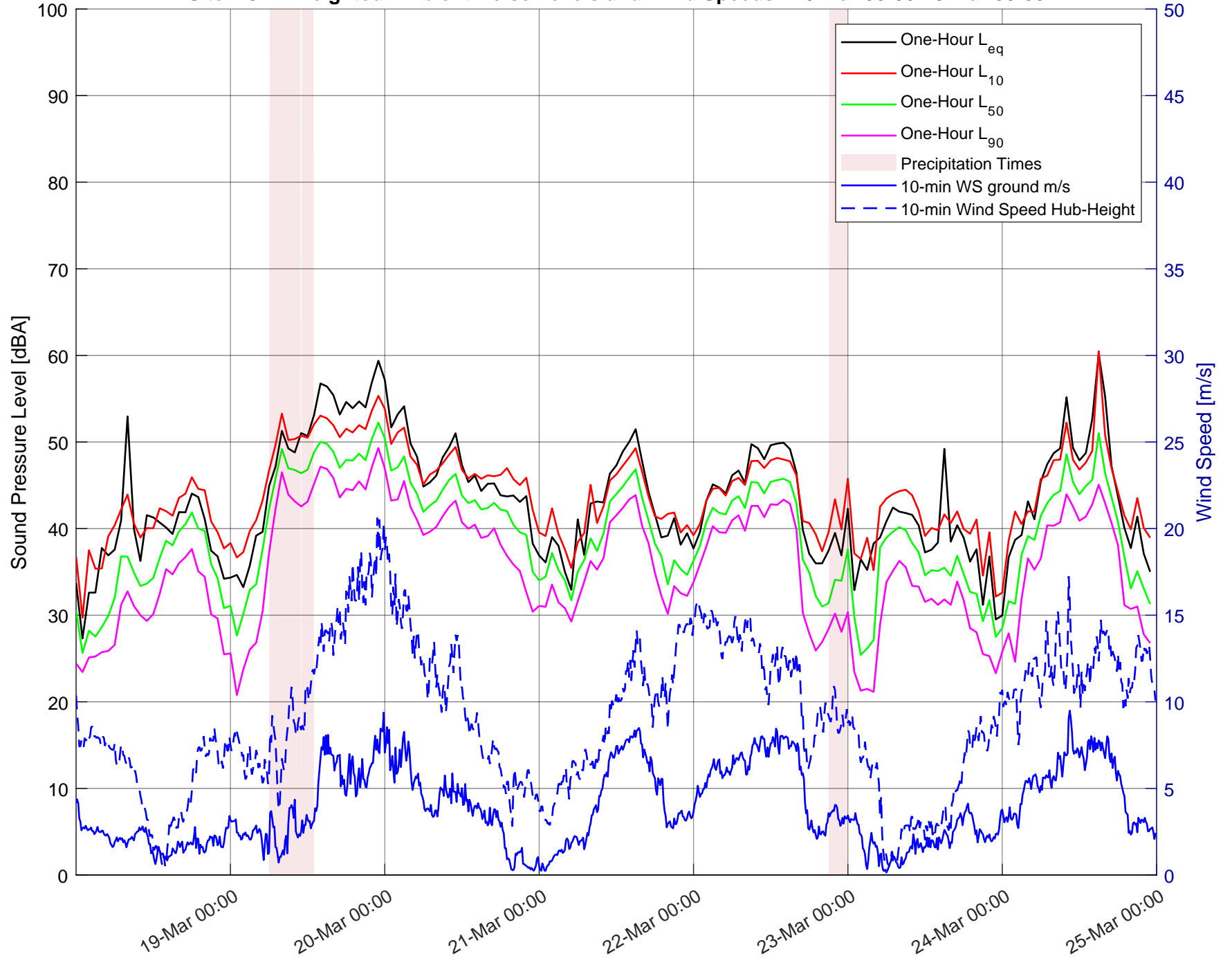
Site M4: A-Weighted Ambient Noise Levels and Wind Speeds: 18-Mar 00:00-25-Mar 00:00



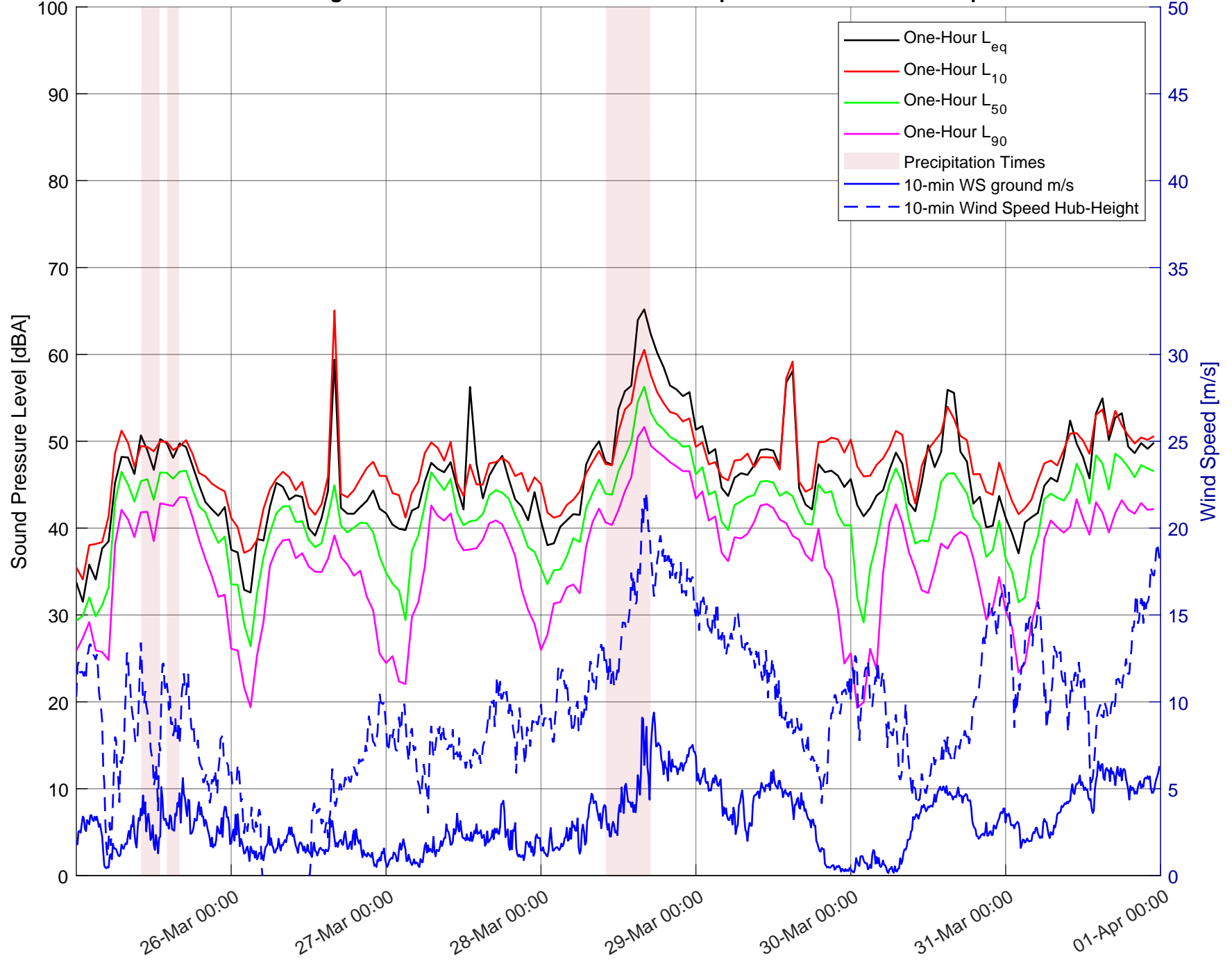
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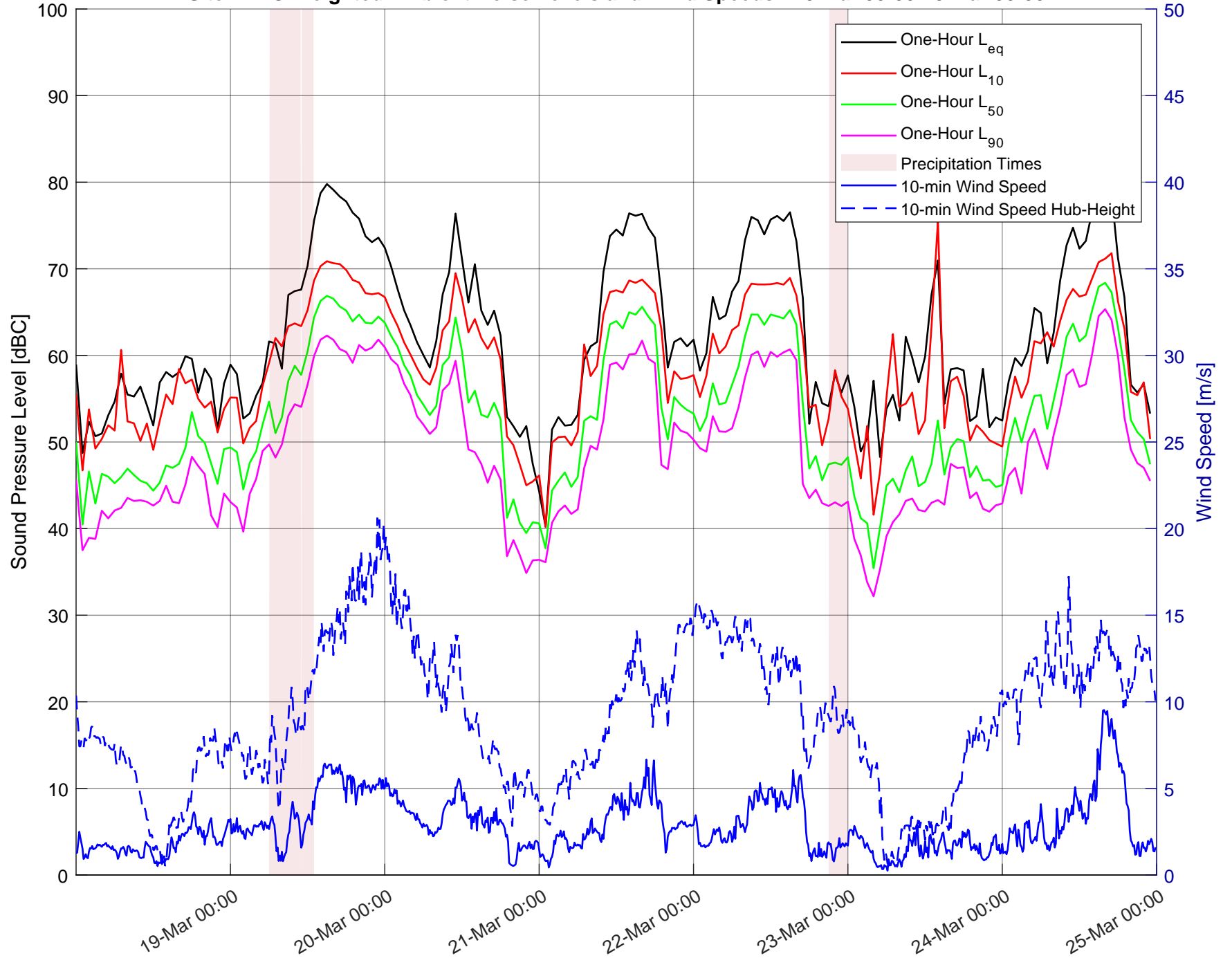
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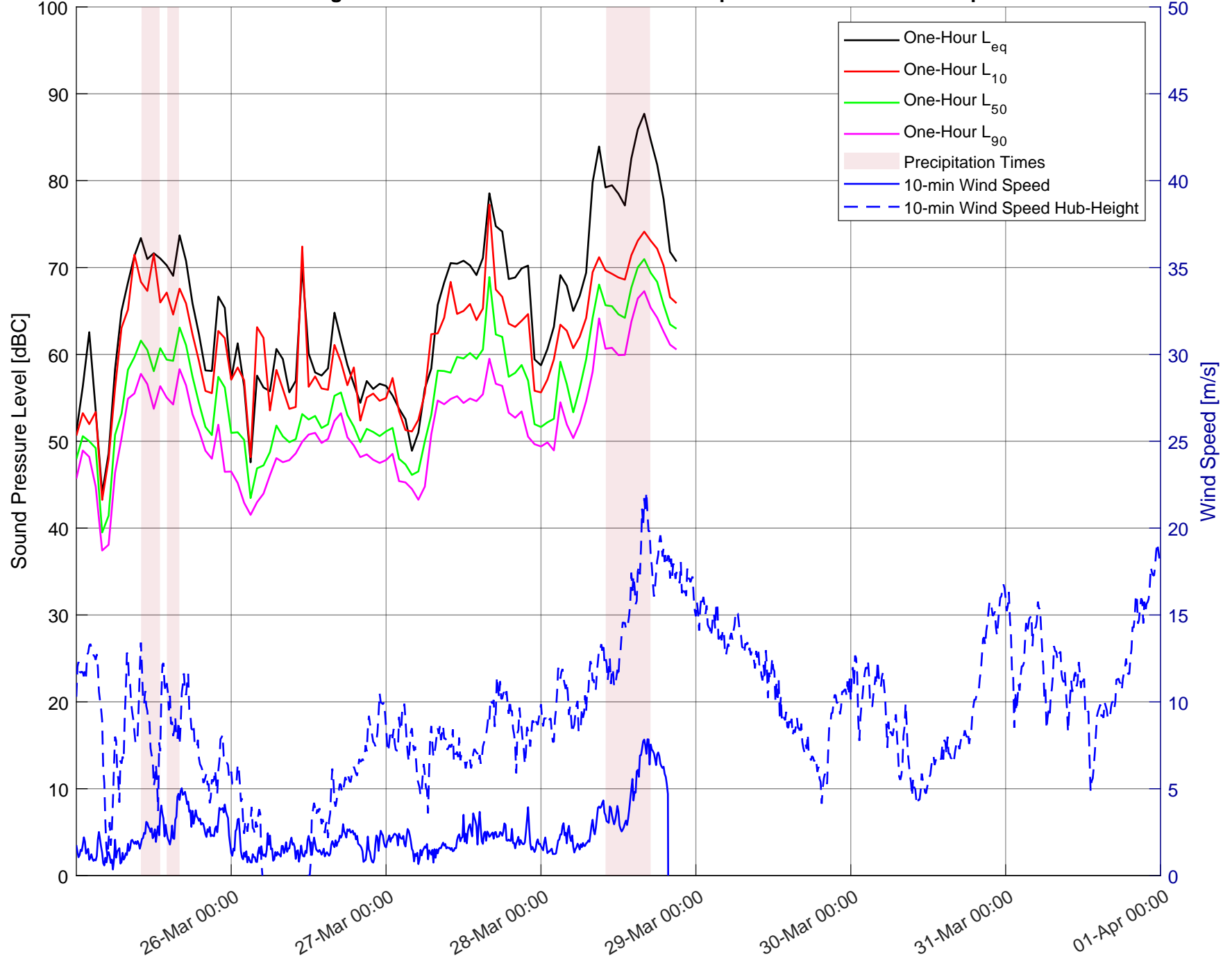
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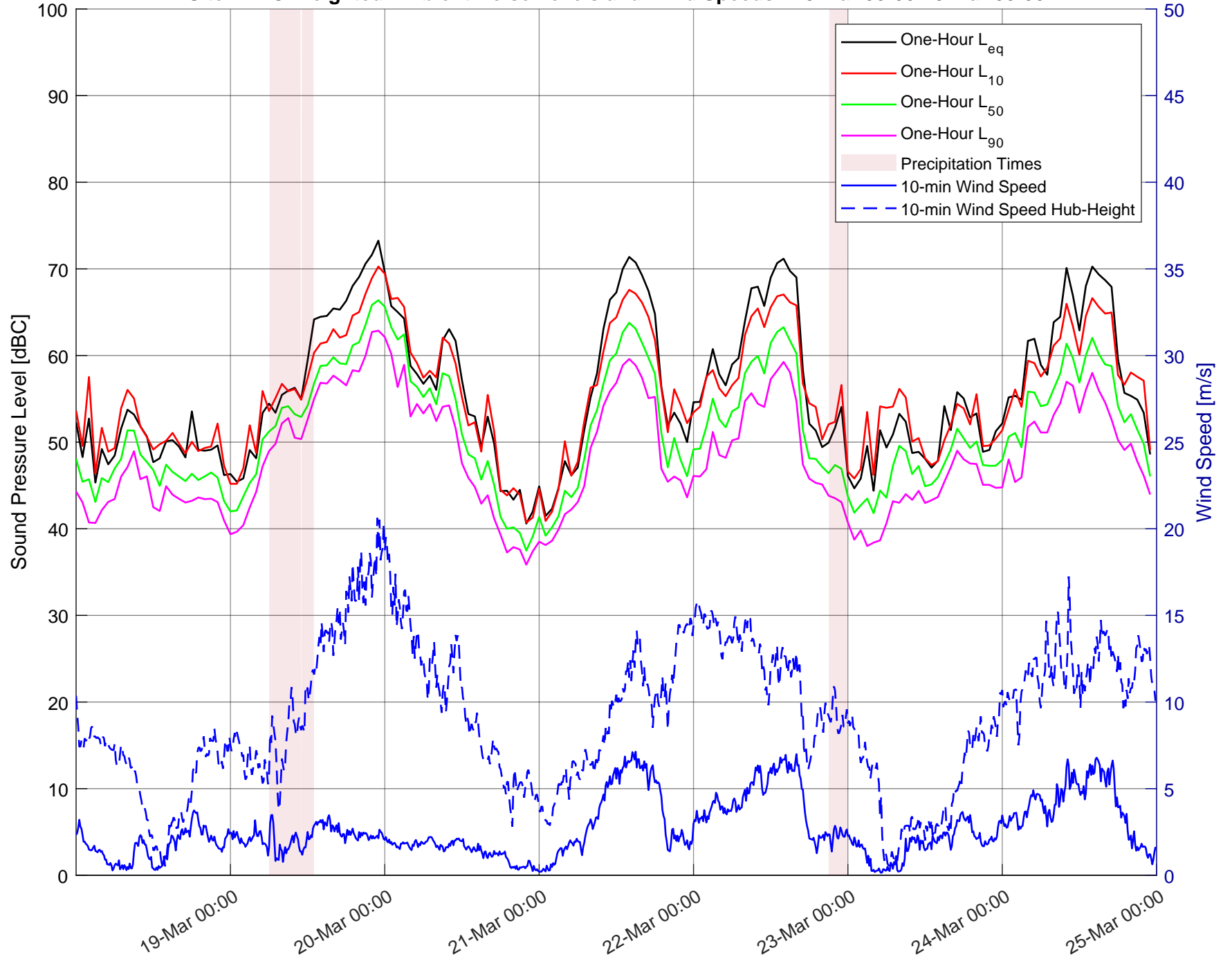
Site M1: C-Weighted Ambient Noise Levels and Wind Speeds: 18-Mar 00:00-25-Mar 00:00



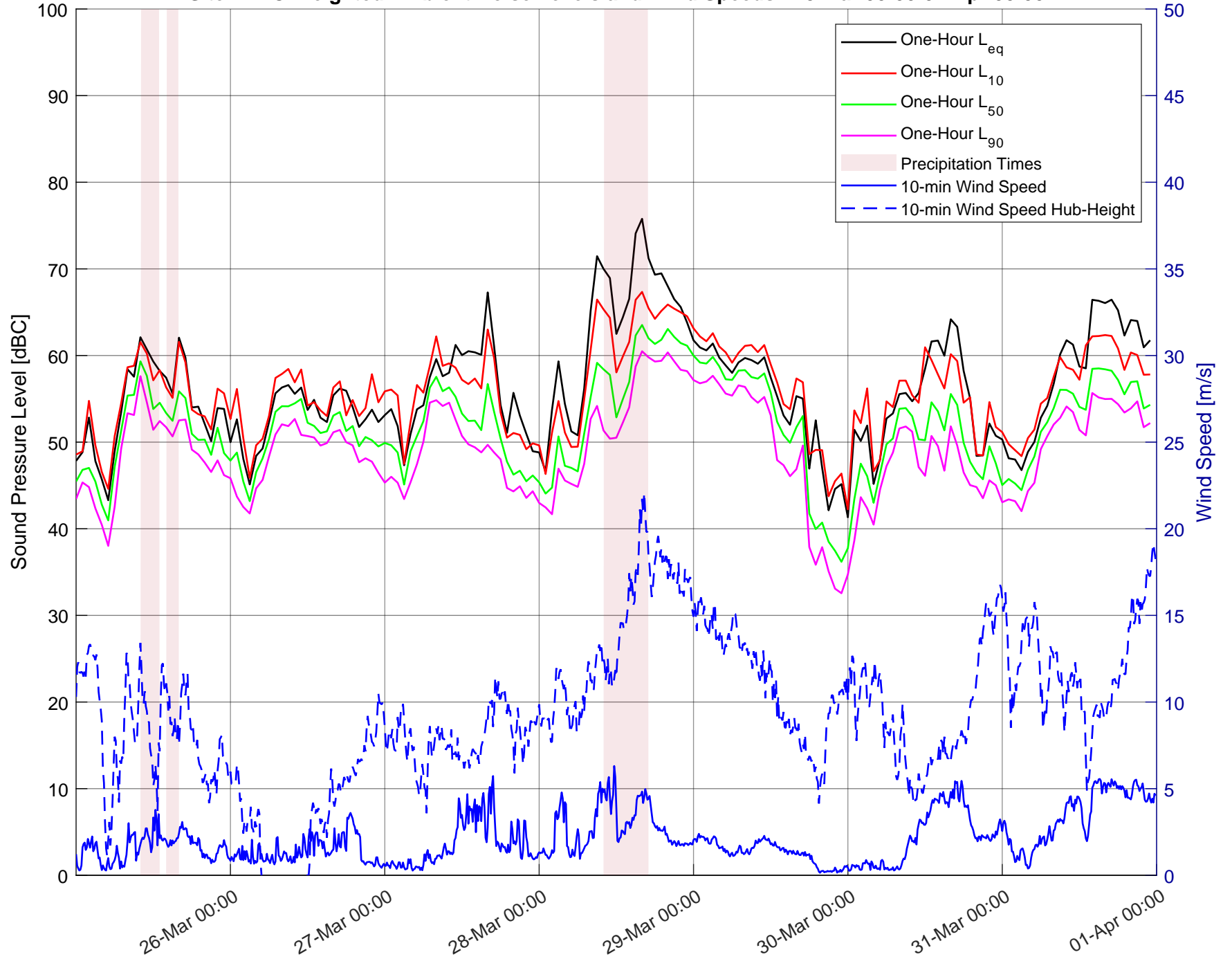
Site M1: C-Weighted Ambient Noise Levels and Wind Speeds: 25-Mar 00:00-01-Apr 00:00



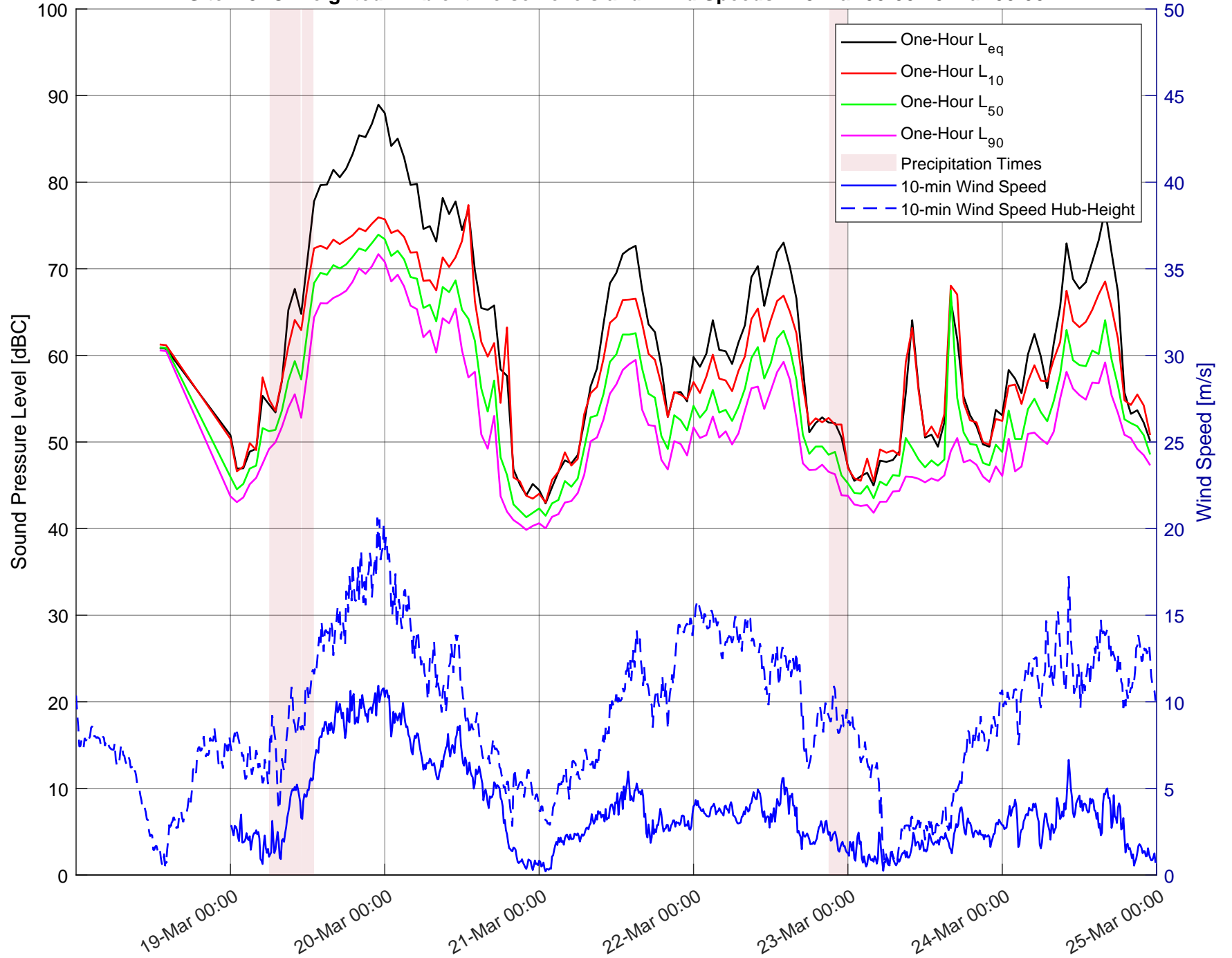
Site M2: C-Weighted Ambient Noise Levels and Wind Speeds: 18-Mar 00:00-25-Mar 00:00



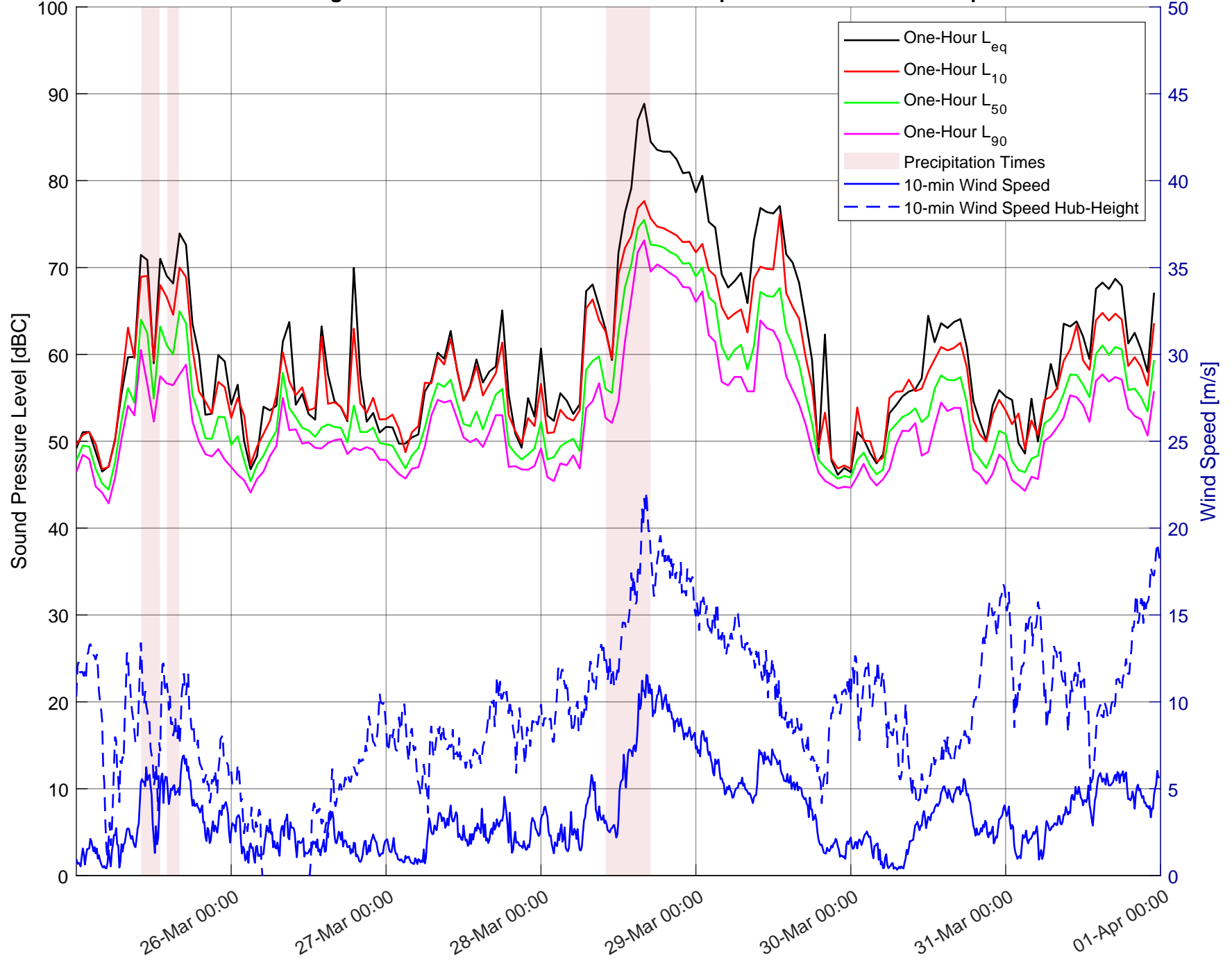
Site M2: C-Weighted Ambient Noise Levels and Wind Speeds: 25-Mar 00:00-01-Apr 00:00



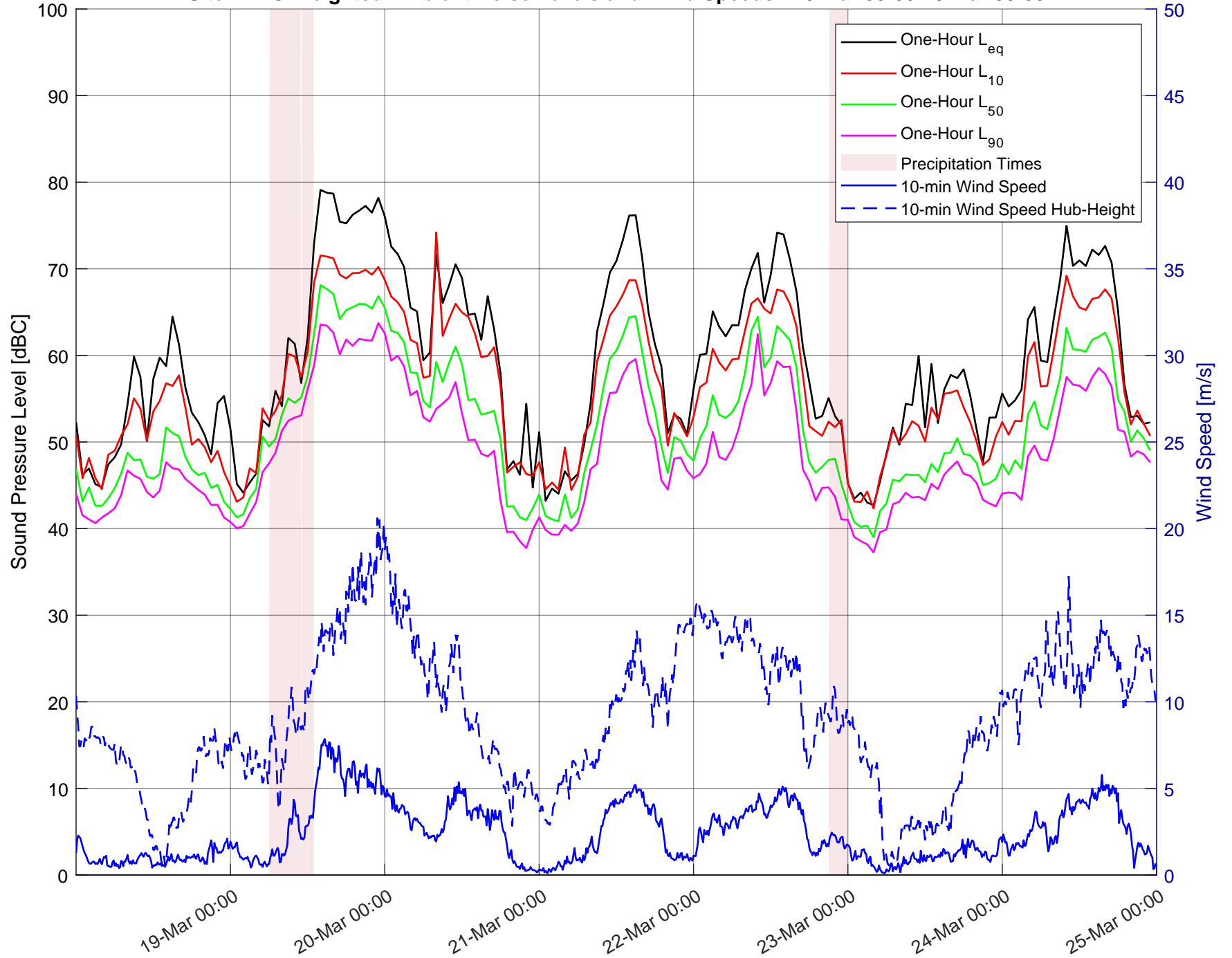
Site M3: C-Weighted Ambient Noise Levels and Wind Speeds: 18-Mar 00:00-25-Mar 00:00



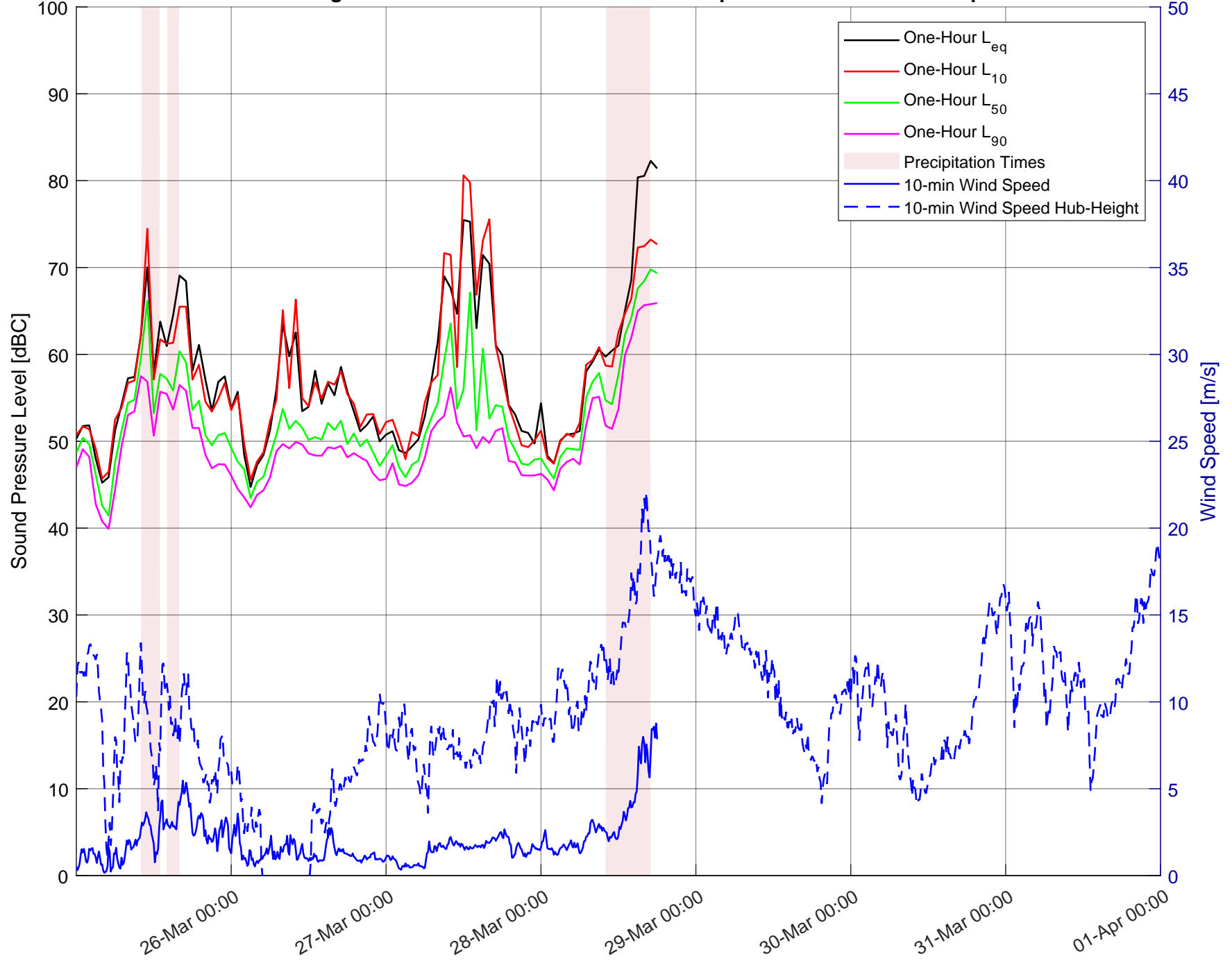
Site M3: C-Weighted Ambient Noise Levels and Wind Speeds: 25-Mar 00:00-01-Apr 00:00



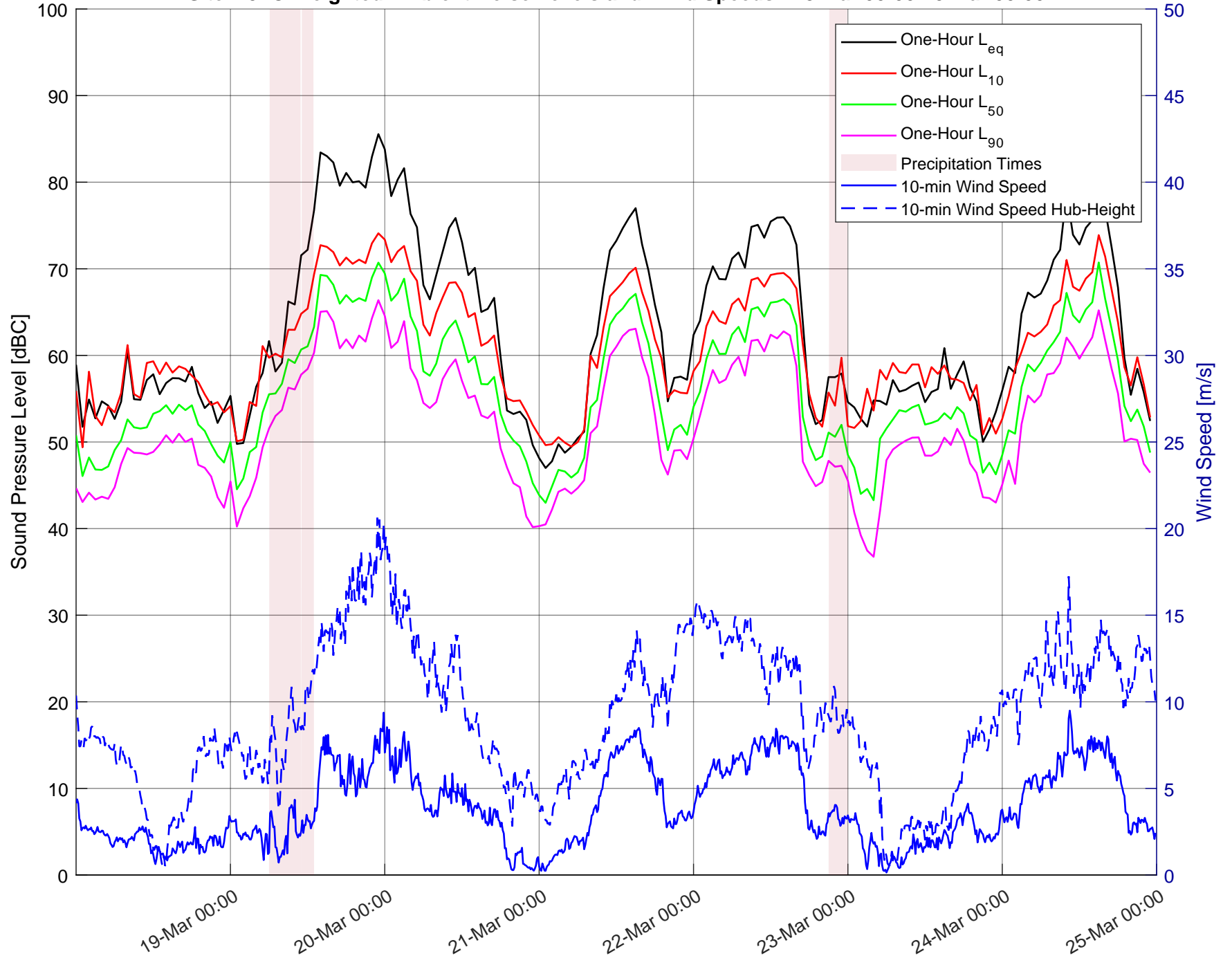
Site M4: C-Weighted Ambient Noise Levels and Wind Speeds: 18-Mar 00:00-25-Mar 00:00



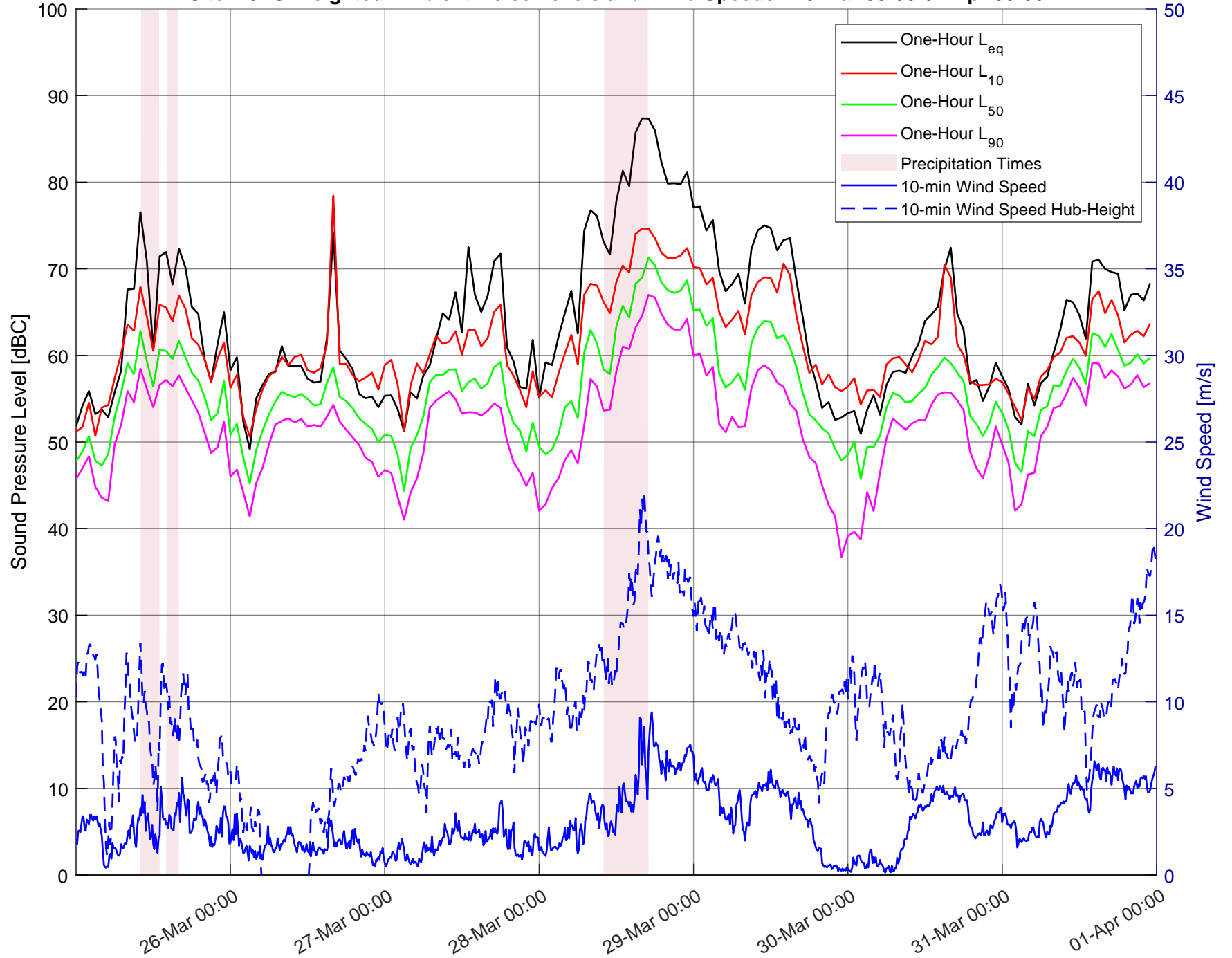
Site M4: C-Weighted Ambient Noise Levels and Wind Speeds: 25-Mar 00:00-01-Apr 00:00



Site M5: C-Weighted Ambient Noise Levels and Wind Speeds: 18-Mar 00:00-25-Mar 00:00



Site M5: C-Weighted Ambient Noise Levels and Wind Speeds: 25-Mar 00:00-01-Apr 00:00



Appendix B

Wind Turbine Coordinates

Table B-1: Wind Turbine Coordinates

Wind Turbine ID	Wind Turbine Type	Hub Height (m)	Coordinates NAD83 UTM Zone 14N (meters)	
			X (Easting)	Y (Northing)
1	GE2.82-127	114	714847.01	4829981.05
2	GE2.82-127	114	715610.50	4830411.54
3	GE2.32-116	80	717905.41	4830828.86
4	GE2.32-116	80	713441.02	4831478.00
5	GE2.82-127 NRO Mode 3	89	713949.59	4830645.22
6	GE2.82-127 NRO Mode 1	114	714571.93	4831310.85
8	GE2.32-116	80	717246.81	4833207.71
9	GE2.82-127	114	716723.46	4833149.12
10	GE2.82-127	114	715718.36	4834015.46
11	GE2.82-127	114	711769.53	4833288.58
12	GE2.82-127	114	711056.84	4833232.61
13	GE2.82-127	114	713034.08	4834144.19
14	GE2.82-127	114	712910.21	4834816.55
15	GE2.82-127	114	712437.57	4834786.63
16	GE2.82-127	114	712189.35	4834297.47
17	GE2.82-127	114	711359.83	4833945.14
18	GE2.82-127	114	710864.83	4834556.46
19	GE2.82-127	114	710686.67	4833957.05
20	GE2.82-127	114	710029.81	4833653.25
22	GE2.82-127	114	706276.25	4831989.43
23	GE2.82-127	114	706084.32	4833053.16
24	GE2.82-127	114	708006.37	4835351.40
25	GE2.82-127	114	707979.63	4836058.08
26	GE2.32-116	80	709891.75	4835181.36
27	GE2.82-127 NRO Mode 1	114	709058.41	4836449.34
28	GE2.82-127	114	710687.55	4836488.57
29	GE2.82-127	114	705731.84	4836844.04
30	GE2.82-127	114	705768.70	4837976.46
31	GE2.82-127	89	705926.51	4838597.87
32	GE2.82-127 NRO Mode 3	89	707683.66	4838655.13
33	GE2.82-127 NRO Mode 1	114	708171.41	4838280.47
34	GE2.82-127	114	709289.97	4838006.87
35	GE2.82-127	114	709643.04	4838319.17
36	GE2.82-127	114	710695.02	4838687.44
37	GE2.82-127	114	711323.10	4838366.17
38	GE2.82-127	114	713237.19	4838199.04
39	GE2.82-127	114	713738.22	4837050.42
40	GE2.82-127	89	713778.63	4838056.12
4 ALT	GE2.82-127	114	706637.94	4831858.89
5 ALT	GE2.82-127	114	710044.56	4832042.07
6 ALT	GE2.32-116	80	709827.94	4832974.42
7 ALT	GE2.82-127	89	714244.14	4830079.86
8 ALT	GE2.82-127 NRO Mode 2	89	708060.80	4839255.08
9 ALT	GE2.82-127	89	714692.33	4830622.92
10 ALT	GE2.82-127	114	709088.07	4839580.70
11 ALT	GE2.82-127	89	708844.43	4840301.67

Appendix C

Sound Level Modeling Results - Tabular

Table C-1: Project + Existing Non-Project Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project + Existing Non-Project Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
1	707116.78	4847096.66	Non-Participating	Minnesota	1	24
2	708305.93	4846606.91	Targeted	Minnesota	1	28
3	708808.42	4847183.67	Non-Participating	Minnesota	1	29
4	708792.98	4847121.48	Non-Participating	Minnesota	1	29
5	710426.31	4847027.49	Non-Participating	Minnesota	1	31
8	711430.37	4847100.31	Non-Participating	Minnesota	1	32
9	712168.22	4847234.98	Non-Participating	Minnesota	1	34
10	710761.49	4845648.59	Non-Participating	Minnesota	1	31
11	709848.84	4845674.79	Non-Participating	Minnesota	1	30
12	706632.23	4846993.25	Non-Participating	Minnesota	1	24
13	706608.96	4846127.80	Non-Participating	Minnesota	1	27
14	705141.88	4845829.90	Non-Participating	Minnesota	1	22
15	705259.97	4845158.83	Non-Participating	Minnesota	1	28
16	706765.76	4845113.79	Non-Participating	Minnesota	1	28
17	706751.88	4844577.57	Non-Participating	Minnesota	1	29
18	707270.50	4843918.01	Non-Participating	Minnesota	1	29
19	707512.81	4843649.75	Non-Participating	Minnesota	1	30
20	708478.92	4845354.11	Participating	Minnesota	1	29
21	708394.51	4843668.42	Non-Participating	Minnesota	1	31
22	708430.29	4843394.56	Non-Participating	Minnesota	1	30
23	709900.19	4845248.40	Non-Participating	Minnesota	1	30
24	709448.97	4843803.26	Non-Participating	Minnesota	1	31
25	709614.12	4843929.95	Participating	Minnesota	1	31
26	711647.33	4843990.24	Non-Participating	Minnesota	1	30
27	711345.52	4843862.96	Non-Participating	Minnesota	1	30
28	716954.85	4842454.09	Non-Participating	Minnesota	1	26
29	716642.97	4842773.33	Non-Participating	Minnesota	1	29
30	716510.64	4842848.35	Non-Participating	Minnesota	1	30
31	714115.37	4842462.46	Non-Participating	Minnesota	1	31
32	713178.15	4842909.97	Non-Participating	Minnesota	1	31
33	711938.71	4842378.30	Participating	Minnesota	1	32
34	710644.98	4842349.07	Non-Participating	Minnesota	1	33
35	709819.25	4842500.41	Participating	Minnesota	1	33
36	707468.78	4842249.89	Non-Participating	Minnesota	1	32
37	706814.15	4842351.53	Non-Participating	Minnesota	1	31
38	706284.12	4842225.69	Non-Participating	Minnesota	1	31
39	706067.54	4843190.56	Non-Participating	Minnesota	1	30
40	705275.87	4843735.83	Non-Participating	Minnesota	1	28
41	706750.62	4840653.78	Non-Participating	Minnesota	1	35
42	706742.54	4840668.93	Non-Participating	Minnesota	1	35
43	707861.60	4840458.05	Non-Participating	Minnesota	1	40
44	708158.48	4840697.92	Non-Participating	Minnesota	1	41
45	708427.46	4841672.29	Non-Participating	Minnesota	1	36
46	708976.50	4840717.57	Participating	Minnesota	1	46
47	710262.92	4840946.97	Non-Participating	Minnesota	1	37
48	710762.86	4840767.53	Non-Participating	Minnesota	1	36
49	712384.27	4840783.97	Non-Participating	Minnesota	1	34
50	713334.25	4840942.29	Non-Participating	Minnesota	1	33

Table C-1: Project + Existing Non-Project Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project + Existing Non-Project Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
51	713754.99	4840911.87	Non-Participating	Minnesota	1	32
52	714456.02	4840842.55	Non-Participating	Minnesota	1	31
53	714992.51	4842006.83	Non-Participating	Minnesota	1	30
54	715567.30	4840772.12	Non-Participating	Minnesota	1	31
55	716141.80	4840921.50	Non-Participating	Minnesota	1	30
56	716669.20	4840946.13	Non-Participating	Minnesota	1	28
57	718688.18	4841612.49	Non-Participating	Minnesota	1	28
58	718385.04	4840853.05	Non-Participating	Minnesota	1	28
59	718574.90	4840839.53	Non-Participating	Minnesota	1	29
60	719858.02	4841887.30	Non-Participating	Minnesota	1	28
61	720051.79	4841014.92	Non-Participating	Minnesota	1	28
62	720869.50	4840872.15	Non-Participating	Minnesota	1	28
63	721441.68	4839367.75	Non-Participating	Minnesota	1	27
64	721085.12	4839469.21	Non-Participating	Minnesota	1	28
65	719813.12	4840097.41	Non-Participating	Minnesota	1	28
66	718919.37	4839262.10	Non-Participating	Minnesota	1	29
67	718471.98	4839347.33	Non-Participating	Minnesota	1	29
68	717296.33	4839345.88	Non-Participating	Minnesota	1	30
69	716610.59	4839807.02	Non-Participating	Minnesota	1	31
70	716604.40	4840268.87	Non-Participating	Minnesota	1	30
71	715049.56	4840410.68	Non-Participating	Minnesota	1	32
72	714242.60	4839322.89	Participating	Minnesota	1	37
73	713478.59	4839242.77	Participating	Minnesota	1	39
74	713369.04	4839338.51	Non-Participating	Minnesota	1	39
75	713446.60	4840263.13	Non-Participating	Minnesota	1	35
76	713297.01	4840333.99	Non-Participating	Minnesota	1	34
78	711303.00	4839031.07	Participating	Minnesota	1	44
79	710297.92	4839470.58	Participating	Minnesota	1	42
80	710098.76	4839796.54	Non-Participating	Minnesota	1	41
81	710126.39	4840144.45	Non-Participating	Minnesota	1	40
82	708819.05	4839037.31	Non-Participating	Minnesota	1	46
83	708536.61	4839970.02	Participating	Minnesota	1	47
84	707329.06	4839034.08	Non-Participating	Minnesota	1	44
85	706870.81	4839475.06	Non-Participating	Minnesota	1	40
86	706925.99	4839978.62	Non-Participating	Minnesota	1	38
87	705855.19	4839004.53	Participating	Minnesota	1	47
88	706656.02	4838157.19	Non-Participating	Minnesota	1	43
89	707058.95	4838411.07	Non-Participating	Minnesota	1	43
90	707064.45	4838031.04	Non-Participating	Minnesota	1	42
91	707510.54	4837477.67	Targeted	Minnesota	1	41
92	708141.65	4837461.67	Participating	Minnesota	1	42
93	708243.59	4837310.77	Participating	Minnesota	1	42
94	708400.98	4838664.74	Targeted	Minnesota	1	47
95	708687.83	4837450.43	Participating	Minnesota	1	43
96	709771.69	4837511.27	Targeted	Minnesota	1	44
97	710445.82	4837977.55	Targeted	Minnesota	1	44
98	710772.80	4837437.00	Non-Participating	Minnesota	1	42
99	711645.42	4837393.46	Non-Participating	Minnesota	1	41

Table C-1: Project + Existing Non-Project Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project + Existing Non-Project Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
100	711810.77	4837813.61	Targeted	Minnesota	1	42
101	712200.34	4837408.33	Non-Participating	Minnesota	1	40
102	713104.19	4837670.84	Non-Participating	Minnesota	1	46
103	713167.31	4837435.71	Non-Participating	Minnesota	1	44
104	713992.36	4837483.37	Targeted	Minnesota	1	46
105	715042.04	4837912.39	Non-Participating	Minnesota	1	38
106	715021.68	4838699.63	Non-Participating	Minnesota	1	36
107	715090.43	4838637.19	Non-Participating	Minnesota	1	36
108	715313.77	4837500.27	Targeted	Minnesota	1	36
109	715783.84	4837663.54	Non-Participating	Minnesota	1	34
110	716026.85	4837558.63	Non-Participating	Minnesota	1	34
111	716411.22	4837638.23	Non-Participating	Minnesota	1	33
112	716797.43	4837677.61	Non-Participating	Minnesota	1	32
113	717493.50	4837682.56	Non-Participating	Minnesota	1	31
114	717959.58	4838266.65	Non-Participating	Minnesota	1	30
115	718096.72	4837655.04	Non-Participating	Minnesota	1	30
116	718635.34	4837734.24	Non-Participating	Minnesota	1	30
117	718973.38	4837665.43	Non-Participating	Minnesota	1	29
118	719803.30	4838775.43	Non-Participating	Minnesota	1	28
119	719789.20	4838850.50	Non-Participating	Minnesota	1	28
120	720329.65	4837683.29	Non-Participating	Minnesota	1	28
121	720497.83	4837781.83	Non-Participating	Minnesota	1	28
122	721468.69	4838097.90	Non-Participating	Minnesota	1	27
123	720672.05	4836880.47	Non-Participating	Minnesota	1	28
124	719773.40	4836874.47	Non-Participating	Minnesota	1	29
125	721504.01	4835748.19	Non-Participating	Minnesota	1	26
126	719835.22	4835489.72	Non-Participating	Minnesota	1	29
127	719971.96	4835872.49	Non-Participating	Minnesota	1	29
128	719000.79	4835890.62	Non-Participating	Minnesota	1	31
129	718569.06	4835055.95	Participating	Minnesota	1	32
130	718342.87	4835837.33	Participating	Minnesota	1	32
131	718247.08	4836742.93	Non-Participating	Minnesota	1	30
132	718240.47	4836646.55	Non-Participating	Minnesota	1	30
133	718177.51	4836701.05	Non-Participating	Minnesota	1	30
134	716977.83	4836815.57	Participating	Minnesota	1	32
135	716901.55	4835960.23	Non-Participating	Minnesota	1	34
136	715586.54	4836002.19	Non-Participating	Minnesota	1	36
137	715661.98	4836017.28	Non-Participating	Minnesota	1	35
138	714868.50	4835985.41	Non-Participating	Minnesota	1	37
139	715186.22	4835692.77	Participating	Minnesota	1	37
140	715206.94	4835652.83	Participating	Minnesota	1	37
141	714264.50	4835959.15	Non-Participating	Minnesota	1	39
142	712603.23	4835802.92	Participating	Minnesota	1	42
143	712308.20	4836059.46	Non-Participating	Minnesota	1	41
144	710937.13	4835543.44	Participating	Minnesota	1	43
145	710551.74	4835854.65	Non-Participating	Minnesota	1	44
146	709610.69	4835866.83	Non-Participating	Minnesota	1	43
147	708710.52	4836244.46	Participating	Minnesota	1	47

Table C-1: Project + Existing Non-Project Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project + Existing Non-Project Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
148	708431.38	4835795.37	Targeted	Minnesota	1	47
149	707467.79	4835655.21	Non-Participating	Minnesota	1	45
150	707382.61	4835946.18	Non-Participating	Minnesota	1	44
152	706957.43	4836478.77	Non-Participating	Minnesota	1	40
153	707156.95	4836908.27	Non-Participating	Minnesota	1	40
154	705991.93	4837185.67	Participating	Minnesota	1	46
155	705492.89	4835958.91	Non-Participating	Minnesota	1	39
156	705858.11	4834844.91	Non-Participating	Minnesota	1	35
157	707016.69	4835236.06	Non-Participating	Minnesota	1	40
158	707356.17	4834741.12	Non-Participating	Minnesota	1	40
159	707085.43	4834360.19	Participating	Minnesota	1	38
160	708322.34	4834109.83	Non-Participating	Minnesota	1	39
161	708977.90	4835337.39	Targeted	Minnesota	1	43
162	709241.42	4834293.09	Non-Participating	Minnesota	1	42
163	710284.41	4834655.57	Targeted	Minnesota	1	47
164	713539.68	4834701.97	Participating	Minnesota	1	45
165	713519.94	4833754.80	Participating	Minnesota	1	44
166	714328.91	4834335.98	Participating	Minnesota	1	40
167	715389.72	4834427.12	Non-Participating	Minnesota	1	44
168	715960.50	4833594.78	Targeted	Minnesota	1	45
169	717742.89	4833679.69	Non-Participating	Minnesota	1	40
170	717526.44	4834457.10	Participating	Minnesota	1	37
171	717942.71	4834486.94	Participating	Minnesota	1	35
172	721247.61	4833637.06	Non-Participating	Minnesota	1	28
173	720587.26	4833766.80	Non-Participating	Minnesota	1	29
174	719968.80	4833440.58	Non-Participating	Minnesota	1	31
175	720001.01	4832510.77	Non-Participating	Minnesota	1	31
176	720086.46	4832488.58	Non-Participating	Minnesota	1	30
177	718057.16	4832879.43	Non-Participating	Minnesota	1	38
178	718221.38	4832811.99	Non-Participating	Minnesota	1	37
179	720138.53	4831804.67	Non-Participating	Minnesota	1	30
180	720018.46	4831817.27	Non-Participating	Minnesota	1	31
181	718905.22	4831299.44	Non-Participating	Minnesota	1	35
182	717421.25	4831235.51	Non-Participating	Minnesota	1	40
183	716309.79	4831038.21	Non-Participating	Minnesota	1	40
184	715633.49	4831085.85	Targeted	Minnesota	1	44
185	716220.40	4831908.27	Non-Participating	Minnesota	1	39
186	716577.54	4832695.90	Non-Participating	Minnesota	1	45
187	716382.77	4832803.70	Participating	Minnesota	1	45
188	716021.03	4832717.66	Participating	Minnesota	1	41
189	715946.91	4832805.42	Participating	Minnesota	1	41
190	715198.78	4832781.62	Non-Participating	Minnesota	1	39
191	715208.57	4833157.75	Non-Participating	Minnesota	1	40
192	714338.84	4832655.97	Participating	Minnesota	1	39
193	713317.82	4832719.65	Non-Participating	Minnesota	1	40
194	712633.30	4832532.44	Non-Participating	Minnesota	1	41
195	712594.49	4832495.72	Non-Participating	Minnesota	1	41
197	712507.23	4832437.14	Non-Participating	Minnesota	1	41

Table C-1: Project + Existing Non-Project Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project + Existing Non-Project Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
198	712346.67	4832653.95	Non-Participating	Minnesota	1	42
199	712846.95	4832428.39	Non-Participating	Minnesota	1	40
200	712862.53	4832429.34	Non-Participating	Minnesota	1	40
201	712882.15	4832429.34	Non-Participating	Minnesota	1	40
202	712894.50	4832431.01	Non-Participating	Minnesota	1	40
203	712928.71	4832437.86	Non-Participating	Minnesota	1	40
204	712936.81	4832480.03	Non-Participating	Minnesota	1	40
205	712995.55	4832445.10	Non-Participating	Minnesota	1	40
206	712932.00	4832382.02	Non-Participating	Minnesota	1	40
207	712889.30	4832379.64	Non-Participating	Minnesota	1	40
208	712851.04	4832377.53	Non-Participating	Minnesota	1	40
209	712836.85	4832377.30	Non-Participating	Minnesota	1	40
210	712823.45	4832370.97	Non-Participating	Minnesota	1	40
211	712537.69	4832295.51	Non-Participating	Minnesota	1	40
212	712564.57	4832317.29	Non-Participating	Minnesota	1	40
213	712605.45	4832307.68	Non-Participating	Minnesota	1	40
214	712629.62	4832300.88	Non-Participating	Minnesota	1	40
215	712674.11	4832322.67	Non-Participating	Minnesota	1	40
216	712679.19	4832298.37	Non-Participating	Minnesota	1	40
217	712717.98	4832312.61	Non-Participating	Minnesota	1	40
218	712785.61	4832316.50	Non-Participating	Minnesota	1	40
219	712778.81	4832299.33	Non-Participating	Minnesota	1	40
220	712829.55	4832333.38	Non-Participating	Minnesota	1	40
221	712830.18	4832309.03	Non-Participating	Minnesota	1	40
222	712867.95	4832305.17	Non-Participating	Minnesota	1	40
223	713109.05	4832338.04	Non-Participating	Minnesota	1	40
224	713137.94	4832336.46	Non-Participating	Minnesota	1	40
225	713168.29	4832342.12	Non-Participating	Minnesota	1	40
226	713226.79	4832342.81	Non-Participating	Minnesota	1	40
227	713292.76	4832253.02	Non-Participating	Minnesota	1	41
228	713308.00	4832224.79	Non-Participating	Minnesota	1	41
229	713375.93	4832184.38	Non-Participating	Minnesota	1	41
230	713431.00	4832183.48	Non-Participating	Minnesota	1	41
231	712884.28	4832262.41	Non-Participating	Minnesota	1	40
232	712831.97	4832268.25	Non-Participating	Minnesota	1	40
233	712837.31	4832254.52	Non-Participating	Minnesota	1	40
234	712834.64	4832232.89	Non-Participating	Minnesota	1	40
235	712848.32	4832199.78	Non-Participating	Minnesota	1	40
236	712887.35	4832233.70	Non-Participating	Minnesota	1	40
237	712890.56	4832202.61	Non-Participating	Minnesota	1	40
238	712780.48	4832264.85	Non-Participating	Minnesota	1	40
239	712785.27	4832251.36	Non-Participating	Minnesota	1	40
240	712780.83	4832224.05	Non-Participating	Minnesota	1	40
241	712787.28	4832192.10	Non-Participating	Minnesota	1	40
242	712719.68	4832205.22	Non-Participating	Minnesota	1	40
243	712719.10	4832249.73	Non-Participating	Minnesota	1	40
244	712718.61	4832266.40	Non-Participating	Minnesota	1	40
245	712753.58	4832271.17	Non-Participating	Minnesota	1	40

Table C-1: Project + Existing Non-Project Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project + Existing Non-Project Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
246	712748.37	4832234.80	Non-Participating	Minnesota	1	40
247	712673.11	4832238.71	Non-Participating	Minnesota	1	40
248	712675.00	4832216.30	Non-Participating	Minnesota	1	40
249	712677.58	4832191.27	Non-Participating	Minnesota	1	40
250	712618.78	4832190.35	Non-Participating	Minnesota	1	40
251	712564.96	4832190.52	Non-Participating	Minnesota	1	40
252	712570.97	4832213.69	Non-Participating	Minnesota	1	40
253	712571.98	4832232.04	Non-Participating	Minnesota	1	40
254	712571.88	4832259.87	Non-Participating	Minnesota	1	40
255	712608.06	4832231.58	Non-Participating	Minnesota	1	40
256	712456.59	4832228.74	Non-Participating	Minnesota	1	40
257	712392.84	4832139.24	Non-Participating	Minnesota	1	40
258	712456.01	4832133.54	Non-Participating	Minnesota	1	40
259	712503.93	4832139.10	Non-Participating	Minnesota	1	40
260	712459.29	4832110.14	Non-Participating	Minnesota	1	40
261	712508.07	4832110.19	Non-Participating	Minnesota	1	40
262	712450.68	4832077.28	Non-Participating	Minnesota	1	40
263	712507.77	4832084.46	Non-Participating	Minnesota	1	40
264	712553.69	4832079.29	Non-Participating	Minnesota	1	40
265	712626.23	4832098.28	Non-Participating	Minnesota	1	40
266	712568.90	4832143.05	Non-Participating	Minnesota	1	40
267	712613.84	4832149.49	Non-Participating	Minnesota	1	40
268	712636.39	4832149.27	Non-Participating	Minnesota	1	40
269	712676.17	4832149.03	Non-Participating	Minnesota	1	40
270	712679.14	4832113.16	Non-Participating	Minnesota	1	40
271	712678.29	4832087.92	Non-Participating	Minnesota	1	40
272	712720.39	4832155.88	Non-Participating	Minnesota	1	40
273	712724.09	4832116.02	Non-Participating	Minnesota	1	40
274	712724.53	4832087.84	Non-Participating	Minnesota	1	40
275	712745.94	4832084.47	Non-Participating	Minnesota	1	40
276	712790.68	4832081.04	Non-Participating	Minnesota	1	40
277	712790.26	4832095.01	Non-Participating	Minnesota	1	40
278	712788.37	4832119.07	Non-Participating	Minnesota	1	40
279	712789.00	4832150.71	Non-Participating	Minnesota	1	40
280	712759.46	4832158.67	Non-Participating	Minnesota	1	40
281	712834.02	4832154.99	Non-Participating	Minnesota	1	40
282	712841.90	4832109.02	Non-Participating	Minnesota	1	40
283	712845.16	4832086.79	Non-Participating	Minnesota	1	40
284	712877.12	4832089.52	Non-Participating	Minnesota	1	41
285	712900.32	4832095.23	Non-Participating	Minnesota	1	41
286	712889.85	4832123.54	Non-Participating	Minnesota	1	40
287	712889.80	4832163.62	Non-Participating	Minnesota	1	40
288	712889.23	4832144.18	Non-Participating	Minnesota	1	40
289	712730.42	4832035.84	Non-Participating	Minnesota	1	40
290	712794.99	4832046.39	Non-Participating	Minnesota	1	40
291	712794.24	4832015.06	Non-Participating	Minnesota	1	40
292	712796.38	4831988.68	Non-Participating	Minnesota	1	40
293	712732.53	4831979.23	Non-Participating	Minnesota	1	40

Table C-1: Project + Existing Non-Project Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project + Existing Non-Project Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
294	712734.58	4832008.79	Non-Participating	Minnesota	1	40
295	712733.41	4831929.85	Non-Participating	Minnesota	1	40
296	712732.95	4831902.51	Non-Participating	Minnesota	1	40
297	712735.50	4831869.27	Non-Participating	Minnesota	1	40
298	712751.54	4831840.81	Non-Participating	Minnesota	1	41
299	712791.52	4831841.65	Non-Participating	Minnesota	1	41
300	712798.77	4831870.72	Non-Participating	Minnesota	1	41
301	712772.78	4831901.49	Non-Participating	Minnesota	1	41
302	712790.64	4831921.66	Non-Participating	Minnesota	1	41
303	712842.90	4831916.61	Non-Participating	Minnesota	1	41
304	711473.36	4832637.58	Participating	Minnesota	1	45
305	711252.43	4832635.31	Participating	Minnesota	1	45
306	710955.15	4832635.80	Participating	Minnesota	1	45
307	710371.01	4832978.05	Participating	Minnesota	1	46
308	708958.17	4832642.70	Participating	Minnesota	1	40
309	708910.35	4832432.23	Participating	Minnesota	1	40
310	708545.61	4832471.18	Participating	Minnesota	1	38
311	707948.72	4832546.75	Non-Participating	Minnesota	1	38
312	707785.26	4832449.07	Non-Participating	Minnesota	1	38
313	707392.79	4832577.65	Non-Participating	Minnesota	1	40
314	707103.01	4833341.74	Non-Participating	Minnesota	1	39
315	705808.16	4832506.07	Non-Participating	Minnesota	1	45
316	706307.90	4832597.14	Participating	Minnesota	1	47
317	706391.85	4832533.05	Participating	Minnesota	1	46
318	705921.04	4831717.10	Participating	Minnesota	1	46
319	707124.26	4832268.92	Participating	Minnesota	1	44
320	707148.31	4831858.58	Participating	Minnesota	1	45
321	706377.57	4830879.08	Non-Participating	Minnesota	1	39
322	706795.99	4830788.28	Non-Participating	Minnesota	1	38
323	707286.36	4830938.93	Participating	Minnesota	1	38
324	708796.80	4831061.44	Non-Participating	Minnesota	1	35
325	708665.52	4830816.87	Non-Participating	Minnesota	1	35
326	709134.89	4830862.41	Non-Participating	Minnesota	1	36
327	709959.89	4830915.52	Non-Participating	Minnesota	1	38
328	710444.83	4830632.98	Participating	Minnesota	1	36
329	711156.75	4831002.57	Non-Participating	Minnesota	1	37
330	712129.09	4830942.84	Non-Participating	Minnesota	1	38
331	713644.87	4830986.83	Participating	Minnesota	1	46
332	714014.30	4831109.09	Participating	Minnesota	1	47
333	715256.78	4831015.51	Non-Participating	Minnesota	1	46
334	715114.86	4831046.13	Non-Participating	Minnesota	1	46
335	715280.87	4830888.83	Non-Participating	Minnesota	1	46
336	720850.87	4829589.22	Non-Participating	Minnesota	1	29
337	720471.34	4829713.08	Non-Participating	Minnesota	1	29
338	718660.97	4829287.11	Non-Participating	Minnesota	1	33
339	718547.55	4829529.40	Non-Participating	Minnesota	1	34
340	718705.42	4829658.28	Non-Participating	Minnesota	1	34
341	718207.07	4829650.23	Non-Participating	Minnesota	1	35

Table C-1: Project + Existing Non-Project Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project + Existing Non-Project Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
342	718488.68	4830493.21	Non-Participating	Minnesota	1	39
343	718614.16	4830476.57	Non-Participating	Minnesota	1	38
344	716736.70	4829503.83	Non-Participating	Minnesota	1	37
345	716664.22	4829593.01	Non-Participating	Minnesota	1	37
346	716087.40	4829579.09	Targeted	Minnesota	1	40
347	715685.16	4829460.28	Non-Participating	Minnesota	1	41
348	714913.69	4829173.93	Non-Participating	Minnesota	1	42
349	714617.74	4829521.25	Participating	Minnesota	1	46
350	713650.85	4830171.47	Non-Participating	Minnesota	1	45
351	712905.87	4829462.35	Non-Participating	Minnesota	1	37
352	712717.46	4829343.28	Participating	Minnesota	1	36
353	712178.69	4830005.45	Non-Participating	Minnesota	1	36
354	712093.44	4829732.15	Non-Participating	Minnesota	1	35
355	707416.58	4830311.62	Non-Participating	Minnesota	1	35
356	712848.91	4827911.62	Non-Participating	Minnesota	1	32
357	713480.57	4827427.94	Non-Participating	Minnesota	1	32
358	713672.96	4827918.96	Non-Participating	Minnesota	1	33
359	713975.46	4828553.70	Non-Participating	Minnesota	1	36
360	713820.87	4828830.04	Non-Participating	Minnesota	1	38
361	714217.10	4827915.58	Non-Participating	Minnesota	1	34
362	715474.31	4827938.91	Non-Participating	Minnesota	1	34
363	715541.50	4827975.19	Participating	Minnesota	1	34
364	716139.42	4827816.29	Non-Participating	Minnesota	1	34
365	716987.91	4827842.08	Non-Participating	Minnesota	1	34
366	717070.79	4827804.48	Non-Participating	Minnesota	1	34
367	717108.39	4828849.54	Non-Participating	Minnesota	1	34
368	718562.18	4828640.41	Non-Participating	Minnesota	1	32
369	718674.18	4828400.30	Non-Participating	Minnesota	1	32
370	718602.36	4827497.49	Non-Participating	Minnesota	1	33
371	718830.45	4827566.20	Non-Participating	Minnesota	1	33
372	719830.43	4828111.38	Non-Participating	Minnesota	1	30
373	719778.19	4828092.97	Non-Participating	Minnesota	1	30
374	715248.44	4827383.73	Non-Participating	Minnesota	1	33
375	713888.51	4826969.27	Non-Participating	Minnesota	1	31
376	705300.91	4848839.14	Non-Participating	Minnesota	1	24
377	706631.09	4848703.62	Non-Participating	Minnesota	1	25
378	706929.07	4848599.18	Non-Participating	Minnesota	1	24
379	707922.77	4848733.84	Non-Participating	Minnesota	1	25
380	709860.15	4848794.24	Non-Participating	Minnesota	1	31
381	710296.98	4848793.31	Non-Participating	Minnesota	1	32
382	710975.28	4848884.65	Non-Participating	Minnesota	1	36
383	705464.17	4831442.94	Non-Participating	South Dakota	1	39
384	704881.41	4833942.19	Non-Participating	South Dakota	1	35
385	704934.04	4833903.19	Non-Participating	South Dakota	1	35
386	705349.51	4834096.40	Non-Participating	South Dakota	1	36
387	703947.03	4834924.62	Non-Participating	South Dakota	1	32
388	703763.96	4835653.19	Non-Participating	South Dakota	1	33
389	704815.83	4835753.70	Non-Participating	South Dakota	1	36

Table C-1: Project + Existing Non-Project Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project + Existing Non-Project Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
390	705281.73	4835629.59	Non-Participating	South Dakota	1	36
391	703806.27	4836008.60	Non-Participating	South Dakota	1	33
392	703780.24	4836101.13	Non-Participating	South Dakota	1	33
393	703830.86	4836391.37	Non-Participating	South Dakota	1	33
394	703819.58	4836476.57	Non-Participating	South Dakota	1	33
395	703911.83	4836498.35	Non-Participating	South Dakota	1	34
396	703896.36	4836623.39	Non-Participating	South Dakota	1	34
397	703578.28	4837163.05	Non-Participating	South Dakota	1	33
398	703706.65	4837165.34	Non-Participating	South Dakota	1	33
399	703797.22	4837269.88	Non-Participating	South Dakota	1	33
400	703798.54	4837450.44	Non-Participating	South Dakota	1	34
401	703882.11	4837706.72	Non-Participating	South Dakota	1	34
402	704040.36	4837303.55	Non-Participating	South Dakota	1	35
403	704182.61	4837300.48	Non-Participating	South Dakota	1	36
404	703706.65	4838294.81	Non-Participating	South Dakota	1	33
405	703933.92	4838215.27	Non-Participating	South Dakota	1	34
406	703729.98	4838798.96	Non-Participating	South Dakota	1	33
407	703653.42	4839079.13	Non-Participating	South Dakota	1	32
408	704667.13	4838957.64	Non-Participating	South Dakota	1	37
409	704830.38	4838768.26	Non-Participating	South Dakota	1	39
410	703785.10	4839818.54	Non-Participating	South Dakota	1	32
411	705171.09	4840026.31	Non-Participating	South Dakota	1	35
412	703132.24	4840141.30	Non-Participating	South Dakota	1	30
413	703198.00	4840427.17	Non-Participating	South Dakota	1	29
414	703241.98	4840429.71	Non-Participating	South Dakota	1	29
415	703913.94	4840550.82	Non-Participating	South Dakota	1	31
416	704492.38	4840341.24	Non-Participating	South Dakota	1	32
417	704782.58	4840430.67	Non-Participating	South Dakota	1	33
418	705123.49	4840673.16	Non-Participating	South Dakota	1	33
419	703564.36	4841448.22	Non-Participating	South Dakota	1	29
420	703746.52	4841901.08	Non-Participating	South Dakota	1	28
421	703834.63	4841918.03	Non-Participating	South Dakota	1	29
422	705169.14	4841778.72	Non-Participating	South Dakota	1	31
423	705155.44	4842202.20	Non-Participating	South Dakota	1	30
424	705039.92	4842185.90	Non-Participating	South Dakota	1	30
425	703698.42	4843134.63	Non-Participating	South Dakota	1	24
426	703076.93	4843496.03	Non-Participating	South Dakota	1	22
427	703543.71	4843522.22	Non-Participating	South Dakota	1	24
428	703791.36	4843544.69	Non-Participating	South Dakota	1	27
429	703807.51	4843371.35	Non-Participating	South Dakota	1	23
430	703964.87	4843675.19	Non-Participating	South Dakota	1	27
431	704279.70	4843597.33	Non-Participating	South Dakota	1	25
432	705095.53	4843395.34	Non-Participating	South Dakota	1	27
433	705119.32	4842994.01	Non-Participating	South Dakota	1	29
434	703210.31	4845218.38	Non-Participating	South Dakota	1	26
435	703655.30	4845259.88	Non-Participating	South Dakota	1	25
436	703718.90	4845630.64	Non-Participating	South Dakota	1	25
437	704017.84	4845316.26	Non-Participating	South Dakota	1	27

Table C-1: Project + Existing Non-Project Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project + Existing Non-Project Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
438	704824.64	4845406.00	Non-Participating	South Dakota	1	27
439	703610.45	4846099.04	Non-Participating	South Dakota	1	26
440	703662.42	4847171.38	Non-Participating	South Dakota	1	23
441	703673.57	4847781.75	Non-Participating	South Dakota	1	23
442	704957.99	4848148.24	Non-Participating	South Dakota	1	25
443	703017.12	4847952.56	Non-Participating	South Dakota	1	23
444	703019.78	4847976.89	Non-Participating	South Dakota	1	23
445	703016.93	4848052.49	Non-Participating	South Dakota	1	23
446	703080.20	4848056.20	Non-Participating	South Dakota	1	23
447	703065.43	4848024.42	Non-Participating	South Dakota	1	23
448	703065.57	4847991.56	Non-Participating	South Dakota	1	23
449	703129.99	4848006.74	Non-Participating	South Dakota	1	23
450	703168.99	4848023.70	Non-Participating	South Dakota	1	23
451	703013.19	4848105.25	Non-Participating	South Dakota	1	23
452	703005.94	4848179.89	Non-Participating	South Dakota	1	24
453	703059.93	4848181.42	Non-Participating	South Dakota	1	24
454	703062.63	4848147.55	Non-Participating	South Dakota	1	24
456	703124.69	4848133.99	Non-Participating	South Dakota	1	24
458	703244.13	4848113.26	Non-Participating	South Dakota	1	23
459	703241.16	4848188.31	Non-Participating	South Dakota	1	24
460	702954.97	4848228.98	Non-Participating	South Dakota	1	24
461	703074.13	4848229.08	Non-Participating	South Dakota	1	24
462	703121.89	4848302.50	Non-Participating	South Dakota	1	24
463	703121.79	4848256.23	Non-Participating	South Dakota	1	24
464	703180.66	4848312.57	Non-Participating	South Dakota	1	24
465	703176.46	4848235.57	Non-Participating	South Dakota	1	24
466	703242.02	4848232.13	Non-Participating	South Dakota	1	24
467	703289.44	4848250.13	Non-Participating	South Dakota	1	24
468	703285.28	4848305.42	Non-Participating	South Dakota	1	24
469	703238.10	4848313.94	Non-Participating	South Dakota	1	24
470	703118.81	4848430.03	Non-Participating	South Dakota	1	24
471	703117.32	4848399.72	Non-Participating	South Dakota	1	24
472	703118.49	4848369.89	Non-Participating	South Dakota	1	24
473	703283.34	4848401.65	Non-Participating	South Dakota	1	24
474	703504.59	4848360.63	Non-Participating	South Dakota	1	24
475	703164.64	4848496.77	Non-Participating	South Dakota	1	24
476	703598.30	4848527.13	Non-Participating	South Dakota	1	24
477	704664.41	4848425.57	Non-Participating	South Dakota	1	25
478	704813.86	4848633.46	Non-Participating	South Dakota	1	25
479	706044.71	4849773.17	Non-Participating	Minnesota	1	24
480	707387.55	4850254.10	Non-Participating	Minnesota	1	22
481	707945.22	4849861.93	Non-Participating	Minnesota	1	24
482	709936.28	4850179.20	Non-Participating	Minnesota	1	32
483	706553.32	4850323.54	Non-Participating	Minnesota	1	26
484	707466.63	4850517.83	Non-Participating	Minnesota	1	22
485	706627.42	4850969.47	Non-Participating	Minnesota	1	27
600	721504.45	4832717.79	Non-Participating	Minnesota	1	24
601	721107.43	4831397.47	Non-Participating	Minnesota	1	27

Table C-1: Project + Existing Non-Project Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project + Existing Non-Project Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
602	721193.76	4829744.37	Non-Participating	Minnesota	1	28
603	721607.87	4829645.45	Non-Participating	Minnesota	1	27
604	720771.23	4828229.30	Non-Participating	Minnesota	1	28
605	720294.73	4827201.39	Non-Participating	Minnesota	1	29
606	719889.27	4826965.25	Non-Participating	Minnesota	1	30
607	720233.54	4825646.32	Non-Participating	Minnesota	1	29
608	719207.30	4824943.60	Non-Participating	Minnesota	1	31
609	718925.56	4826292.09	Non-Participating	Minnesota	1	35
610	718736.06	4826853.88	Non-Participating	Minnesota	1	35
611	718258.61	4826322.24	Non-Participating	Minnesota	1	42
612	717984.98	4825391.46	Non-Participating	Minnesota	1	40
613	716906.43	4826389.27	Non-Participating	Minnesota	1	43
614	716639.93	4826263.50	Non-Participating	Minnesota	1	41
615	715859.70	4826343.35	Participating	Minnesota	1	35
616	712762.52	4826456.76	Non-Participating	Minnesota	1	29
617	710508.38	4828661.23	Non-Participating	Minnesota	1	32
618	710312.21	4827758.12	Participating	Minnesota	1	30
619	708971.55	4828978.11	Participating	Minnesota	1	31
620	708880.83	4829066.94	Non-Participating	Minnesota	1	32
621	708621.24	4827744.01	Non-Participating	Minnesota	1	30
622	707666.58	4829219.47	Non-Participating	Minnesota	1	31
623	707381.37	4829213.15	Non-Participating	Minnesota	1	31
624	707003.03	4829294.84	Non-Participating	Minnesota	1	32
625	706769.91	4829219.83	Participating	Minnesota	1	31
626	707202.71	4829656.80	Non-Participating	Minnesota	1	33
627	706884.07	4829695.44	Non-Participating	Minnesota	1	33
628	706800.75	4829875.13	Non-Participating	Minnesota	1	33
629	706334.75	4829721.80	Participating	Minnesota	1	33
630	706496.34	4829597.02	Non-Participating	Minnesota	1	32
631	706398.43	4829578.24	Non-Participating	Minnesota	1	32
632	706314.88	4829561.32	Non-Participating	Minnesota	1	32
633	706251.50	4829532.13	Non-Participating	Minnesota	1	32
634	705621.54	4829441.98	Non-Participating	Minnesota	1	31
635	705623.53	4828995.44	Non-Participating	Minnesota	1	30
636	705654.15	4828680.11	Non-Participating	Minnesota	1	29
637	705562.56	4829075.23	Non-Participating	South Dakota	1	30
638	705381.50	4828643.03	Non-Participating	South Dakota	1	29
639	705232.02	4828693.33	Non-Participating	South Dakota	1	29
640	705156.39	4828687.56	Non-Participating	South Dakota	1	29
641	705144.00	4828631.96	Non-Participating	South Dakota	1	29
642	705165.33	4828631.41	Non-Participating	South Dakota	1	29
643	705188.15	4828631.29	Non-Participating	South Dakota	1	29
644	705245.87	4828628.25	Non-Participating	South Dakota	1	29
645	705190.52	4828581.28	Non-Participating	South Dakota	1	29
646	705171.84	4828565.72	Non-Participating	South Dakota	1	29
647	705139.58	4828563.76	Non-Participating	South Dakota	1	29
648	705164.83	4828509.94	Non-Participating	South Dakota	1	29
649	705193.32	4828510.33	Non-Participating	South Dakota	1	29

Table C-1: Project + Existing Non-Project Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project + Existing Non-Project Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
650	705235.30	4828503.99	Non-Participating	South Dakota	1	29
651	705237.46	4828485.00	Non-Participating	South Dakota	1	29
652	705236.89	4828464.00	Non-Participating	South Dakota	1	29
653	705237.97	4828440.75	Non-Participating	South Dakota	1	29
654	705232.89	4828391.80	Non-Participating	South Dakota	1	29
655	705192.38	4828390.51	Non-Participating	South Dakota	1	29
656	705192.04	4828445.68	Non-Participating	South Dakota	1	29
657	705164.73	4828442.51	Non-Participating	South Dakota	1	29
658	705141.80	4828441.62	Non-Participating	South Dakota	1	29
659	705114.53	4828440.47	Non-Participating	South Dakota	1	29
660	705134.87	4828508.79	Non-Participating	South Dakota	1	29
661	705112.05	4828508.92	Non-Participating	South Dakota	1	29
662	705111.94	4828563.26	Non-Participating	South Dakota	1	29
663	705068.50	4828447.23	Non-Participating	South Dakota	1	29
664	705084.11	4828507.72	Non-Participating	South Dakota	1	29
665	705058.41	4828505.66	Non-Participating	South Dakota	1	29
666	705086.63	4828560.21	Non-Participating	South Dakota	1	29
667	705058.94	4828563.22	Non-Participating	South Dakota	1	29
668	705050.52	4828588.54	Non-Participating	South Dakota	1	29
669	705047.19	4828626.92	Non-Participating	South Dakota	1	29
670	705071.55	4828628.90	Non-Participating	South Dakota	1	29
671	705094.47	4828629.96	Non-Participating	South Dakota	1	29
672	705120.08	4828630.84	Non-Participating	South Dakota	1	29
673	705079.90	4828684.04	Non-Participating	South Dakota	1	29
674	705078.44	4828705.43	Non-Participating	South Dakota	1	29
675	705082.10	4828728.87	Non-Participating	South Dakota	1	29
676	705076.62	4828751.12	Non-Participating	South Dakota	1	29
677	705053.61	4828763.25	Non-Participating	South Dakota	1	29
678	705033.29	4828752.15	Non-Participating	South Dakota	1	29
679	705028.57	4828727.69	Non-Participating	South Dakota	1	29
680	705033.40	4828705.87	Non-Participating	South Dakota	1	29
681	705036.35	4828680.92	Non-Participating	South Dakota	1	29
682	704996.82	4828679.63	Non-Participating	South Dakota	1	29
683	704964.38	4828679.57	Non-Participating	South Dakota	1	29
684	704936.60	4828675.97	Non-Participating	South Dakota	1	29
685	704908.43	4828676.33	Non-Participating	South Dakota	1	29
686	704906.09	4828714.84	Non-Participating	South Dakota	1	29
687	704997.74	4828559.76	Non-Participating	South Dakota	1	29
688	705001.36	4828584.00	Non-Participating	South Dakota	1	29
689	704966.68	4828557.88	Non-Participating	South Dakota	1	29
690	704940.13	4828557.69	Non-Participating	South Dakota	1	29
691	705006.63	4828625.51	Non-Participating	South Dakota	1	29
692	704978.65	4828625.25	Non-Participating	South Dakota	1	29
693	704956.32	4828623.73	Non-Participating	South Dakota	1	29
694	704934.87	4828623.22	Non-Participating	South Dakota	1	29
695	704901.75	4828621.37	Non-Participating	South Dakota	1	29
696	704854.66	4828673.86	Non-Participating	South Dakota	1	29
697	704822.53	4828673.82	Non-Participating	South Dakota	1	29

Table C-1: Project + Existing Non-Project Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project + Existing Non-Project Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
698	704703.29	4828772.50	Non-Participating	South Dakota	1	29
699	704732.97	4828770.97	Non-Participating	South Dakota	1	29
700	704743.05	4828746.45	Non-Participating	South Dakota	1	29
701	704782.48	4828751.87	Non-Participating	South Dakota	1	29
702	704796.10	4828794.68	Non-Participating	South Dakota	1	29
703	704817.70	4828795.20	Non-Participating	South Dakota	1	29
704	704836.47	4828797.77	Non-Participating	South Dakota	1	29
705	704856.56	4828770.84	Non-Participating	South Dakota	1	29
706	704855.50	4828801.47	Non-Participating	South Dakota	1	29
707	704895.68	4828810.27	Non-Participating	South Dakota	1	29
708	704891.61	4828777.74	Non-Participating	South Dakota	1	29
709	704914.82	4828777.88	Non-Participating	South Dakota	1	29
710	704923.96	4828810.72	Non-Participating	South Dakota	1	29
711	704947.07	4828815.31	Non-Participating	South Dakota	1	29
712	704976.61	4828823.78	Non-Participating	South Dakota	1	29
713	705004.60	4828829.14	Non-Participating	South Dakota	1	29
714	705033.09	4828831.35	Non-Participating	South Dakota	1	29
715	704643.69	4828894.85	Non-Participating	South Dakota	1	29
716	704685.55	4828860.34	Non-Participating	South Dakota	1	29
717	704716.03	4828832.45	Non-Participating	South Dakota	1	29
718	704752.95	4828842.64	Non-Participating	South Dakota	1	29
719	704775.41	4828844.64	Non-Participating	South Dakota	1	29
720	704815.16	4828852.78	Non-Participating	South Dakota	1	29
721	704845.87	4828884.07	Non-Participating	South Dakota	1	29
722	704881.27	4828861.57	Non-Participating	South Dakota	1	29
723	704898.75	4828856.59	Non-Participating	South Dakota	1	29
724	704933.94	4828866.36	Non-Participating	South Dakota	1	29
725	704983.46	4828881.30	Non-Participating	South Dakota	1	29
726	705020.82	4829044.05	Non-Participating	South Dakota	1	30
727	704090.37	4829425.88	Non-Participating	South Dakota	1	29
728	704015.10	4829497.03	Non-Participating	South Dakota	1	29
729	704140.49	4829544.72	Non-Participating	South Dakota	1	29
730	704000.89	4829862.49	Non-Participating	South Dakota	1	29
731	703944.27	4829849.85	Non-Participating	South Dakota	1	29
732	704067.63	4830354.06	Non-Participating	South Dakota	1	30
733	705489.39	4830596.80	Non-Participating	South Dakota	1	35
734	703668.33	4830842.49	Non-Participating	South Dakota	1	29
735	703972.01	4831224.31	Non-Participating	South Dakota	1	31
736	704299.99	4830881.97	Non-Participating	South Dakota	1	32
737	704916.66	4830874.26	Non-Participating	South Dakota	1	34
738	705096.30	4830861.02	Non-Participating	South Dakota	1	35
739	705481.17	4830895.95	Non-Participating	South Dakota	1	36
740	704028.51	4831683.73	Non-Participating	South Dakota	1	32
741	704663.19	4832358.83	Non-Participating	South Dakota	1	36
742	704666.19	4832791.85	Non-Participating	South Dakota	1	36
743	704643.10	4832809.62	Non-Participating	South Dakota	1	36
744	704012.68	4832757.85	Non-Participating	South Dakota	1	33
745	703622.76	4832429.96	Non-Participating	South Dakota	1	32

Table C-1: Project + Existing Non-Project Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project + Existing Non-Project Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
746	703900.32	4833237.25	Non-Participating	South Dakota	1	32
747	703981.67	4833479.14	Non-Participating	South Dakota	1	33
748	703900.85	4833546.01	Non-Participating	South Dakota	1	32
749	703953.06	4833803.10	Non-Participating	South Dakota	1	32
750	703877.92	4834322.90	Non-Participating	South Dakota	1	32
751	703115.78	4835451.23	Non-Participating	South Dakota	1	30
752	703164.32	4835650.06	Non-Participating	South Dakota	1	28
A	712158.94	4832287.00	Non-Participating	Minnesota	1	41
B	712675.48	4832272.50	Non-Participating	Minnesota	1	40
C	712885.07	4832032.10	Non-Participating	Minnesota	1	41
D	707132.31	4837379.49	Non-Participating	Minnesota	1	40
E	707199.51	4837381.57	Non-Participating	Minnesota	1	40
F	718750.18	4829719.41	Non-Participating	Minnesota	1	34
H	712862.66	4832031.39	Non-Participating	Minnesota	1	41
I	710895.09	4843889.83	Non-Participating	Minnesota	1	31
J	705563.49	4837361.96	Targeted	Minnesota	1	46
K	703235.27	4848223.84	Non-Participating	South Dakota	1	24
L	703055.10	4848224.96	Non-Participating	South Dakota	1	24
N1	715712.50	4831245.52	Non-Participating	Minnesota	1	42
N7	712508.03	4832184.52	Non-Participating	Minnesota	1	40
N8	710307.95	4832588.36	Participating	Minnesota	1	46
N9	709858.42	4832463.19	Participating	Minnesota	1	47
N10	710527.10	4829926.70	Non-Participating	Minnesota	1	34
N11	710006.75	4829851.12	Participating	Minnesota	1	34
N16	703119.22	4848225.24	Non-Participating	South Dakota	1	24
N18	703012.25	4848234.77	Non-Participating	South Dakota	1	24
N19	703006.98	4847997.82	Non-Participating	South Dakota	1	23
N20	703184.00	4848093.37	Non-Participating	South Dakota	1	23
N21	703175.60	4848057.09	Non-Participating	South Dakota	1	23
N22	703289.81	4848227.56	Non-Participating	South Dakota	1	24
N23	703278.77	4848275.25	Non-Participating	South Dakota	1	24
N24	703426.63	4847498.89	Non-Participating	South Dakota	1	23
N25	703419.37	4847459.42	Non-Participating	South Dakota	1	23
N26	703621.29	4845626.04	Non-Participating	South Dakota	1	24
N27	719788.78	4840865.90	Non-Participating	Minnesota	1	28
N28	717647.77	4834465.50	Non-Participating	Minnesota	1	36
N30	713229.35	4832282.49	Non-Participating	Minnesota	1	41
N31	713010.86	4832312.23	Non-Participating	Minnesota	1	40
N32	709098.10	4836931.87	Targeted	Minnesota	1	45
N33	708666.86	4835693.48	Non-Participating	Minnesota	1	44
N39	713597.65	4832689.58	Non-Participating	Minnesota	1	40

Table C-2A: Project Only Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
1	707116.78	4847096.66	Non-Participating	Minnesota	1	17
2	708305.93	4846606.91	Targeted	Minnesota	1	24
3	708808.42	4847183.67	Non-Participating	Minnesota	1	24
4	708792.98	4847121.48	Non-Participating	Minnesota	1	24
5	710426.31	4847027.49	Non-Participating	Minnesota	1	24
8	711430.37	4847100.31	Non-Participating	Minnesota	1	25
9	712168.22	4847234.98	Non-Participating	Minnesota	1	24
10	710761.49	4845648.59	Non-Participating	Minnesota	1	25
11	709848.84	4845674.79	Non-Participating	Minnesota	1	26
12	706632.23	4846993.25	Non-Participating	Minnesota	1	23
13	706608.96	4846127.80	Non-Participating	Minnesota	1	24
14	705141.88	4845829.90	Non-Participating	Minnesota	1	18
15	705259.97	4845158.83	Non-Participating	Minnesota	1	26
16	706765.76	4845113.79	Non-Participating	Minnesota	1	27
17	706751.88	4844577.57	Non-Participating	Minnesota	1	27
18	707270.50	4843918.01	Non-Participating	Minnesota	1	29
19	707512.81	4843649.75	Non-Participating	Minnesota	1	29
20	708478.92	4845354.11	Participating	Minnesota	1	27
21	708394.51	4843668.42	Non-Participating	Minnesota	1	29
22	708430.29	4843394.56	Non-Participating	Minnesota	1	30
23	709900.19	4845248.40	Non-Participating	Minnesota	1	27
24	709448.97	4843803.26	Non-Participating	Minnesota	1	29
25	709614.12	4843929.95	Participating	Minnesota	1	29
26	711647.33	4843990.24	Non-Participating	Minnesota	1	28
27	711345.52	4843862.96	Non-Participating	Minnesota	1	29
28	716954.85	4842454.09	Non-Participating	Minnesota	1	20
29	716642.97	4842773.33	Non-Participating	Minnesota	1	26
30	716510.64	4842848.35	Non-Participating	Minnesota	1	26
31	714115.37	4842462.46	Non-Participating	Minnesota	1	29
32	713178.15	4842909.97	Non-Participating	Minnesota	1	29
33	711938.71	4842378.30	Participating	Minnesota	1	31
34	710644.98	4842349.07	Non-Participating	Minnesota	1	32
35	709819.25	4842500.41	Participating	Minnesota	1	32
36	707468.78	4842249.89	Non-Participating	Minnesota	1	32
37	706814.15	4842351.53	Non-Participating	Minnesota	1	31
38	706284.12	4842225.69	Non-Participating	Minnesota	1	31
39	706067.54	4843190.56	Non-Participating	Minnesota	1	29
40	705275.87	4843735.83	Non-Participating	Minnesota	1	27
41	706750.62	4840653.78	Non-Participating	Minnesota	1	35
42	706742.54	4840668.93	Non-Participating	Minnesota	1	35
43	707861.60	4840458.05	Non-Participating	Minnesota	1	40
44	708158.48	4840697.92	Non-Participating	Minnesota	1	41
45	708427.46	4841672.29	Non-Participating	Minnesota	1	35
46	708976.50	4840717.57	Participating	Minnesota	1	46
47	710262.92	4840946.97	Non-Participating	Minnesota	1	36
48	710762.86	4840767.53	Non-Participating	Minnesota	1	36
49	712384.27	4840783.97	Non-Participating	Minnesota	1	34
50	713334.25	4840942.29	Non-Participating	Minnesota	1	32

Table C-2A: Project Only Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
51	713754.99	4840911.87	Non-Participating	Minnesota	1	31
52	714456.02	4840842.55	Non-Participating	Minnesota	1	30
53	714992.51	4842006.83	Non-Participating	Minnesota	1	28
54	715567.30	4840772.12	Non-Participating	Minnesota	1	30
55	716141.80	4840921.50	Non-Participating	Minnesota	1	28
56	716669.20	4840946.13	Non-Participating	Minnesota	1	27
57	718688.18	4841612.49	Non-Participating	Minnesota	1	26
58	718385.04	4840853.05	Non-Participating	Minnesota	1	25
59	718574.90	4840839.53	Non-Participating	Minnesota	1	26
60	719858.02	4841887.30	Non-Participating	Minnesota	1	25
61	720051.79	4841014.92	Non-Participating	Minnesota	1	25
62	720869.50	4840872.15	Non-Participating	Minnesota	1	25
63	721441.68	4839367.75	Non-Participating	Minnesota	1	25
64	721085.12	4839469.21	Non-Participating	Minnesota	1	25
65	719813.12	4840097.41	Non-Participating	Minnesota	1	25
66	718919.37	4839262.10	Non-Participating	Minnesota	1	28
67	718471.98	4839347.33	Non-Participating	Minnesota	1	28
68	717296.33	4839345.88	Non-Participating	Minnesota	1	29
69	716610.59	4839807.02	Non-Participating	Minnesota	1	30
70	716604.40	4840268.87	Non-Participating	Minnesota	1	29
71	715049.56	4840410.68	Non-Participating	Minnesota	1	31
72	714242.60	4839322.89	Participating	Minnesota	1	37
73	713478.59	4839242.77	Participating	Minnesota	1	39
74	713369.04	4839338.51	Non-Participating	Minnesota	1	39
75	713446.60	4840263.13	Non-Participating	Minnesota	1	34
76	713297.01	4840333.99	Non-Participating	Minnesota	1	34
78	711303.00	4839031.07	Participating	Minnesota	1	44
79	710297.92	4839470.58	Participating	Minnesota	1	42
80	710098.76	4839796.54	Non-Participating	Minnesota	1	41
81	710126.39	4840144.45	Non-Participating	Minnesota	1	40
82	708819.05	4839037.31	Non-Participating	Minnesota	1	46
83	708536.61	4839970.02	Participating	Minnesota	1	47
84	707329.06	4839034.08	Non-Participating	Minnesota	1	44
85	706870.81	4839475.06	Non-Participating	Minnesota	1	40
86	706925.99	4839978.62	Non-Participating	Minnesota	1	38
87	705855.19	4839004.53	Participating	Minnesota	1	47
88	706656.02	4838157.19	Non-Participating	Minnesota	1	43
89	707058.95	4838411.07	Non-Participating	Minnesota	1	43
90	707064.45	4838031.04	Non-Participating	Minnesota	1	42
91	707510.54	4837477.67	Targeted	Minnesota	1	41
92	708141.65	4837461.67	Participating	Minnesota	1	42
93	708243.59	4837310.77	Participating	Minnesota	1	42
94	708400.98	4838664.74	Targeted	Minnesota	1	47
95	708687.83	4837450.43	Participating	Minnesota	1	43
96	709771.69	4837511.27	Targeted	Minnesota	1	44
97	710445.82	4837977.55	Targeted	Minnesota	1	44
98	710772.80	4837437.00	Non-Participating	Minnesota	1	42
99	711645.42	4837393.46	Non-Participating	Minnesota	1	41

Table C-2A: Project Only Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
100	711810.77	4837813.61	Targeted	Minnesota	1	42
101	712200.34	4837408.33	Non-Participating	Minnesota	1	40
102	713104.19	4837670.84	Non-Participating	Minnesota	1	46
103	713167.31	4837435.71	Non-Participating	Minnesota	1	44
104	713992.36	4837483.37	Targeted	Minnesota	1	46
105	715042.04	4837912.39	Non-Participating	Minnesota	1	37
106	715021.68	4838699.63	Non-Participating	Minnesota	1	36
107	715090.43	4838637.19	Non-Participating	Minnesota	1	36
108	715313.77	4837500.27	Targeted	Minnesota	1	36
109	715783.84	4837663.54	Non-Participating	Minnesota	1	34
110	716026.85	4837558.63	Non-Participating	Minnesota	1	33
111	716411.22	4837638.23	Non-Participating	Minnesota	1	32
112	716797.43	4837677.61	Non-Participating	Minnesota	1	31
113	717493.50	4837682.56	Non-Participating	Minnesota	1	31
114	717959.58	4838266.65	Non-Participating	Minnesota	1	29
115	718096.72	4837655.04	Non-Participating	Minnesota	1	30
116	718635.34	4837734.24	Non-Participating	Minnesota	1	29
117	718973.38	4837665.43	Non-Participating	Minnesota	1	28
118	719803.30	4838775.43	Non-Participating	Minnesota	1	27
119	719789.20	4838850.50	Non-Participating	Minnesota	1	27
120	720329.65	4837683.29	Non-Participating	Minnesota	1	27
121	720497.83	4837781.83	Non-Participating	Minnesota	1	27
122	721468.69	4838097.90	Non-Participating	Minnesota	1	25
123	720672.05	4836880.47	Non-Participating	Minnesota	1	27
124	719773.40	4836874.47	Non-Participating	Minnesota	1	28
125	721504.01	4835748.19	Non-Participating	Minnesota	1	26
126	719835.22	4835489.72	Non-Participating	Minnesota	1	29
127	719971.96	4835872.49	Non-Participating	Minnesota	1	29
128	719000.79	4835890.62	Non-Participating	Minnesota	1	30
129	718569.06	4835055.95	Participating	Minnesota	1	32
130	718342.87	4835837.33	Participating	Minnesota	1	31
131	718247.08	4836742.93	Non-Participating	Minnesota	1	30
132	718240.47	4836646.55	Non-Participating	Minnesota	1	30
133	718177.51	4836701.05	Non-Participating	Minnesota	1	30
134	716977.83	4836815.57	Participating	Minnesota	1	32
135	716901.55	4835960.23	Non-Participating	Minnesota	1	33
136	715586.54	4836002.19	Non-Participating	Minnesota	1	35
137	715661.98	4836017.28	Non-Participating	Minnesota	1	34
138	714868.50	4835985.41	Non-Participating	Minnesota	1	37
139	715186.22	4835692.77	Participating	Minnesota	1	36
140	715206.94	4835652.83	Participating	Minnesota	1	37
141	714264.50	4835959.15	Non-Participating	Minnesota	1	39
142	712603.23	4835802.92	Participating	Minnesota	1	42
143	712308.20	4836059.46	Non-Participating	Minnesota	1	41
144	710937.13	4835543.44	Participating	Minnesota	1	43
145	710551.74	4835854.65	Non-Participating	Minnesota	1	44
146	709610.69	4835866.83	Non-Participating	Minnesota	1	43
147	708710.52	4836244.46	Participating	Minnesota	1	47

Table C-2A: Project Only Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
148	708431.38	4835795.37	Targeted	Minnesota	1	46
149	707467.79	4835655.21	Non-Participating	Minnesota	1	45
150	707382.61	4835946.18	Non-Participating	Minnesota	1	44
152	706957.43	4836478.77	Non-Participating	Minnesota	1	40
153	707156.95	4836908.27	Non-Participating	Minnesota	1	40
154	705991.93	4837185.67	Participating	Minnesota	1	46
155	705492.89	4835958.91	Non-Participating	Minnesota	1	39
156	705858.11	4834844.91	Non-Participating	Minnesota	1	35
157	707016.69	4835236.06	Non-Participating	Minnesota	1	40
158	707356.17	4834741.12	Non-Participating	Minnesota	1	40
159	707085.43	4834360.19	Participating	Minnesota	1	38
160	708322.34	4834109.83	Non-Participating	Minnesota	1	39
161	708977.90	4835337.39	Targeted	Minnesota	1	42
162	709241.42	4834293.09	Non-Participating	Minnesota	1	42
163	710284.41	4834655.57	Targeted	Minnesota	1	47
164	713539.68	4834701.97	Participating	Minnesota	1	45
165	713519.94	4833754.80	Participating	Minnesota	1	44
166	714328.91	4834335.98	Participating	Minnesota	1	40
167	715389.72	4834427.12	Non-Participating	Minnesota	1	44
168	715960.50	4833594.78	Targeted	Minnesota	1	45
169	717742.89	4833679.69	Non-Participating	Minnesota	1	40
170	717526.44	4834457.10	Participating	Minnesota	1	37
171	717942.71	4834486.94	Participating	Minnesota	1	35
172	721247.61	4833637.06	Non-Participating	Minnesota	1	28
173	720587.26	4833766.80	Non-Participating	Minnesota	1	29
174	719968.80	4833440.58	Non-Participating	Minnesota	1	30
175	720001.01	4832510.77	Non-Participating	Minnesota	1	30
176	720086.46	4832488.58	Non-Participating	Minnesota	1	30
177	718057.16	4832879.43	Non-Participating	Minnesota	1	38
178	718221.38	4832811.99	Non-Participating	Minnesota	1	37
179	720138.53	4831804.67	Non-Participating	Minnesota	1	30
180	720018.46	4831817.27	Non-Participating	Minnesota	1	30
181	718905.22	4831299.44	Non-Participating	Minnesota	1	35
182	717421.25	4831235.51	Non-Participating	Minnesota	1	40
183	716309.79	4831038.21	Non-Participating	Minnesota	1	40
184	715633.49	4831085.85	Targeted	Minnesota	1	44
185	716220.40	4831908.27	Non-Participating	Minnesota	1	39
186	716577.54	4832695.90	Non-Participating	Minnesota	1	45
187	716382.77	4832803.70	Participating	Minnesota	1	45
188	716021.03	4832717.66	Participating	Minnesota	1	41
189	715946.91	4832805.42	Participating	Minnesota	1	41
190	715198.78	4832781.62	Non-Participating	Minnesota	1	39
191	715208.57	4833157.75	Non-Participating	Minnesota	1	40
192	714338.84	4832655.97	Participating	Minnesota	1	39
193	713317.82	4832719.65	Non-Participating	Minnesota	1	40
194	712633.30	4832532.44	Non-Participating	Minnesota	1	41
195	712594.49	4832495.72	Non-Participating	Minnesota	1	41
197	712507.23	4832437.14	Non-Participating	Minnesota	1	41

Table C-2A: Project Only Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
198	712346.67	4832653.95	Non-Participating	Minnesota	1	42
199	712846.95	4832428.39	Non-Participating	Minnesota	1	40
200	712862.53	4832429.34	Non-Participating	Minnesota	1	40
201	712882.15	4832429.34	Non-Participating	Minnesota	1	40
202	712894.50	4832431.01	Non-Participating	Minnesota	1	40
203	712928.71	4832437.86	Non-Participating	Minnesota	1	40
204	712936.81	4832480.03	Non-Participating	Minnesota	1	40
205	712995.55	4832445.10	Non-Participating	Minnesota	1	40
206	712932.00	4832382.02	Non-Participating	Minnesota	1	40
207	712889.30	4832379.64	Non-Participating	Minnesota	1	40
208	712851.04	4832377.53	Non-Participating	Minnesota	1	40
209	712836.85	4832377.30	Non-Participating	Minnesota	1	40
210	712823.45	4832370.97	Non-Participating	Minnesota	1	40
211	712537.69	4832295.51	Non-Participating	Minnesota	1	40
212	712564.57	4832317.29	Non-Participating	Minnesota	1	40
213	712605.45	4832307.68	Non-Participating	Minnesota	1	40
214	712629.62	4832300.88	Non-Participating	Minnesota	1	40
215	712674.11	4832322.67	Non-Participating	Minnesota	1	40
216	712679.19	4832298.37	Non-Participating	Minnesota	1	40
217	712717.98	4832312.61	Non-Participating	Minnesota	1	40
218	712785.61	4832316.50	Non-Participating	Minnesota	1	40
219	712778.81	4832299.33	Non-Participating	Minnesota	1	40
220	712829.55	4832333.38	Non-Participating	Minnesota	1	40
221	712830.18	4832309.03	Non-Participating	Minnesota	1	40
222	712867.95	4832305.17	Non-Participating	Minnesota	1	40
223	713109.05	4832338.04	Non-Participating	Minnesota	1	40
224	713137.94	4832336.46	Non-Participating	Minnesota	1	40
225	713168.29	4832342.12	Non-Participating	Minnesota	1	40
226	713226.79	4832342.81	Non-Participating	Minnesota	1	40
227	713292.76	4832253.02	Non-Participating	Minnesota	1	40
228	713308.00	4832224.79	Non-Participating	Minnesota	1	41
229	713375.93	4832184.38	Non-Participating	Minnesota	1	41
230	713431.00	4832183.48	Non-Participating	Minnesota	1	41
231	712884.28	4832262.41	Non-Participating	Minnesota	1	40
232	712831.97	4832268.25	Non-Participating	Minnesota	1	40
233	712837.31	4832254.52	Non-Participating	Minnesota	1	40
234	712834.64	4832232.89	Non-Participating	Minnesota	1	40
235	712848.32	4832199.78	Non-Participating	Minnesota	1	40
236	712887.35	4832233.70	Non-Participating	Minnesota	1	40
237	712890.56	4832202.61	Non-Participating	Minnesota	1	40
238	712780.48	4832264.85	Non-Participating	Minnesota	1	40
239	712785.27	4832251.36	Non-Participating	Minnesota	1	40
240	712780.83	4832224.05	Non-Participating	Minnesota	1	40
241	712787.28	4832192.10	Non-Participating	Minnesota	1	40
242	712719.68	4832205.22	Non-Participating	Minnesota	1	40
243	712719.10	4832249.73	Non-Participating	Minnesota	1	40
244	712718.61	4832266.40	Non-Participating	Minnesota	1	40
245	712753.58	4832271.17	Non-Participating	Minnesota	1	40

Table C-2A: Project Only Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
246	712748.37	4832234.80	Non-Participating	Minnesota	1	40
247	712673.11	4832238.71	Non-Participating	Minnesota	1	40
248	712675.00	4832216.30	Non-Participating	Minnesota	1	40
249	712677.58	4832191.27	Non-Participating	Minnesota	1	40
250	712618.78	4832190.35	Non-Participating	Minnesota	1	40
251	712564.96	4832190.52	Non-Participating	Minnesota	1	40
252	712570.97	4832213.69	Non-Participating	Minnesota	1	40
253	712571.98	4832232.04	Non-Participating	Minnesota	1	40
254	712571.88	4832259.87	Non-Participating	Minnesota	1	40
255	712608.06	4832231.58	Non-Participating	Minnesota	1	40
256	712456.59	4832228.74	Non-Participating	Minnesota	1	40
257	712392.84	4832139.24	Non-Participating	Minnesota	1	40
258	712456.01	4832133.54	Non-Participating	Minnesota	1	40
259	712503.93	4832139.10	Non-Participating	Minnesota	1	40
260	712459.29	4832110.14	Non-Participating	Minnesota	1	40
261	712508.07	4832110.19	Non-Participating	Minnesota	1	40
262	712450.68	4832077.28	Non-Participating	Minnesota	1	40
263	712507.77	4832084.46	Non-Participating	Minnesota	1	40
264	712553.69	4832079.29	Non-Participating	Minnesota	1	40
265	712626.23	4832098.28	Non-Participating	Minnesota	1	40
266	712568.90	4832143.05	Non-Participating	Minnesota	1	40
267	712613.84	4832149.49	Non-Participating	Minnesota	1	40
268	712636.39	4832149.27	Non-Participating	Minnesota	1	40
269	712676.17	4832149.03	Non-Participating	Minnesota	1	40
270	712679.14	4832113.16	Non-Participating	Minnesota	1	40
271	712678.29	4832087.92	Non-Participating	Minnesota	1	40
272	712720.39	4832155.88	Non-Participating	Minnesota	1	40
273	712724.09	4832116.02	Non-Participating	Minnesota	1	40
274	712724.53	4832087.84	Non-Participating	Minnesota	1	40
275	712745.94	4832084.47	Non-Participating	Minnesota	1	40
276	712790.68	4832081.04	Non-Participating	Minnesota	1	40
277	712790.26	4832095.01	Non-Participating	Minnesota	1	40
278	712788.37	4832119.07	Non-Participating	Minnesota	1	40
279	712789.00	4832150.71	Non-Participating	Minnesota	1	40
280	712759.46	4832158.67	Non-Participating	Minnesota	1	40
281	712834.02	4832154.99	Non-Participating	Minnesota	1	40
282	712841.90	4832109.02	Non-Participating	Minnesota	1	40
283	712845.16	4832086.79	Non-Participating	Minnesota	1	40
284	712877.12	4832089.52	Non-Participating	Minnesota	1	41
285	712900.32	4832095.23	Non-Participating	Minnesota	1	41
286	712889.85	4832123.54	Non-Participating	Minnesota	1	40
287	712889.80	4832163.62	Non-Participating	Minnesota	1	40
288	712889.23	4832144.18	Non-Participating	Minnesota	1	40
289	712730.42	4832035.84	Non-Participating	Minnesota	1	40
290	712794.99	4832046.39	Non-Participating	Minnesota	1	40
291	712794.24	4832015.06	Non-Participating	Minnesota	1	40
292	712796.38	4831988.68	Non-Participating	Minnesota	1	40
293	712732.53	4831979.23	Non-Participating	Minnesota	1	40

Table C-2A: Project Only Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
294	712734.58	4832008.79	Non-Participating	Minnesota	1	40
295	712733.41	4831929.85	Non-Participating	Minnesota	1	40
296	712732.95	4831902.51	Non-Participating	Minnesota	1	40
297	712735.50	4831869.27	Non-Participating	Minnesota	1	40
298	712751.54	4831840.81	Non-Participating	Minnesota	1	41
299	712791.52	4831841.65	Non-Participating	Minnesota	1	41
300	712798.77	4831870.72	Non-Participating	Minnesota	1	41
301	712772.78	4831901.49	Non-Participating	Minnesota	1	41
302	712790.64	4831921.66	Non-Participating	Minnesota	1	41
303	712842.90	4831916.61	Non-Participating	Minnesota	1	41
304	711473.36	4832637.58	Participating	Minnesota	1	45
305	711252.43	4832635.31	Participating	Minnesota	1	45
306	710955.15	4832635.80	Participating	Minnesota	1	45
307	710371.01	4832978.05	Participating	Minnesota	1	46
308	708958.17	4832642.70	Participating	Minnesota	1	40
309	708910.35	4832432.23	Participating	Minnesota	1	40
310	708545.61	4832471.18	Participating	Minnesota	1	38
311	707948.72	4832546.75	Non-Participating	Minnesota	1	38
312	707785.26	4832449.07	Non-Participating	Minnesota	1	38
313	707392.79	4832577.65	Non-Participating	Minnesota	1	40
314	707103.01	4833341.74	Non-Participating	Minnesota	1	39
315	705808.16	4832506.07	Non-Participating	Minnesota	1	45
316	706307.90	4832597.14	Participating	Minnesota	1	47
317	706391.85	4832533.05	Participating	Minnesota	1	46
318	705921.04	4831717.10	Participating	Minnesota	1	46
319	707124.26	4832268.92	Participating	Minnesota	1	44
320	707148.31	4831858.58	Participating	Minnesota	1	45
321	706377.57	4830879.08	Non-Participating	Minnesota	1	39
322	706795.99	4830788.28	Non-Participating	Minnesota	1	38
323	707286.36	4830938.93	Participating	Minnesota	1	38
324	708796.80	4831061.44	Non-Participating	Minnesota	1	34
325	708665.52	4830816.87	Non-Participating	Minnesota	1	35
326	709134.89	4830862.41	Non-Participating	Minnesota	1	36
327	709959.89	4830915.52	Non-Participating	Minnesota	1	38
328	710444.83	4830632.98	Participating	Minnesota	1	36
329	711156.75	4831002.57	Non-Participating	Minnesota	1	37
330	712129.09	4830942.84	Non-Participating	Minnesota	1	37
331	713644.87	4830986.83	Participating	Minnesota	1	46
332	714014.30	4831109.09	Participating	Minnesota	1	47
333	715256.78	4831015.51	Non-Participating	Minnesota	1	46
334	715114.86	4831046.13	Non-Participating	Minnesota	1	46
335	715280.87	4830888.83	Non-Participating	Minnesota	1	46
336	720850.87	4829589.22	Non-Participating	Minnesota	1	28
337	720471.34	4829713.08	Non-Participating	Minnesota	1	29
338	718660.97	4829287.11	Non-Participating	Minnesota	1	32
339	718547.55	4829529.40	Non-Participating	Minnesota	1	33
340	718705.42	4829658.28	Non-Participating	Minnesota	1	33
341	718207.07	4829650.23	Non-Participating	Minnesota	1	34

Table C-2A: Project Only Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
342	718488.68	4830493.21	Non-Participating	Minnesota	1	39
343	718614.16	4830476.57	Non-Participating	Minnesota	1	38
344	716736.70	4829503.83	Non-Participating	Minnesota	1	37
345	716664.22	4829593.01	Non-Participating	Minnesota	1	37
346	716087.40	4829579.09	Targeted	Minnesota	1	40
347	715685.16	4829460.28	Non-Participating	Minnesota	1	41
348	714913.69	4829173.93	Non-Participating	Minnesota	1	42
349	714617.74	4829521.25	Participating	Minnesota	1	46
350	713650.85	4830171.47	Non-Participating	Minnesota	1	45
351	712905.87	4829462.35	Non-Participating	Minnesota	1	37
352	712717.46	4829343.28	Participating	Minnesota	1	36
353	712178.69	4830005.45	Non-Participating	Minnesota	1	36
354	712093.44	4829732.15	Non-Participating	Minnesota	1	35
355	707416.58	4830311.62	Non-Participating	Minnesota	1	35
356	712848.91	4827911.62	Non-Participating	Minnesota	1	32
357	713480.57	4827427.94	Non-Participating	Minnesota	1	32
358	713672.96	4827918.96	Non-Participating	Minnesota	1	33
359	713975.46	4828553.70	Non-Participating	Minnesota	1	36
360	713820.87	4828830.04	Non-Participating	Minnesota	1	37
361	714217.10	4827915.58	Non-Participating	Minnesota	1	33
362	715474.31	4827938.91	Non-Participating	Minnesota	1	33
363	715541.50	4827975.19	Participating	Minnesota	1	33
364	716139.42	4827816.29	Non-Participating	Minnesota	1	32
365	716987.91	4827842.08	Non-Participating	Minnesota	1	31
366	717070.79	4827804.48	Non-Participating	Minnesota	1	31
367	717108.39	4828849.54	Non-Participating	Minnesota	1	34
368	718562.18	4828640.41	Non-Participating	Minnesota	1	31
369	718674.18	4828400.30	Non-Participating	Minnesota	1	30
370	718602.36	4827497.49	Non-Participating	Minnesota	1	29
371	718830.45	4827566.20	Non-Participating	Minnesota	1	28
372	719830.43	4828111.38	Non-Participating	Minnesota	1	28
373	719778.19	4828092.97	Non-Participating	Minnesota	1	28
374	715248.44	4827383.73	Non-Participating	Minnesota	1	32
375	713888.51	4826969.27	Non-Participating	Minnesota	1	31
376	705300.91	4848839.14	Non-Participating	Minnesota	1	20
377	706631.09	4848703.62	Non-Participating	Minnesota	1	20
378	706929.07	4848599.18	Non-Participating	Minnesota	1	17
379	707922.77	4848733.84	Non-Participating	Minnesota	1	20
380	709860.15	4848794.24	Non-Participating	Minnesota	1	23
381	710296.98	4848793.31	Non-Participating	Minnesota	1	23
382	710975.28	4848884.65	Non-Participating	Minnesota	1	23
383	705464.17	4831442.94	Non-Participating	South Dakota	1	39
384	704881.41	4833942.19	Non-Participating	South Dakota	1	35
385	704934.04	4833903.19	Non-Participating	South Dakota	1	35
386	705349.51	4834096.40	Non-Participating	South Dakota	1	36
387	703947.03	4834924.62	Non-Participating	South Dakota	1	32
388	703763.96	4835653.19	Non-Participating	South Dakota	1	32
389	704815.83	4835753.70	Non-Participating	South Dakota	1	36

Table C-2A: Project Only Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
390	705281.73	4835629.59	Non-Participating	South Dakota	1	36
391	703806.27	4836008.60	Non-Participating	South Dakota	1	33
392	703780.24	4836101.13	Non-Participating	South Dakota	1	33
393	703830.86	4836391.37	Non-Participating	South Dakota	1	33
394	703819.58	4836476.57	Non-Participating	South Dakota	1	33
395	703911.83	4836498.35	Non-Participating	South Dakota	1	34
396	703896.36	4836623.39	Non-Participating	South Dakota	1	34
397	703578.28	4837163.05	Non-Participating	South Dakota	1	32
398	703706.65	4837165.34	Non-Participating	South Dakota	1	33
399	703797.22	4837269.88	Non-Participating	South Dakota	1	33
400	703798.54	4837450.44	Non-Participating	South Dakota	1	34
401	703882.11	4837706.72	Non-Participating	South Dakota	1	34
402	704040.36	4837303.55	Non-Participating	South Dakota	1	35
403	704182.61	4837300.48	Non-Participating	South Dakota	1	36
404	703706.65	4838294.81	Non-Participating	South Dakota	1	33
405	703933.92	4838215.27	Non-Participating	South Dakota	1	34
406	703729.98	4838798.96	Non-Participating	South Dakota	1	33
407	703653.42	4839079.13	Non-Participating	South Dakota	1	32
408	704667.13	4838957.64	Non-Participating	South Dakota	1	37
409	704830.38	4838768.26	Non-Participating	South Dakota	1	39
410	703785.10	4839818.54	Non-Participating	South Dakota	1	32
411	705171.09	4840026.31	Non-Participating	South Dakota	1	35
412	703132.24	4840141.30	Non-Participating	South Dakota	1	30
413	703198.00	4840427.17	Non-Participating	South Dakota	1	29
414	703241.98	4840429.71	Non-Participating	South Dakota	1	29
415	703913.94	4840550.82	Non-Participating	South Dakota	1	31
416	704492.38	4840341.24	Non-Participating	South Dakota	1	32
417	704782.58	4840430.67	Non-Participating	South Dakota	1	33
418	705123.49	4840673.16	Non-Participating	South Dakota	1	33
419	703564.36	4841448.22	Non-Participating	South Dakota	1	29
420	703746.52	4841901.08	Non-Participating	South Dakota	1	28
421	703834.63	4841918.03	Non-Participating	South Dakota	1	28
422	705169.14	4841778.72	Non-Participating	South Dakota	1	30
423	705155.44	4842202.20	Non-Participating	South Dakota	1	30
424	705039.92	4842185.90	Non-Participating	South Dakota	1	30
425	703698.42	4843134.63	Non-Participating	South Dakota	1	21
426	703076.93	4843496.03	Non-Participating	South Dakota	1	20
427	703543.71	4843522.22	Non-Participating	South Dakota	1	24
428	703791.36	4843544.69	Non-Participating	South Dakota	1	25
429	703807.51	4843371.35	Non-Participating	South Dakota	1	22
430	703964.87	4843675.19	Non-Participating	South Dakota	1	26
431	704279.70	4843597.33	Non-Participating	South Dakota	1	23
432	705095.53	4843395.34	Non-Participating	South Dakota	1	26
433	705119.32	4842994.01	Non-Participating	South Dakota	1	28
434	703210.31	4845218.38	Non-Participating	South Dakota	1	24
435	703655.30	4845259.88	Non-Participating	South Dakota	1	23
436	703718.90	4845630.64	Non-Participating	South Dakota	1	24
437	704017.84	4845316.26	Non-Participating	South Dakota	1	25

Table C-2A: Project Only Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
438	704824.64	4845406.00	Non-Participating	South Dakota	1	25
439	703610.45	4846099.04	Non-Participating	South Dakota	1	23
440	703662.42	4847171.38	Non-Participating	South Dakota	1	16
441	703673.57	4847781.75	Non-Participating	South Dakota	1	15
442	704957.99	4848148.24	Non-Participating	South Dakota	1	20
443	703017.12	4847952.56	Non-Participating	South Dakota	1	16
444	703019.78	4847976.89	Non-Participating	South Dakota	1	16
445	703016.93	4848052.49	Non-Participating	South Dakota	1	17
446	703080.20	4848056.20	Non-Participating	South Dakota	1	17
447	703065.43	4848024.42	Non-Participating	South Dakota	1	17
448	703065.57	4847991.56	Non-Participating	South Dakota	1	16
449	703129.99	4848006.74	Non-Participating	South Dakota	1	16
450	703168.99	4848023.70	Non-Participating	South Dakota	1	16
451	703013.19	4848105.25	Non-Participating	South Dakota	1	18
452	703005.94	4848179.89	Non-Participating	South Dakota	1	19
453	703059.93	4848181.42	Non-Participating	South Dakota	1	19
454	703062.63	4848147.55	Non-Participating	South Dakota	1	18
456	703124.69	4848133.99	Non-Participating	South Dakota	1	18
458	703244.13	4848113.26	Non-Participating	South Dakota	1	17
459	703241.16	4848188.31	Non-Participating	South Dakota	1	19
460	702954.97	4848228.98	Non-Participating	South Dakota	1	19
461	703074.13	4848229.08	Non-Participating	South Dakota	1	19
462	703121.89	4848302.50	Non-Participating	South Dakota	1	19
463	703121.79	4848256.23	Non-Participating	South Dakota	1	19
464	703180.66	4848312.57	Non-Participating	South Dakota	1	19
465	703176.46	4848235.57	Non-Participating	South Dakota	1	19
466	703242.02	4848232.13	Non-Participating	South Dakota	1	19
467	703289.44	4848250.13	Non-Participating	South Dakota	1	19
468	703285.28	4848305.42	Non-Participating	South Dakota	1	19
469	703238.10	4848313.94	Non-Participating	South Dakota	1	19
470	703118.81	4848430.03	Non-Participating	South Dakota	1	19
471	703117.32	4848399.72	Non-Participating	South Dakota	1	19
472	703118.49	4848369.89	Non-Participating	South Dakota	1	19
473	703283.34	4848401.65	Non-Participating	South Dakota	1	19
474	703504.59	4848360.63	Non-Participating	South Dakota	1	19
475	703164.64	4848496.77	Non-Participating	South Dakota	1	19
476	703598.30	4848527.13	Non-Participating	South Dakota	1	20
477	704664.41	4848425.57	Non-Participating	South Dakota	1	20
478	704813.86	4848633.46	Non-Participating	South Dakota	1	20
479	706044.71	4849773.17	Non-Participating	Minnesota	1	14
480	707387.55	4850254.10	Non-Participating	Minnesota	1	16
481	707945.22	4849861.93	Non-Participating	Minnesota	1	14
482	709936.28	4850179.20	Non-Participating	Minnesota	1	22
483	706553.32	4850323.54	Non-Participating	Minnesota	1	19
484	707466.63	4850517.83	Non-Participating	Minnesota	1	16
485	706627.42	4850969.47	Non-Participating	Minnesota	1	20
600	721504.45	4832717.79	Non-Participating	Minnesota	1	24
601	721107.43	4831397.47	Non-Participating	Minnesota	1	27

Table C-2A: Project Only Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
602	721193.76	4829744.37	Non-Participating	Minnesota	1	27
603	721607.87	4829645.45	Non-Participating	Minnesota	1	27
604	720771.23	4828229.30	Non-Participating	Minnesota	1	27
605	720294.73	4827201.39	Non-Participating	Minnesota	1	26
606	719889.27	4826965.25	Non-Participating	Minnesota	1	27
607	720233.54	4825646.32	Non-Participating	Minnesota	1	25
608	719207.30	4824943.60	Non-Participating	Minnesota	1	25
609	718925.56	4826292.09	Non-Participating	Minnesota	1	26
610	718736.06	4826853.88	Non-Participating	Minnesota	1	28
611	718258.61	4826322.24	Non-Participating	Minnesota	1	27
612	717984.98	4825391.46	Non-Participating	Minnesota	1	26
613	716906.43	4826389.27	Non-Participating	Minnesota	1	29
614	716639.93	4826263.50	Non-Participating	Minnesota	1	29
615	715859.70	4826343.35	Participating	Minnesota	1	29
616	712762.52	4826456.76	Non-Participating	Minnesota	1	29
617	710508.38	4828661.23	Non-Participating	Minnesota	1	32
618	710312.21	4827758.12	Participating	Minnesota	1	30
619	708971.55	4828978.11	Participating	Minnesota	1	31
620	708880.83	4829066.94	Non-Participating	Minnesota	1	31
621	708621.24	4827744.01	Non-Participating	Minnesota	1	29
622	707666.58	4829219.47	Non-Participating	Minnesota	1	31
623	707381.37	4829213.15	Non-Participating	Minnesota	1	31
624	707003.03	4829294.84	Non-Participating	Minnesota	1	32
625	706769.91	4829219.83	Participating	Minnesota	1	31
626	707202.71	4829656.80	Non-Participating	Minnesota	1	33
627	706884.07	4829695.44	Non-Participating	Minnesota	1	33
628	706800.75	4829875.13	Non-Participating	Minnesota	1	33
629	706334.75	4829721.80	Participating	Minnesota	1	33
630	706496.34	4829597.02	Non-Participating	Minnesota	1	32
631	706398.43	4829578.24	Non-Participating	Minnesota	1	32
632	706314.88	4829561.32	Non-Participating	Minnesota	1	32
633	706251.50	4829532.13	Non-Participating	Minnesota	1	32
634	705621.54	4829441.98	Non-Participating	Minnesota	1	31
635	705623.53	4828995.44	Non-Participating	Minnesota	1	30
636	705654.15	4828680.11	Non-Participating	Minnesota	1	29
637	705562.56	4829075.23	Non-Participating	South Dakota	1	30
638	705381.50	4828643.03	Non-Participating	South Dakota	1	29
639	705232.02	4828693.33	Non-Participating	South Dakota	1	29
640	705156.39	4828687.56	Non-Participating	South Dakota	1	29
641	705144.00	4828631.96	Non-Participating	South Dakota	1	29
642	705165.33	4828631.41	Non-Participating	South Dakota	1	29
643	705188.15	4828631.29	Non-Participating	South Dakota	1	29
644	705245.87	4828628.25	Non-Participating	South Dakota	1	29
645	705190.52	4828581.28	Non-Participating	South Dakota	1	29
646	705171.84	4828565.72	Non-Participating	South Dakota	1	29
647	705139.58	4828563.76	Non-Participating	South Dakota	1	29
648	705164.83	4828509.94	Non-Participating	South Dakota	1	29
649	705193.32	4828510.33	Non-Participating	South Dakota	1	29

Table C-2A: Project Only Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
650	705235.30	4828503.99	Non-Participating	South Dakota	1	29
651	705237.46	4828485.00	Non-Participating	South Dakota	1	29
652	705236.89	4828464.00	Non-Participating	South Dakota	1	28
653	705237.97	4828440.75	Non-Participating	South Dakota	1	28
654	705232.89	4828391.80	Non-Participating	South Dakota	1	28
655	705192.38	4828390.51	Non-Participating	South Dakota	1	29
656	705192.04	4828445.68	Non-Participating	South Dakota	1	29
657	705164.73	4828442.51	Non-Participating	South Dakota	1	29
658	705141.80	4828441.62	Non-Participating	South Dakota	1	29
659	705114.53	4828440.47	Non-Participating	South Dakota	1	29
660	705134.87	4828508.79	Non-Participating	South Dakota	1	29
661	705112.05	4828508.92	Non-Participating	South Dakota	1	29
662	705111.94	4828563.26	Non-Participating	South Dakota	1	29
663	705068.50	4828447.23	Non-Participating	South Dakota	1	29
664	705084.11	4828507.72	Non-Participating	South Dakota	1	29
665	705058.41	4828505.66	Non-Participating	South Dakota	1	29
666	705086.63	4828560.21	Non-Participating	South Dakota	1	29
667	705058.94	4828563.22	Non-Participating	South Dakota	1	29
668	705050.52	4828588.54	Non-Participating	South Dakota	1	29
669	705047.19	4828626.92	Non-Participating	South Dakota	1	29
670	705071.55	4828628.90	Non-Participating	South Dakota	1	29
671	705094.47	4828629.96	Non-Participating	South Dakota	1	29
672	705120.08	4828630.84	Non-Participating	South Dakota	1	29
673	705079.90	4828684.04	Non-Participating	South Dakota	1	29
674	705078.44	4828705.43	Non-Participating	South Dakota	1	29
675	705082.10	4828728.87	Non-Participating	South Dakota	1	29
676	705076.62	4828751.12	Non-Participating	South Dakota	1	29
677	705053.61	4828763.25	Non-Participating	South Dakota	1	29
678	705033.29	4828752.15	Non-Participating	South Dakota	1	29
679	705028.57	4828727.69	Non-Participating	South Dakota	1	29
680	705033.40	4828705.87	Non-Participating	South Dakota	1	29
681	705036.35	4828680.92	Non-Participating	South Dakota	1	29
682	704996.82	4828679.63	Non-Participating	South Dakota	1	29
683	704964.38	4828679.57	Non-Participating	South Dakota	1	29
684	704936.60	4828675.97	Non-Participating	South Dakota	1	29
685	704908.43	4828676.33	Non-Participating	South Dakota	1	29
686	704906.09	4828714.84	Non-Participating	South Dakota	1	29
687	704997.74	4828559.76	Non-Participating	South Dakota	1	29
688	705001.36	4828584.00	Non-Participating	South Dakota	1	29
689	704966.68	4828557.88	Non-Participating	South Dakota	1	29
690	704940.13	4828557.69	Non-Participating	South Dakota	1	29
691	705006.63	4828625.51	Non-Participating	South Dakota	1	29
692	704978.65	4828625.25	Non-Participating	South Dakota	1	29
693	704956.32	4828623.73	Non-Participating	South Dakota	1	29
694	704934.87	4828623.22	Non-Participating	South Dakota	1	29
695	704901.75	4828621.37	Non-Participating	South Dakota	1	29
696	704854.66	4828673.86	Non-Participating	South Dakota	1	29
697	704822.53	4828673.82	Non-Participating	South Dakota	1	29

Table C-2A: Project Only Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
698	704703.29	4828772.50	Non-Participating	South Dakota	1	29
699	704732.97	4828770.97	Non-Participating	South Dakota	1	29
700	704743.05	4828746.45	Non-Participating	South Dakota	1	29
701	704782.48	4828751.87	Non-Participating	South Dakota	1	29
702	704796.10	4828794.68	Non-Participating	South Dakota	1	29
703	704817.70	4828795.20	Non-Participating	South Dakota	1	29
704	704836.47	4828797.77	Non-Participating	South Dakota	1	29
705	704856.56	4828770.84	Non-Participating	South Dakota	1	29
706	704855.50	4828801.47	Non-Participating	South Dakota	1	29
707	704895.68	4828810.27	Non-Participating	South Dakota	1	29
708	704891.61	4828777.74	Non-Participating	South Dakota	1	29
709	704914.82	4828777.88	Non-Participating	South Dakota	1	29
710	704923.96	4828810.72	Non-Participating	South Dakota	1	29
711	704947.07	4828815.31	Non-Participating	South Dakota	1	29
712	704976.61	4828823.78	Non-Participating	South Dakota	1	29
713	705004.60	4828829.14	Non-Participating	South Dakota	1	29
714	705033.09	4828831.35	Non-Participating	South Dakota	1	29
715	704643.69	4828894.85	Non-Participating	South Dakota	1	29
716	704685.55	4828860.34	Non-Participating	South Dakota	1	29
717	704716.03	4828832.45	Non-Participating	South Dakota	1	29
718	704752.95	4828842.64	Non-Participating	South Dakota	1	29
719	704775.41	4828844.64	Non-Participating	South Dakota	1	29
720	704815.16	4828852.78	Non-Participating	South Dakota	1	29
721	704845.87	4828884.07	Non-Participating	South Dakota	1	29
722	704881.27	4828861.57	Non-Participating	South Dakota	1	29
723	704898.75	4828856.59	Non-Participating	South Dakota	1	29
724	704933.94	4828866.36	Non-Participating	South Dakota	1	29
725	704983.46	4828881.30	Non-Participating	South Dakota	1	29
726	705020.82	4829044.05	Non-Participating	South Dakota	1	29
727	704090.37	4829425.88	Non-Participating	South Dakota	1	29
728	704015.10	4829497.03	Non-Participating	South Dakota	1	29
729	704140.49	4829544.72	Non-Participating	South Dakota	1	29
730	704000.89	4829862.49	Non-Participating	South Dakota	1	29
731	703944.27	4829849.85	Non-Participating	South Dakota	1	29
732	704067.63	4830354.06	Non-Participating	South Dakota	1	30
733	705489.39	4830596.80	Non-Participating	South Dakota	1	35
734	703668.33	4830842.49	Non-Participating	South Dakota	1	29
735	703972.01	4831224.31	Non-Participating	South Dakota	1	31
736	704299.99	4830881.97	Non-Participating	South Dakota	1	32
737	704916.66	4830874.26	Non-Participating	South Dakota	1	34
738	705096.30	4830861.02	Non-Participating	South Dakota	1	35
739	705481.17	4830895.95	Non-Participating	South Dakota	1	36
740	704028.51	4831683.73	Non-Participating	South Dakota	1	32
741	704663.19	4832358.83	Non-Participating	South Dakota	1	36
742	704666.19	4832791.85	Non-Participating	South Dakota	1	36
743	704643.10	4832809.62	Non-Participating	South Dakota	1	36
744	704012.68	4832757.85	Non-Participating	South Dakota	1	33
745	703622.76	4832429.96	Non-Participating	South Dakota	1	32

Table C-2A: Project Only Results

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
746	703900.32	4833237.25	Non-Participating	South Dakota	1	32
747	703981.67	4833479.14	Non-Participating	South Dakota	1	33
748	703900.85	4833546.01	Non-Participating	South Dakota	1	32
749	703953.06	4833803.10	Non-Participating	South Dakota	1	32
750	703877.92	4834322.90	Non-Participating	South Dakota	1	32
751	703115.78	4835451.23	Non-Participating	South Dakota	1	30
752	703164.32	4835650.06	Non-Participating	South Dakota	1	28
A	712158.94	4832287.00	Non-Participating	Minnesota	1	41
B	712675.48	4832272.50	Non-Participating	Minnesota	1	40
C	712885.07	4832032.10	Non-Participating	Minnesota	1	41
D	707132.31	4837379.49	Non-Participating	Minnesota	1	40
E	707199.51	4837381.57	Non-Participating	Minnesota	1	40
F	718750.18	4829719.41	Non-Participating	Minnesota	1	33
H	712862.66	4832031.39	Non-Participating	Minnesota	1	41
I	710895.09	4843889.83	Non-Participating	Minnesota	1	29
J	705563.49	4837361.96	Targeted	Minnesota	1	46
K	703235.27	4848223.84	Non-Participating	South Dakota	1	19
L	703055.10	4848224.96	Non-Participating	South Dakota	1	19
N1	715712.50	4831245.52	Non-Participating	Minnesota	1	42
N7	712508.03	4832184.52	Non-Participating	Minnesota	1	40
N8	710307.95	4832588.36	Participating	Minnesota	1	46
N9	709858.42	4832463.19	Participating	Minnesota	1	47
N10	710527.10	4829926.70	Non-Participating	Minnesota	1	34
N11	710006.75	4829851.12	Participating	Minnesota	1	34
N16	703119.22	4848225.24	Non-Participating	South Dakota	1	19
N18	703012.25	4848234.77	Non-Participating	South Dakota	1	19
N19	703006.98	4847997.82	Non-Participating	South Dakota	1	16
N20	703184.00	4848093.37	Non-Participating	South Dakota	1	16
N21	703175.60	4848057.09	Non-Participating	South Dakota	1	16
N22	703289.81	4848227.56	Non-Participating	South Dakota	1	18
N23	703278.77	4848275.25	Non-Participating	South Dakota	1	19
N24	703426.63	4847498.89	Non-Participating	South Dakota	1	15
N25	703419.37	4847459.42	Non-Participating	South Dakota	1	15
N26	703621.29	4845626.04	Non-Participating	South Dakota	1	23
N27	719788.78	4840865.90	Non-Participating	Minnesota	1	25
N28	717647.77	4834465.50	Non-Participating	Minnesota	1	36
N30	713229.35	4832282.49	Non-Participating	Minnesota	1	41
N31	713010.86	4832312.23	Non-Participating	Minnesota	1	40
N32	709098.10	4836931.87	Targeted	Minnesota	1	45
N33	708666.86	4835693.48	Non-Participating	Minnesota	1	44
N39	713597.65	4832689.58	Non-Participating	Minnesota	1	40

Table C-2B: Project Only Results by Sound Level

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
83	708536.61	4839970.02	Participating	Minnesota	1	47
94	708400.98	4838664.74	Targeted	Minnesota	1	47
147	708710.52	4836244.46	Participating	Minnesota	1	47
N9	709858.42	4832463.19	Participating	Minnesota	1	47
332	714014.30	4831109.09	Participating	Minnesota	1	47
163	710284.41	4834655.57	Targeted	Minnesota	1	47
316	706307.90	4832597.14	Participating	Minnesota	1	47
87	705855.19	4839004.53	Participating	Minnesota	1	47
148	708431.38	4835795.37	Targeted	Minnesota	1	46
154	705991.93	4837185.67	Participating	Minnesota	1	46
317	706391.85	4832533.05	Participating	Minnesota	1	46
334	715114.86	4831046.13	Non-Participating	Minnesota	1	46
335	715280.87	4830888.83	Non-Participating	Minnesota	1	46
104	713992.36	4837483.37	Targeted	Minnesota	1	46
307	710371.01	4832978.05	Participating	Minnesota	1	46
318	705921.04	4831717.10	Participating	Minnesota	1	46
331	713644.87	4830986.83	Participating	Minnesota	1	46
349	714617.74	4829521.25	Participating	Minnesota	1	46
46	708976.50	4840717.57	Participating	Minnesota	1	46
333	715256.78	4831015.51	Non-Participating	Minnesota	1	46
N8	710307.95	4832588.36	Participating	Minnesota	1	46
82	708819.05	4839037.31	Non-Participating	Minnesota	1	46
102	713104.19	4837670.84	Non-Participating	Minnesota	1	46
J	705563.49	4837361.96	Targeted	Minnesota	1	46
168	715960.50	4833594.78	Targeted	Minnesota	1	45
186	716577.54	4832695.90	Non-Participating	Minnesota	1	45
350	713650.85	4830171.47	Non-Participating	Minnesota	1	45
N32	709098.10	4836931.87	Targeted	Minnesota	1	45
187	716382.77	4832803.70	Participating	Minnesota	1	45
306	710955.15	4832635.80	Participating	Minnesota	1	45
305	711252.43	4832635.31	Participating	Minnesota	1	45
320	707148.31	4831858.58	Participating	Minnesota	1	45
164	713539.68	4834701.97	Participating	Minnesota	1	45
149	707467.79	4835655.21	Non-Participating	Minnesota	1	45
304	711473.36	4832637.58	Participating	Minnesota	1	45
315	705808.16	4832506.07	Non-Participating	Minnesota	1	45
96	709771.69	4837511.27	Targeted	Minnesota	1	44
103	713167.31	4837435.71	Non-Participating	Minnesota	1	44
N33	708666.86	4835693.48	Non-Participating	Minnesota	1	44
97	710445.82	4837977.55	Targeted	Minnesota	1	44
78	711303.00	4839031.07	Participating	Minnesota	1	44
145	710551.74	4835854.65	Non-Participating	Minnesota	1	44
150	707382.61	4835946.18	Non-Participating	Minnesota	1	44
84	707329.06	4839034.08	Non-Participating	Minnesota	1	44
165	713519.94	4833754.80	Participating	Minnesota	1	44
167	715389.72	4834427.12	Non-Participating	Minnesota	1	44
184	715633.49	4831085.85	Targeted	Minnesota	1	44
319	707124.26	4832268.92	Participating	Minnesota	1	44

Table C-2B: Project Only Results by Sound Level

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
95	708687.83	4837450.43	Participating	Minnesota	1	43
146	709610.69	4835866.83	Non-Participating	Minnesota	1	43
144	710937.13	4835543.44	Participating	Minnesota	1	43
88	706656.02	4838157.19	Non-Participating	Minnesota	1	43
89	707058.95	4838411.07	Non-Participating	Minnesota	1	43
100	711810.77	4837813.61	Targeted	Minnesota	1	42
161	708977.90	4835337.39	Targeted	Minnesota	1	42
98	710772.80	4837437.00	Non-Participating	Minnesota	1	42
92	708141.65	4837461.67	Participating	Minnesota	1	42
198	712346.67	4832653.95	Non-Participating	Minnesota	1	42
93	708243.59	4837310.77	Participating	Minnesota	1	42
142	712603.23	4835802.92	Participating	Minnesota	1	42
N1	715712.50	4831245.52	Non-Participating	Minnesota	1	42
79	710297.92	4839470.58	Participating	Minnesota	1	42
162	709241.42	4834293.09	Non-Participating	Minnesota	1	42
348	714913.69	4829173.93	Non-Participating	Minnesota	1	42
90	707064.45	4838031.04	Non-Participating	Minnesota	1	42
229	713375.93	4832184.38	Non-Participating	Minnesota	1	41
230	713431.00	4832183.48	Non-Participating	Minnesota	1	41
188	716021.03	4832717.66	Participating	Minnesota	1	41
189	715946.91	4832805.42	Participating	Minnesota	1	41
347	715685.16	4829460.28	Non-Participating	Minnesota	1	41
44	708158.48	4840697.92	Non-Participating	Minnesota	1	41
80	710098.76	4839796.54	Non-Participating	Minnesota	1	41
91	707510.54	4837477.67	Targeted	Minnesota	1	41
99	711645.42	4837393.46	Non-Participating	Minnesota	1	41
228	713308.00	4832224.79	Non-Participating	Minnesota	1	41
303	712842.90	4831916.61	Non-Participating	Minnesota	1	41
A	712158.94	4832287.00	Non-Participating	Minnesota	1	41
143	712308.20	4836059.46	Non-Participating	Minnesota	1	41
195	712594.49	4832495.72	Non-Participating	Minnesota	1	41
197	712507.23	4832437.14	Non-Participating	Minnesota	1	41
299	712791.52	4831841.65	Non-Participating	Minnesota	1	41
300	712798.77	4831870.72	Non-Participating	Minnesota	1	41
194	712633.30	4832532.44	Non-Participating	Minnesota	1	41
C	712885.07	4832032.10	Non-Participating	Minnesota	1	41
H	712862.66	4832031.39	Non-Participating	Minnesota	1	41
284	712877.12	4832089.52	Non-Participating	Minnesota	1	41
285	712900.32	4832095.23	Non-Participating	Minnesota	1	41
298	712751.54	4831840.81	Non-Participating	Minnesota	1	41
301	712772.78	4831901.49	Non-Participating	Minnesota	1	41
302	712790.64	4831921.66	Non-Participating	Minnesota	1	41
N30	713229.35	4832282.49	Non-Participating	Minnesota	1	41
169	717742.89	4833679.69	Non-Participating	Minnesota	1	40
227	713292.76	4832253.02	Non-Participating	Minnesota	1	40
283	712845.16	4832086.79	Non-Participating	Minnesota	1	40
286	712889.85	4832123.54	Non-Participating	Minnesota	1	40
288	712889.23	4832144.18	Non-Participating	Minnesota	1	40

Table C-2B: Project Only Results by Sound Level

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
291	712794.24	4832015.06	Non-Participating	Minnesota	1	40
292	712796.38	4831988.68	Non-Participating	Minnesota	1	40
297	712735.50	4831869.27	Non-Participating	Minnesota	1	40
182	717421.25	4831235.51	Non-Participating	Minnesota	1	40
223	713109.05	4832338.04	Non-Participating	Minnesota	1	40
224	713137.94	4832336.46	Non-Participating	Minnesota	1	40
225	713168.29	4832342.12	Non-Participating	Minnesota	1	40
226	713226.79	4832342.81	Non-Participating	Minnesota	1	40
237	712890.56	4832202.61	Non-Participating	Minnesota	1	40
276	712790.68	4832081.04	Non-Participating	Minnesota	1	40
282	712841.90	4832109.02	Non-Participating	Minnesota	1	40
287	712889.80	4832163.62	Non-Participating	Minnesota	1	40
290	712794.99	4832046.39	Non-Participating	Minnesota	1	40
296	712732.95	4831902.51	Non-Participating	Minnesota	1	40
308	708958.17	4832642.70	Participating	Minnesota	1	40
101	712200.34	4837408.33	Non-Participating	Minnesota	1	40
199	712846.95	4832428.39	Non-Participating	Minnesota	1	40
200	712862.53	4832429.34	Non-Participating	Minnesota	1	40
201	712882.15	4832429.34	Non-Participating	Minnesota	1	40
202	712894.50	4832431.01	Non-Participating	Minnesota	1	40
203	712928.71	4832437.86	Non-Participating	Minnesota	1	40
204	712936.81	4832480.03	Non-Participating	Minnesota	1	40
207	712889.30	4832379.64	Non-Participating	Minnesota	1	40
208	712851.04	4832377.53	Non-Participating	Minnesota	1	40
209	712836.85	4832377.30	Non-Participating	Minnesota	1	40
210	712823.45	4832370.97	Non-Participating	Minnesota	1	40
211	712537.69	4832295.51	Non-Participating	Minnesota	1	40
212	712564.57	4832317.29	Non-Participating	Minnesota	1	40
213	712605.45	4832307.68	Non-Participating	Minnesota	1	40
214	712629.62	4832300.88	Non-Participating	Minnesota	1	40
215	712674.11	4832322.67	Non-Participating	Minnesota	1	40
217	712717.98	4832312.61	Non-Participating	Minnesota	1	40
218	712785.61	4832316.50	Non-Participating	Minnesota	1	40
220	712829.55	4832333.38	Non-Participating	Minnesota	1	40
221	712830.18	4832309.03	Non-Participating	Minnesota	1	40
222	712867.95	4832305.17	Non-Participating	Minnesota	1	40
231	712884.28	4832262.41	Non-Participating	Minnesota	1	40
232	712831.97	4832268.25	Non-Participating	Minnesota	1	40
233	712837.31	4832254.52	Non-Participating	Minnesota	1	40
234	712834.64	4832232.89	Non-Participating	Minnesota	1	40
235	712848.32	4832199.78	Non-Participating	Minnesota	1	40
236	712887.35	4832233.70	Non-Participating	Minnesota	1	40
241	712787.28	4832192.10	Non-Participating	Minnesota	1	40
275	712745.94	4832084.47	Non-Participating	Minnesota	1	40
277	712790.26	4832095.01	Non-Participating	Minnesota	1	40
278	712788.37	4832119.07	Non-Participating	Minnesota	1	40
279	712789.00	4832150.71	Non-Participating	Minnesota	1	40
281	712834.02	4832154.99	Non-Participating	Minnesota	1	40

Table C-2B: Project Only Results by Sound Level

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
293	712732.53	4831979.23	Non-Participating	Minnesota	1	40
294	712734.58	4832008.79	Non-Participating	Minnesota	1	40
295	712733.41	4831929.85	Non-Participating	Minnesota	1	40
E	707199.51	4837381.57	Non-Participating	Minnesota	1	40
N31	713010.86	4832312.23	Non-Participating	Minnesota	1	40
158	707356.17	4834741.12	Non-Participating	Minnesota	1	40
183	716309.79	4831038.21	Non-Participating	Minnesota	1	40
205	712995.55	4832445.10	Non-Participating	Minnesota	1	40
206	712932.00	4832382.02	Non-Participating	Minnesota	1	40
216	712679.19	4832298.37	Non-Participating	Minnesota	1	40
219	712778.81	4832299.33	Non-Participating	Minnesota	1	40
238	712780.48	4832264.85	Non-Participating	Minnesota	1	40
239	712785.27	4832251.36	Non-Participating	Minnesota	1	40
240	712780.83	4832224.05	Non-Participating	Minnesota	1	40
242	712719.68	4832205.22	Non-Participating	Minnesota	1	40
243	712719.10	4832249.73	Non-Participating	Minnesota	1	40
244	712718.61	4832266.40	Non-Participating	Minnesota	1	40
245	712753.58	4832271.17	Non-Participating	Minnesota	1	40
246	712748.37	4832234.80	Non-Participating	Minnesota	1	40
247	712673.11	4832238.71	Non-Participating	Minnesota	1	40
248	712675.00	4832216.30	Non-Participating	Minnesota	1	40
253	712571.98	4832232.04	Non-Participating	Minnesota	1	40
254	712571.88	4832259.87	Non-Participating	Minnesota	1	40
255	712608.06	4832231.58	Non-Participating	Minnesota	1	40
256	712456.59	4832228.74	Non-Participating	Minnesota	1	40
272	712720.39	4832155.88	Non-Participating	Minnesota	1	40
273	712724.09	4832116.02	Non-Participating	Minnesota	1	40
274	712724.53	4832087.84	Non-Participating	Minnesota	1	40
280	712759.46	4832158.67	Non-Participating	Minnesota	1	40
289	712730.42	4832035.84	Non-Participating	Minnesota	1	40
B	712675.48	4832272.50	Non-Participating	Minnesota	1	40
D	707132.31	4837379.49	Non-Participating	Minnesota	1	40
152	706957.43	4836478.77	Non-Participating	Minnesota	1	40
153	707156.95	4836908.27	Non-Participating	Minnesota	1	40
249	712677.58	4832191.27	Non-Participating	Minnesota	1	40
250	712618.78	4832190.35	Non-Participating	Minnesota	1	40
251	712564.96	4832190.52	Non-Participating	Minnesota	1	40
252	712570.97	4832213.69	Non-Participating	Minnesota	1	40
267	712613.84	4832149.49	Non-Participating	Minnesota	1	40
268	712636.39	4832149.27	Non-Participating	Minnesota	1	40
269	712676.17	4832149.03	Non-Participating	Minnesota	1	40
270	712679.14	4832113.16	Non-Participating	Minnesota	1	40
271	712678.29	4832087.92	Non-Participating	Minnesota	1	40
N7	712508.03	4832184.52	Non-Participating	Minnesota	1	40
43	707861.60	4840458.05	Non-Participating	Minnesota	1	40
157	707016.69	4835236.06	Non-Participating	Minnesota	1	40
193	713317.82	4832719.65	Non-Participating	Minnesota	1	40
257	712392.84	4832139.24	Non-Participating	Minnesota	1	40

Table C-2B: Project Only Results by Sound Level

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
258	712456.01	4832133.54	Non-Participating	Minnesota	1	40
259	712503.93	4832139.10	Non-Participating	Minnesota	1	40
260	712459.29	4832110.14	Non-Participating	Minnesota	1	40
261	712508.07	4832110.19	Non-Participating	Minnesota	1	40
264	712553.69	4832079.29	Non-Participating	Minnesota	1	40
265	712626.23	4832098.28	Non-Participating	Minnesota	1	40
266	712568.90	4832143.05	Non-Participating	Minnesota	1	40
313	707392.79	4832577.65	Non-Participating	Minnesota	1	40
191	715208.57	4833157.75	Non-Participating	Minnesota	1	40
262	712450.68	4832077.28	Non-Participating	Minnesota	1	40
263	712507.77	4832084.46	Non-Participating	Minnesota	1	40
346	716087.40	4829579.09	Targeted	Minnesota	1	40
81	710126.39	4840144.45	Non-Participating	Minnesota	1	40
309	708910.35	4832432.23	Participating	Minnesota	1	40
85	706870.81	4839475.06	Non-Participating	Minnesota	1	40
N39	713597.65	4832689.58	Non-Participating	Minnesota	1	40
166	714328.91	4834335.98	Participating	Minnesota	1	40
314	707103.01	4833341.74	Non-Participating	Minnesota	1	39
321	706377.57	4830879.08	Non-Participating	Minnesota	1	39
383	705464.17	4831442.94	Non-Participating	South Dakota	1	39
160	708322.34	4834109.83	Non-Participating	Minnesota	1	39
73	713478.59	4839242.77	Participating	Minnesota	1	39
192	714338.84	4832655.97	Participating	Minnesota	1	39
342	718488.68	4830493.21	Non-Participating	Minnesota	1	39
155	705492.89	4835958.91	Non-Participating	Minnesota	1	39
190	715198.78	4832781.62	Non-Participating	Minnesota	1	39
185	716220.40	4831908.27	Non-Participating	Minnesota	1	39
141	714264.50	4835959.15	Non-Participating	Minnesota	1	39
409	704830.38	4838768.26	Non-Participating	South Dakota	1	39
74	713369.04	4839338.51	Non-Participating	Minnesota	1	39
177	718057.16	4832879.43	Non-Participating	Minnesota	1	38
310	708545.61	4832471.18	Participating	Minnesota	1	38
322	706795.99	4830788.28	Non-Participating	Minnesota	1	38
311	707948.72	4832546.75	Non-Participating	Minnesota	1	38
312	707785.26	4832449.07	Non-Participating	Minnesota	1	38
159	707085.43	4834360.19	Participating	Minnesota	1	38
323	707286.36	4830938.93	Participating	Minnesota	1	38
327	709959.89	4830915.52	Non-Participating	Minnesota	1	38
86	706925.99	4839978.62	Non-Participating	Minnesota	1	38
343	718614.16	4830476.57	Non-Participating	Minnesota	1	38
105	715042.04	4837912.39	Non-Participating	Minnesota	1	37
330	712129.09	4830942.84	Non-Participating	Minnesota	1	37
360	713820.87	4828830.04	Non-Participating	Minnesota	1	37
329	711156.75	4831002.57	Non-Participating	Minnesota	1	37
345	716664.22	4829593.01	Non-Participating	Minnesota	1	37
351	712905.87	4829462.35	Non-Participating	Minnesota	1	37
138	714868.50	4835985.41	Non-Participating	Minnesota	1	37
178	718221.38	4832811.99	Non-Participating	Minnesota	1	37

Table C-2B: Project Only Results by Sound Level

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
408	704667.13	4838957.64	Non-Participating	South Dakota	1	37
72	714242.60	4839322.89	Participating	Minnesota	1	37
140	715206.94	4835652.83	Participating	Minnesota	1	37
170	717526.44	4834457.10	Participating	Minnesota	1	37
344	716736.70	4829503.83	Non-Participating	Minnesota	1	37
47	710262.92	4840946.97	Non-Participating	Minnesota	1	36
139	715186.22	4835692.77	Participating	Minnesota	1	36
739	705481.17	4830895.95	Non-Participating	South Dakota	1	36
359	713975.46	4828553.70	Non-Participating	Minnesota	1	36
106	715021.68	4838699.63	Non-Participating	Minnesota	1	36
328	710444.83	4830632.98	Participating	Minnesota	1	36
386	705349.51	4834096.40	Non-Participating	South Dakota	1	36
390	705281.73	4835629.59	Non-Participating	South Dakota	1	36
N28	717647.77	4834465.50	Non-Participating	Minnesota	1	36
107	715090.43	4838637.19	Non-Participating	Minnesota	1	36
326	709134.89	4830862.41	Non-Participating	Minnesota	1	36
352	712717.46	4829343.28	Participating	Minnesota	1	36
353	712178.69	4830005.45	Non-Participating	Minnesota	1	36
48	710762.86	4840767.53	Non-Participating	Minnesota	1	36
742	704666.19	4832791.85	Non-Participating	South Dakota	1	36
741	704663.19	4832358.83	Non-Participating	South Dakota	1	36
743	704643.10	4832809.62	Non-Participating	South Dakota	1	36
108	715313.77	4837500.27	Targeted	Minnesota	1	36
389	704815.83	4835753.70	Non-Participating	South Dakota	1	36
403	704182.61	4837300.48	Non-Participating	South Dakota	1	36
136	715586.54	4836002.19	Non-Participating	Minnesota	1	35
156	705858.11	4834844.91	Non-Participating	Minnesota	1	35
41	706750.62	4840653.78	Non-Participating	Minnesota	1	35
45	708427.46	4841672.29	Non-Participating	Minnesota	1	35
325	708665.52	4830816.87	Non-Participating	Minnesota	1	35
42	706742.54	4840668.93	Non-Participating	Minnesota	1	35
181	718905.22	4831299.44	Non-Participating	Minnesota	1	35
354	712093.44	4829732.15	Non-Participating	Minnesota	1	35
171	717942.71	4834486.94	Participating	Minnesota	1	35
384	704881.41	4833942.19	Non-Participating	South Dakota	1	35
733	705489.39	4830596.80	Non-Participating	South Dakota	1	35
385	704934.04	4833903.19	Non-Participating	South Dakota	1	35
402	704040.36	4837303.55	Non-Participating	South Dakota	1	35
411	705171.09	4840026.31	Non-Participating	South Dakota	1	35
355	707416.58	4830311.62	Non-Participating	Minnesota	1	35
738	705096.30	4830861.02	Non-Participating	South Dakota	1	35
137	715661.98	4836017.28	Non-Participating	Minnesota	1	34
324	708796.80	4831061.44	Non-Participating	Minnesota	1	34
341	718207.07	4829650.23	Non-Participating	Minnesota	1	34
405	703933.92	4838215.27	Non-Participating	South Dakota	1	34
401	703882.11	4837706.72	Non-Participating	South Dakota	1	34
109	715783.84	4837663.54	Non-Participating	Minnesota	1	34
75	713446.60	4840263.13	Non-Participating	Minnesota	1	34

Table C-2B: Project Only Results by Sound Level

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
76	713297.01	4840333.99	Non-Participating	Minnesota	1	34
396	703896.36	4836623.39	Non-Participating	South Dakota	1	34
737	704916.66	4830874.26	Non-Participating	South Dakota	1	34
395	703911.83	4836498.35	Non-Participating	South Dakota	1	34
N10	710527.10	4829926.70	Non-Participating	Minnesota	1	34
400	703798.54	4837450.44	Non-Participating	South Dakota	1	34
49	712384.27	4840783.97	Non-Participating	Minnesota	1	34
367	717108.39	4828849.54	Non-Participating	Minnesota	1	34
N11	710006.75	4829851.12	Participating	Minnesota	1	34
110	716026.85	4837558.63	Non-Participating	Minnesota	1	33
361	714217.10	4827915.58	Non-Participating	Minnesota	1	33
135	716901.55	4835960.23	Non-Participating	Minnesota	1	33
362	715474.31	4827938.91	Non-Participating	Minnesota	1	33
404	703706.65	4838294.81	Non-Participating	South Dakota	1	33
628	706800.75	4829875.13	Non-Participating	Minnesota	1	33
363	715541.50	4827975.19	Participating	Minnesota	1	33
399	703797.22	4837269.88	Non-Participating	South Dakota	1	33
F	718750.18	4829719.41	Non-Participating	Minnesota	1	33
339	718547.55	4829529.40	Non-Participating	Minnesota	1	33
340	718705.42	4829658.28	Non-Participating	Minnesota	1	33
358	713672.96	4827918.96	Non-Participating	Minnesota	1	33
406	703729.98	4838798.96	Non-Participating	South Dakota	1	33
391	703806.27	4836008.60	Non-Participating	South Dakota	1	33
392	703780.24	4836101.13	Non-Participating	South Dakota	1	33
744	704012.68	4832757.85	Non-Participating	South Dakota	1	33
398	703706.65	4837165.34	Non-Participating	South Dakota	1	33
627	706884.07	4829695.44	Non-Participating	Minnesota	1	33
629	706334.75	4829721.80	Participating	Minnesota	1	33
393	703830.86	4836391.37	Non-Participating	South Dakota	1	33
394	703819.58	4836476.57	Non-Participating	South Dakota	1	33
417	704782.58	4840430.67	Non-Participating	South Dakota	1	33
418	705123.49	4840673.16	Non-Participating	South Dakota	1	33
626	707202.71	4829656.80	Non-Participating	Minnesota	1	33
747	703981.67	4833479.14	Non-Participating	South Dakota	1	33
746	703900.32	4833237.25	Non-Participating	South Dakota	1	32
356	712848.91	4827911.62	Non-Participating	Minnesota	1	32
388	703763.96	4835653.19	Non-Participating	South Dakota	1	32
397	703578.28	4837163.05	Non-Participating	South Dakota	1	32
748	703900.85	4833546.01	Non-Participating	South Dakota	1	32
749	703953.06	4833803.10	Non-Participating	South Dakota	1	32
50	713334.25	4840942.29	Non-Participating	Minnesota	1	32
111	716411.22	4837638.23	Non-Participating	Minnesota	1	32
364	716139.42	4827816.29	Non-Participating	Minnesota	1	32
387	703947.03	4834924.62	Non-Participating	South Dakota	1	32
407	703653.42	4839079.13	Non-Participating	South Dakota	1	32
630	706496.34	4829597.02	Non-Participating	Minnesota	1	32
416	704492.38	4840341.24	Non-Participating	South Dakota	1	32
631	706398.43	4829578.24	Non-Participating	Minnesota	1	32

Table C-2B: Project Only Results by Sound Level

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
740	704028.51	4831683.73	Non-Participating	South Dakota	1	32
134	716977.83	4836815.57	Participating	Minnesota	1	32
632	706314.88	4829561.32	Non-Participating	Minnesota	1	32
750	703877.92	4834322.90	Non-Participating	South Dakota	1	32
35	709819.25	4842500.41	Participating	Minnesota	1	32
338	718660.97	4829287.11	Non-Participating	Minnesota	1	32
633	706251.50	4829532.13	Non-Participating	Minnesota	1	32
736	704299.99	4830881.97	Non-Participating	South Dakota	1	32
36	707468.78	4842249.89	Non-Participating	Minnesota	1	32
129	718569.06	4835055.95	Participating	Minnesota	1	32
34	710644.98	4842349.07	Non-Participating	Minnesota	1	32
374	715248.44	4827383.73	Non-Participating	Minnesota	1	32
357	713480.57	4827427.94	Non-Participating	Minnesota	1	32
410	703785.10	4839818.54	Non-Participating	South Dakota	1	32
617	710508.38	4828661.23	Non-Participating	Minnesota	1	32
624	707003.03	4829294.84	Non-Participating	Minnesota	1	32
745	703622.76	4832429.96	Non-Participating	South Dakota	1	32
620	708880.83	4829066.94	Non-Participating	Minnesota	1	31
112	716797.43	4837677.61	Non-Participating	Minnesota	1	31
619	708971.55	4828978.11	Participating	Minnesota	1	31
623	707381.37	4829213.15	Non-Participating	Minnesota	1	31
71	715049.56	4840410.68	Non-Participating	Minnesota	1	31
625	706769.91	4829219.83	Participating	Minnesota	1	31
130	718342.87	4835837.33	Participating	Minnesota	1	31
51	713754.99	4840911.87	Non-Participating	Minnesota	1	31
622	707666.58	4829219.47	Non-Participating	Minnesota	1	31
634	705621.54	4829441.98	Non-Participating	Minnesota	1	31
37	706814.15	4842351.53	Non-Participating	Minnesota	1	31
366	717070.79	4827804.48	Non-Participating	Minnesota	1	31
735	703972.01	4831224.31	Non-Participating	South Dakota	1	31
38	706284.12	4842225.69	Non-Participating	Minnesota	1	31
375	713888.51	4826969.27	Non-Participating	Minnesota	1	31
33	711938.71	4842378.30	Participating	Minnesota	1	31
365	716987.91	4827842.08	Non-Participating	Minnesota	1	31
415	703913.94	4840550.82	Non-Participating	South Dakota	1	31
113	717493.50	4837682.56	Non-Participating	Minnesota	1	31
368	718562.18	4828640.41	Non-Participating	Minnesota	1	31
180	720018.46	4831817.27	Non-Participating	Minnesota	1	30
52	714456.02	4840842.55	Non-Participating	Minnesota	1	30
175	720001.01	4832510.77	Non-Participating	Minnesota	1	30
422	705169.14	4841778.72	Non-Participating	South Dakota	1	30
732	704067.63	4830354.06	Non-Participating	South Dakota	1	30
54	715567.30	4840772.12	Non-Participating	Minnesota	1	30
174	719968.80	4833440.58	Non-Participating	Minnesota	1	30
179	720138.53	4831804.67	Non-Participating	Minnesota	1	30
618	710312.21	4827758.12	Participating	Minnesota	1	30
637	705562.56	4829075.23	Non-Participating	South Dakota	1	30
751	703115.78	4835451.23	Non-Participating	South Dakota	1	30

Table C-2B: Project Only Results by Sound Level

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
22	708430.29	4843394.56	Non-Participating	Minnesota	1	30
128	719000.79	4835890.62	Non-Participating	Minnesota	1	30
133	718177.51	4836701.05	Non-Participating	Minnesota	1	30
176	720086.46	4832488.58	Non-Participating	Minnesota	1	30
369	718674.18	4828400.30	Non-Participating	Minnesota	1	30
635	705623.53	4828995.44	Non-Participating	Minnesota	1	30
69	716610.59	4839807.02	Non-Participating	Minnesota	1	30
132	718240.47	4836646.55	Non-Participating	Minnesota	1	30
412	703132.24	4840141.30	Non-Participating	South Dakota	1	30
115	718096.72	4837655.04	Non-Participating	Minnesota	1	30
423	705155.44	4842202.20	Non-Participating	South Dakota	1	30
131	718247.08	4836742.93	Non-Participating	Minnesota	1	30
424	705039.92	4842185.90	Non-Participating	South Dakota	1	30
68	717296.33	4839345.88	Non-Participating	Minnesota	1	29
414	703241.98	4840429.71	Non-Participating	South Dakota	1	29
726	705020.82	4829044.05	Non-Participating	South Dakota	1	29
734	703668.33	4830842.49	Non-Participating	South Dakota	1	29
21	708394.51	4843668.42	Non-Participating	Minnesota	1	29
70	716604.40	4840268.87	Non-Participating	Minnesota	1	29
114	717959.58	4838266.65	Non-Participating	Minnesota	1	29
413	703198.00	4840427.17	Non-Participating	South Dakota	1	29
621	708621.24	4827744.01	Non-Participating	Minnesota	1	29
24	709448.97	4843803.26	Non-Participating	Minnesota	1	29
19	707512.81	4843649.75	Non-Participating	Minnesota	1	29
615	715859.70	4826343.35	Participating	Minnesota	1	29
725	704983.46	4828881.30	Non-Participating	South Dakota	1	29
729	704140.49	4829544.72	Non-Participating	South Dakota	1	29
730	704000.89	4829862.49	Non-Participating	South Dakota	1	29
731	703944.27	4829849.85	Non-Participating	South Dakota	1	29
31	714115.37	4842462.46	Non-Participating	Minnesota	1	29
32	713178.15	4842909.97	Non-Participating	Minnesota	1	29
126	719835.22	4835489.72	Non-Participating	Minnesota	1	29
636	705654.15	4828680.11	Non-Participating	Minnesota	1	29
638	705381.50	4828643.03	Non-Participating	South Dakota	1	29
639	705232.02	4828693.33	Non-Participating	South Dakota	1	29
712	704976.61	4828823.78	Non-Participating	South Dakota	1	29
713	705004.60	4828829.14	Non-Participating	South Dakota	1	29
714	705033.09	4828831.35	Non-Participating	South Dakota	1	29
724	704933.94	4828866.36	Non-Participating	South Dakota	1	29
25	709614.12	4843929.95	Participating	Minnesota	1	29
39	706067.54	4843190.56	Non-Participating	Minnesota	1	29
116	718635.34	4837734.24	Non-Participating	Minnesota	1	29
640	705156.39	4828687.56	Non-Participating	South Dakota	1	29
644	705245.87	4828628.25	Non-Participating	South Dakota	1	29
674	705078.44	4828705.43	Non-Participating	South Dakota	1	29
675	705082.10	4828728.87	Non-Participating	South Dakota	1	29
676	705076.62	4828751.12	Non-Participating	South Dakota	1	29
677	705053.61	4828763.25	Non-Participating	South Dakota	1	29

Table C-2B: Project Only Results by Sound Level

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
678	705033.29	4828752.15	Non-Participating	South Dakota	1	29
679	705028.57	4828727.69	Non-Participating	South Dakota	1	29
707	704895.68	4828810.27	Non-Participating	South Dakota	1	29
710	704923.96	4828810.72	Non-Participating	South Dakota	1	29
711	704947.07	4828815.31	Non-Participating	South Dakota	1	29
721	704845.87	4828884.07	Non-Participating	South Dakota	1	29
722	704881.27	4828861.57	Non-Participating	South Dakota	1	29
723	704898.75	4828856.59	Non-Participating	South Dakota	1	29
727	704090.37	4829425.88	Non-Participating	South Dakota	1	29
616	712762.52	4826456.76	Non-Participating	Minnesota	1	29
641	705144.00	4828631.96	Non-Participating	South Dakota	1	29
642	705165.33	4828631.41	Non-Participating	South Dakota	1	29
643	705188.15	4828631.29	Non-Participating	South Dakota	1	29
645	705190.52	4828581.28	Non-Participating	South Dakota	1	29
671	705094.47	4828629.96	Non-Participating	South Dakota	1	29
672	705120.08	4828630.84	Non-Participating	South Dakota	1	29
673	705079.90	4828684.04	Non-Participating	South Dakota	1	29
680	705033.40	4828705.87	Non-Participating	South Dakota	1	29
681	705036.35	4828680.92	Non-Participating	South Dakota	1	29
703	704817.70	4828795.20	Non-Participating	South Dakota	1	29
704	704836.47	4828797.77	Non-Participating	South Dakota	1	29
705	704856.56	4828770.84	Non-Participating	South Dakota	1	29
706	704855.50	4828801.47	Non-Participating	South Dakota	1	29
708	704891.61	4828777.74	Non-Participating	South Dakota	1	29
709	704914.82	4828777.88	Non-Participating	South Dakota	1	29
718	704752.95	4828842.64	Non-Participating	South Dakota	1	29
719	704775.41	4828844.64	Non-Participating	South Dakota	1	29
720	704815.16	4828852.78	Non-Participating	South Dakota	1	29
728	704015.10	4829497.03	Non-Participating	South Dakota	1	29
173	720587.26	4833766.80	Non-Participating	Minnesota	1	29
419	703564.36	4841448.22	Non-Participating	South Dakota	1	29
646	705171.84	4828565.72	Non-Participating	South Dakota	1	29
647	705139.58	4828563.76	Non-Participating	South Dakota	1	29
649	705193.32	4828510.33	Non-Participating	South Dakota	1	29
650	705235.30	4828503.99	Non-Participating	South Dakota	1	29
662	705111.94	4828563.26	Non-Participating	South Dakota	1	29
668	705050.52	4828588.54	Non-Participating	South Dakota	1	29
669	705047.19	4828626.92	Non-Participating	South Dakota	1	29
670	705071.55	4828628.90	Non-Participating	South Dakota	1	29
682	704996.82	4828679.63	Non-Participating	South Dakota	1	29
683	704964.38	4828679.57	Non-Participating	South Dakota	1	29
684	704936.60	4828675.97	Non-Participating	South Dakota	1	29
685	704908.43	4828676.33	Non-Participating	South Dakota	1	29
686	704906.09	4828714.84	Non-Participating	South Dakota	1	29
691	705006.63	4828625.51	Non-Participating	South Dakota	1	29
701	704782.48	4828751.87	Non-Participating	South Dakota	1	29
702	704796.10	4828794.68	Non-Participating	South Dakota	1	29
715	704643.69	4828894.85	Non-Participating	South Dakota	1	29

Table C-2B: Project Only Results by Sound Level

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
716	704685.55	4828860.34	Non-Participating	South Dakota	1	29
717	704716.03	4828832.45	Non-Participating	South Dakota	1	29
I	710895.09	4843889.83	Non-Participating	Minnesota	1	29
370	718602.36	4827497.49	Non-Participating	Minnesota	1	29
648	705164.83	4828509.94	Non-Participating	South Dakota	1	29
656	705192.04	4828445.68	Non-Participating	South Dakota	1	29
660	705134.87	4828508.79	Non-Participating	South Dakota	1	29
661	705112.05	4828508.92	Non-Participating	South Dakota	1	29
664	705084.11	4828507.72	Non-Participating	South Dakota	1	29
666	705086.63	4828560.21	Non-Participating	South Dakota	1	29
667	705058.94	4828563.22	Non-Participating	South Dakota	1	29
687	704997.74	4828559.76	Non-Participating	South Dakota	1	29
688	705001.36	4828584.00	Non-Participating	South Dakota	1	29
692	704978.65	4828625.25	Non-Participating	South Dakota	1	29
693	704956.32	4828623.73	Non-Participating	South Dakota	1	29
694	704934.87	4828623.22	Non-Participating	South Dakota	1	29
695	704901.75	4828621.37	Non-Participating	South Dakota	1	29
696	704854.66	4828673.86	Non-Participating	South Dakota	1	29
697	704822.53	4828673.82	Non-Participating	South Dakota	1	29
698	704703.29	4828772.50	Non-Participating	South Dakota	1	29
699	704732.97	4828770.97	Non-Participating	South Dakota	1	29
700	704743.05	4828746.45	Non-Participating	South Dakota	1	29
18	707270.50	4843918.01	Non-Participating	Minnesota	1	29
27	711345.52	4843862.96	Non-Participating	Minnesota	1	29
127	719971.96	4835872.49	Non-Participating	Minnesota	1	29
337	720471.34	4829713.08	Non-Participating	Minnesota	1	29
613	716906.43	4826389.27	Non-Participating	Minnesota	1	29
614	716639.93	4826263.50	Non-Participating	Minnesota	1	29
651	705237.46	4828485.00	Non-Participating	South Dakota	1	29
655	705192.38	4828390.51	Non-Participating	South Dakota	1	29
657	705164.73	4828442.51	Non-Participating	South Dakota	1	29
658	705141.80	4828441.62	Non-Participating	South Dakota	1	29
659	705114.53	4828440.47	Non-Participating	South Dakota	1	29
663	705068.50	4828447.23	Non-Participating	South Dakota	1	29
665	705058.41	4828505.66	Non-Participating	South Dakota	1	29
689	704966.68	4828557.88	Non-Participating	South Dakota	1	29
690	704940.13	4828557.69	Non-Participating	South Dakota	1	29
371	718830.45	4827566.20	Non-Participating	Minnesota	1	28
421	703834.63	4841918.03	Non-Participating	South Dakota	1	28
652	705236.89	4828464.00	Non-Participating	South Dakota	1	28
653	705237.97	4828440.75	Non-Participating	South Dakota	1	28
654	705232.89	4828391.80	Non-Participating	South Dakota	1	28
752	703164.32	4835650.06	Non-Participating	South Dakota	1	28
124	719773.40	4836874.47	Non-Participating	Minnesota	1	28
26	711647.33	4843990.24	Non-Participating	Minnesota	1	28
117	718973.38	4837665.43	Non-Participating	Minnesota	1	28
67	718471.98	4839347.33	Non-Participating	Minnesota	1	28
373	719778.19	4828092.97	Non-Participating	Minnesota	1	28

Table C-2B: Project Only Results by Sound Level

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
433	705119.32	4842994.01	Non-Participating	South Dakota	1	28
53	714992.51	4842006.83	Non-Participating	Minnesota	1	28
55	716141.80	4840921.50	Non-Participating	Minnesota	1	28
372	719830.43	4828111.38	Non-Participating	Minnesota	1	28
172	721247.61	4833637.06	Non-Participating	Minnesota	1	28
336	720850.87	4829589.22	Non-Participating	Minnesota	1	28
610	718736.06	4826853.88	Non-Participating	Minnesota	1	28
66	718919.37	4839262.10	Non-Participating	Minnesota	1	28
420	703746.52	4841901.08	Non-Participating	South Dakota	1	28
56	716669.20	4840946.13	Non-Participating	Minnesota	1	27
17	706751.88	4844577.57	Non-Participating	Minnesota	1	27
40	705275.87	4843735.83	Non-Participating	Minnesota	1	27
602	721193.76	4829744.37	Non-Participating	Minnesota	1	27
120	720329.65	4837683.29	Non-Participating	Minnesota	1	27
123	720672.05	4836880.47	Non-Participating	Minnesota	1	27
601	721107.43	4831397.47	Non-Participating	Minnesota	1	27
118	719803.30	4838775.43	Non-Participating	Minnesota	1	27
119	719789.20	4838850.50	Non-Participating	Minnesota	1	27
611	718258.61	4826322.24	Non-Participating	Minnesota	1	27
121	720497.83	4837781.83	Non-Participating	Minnesota	1	27
604	720771.23	4828229.30	Non-Participating	Minnesota	1	27
16	706765.76	4845113.79	Non-Participating	Minnesota	1	27
23	709900.19	4845248.40	Non-Participating	Minnesota	1	27
603	721607.87	4829645.45	Non-Participating	Minnesota	1	27
20	708478.92	4845354.11	Participating	Minnesota	1	27
606	719889.27	4826965.25	Non-Participating	Minnesota	1	27
59	718574.90	4840839.53	Non-Participating	Minnesota	1	26
30	716510.64	4842848.35	Non-Participating	Minnesota	1	26
605	720294.73	4827201.39	Non-Participating	Minnesota	1	26
612	717984.98	4825391.46	Non-Participating	Minnesota	1	26
29	716642.97	4842773.33	Non-Participating	Minnesota	1	26
11	709848.84	4845674.79	Non-Participating	Minnesota	1	26
15	705259.97	4845158.83	Non-Participating	Minnesota	1	26
430	703964.87	4843675.19	Non-Participating	South Dakota	1	26
432	705095.53	4843395.34	Non-Participating	South Dakota	1	26
57	718688.18	4841612.49	Non-Participating	Minnesota	1	26
125	721504.01	4835748.19	Non-Participating	Minnesota	1	26
609	718925.56	4826292.09	Non-Participating	Minnesota	1	26
438	704824.64	4845406.00	Non-Participating	South Dakota	1	25
61	720051.79	4841014.92	Non-Participating	Minnesota	1	25
64	721085.12	4839469.21	Non-Participating	Minnesota	1	25
10	710761.49	4845648.59	Non-Participating	Minnesota	1	25
58	718385.04	4840853.05	Non-Participating	Minnesota	1	25
63	721441.68	4839367.75	Non-Participating	Minnesota	1	25
65	719813.12	4840097.41	Non-Participating	Minnesota	1	25
428	703791.36	4843544.69	Non-Participating	South Dakota	1	25
608	719207.30	4824943.60	Non-Participating	Minnesota	1	25
607	720233.54	4825646.32	Non-Participating	Minnesota	1	25

Table C-2B: Project Only Results by Sound Level

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
62	720869.50	4840872.15	Non-Participating	Minnesota	1	25
122	721468.69	4838097.90	Non-Participating	Minnesota	1	25
8	711430.37	4847100.31	Non-Participating	Minnesota	1	25
60	719858.02	4841887.30	Non-Participating	Minnesota	1	25
437	704017.84	4845316.26	Non-Participating	South Dakota	1	25
N27	719788.78	4840865.90	Non-Participating	Minnesota	1	25
434	703210.31	4845218.38	Non-Participating	South Dakota	1	24
9	712168.22	4847234.98	Non-Participating	Minnesota	1	24
5	710426.31	4847027.49	Non-Participating	Minnesota	1	24
600	721504.45	4832717.79	Non-Participating	Minnesota	1	24
13	706608.96	4846127.80	Non-Participating	Minnesota	1	24
2	708305.93	4846606.91	Targeted	Minnesota	1	24
3	708808.42	4847183.67	Non-Participating	Minnesota	1	24
427	703543.71	4843522.22	Non-Participating	South Dakota	1	24
436	703718.90	4845630.64	Non-Participating	South Dakota	1	24
4	708792.98	4847121.48	Non-Participating	Minnesota	1	24
N26	703621.29	4845626.04	Non-Participating	South Dakota	1	23
439	703610.45	4846099.04	Non-Participating	South Dakota	1	23
381	710296.98	4848793.31	Non-Participating	Minnesota	1	23
380	709860.15	4848794.24	Non-Participating	Minnesota	1	23
382	710975.28	4848884.65	Non-Participating	Minnesota	1	23
435	703655.30	4845259.88	Non-Participating	South Dakota	1	23
12	706632.23	4846993.25	Non-Participating	Minnesota	1	23
431	704279.70	4843597.33	Non-Participating	South Dakota	1	23
429	703807.51	4843371.35	Non-Participating	South Dakota	1	22
482	709936.28	4850179.20	Non-Participating	Minnesota	1	22
425	703698.42	4843134.63	Non-Participating	South Dakota	1	21
28	716954.85	4842454.09	Non-Participating	Minnesota	1	20
377	706631.09	4848703.62	Non-Participating	Minnesota	1	20
426	703076.93	4843496.03	Non-Participating	South Dakota	1	20
478	704813.86	4848633.46	Non-Participating	South Dakota	1	20
477	704664.41	4848425.57	Non-Participating	South Dakota	1	20
485	706627.42	4850969.47	Non-Participating	Minnesota	1	20
376	705300.91	4848839.14	Non-Participating	Minnesota	1	20
476	703598.30	4848527.13	Non-Participating	South Dakota	1	20
379	707922.77	4848733.84	Non-Participating	Minnesota	1	20
442	704957.99	4848148.24	Non-Participating	South Dakota	1	20
474	703504.59	4848360.63	Non-Participating	South Dakota	1	19
475	703164.64	4848496.77	Non-Participating	South Dakota	1	19
468	703285.28	4848305.42	Non-Participating	South Dakota	1	19
469	703238.10	4848313.94	Non-Participating	South Dakota	1	19
470	703118.81	4848430.03	Non-Participating	South Dakota	1	19
483	706553.32	4850323.54	Non-Participating	Minnesota	1	19
471	703117.32	4848399.72	Non-Participating	South Dakota	1	19
472	703118.49	4848369.89	Non-Participating	South Dakota	1	19
473	703283.34	4848401.65	Non-Participating	South Dakota	1	19
453	703059.93	4848181.42	Non-Participating	South Dakota	1	19
461	703074.13	4848229.08	Non-Participating	South Dakota	1	19

Table C-2B: Project Only Results by Sound Level

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
L	703055.10	4848224.96	Non-Participating	South Dakota	1	19
N18	703012.25	4848234.77	Non-Participating	South Dakota	1	19
462	703121.89	4848302.50	Non-Participating	South Dakota	1	19
464	703180.66	4848312.57	Non-Participating	South Dakota	1	19
463	703121.79	4848256.23	Non-Participating	South Dakota	1	19
465	703176.46	4848235.57	Non-Participating	South Dakota	1	19
N16	703119.22	4848225.24	Non-Participating	South Dakota	1	19
N23	703278.77	4848275.25	Non-Participating	South Dakota	1	19
452	703005.94	4848179.89	Non-Participating	South Dakota	1	19
459	703241.16	4848188.31	Non-Participating	South Dakota	1	19
466	703242.02	4848232.13	Non-Participating	South Dakota	1	19
K	703235.27	4848223.84	Non-Participating	South Dakota	1	19
460	702954.97	4848228.98	Non-Participating	South Dakota	1	19
467	703289.44	4848250.13	Non-Participating	South Dakota	1	19
456	703124.69	4848133.99	Non-Participating	South Dakota	1	18
N22	703289.81	4848227.56	Non-Participating	South Dakota	1	18
454	703062.63	4848147.55	Non-Participating	South Dakota	1	18
14	705141.88	4845829.90	Non-Participating	Minnesota	1	18
451	703013.19	4848105.25	Non-Participating	South Dakota	1	18
445	703016.93	4848052.49	Non-Participating	South Dakota	1	17
446	703080.20	4848056.20	Non-Participating	South Dakota	1	17
1	707116.78	4847096.66	Non-Participating	Minnesota	1	17
378	706929.07	4848599.18	Non-Participating	Minnesota	1	17
458	703244.13	4848113.26	Non-Participating	South Dakota	1	17
447	703065.43	4848024.42	Non-Participating	South Dakota	1	17
N19	703006.98	4847997.82	Non-Participating	South Dakota	1	16
N20	703184.00	4848093.37	Non-Participating	South Dakota	1	16
480	707387.55	4850254.10	Non-Participating	Minnesota	1	16
440	703662.42	4847171.38	Non-Participating	South Dakota	1	16
443	703017.12	4847952.56	Non-Participating	South Dakota	1	16
444	703019.78	4847976.89	Non-Participating	South Dakota	1	16
448	703065.57	4847991.56	Non-Participating	South Dakota	1	16
449	703129.99	4848006.74	Non-Participating	South Dakota	1	16
450	703168.99	4848023.70	Non-Participating	South Dakota	1	16
484	707466.63	4850517.83	Non-Participating	Minnesota	1	16
N21	703175.60	4848057.09	Non-Participating	South Dakota	1	16
N24	703426.63	4847498.89	Non-Participating	South Dakota	1	15
N25	703419.37	4847459.42	Non-Participating	South Dakota	1	15
441	703673.57	4847781.75	Non-Participating	South Dakota	1	15
481	707945.22	4849861.93	Non-Participating	Minnesota	1	14
479	706044.71	4849773.17	Non-Participating	Minnesota	1	14

Sound Level Modeling Results – Alternative Array

Table D-1: Project Only Results - Alternative Array

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
1	707116.78	4847096.66	Non-Participating	Minnesota	1	17
2	708305.93	4846606.91	Targeted	Minnesota	1	24
3	708808.42	4847183.67	Non-Participating	Minnesota	1	24
4	708792.98	4847121.48	Non-Participating	Minnesota	1	24
5	710426.31	4847027.49	Non-Participating	Minnesota	1	24
8	711430.37	4847100.31	Non-Participating	Minnesota	1	25
9	712168.22	4847234.98	Non-Participating	Minnesota	1	24
10	710761.49	4845648.59	Non-Participating	Minnesota	1	25
11	709848.84	4845674.79	Non-Participating	Minnesota	1	26
12	706632.23	4846993.25	Non-Participating	Minnesota	1	23
13	706608.96	4846127.80	Non-Participating	Minnesota	1	24
14	705141.88	4845829.90	Non-Participating	Minnesota	1	18
15	705259.97	4845158.83	Non-Participating	Minnesota	1	26
16	706765.76	4845113.79	Non-Participating	Minnesota	1	27
17	706751.88	4844577.57	Non-Participating	Minnesota	1	27
18	707270.50	4843918.01	Non-Participating	Minnesota	1	29
19	707512.81	4843649.75	Non-Participating	Minnesota	1	29
20	708478.92	4845354.11	Participating	Minnesota	1	27
21	708394.51	4843668.42	Non-Participating	Minnesota	1	29
22	708430.29	4843394.56	Non-Participating	Minnesota	1	30
23	709900.19	4845248.40	Non-Participating	Minnesota	1	27
24	709448.97	4843803.26	Non-Participating	Minnesota	1	29
25	709614.12	4843929.95	Participating	Minnesota	1	29
26	711647.33	4843990.24	Non-Participating	Minnesota	1	28
27	711345.52	4843862.96	Non-Participating	Minnesota	1	29
28	716954.85	4842454.09	Non-Participating	Minnesota	1	20
29	716642.97	4842773.33	Non-Participating	Minnesota	1	26
30	716510.64	4842848.35	Non-Participating	Minnesota	1	26
31	714115.37	4842462.46	Non-Participating	Minnesota	1	29
32	713178.15	4842909.97	Non-Participating	Minnesota	1	29
33	711938.71	4842378.30	Participating	Minnesota	1	31
34	710644.98	4842349.07	Non-Participating	Minnesota	1	32
35	709819.25	4842500.41	Participating	Minnesota	1	32
36	707468.78	4842249.89	Non-Participating	Minnesota	1	32
37	706814.15	4842351.53	Non-Participating	Minnesota	1	31
38	706284.12	4842225.69	Non-Participating	Minnesota	1	31
39	706067.54	4843190.56	Non-Participating	Minnesota	1	29
40	705275.87	4843735.83	Non-Participating	Minnesota	1	27
41	706750.62	4840653.78	Non-Participating	Minnesota	1	35
42	706742.54	4840668.93	Non-Participating	Minnesota	1	35
43	707861.60	4840458.05	Non-Participating	Minnesota	1	40
44	708158.48	4840697.92	Non-Participating	Minnesota	1	41
45	708427.46	4841672.29	Non-Participating	Minnesota	1	35
46	708976.50	4840717.57	Participating	Minnesota	1	46
47	710262.92	4840946.97	Non-Participating	Minnesota	1	36
48	710762.86	4840767.53	Non-Participating	Minnesota	1	36
49	712384.27	4840783.97	Non-Participating	Minnesota	1	34
50	713334.25	4840942.29	Non-Participating	Minnesota	1	32

Table D-1: Project Only Results - Alternative Array

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
51	713754.99	4840911.87	Non-Participating	Minnesota	1	31
52	714456.02	4840842.55	Non-Participating	Minnesota	1	30
53	714992.51	4842006.83	Non-Participating	Minnesota	1	28
54	715567.30	4840772.12	Non-Participating	Minnesota	1	30
55	716141.80	4840921.50	Non-Participating	Minnesota	1	28
56	716669.20	4840946.13	Non-Participating	Minnesota	1	27
57	718688.18	4841612.49	Non-Participating	Minnesota	1	26
58	718385.04	4840853.05	Non-Participating	Minnesota	1	25
59	718574.90	4840839.53	Non-Participating	Minnesota	1	26
60	719858.02	4841887.30	Non-Participating	Minnesota	1	25
61	720051.79	4841014.92	Non-Participating	Minnesota	1	25
62	720869.50	4840872.15	Non-Participating	Minnesota	1	25
63	721441.68	4839367.75	Non-Participating	Minnesota	1	25
64	721085.12	4839469.21	Non-Participating	Minnesota	1	25
65	719813.12	4840097.41	Non-Participating	Minnesota	1	25
66	718919.37	4839262.10	Non-Participating	Minnesota	1	28
67	718471.98	4839347.33	Non-Participating	Minnesota	1	28
68	717296.33	4839345.88	Non-Participating	Minnesota	1	29
69	716610.59	4839807.02	Non-Participating	Minnesota	1	30
70	716604.40	4840268.87	Non-Participating	Minnesota	1	29
71	715049.56	4840410.68	Non-Participating	Minnesota	1	31
72	714242.60	4839322.89	Participating	Minnesota	1	37
73	713478.59	4839242.77	Participating	Minnesota	1	39
74	713369.04	4839338.51	Non-Participating	Minnesota	1	39
75	713446.60	4840263.13	Non-Participating	Minnesota	1	34
76	713297.01	4840333.99	Non-Participating	Minnesota	1	34
78	711303.00	4839031.07	Participating	Minnesota	1	44
79	710297.92	4839470.58	Participating	Minnesota	1	42
80	710098.76	4839796.54	Non-Participating	Minnesota	1	41
81	710126.39	4840144.45	Non-Participating	Minnesota	1	40
82	708819.05	4839037.31	Non-Participating	Minnesota	1	46
83	708536.61	4839970.02	Participating	Minnesota	1	47
84	707329.06	4839034.08	Non-Participating	Minnesota	1	44
85	706870.81	4839475.06	Non-Participating	Minnesota	1	40
86	706925.99	4839978.62	Non-Participating	Minnesota	1	38
87	705855.19	4839004.53	Participating	Minnesota	1	47
88	706656.02	4838157.19	Non-Participating	Minnesota	1	43
89	707058.95	4838411.07	Non-Participating	Minnesota	1	43
90	707064.45	4838031.04	Non-Participating	Minnesota	1	42
91	707510.54	4837477.67	Targeted	Minnesota	1	41
92	708141.65	4837461.67	Participating	Minnesota	1	42
93	708243.59	4837310.77	Participating	Minnesota	1	42
94	708400.98	4838664.74	Targeted	Minnesota	1	47
95	708687.83	4837450.43	Participating	Minnesota	1	43
96	709771.69	4837511.27	Targeted	Minnesota	1	44
97	710445.82	4837977.55	Targeted	Minnesota	1	44
98	710772.80	4837437.00	Non-Participating	Minnesota	1	42
99	711645.42	4837393.46	Non-Participating	Minnesota	1	41

Table D-1: Project Only Results - Alternative Array

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
100	711810.77	4837813.61	Targeted	Minnesota	1	42
101	712200.34	4837408.33	Non-Participating	Minnesota	1	40
102	713104.19	4837670.84	Non-Participating	Minnesota	1	46
103	713167.31	4837435.71	Non-Participating	Minnesota	1	44
104	713992.36	4837483.37	Targeted	Minnesota	1	46
105	715042.04	4837912.39	Non-Participating	Minnesota	1	37
106	715021.68	4838699.63	Non-Participating	Minnesota	1	36
107	715090.43	4838637.19	Non-Participating	Minnesota	1	36
108	715313.77	4837500.27	Targeted	Minnesota	1	36
109	715783.84	4837663.54	Non-Participating	Minnesota	1	34
110	716026.85	4837558.63	Non-Participating	Minnesota	1	33
111	716411.22	4837638.23	Non-Participating	Minnesota	1	32
112	716797.43	4837677.61	Non-Participating	Minnesota	1	31
113	717493.50	4837682.56	Non-Participating	Minnesota	1	30
114	717959.58	4838266.65	Non-Participating	Minnesota	1	29
115	718096.72	4837655.04	Non-Participating	Minnesota	1	30
116	718635.34	4837734.24	Non-Participating	Minnesota	1	29
117	718973.38	4837665.43	Non-Participating	Minnesota	1	28
118	719803.30	4838775.43	Non-Participating	Minnesota	1	27
119	719789.20	4838850.50	Non-Participating	Minnesota	1	27
120	720329.65	4837683.29	Non-Participating	Minnesota	1	27
121	720497.83	4837781.83	Non-Participating	Minnesota	1	27
122	721468.69	4838097.90	Non-Participating	Minnesota	1	25
123	720672.05	4836880.47	Non-Participating	Minnesota	1	27
124	719773.40	4836874.47	Non-Participating	Minnesota	1	28
125	721504.01	4835748.19	Non-Participating	Minnesota	1	25
126	719835.22	4835489.72	Non-Participating	Minnesota	1	29
127	719971.96	4835872.49	Non-Participating	Minnesota	1	29
128	719000.79	4835890.62	Non-Participating	Minnesota	1	30
129	718569.06	4835055.95	Participating	Minnesota	1	32
130	718342.87	4835837.33	Participating	Minnesota	1	31
131	718247.08	4836742.93	Non-Participating	Minnesota	1	30
132	718240.47	4836646.55	Non-Participating	Minnesota	1	30
133	718177.51	4836701.05	Non-Participating	Minnesota	1	30
134	716977.83	4836815.57	Participating	Minnesota	1	32
135	716901.55	4835960.23	Non-Participating	Minnesota	1	33
136	715586.54	4836002.19	Non-Participating	Minnesota	1	35
137	715661.98	4836017.28	Non-Participating	Minnesota	1	34
138	714868.50	4835985.41	Non-Participating	Minnesota	1	37
139	715186.22	4835692.77	Participating	Minnesota	1	36
140	715206.94	4835652.83	Participating	Minnesota	1	36
141	714264.50	4835959.15	Non-Participating	Minnesota	1	39
142	712603.23	4835802.92	Participating	Minnesota	1	42
143	712308.20	4836059.46	Non-Participating	Minnesota	1	41
144	710937.13	4835543.44	Participating	Minnesota	1	43
145	710551.74	4835854.65	Non-Participating	Minnesota	1	44
146	709610.69	4835866.83	Non-Participating	Minnesota	1	43
147	708710.52	4836244.46	Participating	Minnesota	1	47

Table D-1: Project Only Results - Alternative Array

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
148	708431.38	4835795.37	Targeted	Minnesota	1	46
149	707467.79	4835655.21	Non-Participating	Minnesota	1	45
150	707382.61	4835946.18	Non-Participating	Minnesota	1	44
152	706957.43	4836478.77	Non-Participating	Minnesota	1	40
153	707156.95	4836908.27	Non-Participating	Minnesota	1	40
154	705991.93	4837185.67	Participating	Minnesota	1	46
155	705492.89	4835958.91	Non-Participating	Minnesota	1	39
156	705858.11	4834844.91	Non-Participating	Minnesota	1	35
157	707016.69	4835236.06	Non-Participating	Minnesota	1	40
158	707356.17	4834741.12	Non-Participating	Minnesota	1	40
159	707085.43	4834360.19	Participating	Minnesota	1	38
160	708322.34	4834109.83	Non-Participating	Minnesota	1	39
161	708977.90	4835337.39	Targeted	Minnesota	1	42
162	709241.42	4834293.09	Non-Participating	Minnesota	1	42
163	710284.41	4834655.57	Targeted	Minnesota	1	47
164	713539.68	4834701.97	Participating	Minnesota	1	45
165	713519.94	4833754.80	Participating	Minnesota	1	44
166	714328.91	4834335.98	Participating	Minnesota	1	40
167	715389.72	4834427.12	Non-Participating	Minnesota	1	44
168	715960.50	4833594.78	Targeted	Minnesota	1	45
169	717742.89	4833679.69	Non-Participating	Minnesota	1	40
170	717526.44	4834457.10	Participating	Minnesota	1	37
171	717942.71	4834486.94	Participating	Minnesota	1	35
172	721247.61	4833637.06	Non-Participating	Minnesota	1	28
173	720587.26	4833766.80	Non-Participating	Minnesota	1	29
174	719968.80	4833440.58	Non-Participating	Minnesota	1	30
175	720001.01	4832510.77	Non-Participating	Minnesota	1	30
176	720086.46	4832488.58	Non-Participating	Minnesota	1	30
177	718057.16	4832879.43	Non-Participating	Minnesota	1	38
178	718221.38	4832811.99	Non-Participating	Minnesota	1	37
179	720138.53	4831804.67	Non-Participating	Minnesota	1	30
180	720018.46	4831817.27	Non-Participating	Minnesota	1	30
181	718905.22	4831299.44	Non-Participating	Minnesota	1	35
182	717421.25	4831235.51	Non-Participating	Minnesota	1	40
183	716309.79	4831038.21	Non-Participating	Minnesota	1	40
184	715633.49	4831085.85	Targeted	Minnesota	1	44
185	716220.40	4831908.27	Non-Participating	Minnesota	1	39
186	716577.54	4832695.90	Non-Participating	Minnesota	1	45
187	716382.77	4832803.70	Participating	Minnesota	1	45
188	716021.03	4832717.66	Participating	Minnesota	1	41
189	715946.91	4832805.42	Participating	Minnesota	1	41
190	715198.78	4832781.62	Non-Participating	Minnesota	1	39
191	715208.57	4833157.75	Non-Participating	Minnesota	1	40
192	714338.84	4832655.97	Participating	Minnesota	1	39
193	713317.82	4832719.65	Non-Participating	Minnesota	1	39
194	712633.30	4832532.44	Non-Participating	Minnesota	1	40
195	712594.49	4832495.72	Non-Participating	Minnesota	1	40
197	712507.23	4832437.14	Non-Participating	Minnesota	1	40

Table D-1: Project Only Results - Alternative Array

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
198	712346.67	4832653.95	Non-Participating	Minnesota	1	42
199	712846.95	4832428.39	Non-Participating	Minnesota	1	40
200	712862.53	4832429.34	Non-Participating	Minnesota	1	40
201	712882.15	4832429.34	Non-Participating	Minnesota	1	39
202	712894.50	4832431.01	Non-Participating	Minnesota	1	39
203	712928.71	4832437.86	Non-Participating	Minnesota	1	39
204	712936.81	4832480.03	Non-Participating	Minnesota	1	40
205	712995.55	4832445.10	Non-Participating	Minnesota	1	39
206	712932.00	4832382.02	Non-Participating	Minnesota	1	39
207	712889.30	4832379.64	Non-Participating	Minnesota	1	39
208	712851.04	4832377.53	Non-Participating	Minnesota	1	39
209	712836.85	4832377.30	Non-Participating	Minnesota	1	39
210	712823.45	4832370.97	Non-Participating	Minnesota	1	39
211	712537.69	4832295.51	Non-Participating	Minnesota	1	40
212	712564.57	4832317.29	Non-Participating	Minnesota	1	40
213	712605.45	4832307.68	Non-Participating	Minnesota	1	40
214	712629.62	4832300.88	Non-Participating	Minnesota	1	40
215	712674.11	4832322.67	Non-Participating	Minnesota	1	40
216	712679.19	4832298.37	Non-Participating	Minnesota	1	39
217	712717.98	4832312.61	Non-Participating	Minnesota	1	39
218	712785.61	4832316.50	Non-Participating	Minnesota	1	39
219	712778.81	4832299.33	Non-Participating	Minnesota	1	39
220	712829.55	4832333.38	Non-Participating	Minnesota	1	39
221	712830.18	4832309.03	Non-Participating	Minnesota	1	39
222	712867.95	4832305.17	Non-Participating	Minnesota	1	39
223	713109.05	4832338.04	Non-Participating	Minnesota	1	39
224	713137.94	4832336.46	Non-Participating	Minnesota	1	39
225	713168.29	4832342.12	Non-Participating	Minnesota	1	39
226	713226.79	4832342.81	Non-Participating	Minnesota	1	39
227	713292.76	4832253.02	Non-Participating	Minnesota	1	38
228	713308.00	4832224.79	Non-Participating	Minnesota	1	39
229	713375.93	4832184.38	Non-Participating	Minnesota	1	39
230	713431.00	4832183.48	Non-Participating	Minnesota	1	39
231	712884.28	4832262.41	Non-Participating	Minnesota	1	39
232	712831.97	4832268.25	Non-Participating	Minnesota	1	39
233	712837.31	4832254.52	Non-Participating	Minnesota	1	39
234	712834.64	4832232.89	Non-Participating	Minnesota	1	39
235	712848.32	4832199.78	Non-Participating	Minnesota	1	39
236	712887.35	4832233.70	Non-Participating	Minnesota	1	39
237	712890.56	4832202.61	Non-Participating	Minnesota	1	39
238	712780.48	4832264.85	Non-Participating	Minnesota	1	39
239	712785.27	4832251.36	Non-Participating	Minnesota	1	39
240	712780.83	4832224.05	Non-Participating	Minnesota	1	39
241	712787.28	4832192.10	Non-Participating	Minnesota	1	39
242	712719.68	4832205.22	Non-Participating	Minnesota	1	39
243	712719.10	4832249.73	Non-Participating	Minnesota	1	39
244	712718.61	4832266.40	Non-Participating	Minnesota	1	39
245	712753.58	4832271.17	Non-Participating	Minnesota	1	39

Table D-1: Project Only Results - Alternative Array

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
246	712748.37	4832234.80	Non-Participating	Minnesota	1	39
247	712673.11	4832238.71	Non-Participating	Minnesota	1	39
248	712675.00	4832216.30	Non-Participating	Minnesota	1	39
249	712677.58	4832191.27	Non-Participating	Minnesota	1	39
250	712618.78	4832190.35	Non-Participating	Minnesota	1	39
251	712564.96	4832190.52	Non-Participating	Minnesota	1	39
252	712570.97	4832213.69	Non-Participating	Minnesota	1	39
253	712571.98	4832232.04	Non-Participating	Minnesota	1	39
254	712571.88	4832259.87	Non-Participating	Minnesota	1	40
255	712608.06	4832231.58	Non-Participating	Minnesota	1	39
256	712456.59	4832228.74	Non-Participating	Minnesota	1	40
257	712392.84	4832139.24	Non-Participating	Minnesota	1	39
258	712456.01	4832133.54	Non-Participating	Minnesota	1	39
259	712503.93	4832139.10	Non-Participating	Minnesota	1	39
260	712459.29	4832110.14	Non-Participating	Minnesota	1	39
261	712508.07	4832110.19	Non-Participating	Minnesota	1	39
262	712450.68	4832077.28	Non-Participating	Minnesota	1	39
263	712507.77	4832084.46	Non-Participating	Minnesota	1	39
264	712553.69	4832079.29	Non-Participating	Minnesota	1	39
265	712626.23	4832098.28	Non-Participating	Minnesota	1	39
266	712568.90	4832143.05	Non-Participating	Minnesota	1	39
267	712613.84	4832149.49	Non-Participating	Minnesota	1	39
268	712636.39	4832149.27	Non-Participating	Minnesota	1	39
269	712676.17	4832149.03	Non-Participating	Minnesota	1	39
270	712679.14	4832113.16	Non-Participating	Minnesota	1	39
271	712678.29	4832087.92	Non-Participating	Minnesota	1	39
272	712720.39	4832155.88	Non-Participating	Minnesota	1	39
273	712724.09	4832116.02	Non-Participating	Minnesota	1	39
274	712724.53	4832087.84	Non-Participating	Minnesota	1	39
275	712745.94	4832084.47	Non-Participating	Minnesota	1	39
276	712790.68	4832081.04	Non-Participating	Minnesota	1	39
277	712790.26	4832095.01	Non-Participating	Minnesota	1	39
278	712788.37	4832119.07	Non-Participating	Minnesota	1	39
279	712789.00	4832150.71	Non-Participating	Minnesota	1	39
280	712759.46	4832158.67	Non-Participating	Minnesota	1	39
281	712834.02	4832154.99	Non-Participating	Minnesota	1	39
282	712841.90	4832109.02	Non-Participating	Minnesota	1	39
283	712845.16	4832086.79	Non-Participating	Minnesota	1	39
284	712877.12	4832089.52	Non-Participating	Minnesota	1	39
285	712900.32	4832095.23	Non-Participating	Minnesota	1	39
286	712889.85	4832123.54	Non-Participating	Minnesota	1	39
287	712889.80	4832163.62	Non-Participating	Minnesota	1	39
288	712889.23	4832144.18	Non-Participating	Minnesota	1	39
289	712730.42	4832035.84	Non-Participating	Minnesota	1	39
290	712794.99	4832046.39	Non-Participating	Minnesota	1	39
291	712794.24	4832015.06	Non-Participating	Minnesota	1	39
292	712796.38	4831988.68	Non-Participating	Minnesota	1	39
293	712732.53	4831979.23	Non-Participating	Minnesota	1	39

Table D-1: Project Only Results - Alternative Array

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
294	712734.58	4832008.79	Non-Participating	Minnesota	1	39
295	712733.41	4831929.85	Non-Participating	Minnesota	1	39
296	712732.95	4831902.51	Non-Participating	Minnesota	1	39
297	712735.50	4831869.27	Non-Participating	Minnesota	1	38
298	712751.54	4831840.81	Non-Participating	Minnesota	1	38
299	712791.52	4831841.65	Non-Participating	Minnesota	1	38
300	712798.77	4831870.72	Non-Participating	Minnesota	1	38
301	712772.78	4831901.49	Non-Participating	Minnesota	1	39
302	712790.64	4831921.66	Non-Participating	Minnesota	1	39
303	712842.90	4831916.61	Non-Participating	Minnesota	1	39
304	711473.36	4832637.58	Participating	Minnesota	1	45
305	711252.43	4832635.31	Participating	Minnesota	1	45
306	710955.15	4832635.80	Participating	Minnesota	1	45
307	710371.01	4832978.05	Participating	Minnesota	1	46
308	708958.17	4832642.70	Participating	Minnesota	1	40
309	708910.35	4832432.23	Participating	Minnesota	1	40
310	708545.61	4832471.18	Participating	Minnesota	1	38
311	707948.72	4832546.75	Non-Participating	Minnesota	1	38
312	707785.26	4832449.07	Non-Participating	Minnesota	1	38
313	707392.79	4832577.65	Non-Participating	Minnesota	1	40
314	707103.01	4833341.74	Non-Participating	Minnesota	1	39
315	705808.16	4832506.07	Non-Participating	Minnesota	1	45
316	706307.90	4832597.14	Participating	Minnesota	1	47
317	706391.85	4832533.05	Participating	Minnesota	1	46
318	705921.04	4831717.10	Participating	Minnesota	1	46
319	707124.26	4832268.92	Participating	Minnesota	1	44
320	707148.31	4831858.58	Participating	Minnesota	1	45
321	706377.57	4830879.08	Non-Participating	Minnesota	1	39
322	706795.99	4830788.28	Non-Participating	Minnesota	1	38
323	707286.36	4830938.93	Participating	Minnesota	1	38
324	708796.80	4831061.44	Non-Participating	Minnesota	1	34
325	708665.52	4830816.87	Non-Participating	Minnesota	1	35
326	709134.89	4830862.41	Non-Participating	Minnesota	1	36
327	709959.89	4830915.52	Non-Participating	Minnesota	1	38
328	710444.83	4830632.98	Participating	Minnesota	1	36
329	711156.75	4831002.57	Non-Participating	Minnesota	1	37
330	712129.09	4830942.84	Non-Participating	Minnesota	1	37
331	713644.87	4830986.83	Participating	Minnesota	1	45
332	714014.30	4831109.09	Participating	Minnesota	1	47
333	715256.78	4831015.51	Non-Participating	Minnesota	1	46
334	715114.86	4831046.13	Non-Participating	Minnesota	1	47
335	715280.87	4830888.83	Non-Participating	Minnesota	1	47
336	720850.87	4829589.22	Non-Participating	Minnesota	1	28
337	720471.34	4829713.08	Non-Participating	Minnesota	1	28
338	718660.97	4829287.11	Non-Participating	Minnesota	1	32
339	718547.55	4829529.40	Non-Participating	Minnesota	1	33
340	718705.42	4829658.28	Non-Participating	Minnesota	1	33
341	718207.07	4829650.23	Non-Participating	Minnesota	1	34

Table D-1: Project Only Results - Alternative Array

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
342	718488.68	4830493.21	Non-Participating	Minnesota	1	39
343	718614.16	4830476.57	Non-Participating	Minnesota	1	38
344	716736.70	4829503.83	Non-Participating	Minnesota	1	37
345	716664.22	4829593.01	Non-Participating	Minnesota	1	37
346	716087.40	4829579.09	Targeted	Minnesota	1	40
347	715685.16	4829460.28	Non-Participating	Minnesota	1	41
348	714913.69	4829173.93	Non-Participating	Minnesota	1	42
349	714617.74	4829521.25	Participating	Minnesota	1	46
350	713650.85	4830171.47	Non-Participating	Minnesota	1	46
351	712905.87	4829462.35	Non-Participating	Minnesota	1	37
352	712717.46	4829343.28	Participating	Minnesota	1	36
353	712178.69	4830005.45	Non-Participating	Minnesota	1	36
354	712093.44	4829732.15	Non-Participating	Minnesota	1	35
355	707416.58	4830311.62	Non-Participating	Minnesota	1	35
356	712848.91	4827911.62	Non-Participating	Minnesota	1	32
357	713480.57	4827427.94	Non-Participating	Minnesota	1	31
358	713672.96	4827918.96	Non-Participating	Minnesota	1	33
359	713975.46	4828553.70	Non-Participating	Minnesota	1	36
360	713820.87	4828830.04	Non-Participating	Minnesota	1	37
361	714217.10	4827915.58	Non-Participating	Minnesota	1	33
362	715474.31	4827938.91	Non-Participating	Minnesota	1	33
363	715541.50	4827975.19	Participating	Minnesota	1	33
364	716139.42	4827816.29	Non-Participating	Minnesota	1	32
365	716987.91	4827842.08	Non-Participating	Minnesota	1	31
366	717070.79	4827804.48	Non-Participating	Minnesota	1	31
367	717108.39	4828849.54	Non-Participating	Minnesota	1	34
368	718562.18	4828640.41	Non-Participating	Minnesota	1	31
369	718674.18	4828400.30	Non-Participating	Minnesota	1	30
370	718602.36	4827497.49	Non-Participating	Minnesota	1	29
371	718830.45	4827566.20	Non-Participating	Minnesota	1	28
372	719830.43	4828111.38	Non-Participating	Minnesota	1	28
373	719778.19	4828092.97	Non-Participating	Minnesota	1	28
374	715248.44	4827383.73	Non-Participating	Minnesota	1	32
375	713888.51	4826969.27	Non-Participating	Minnesota	1	31
376	705300.91	4848839.14	Non-Participating	Minnesota	1	20
377	706631.09	4848703.62	Non-Participating	Minnesota	1	20
378	706929.07	4848599.18	Non-Participating	Minnesota	1	17
379	707922.77	4848733.84	Non-Participating	Minnesota	1	20
380	709860.15	4848794.24	Non-Participating	Minnesota	1	23
381	710296.98	4848793.31	Non-Participating	Minnesota	1	23
382	710975.28	4848884.65	Non-Participating	Minnesota	1	23
383	705464.17	4831442.94	Non-Participating	South Dakota	1	39
384	704881.41	4833942.19	Non-Participating	South Dakota	1	35
385	704934.04	4833903.19	Non-Participating	South Dakota	1	35
386	705349.51	4834096.40	Non-Participating	South Dakota	1	36
387	703947.03	4834924.62	Non-Participating	South Dakota	1	32
388	703763.96	4835653.19	Non-Participating	South Dakota	1	32
389	704815.83	4835753.70	Non-Participating	South Dakota	1	36

Table D-1: Project Only Results - Alternative Array

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
390	705281.73	4835629.59	Non-Participating	South Dakota	1	36
391	703806.27	4836008.60	Non-Participating	South Dakota	1	33
392	703780.24	4836101.13	Non-Participating	South Dakota	1	33
393	703830.86	4836391.37	Non-Participating	South Dakota	1	33
394	703819.58	4836476.57	Non-Participating	South Dakota	1	33
395	703911.83	4836498.35	Non-Participating	South Dakota	1	34
396	703896.36	4836623.39	Non-Participating	South Dakota	1	34
397	703578.28	4837163.05	Non-Participating	South Dakota	1	32
398	703706.65	4837165.34	Non-Participating	South Dakota	1	33
399	703797.22	4837269.88	Non-Participating	South Dakota	1	33
400	703798.54	4837450.44	Non-Participating	South Dakota	1	34
401	703882.11	4837706.72	Non-Participating	South Dakota	1	34
402	704040.36	4837303.55	Non-Participating	South Dakota	1	35
403	704182.61	4837300.48	Non-Participating	South Dakota	1	36
404	703706.65	4838294.81	Non-Participating	South Dakota	1	33
405	703933.92	4838215.27	Non-Participating	South Dakota	1	34
406	703729.98	4838798.96	Non-Participating	South Dakota	1	33
407	703653.42	4839079.13	Non-Participating	South Dakota	1	32
408	704667.13	4838957.64	Non-Participating	South Dakota	1	37
409	704830.38	4838768.26	Non-Participating	South Dakota	1	39
410	703785.10	4839818.54	Non-Participating	South Dakota	1	32
411	705171.09	4840026.31	Non-Participating	South Dakota	1	35
412	703132.24	4840141.30	Non-Participating	South Dakota	1	30
413	703198.00	4840427.17	Non-Participating	South Dakota	1	29
414	703241.98	4840429.71	Non-Participating	South Dakota	1	29
415	703913.94	4840550.82	Non-Participating	South Dakota	1	31
416	704492.38	4840341.24	Non-Participating	South Dakota	1	32
417	704782.58	4840430.67	Non-Participating	South Dakota	1	33
418	705123.49	4840673.16	Non-Participating	South Dakota	1	33
419	703564.36	4841448.22	Non-Participating	South Dakota	1	29
420	703746.52	4841901.08	Non-Participating	South Dakota	1	28
421	703834.63	4841918.03	Non-Participating	South Dakota	1	28
422	705169.14	4841778.72	Non-Participating	South Dakota	1	30
423	705155.44	4842202.20	Non-Participating	South Dakota	1	30
424	705039.92	4842185.90	Non-Participating	South Dakota	1	30
425	703698.42	4843134.63	Non-Participating	South Dakota	1	21
426	703076.93	4843496.03	Non-Participating	South Dakota	1	20
427	703543.71	4843522.22	Non-Participating	South Dakota	1	24
428	703791.36	4843544.69	Non-Participating	South Dakota	1	25
429	703807.51	4843371.35	Non-Participating	South Dakota	1	22
430	703964.87	4843675.19	Non-Participating	South Dakota	1	26
431	704279.70	4843597.33	Non-Participating	South Dakota	1	23
432	705095.53	4843395.34	Non-Participating	South Dakota	1	26
433	705119.32	4842994.01	Non-Participating	South Dakota	1	28
434	703210.31	4845218.38	Non-Participating	South Dakota	1	24
435	703655.30	4845259.88	Non-Participating	South Dakota	1	23
436	703718.90	4845630.64	Non-Participating	South Dakota	1	24
437	704017.84	4845316.26	Non-Participating	South Dakota	1	25

Table D-1: Project Only Results - Alternative Array

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
438	704824.64	4845406.00	Non-Participating	South Dakota	1	25
439	703610.45	4846099.04	Non-Participating	South Dakota	1	23
440	703662.42	4847171.38	Non-Participating	South Dakota	1	16
441	703673.57	4847781.75	Non-Participating	South Dakota	1	15
442	704957.99	4848148.24	Non-Participating	South Dakota	1	20
443	703017.12	4847952.56	Non-Participating	South Dakota	1	16
444	703019.78	4847976.89	Non-Participating	South Dakota	1	16
445	703016.93	4848052.49	Non-Participating	South Dakota	1	17
446	703080.20	4848056.20	Non-Participating	South Dakota	1	17
447	703065.43	4848024.42	Non-Participating	South Dakota	1	17
448	703065.57	4847991.56	Non-Participating	South Dakota	1	16
449	703129.99	4848006.74	Non-Participating	South Dakota	1	16
450	703168.99	4848023.70	Non-Participating	South Dakota	1	16
451	703013.19	4848105.25	Non-Participating	South Dakota	1	18
452	703005.94	4848179.89	Non-Participating	South Dakota	1	19
453	703059.93	4848181.42	Non-Participating	South Dakota	1	19
454	703062.63	4848147.55	Non-Participating	South Dakota	1	18
456	703124.69	4848133.99	Non-Participating	South Dakota	1	18
458	703244.13	4848113.26	Non-Participating	South Dakota	1	17
459	703241.16	4848188.31	Non-Participating	South Dakota	1	19
460	702954.97	4848228.98	Non-Participating	South Dakota	1	19
461	703074.13	4848229.08	Non-Participating	South Dakota	1	19
462	703121.89	4848302.50	Non-Participating	South Dakota	1	19
463	703121.79	4848256.23	Non-Participating	South Dakota	1	19
464	703180.66	4848312.57	Non-Participating	South Dakota	1	19
465	703176.46	4848235.57	Non-Participating	South Dakota	1	19
466	703242.02	4848232.13	Non-Participating	South Dakota	1	19
467	703289.44	4848250.13	Non-Participating	South Dakota	1	19
468	703285.28	4848305.42	Non-Participating	South Dakota	1	19
469	703238.10	4848313.94	Non-Participating	South Dakota	1	19
470	703118.81	4848430.03	Non-Participating	South Dakota	1	19
471	703117.32	4848399.72	Non-Participating	South Dakota	1	19
472	703118.49	4848369.89	Non-Participating	South Dakota	1	19
473	703283.34	4848401.65	Non-Participating	South Dakota	1	19
474	703504.59	4848360.63	Non-Participating	South Dakota	1	19
475	703164.64	4848496.77	Non-Participating	South Dakota	1	19
476	703598.30	4848527.13	Non-Participating	South Dakota	1	20
477	704664.41	4848425.57	Non-Participating	South Dakota	1	20
478	704813.86	4848633.46	Non-Participating	South Dakota	1	20
479	706044.71	4849773.17	Non-Participating	Minnesota	1	14
480	707387.55	4850254.10	Non-Participating	Minnesota	1	16
481	707945.22	4849861.93	Non-Participating	Minnesota	1	14
482	709936.28	4850179.20	Non-Participating	Minnesota	1	22
483	706553.32	4850323.54	Non-Participating	Minnesota	1	19
484	707466.63	4850517.83	Non-Participating	Minnesota	1	16
485	706627.42	4850969.47	Non-Participating	Minnesota	1	20
600	721504.45	4832717.79	Non-Participating	Minnesota	1	24
601	721107.43	4831397.47	Non-Participating	Minnesota	1	27

Table D-1: Project Only Results - Alternative Array

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
602	721193.76	4829744.37	Non-Participating	Minnesota	1	27
603	721607.87	4829645.45	Non-Participating	Minnesota	1	27
604	720771.23	4828229.30	Non-Participating	Minnesota	1	27
605	720294.73	4827201.39	Non-Participating	Minnesota	1	26
606	719889.27	4826965.25	Non-Participating	Minnesota	1	27
607	720233.54	4825646.32	Non-Participating	Minnesota	1	25
608	719207.30	4824943.60	Non-Participating	Minnesota	1	25
609	718925.56	4826292.09	Non-Participating	Minnesota	1	25
610	718736.06	4826853.88	Non-Participating	Minnesota	1	28
611	718258.61	4826322.24	Non-Participating	Minnesota	1	27
612	717984.98	4825391.46	Non-Participating	Minnesota	1	26
613	716906.43	4826389.27	Non-Participating	Minnesota	1	28
614	716639.93	4826263.50	Non-Participating	Minnesota	1	28
615	715859.70	4826343.35	Participating	Minnesota	1	29
616	712762.52	4826456.76	Non-Participating	Minnesota	1	29
617	710508.38	4828661.23	Non-Participating	Minnesota	1	31
618	710312.21	4827758.12	Participating	Minnesota	1	30
619	708971.55	4828978.11	Participating	Minnesota	1	31
620	708880.83	4829066.94	Non-Participating	Minnesota	1	31
621	708621.24	4827744.01	Non-Participating	Minnesota	1	29
622	707666.58	4829219.47	Non-Participating	Minnesota	1	31
623	707381.37	4829213.15	Non-Participating	Minnesota	1	31
624	707003.03	4829294.84	Non-Participating	Minnesota	1	32
625	706769.91	4829219.83	Participating	Minnesota	1	31
626	707202.71	4829656.80	Non-Participating	Minnesota	1	33
627	706884.07	4829695.44	Non-Participating	Minnesota	1	33
628	706800.75	4829875.13	Non-Participating	Minnesota	1	33
629	706334.75	4829721.80	Participating	Minnesota	1	33
630	706496.34	4829597.02	Non-Participating	Minnesota	1	32
631	706398.43	4829578.24	Non-Participating	Minnesota	1	32
632	706314.88	4829561.32	Non-Participating	Minnesota	1	32
633	706251.50	4829532.13	Non-Participating	Minnesota	1	32
634	705621.54	4829441.98	Non-Participating	Minnesota	1	31
635	705623.53	4828995.44	Non-Participating	Minnesota	1	30
636	705654.15	4828680.11	Non-Participating	Minnesota	1	29
637	705562.56	4829075.23	Non-Participating	South Dakota	1	30
638	705381.50	4828643.03	Non-Participating	South Dakota	1	29
639	705232.02	4828693.33	Non-Participating	South Dakota	1	29
640	705156.39	4828687.56	Non-Participating	South Dakota	1	29
641	705144.00	4828631.96	Non-Participating	South Dakota	1	29
642	705165.33	4828631.41	Non-Participating	South Dakota	1	29
643	705188.15	4828631.29	Non-Participating	South Dakota	1	29
644	705245.87	4828628.25	Non-Participating	South Dakota	1	29
645	705190.52	4828581.28	Non-Participating	South Dakota	1	29
646	705171.84	4828565.72	Non-Participating	South Dakota	1	29
647	705139.58	4828563.76	Non-Participating	South Dakota	1	29
648	705164.83	4828509.94	Non-Participating	South Dakota	1	29
649	705193.32	4828510.33	Non-Participating	South Dakota	1	29

Table D-1: Project Only Results - Alternative Array

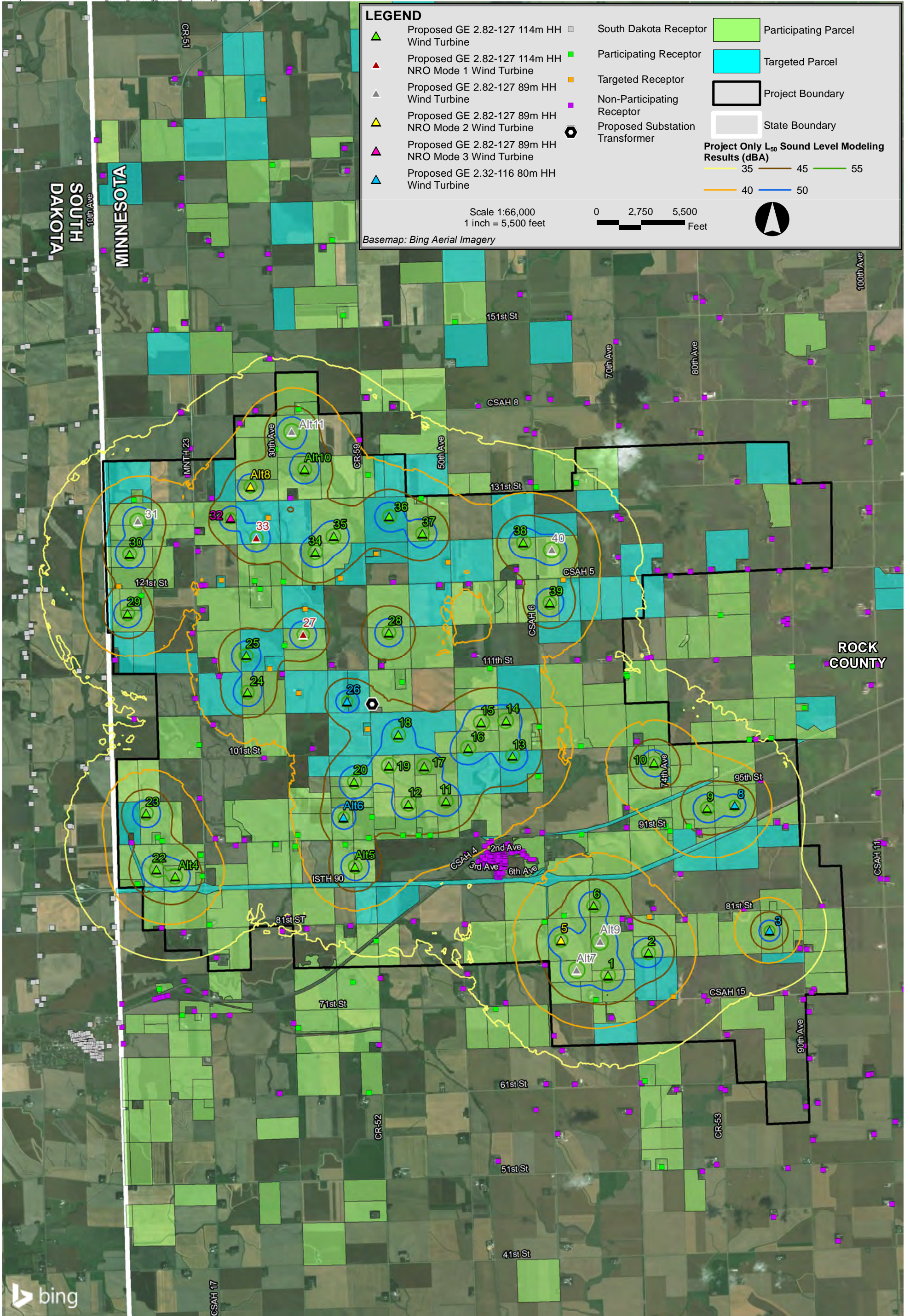
Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
650	705235.30	4828503.99	Non-Participating	South Dakota	1	29
651	705237.46	4828485.00	Non-Participating	South Dakota	1	29
652	705236.89	4828464.00	Non-Participating	South Dakota	1	28
653	705237.97	4828440.75	Non-Participating	South Dakota	1	28
654	705232.89	4828391.80	Non-Participating	South Dakota	1	28
655	705192.38	4828390.51	Non-Participating	South Dakota	1	29
656	705192.04	4828445.68	Non-Participating	South Dakota	1	29
657	705164.73	4828442.51	Non-Participating	South Dakota	1	29
658	705141.80	4828441.62	Non-Participating	South Dakota	1	29
659	705114.53	4828440.47	Non-Participating	South Dakota	1	29
660	705134.87	4828508.79	Non-Participating	South Dakota	1	29
661	705112.05	4828508.92	Non-Participating	South Dakota	1	29
662	705111.94	4828563.26	Non-Participating	South Dakota	1	29
663	705068.50	4828447.23	Non-Participating	South Dakota	1	28
664	705084.11	4828507.72	Non-Participating	South Dakota	1	29
665	705058.41	4828505.66	Non-Participating	South Dakota	1	29
666	705086.63	4828560.21	Non-Participating	South Dakota	1	29
667	705058.94	4828563.22	Non-Participating	South Dakota	1	29
668	705050.52	4828588.54	Non-Participating	South Dakota	1	29
669	705047.19	4828626.92	Non-Participating	South Dakota	1	29
670	705071.55	4828628.90	Non-Participating	South Dakota	1	29
671	705094.47	4828629.96	Non-Participating	South Dakota	1	29
672	705120.08	4828630.84	Non-Participating	South Dakota	1	29
673	705079.90	4828684.04	Non-Participating	South Dakota	1	29
674	705078.44	4828705.43	Non-Participating	South Dakota	1	29
675	705082.10	4828728.87	Non-Participating	South Dakota	1	29
676	705076.62	4828751.12	Non-Participating	South Dakota	1	29
677	705053.61	4828763.25	Non-Participating	South Dakota	1	29
678	705033.29	4828752.15	Non-Participating	South Dakota	1	29
679	705028.57	4828727.69	Non-Participating	South Dakota	1	29
680	705033.40	4828705.87	Non-Participating	South Dakota	1	29
681	705036.35	4828680.92	Non-Participating	South Dakota	1	29
682	704996.82	4828679.63	Non-Participating	South Dakota	1	29
683	704964.38	4828679.57	Non-Participating	South Dakota	1	29
684	704936.60	4828675.97	Non-Participating	South Dakota	1	29
685	704908.43	4828676.33	Non-Participating	South Dakota	1	29
686	704906.09	4828714.84	Non-Participating	South Dakota	1	29
687	704997.74	4828559.76	Non-Participating	South Dakota	1	29
688	705001.36	4828584.00	Non-Participating	South Dakota	1	29
689	704966.68	4828557.88	Non-Participating	South Dakota	1	29
690	704940.13	4828557.69	Non-Participating	South Dakota	1	29
691	705006.63	4828625.51	Non-Participating	South Dakota	1	29
692	704978.65	4828625.25	Non-Participating	South Dakota	1	29
693	704956.32	4828623.73	Non-Participating	South Dakota	1	29
694	704934.87	4828623.22	Non-Participating	South Dakota	1	29
695	704901.75	4828621.37	Non-Participating	South Dakota	1	29
696	704854.66	4828673.86	Non-Participating	South Dakota	1	29
697	704822.53	4828673.82	Non-Participating	South Dakota	1	29

Table D-1: Project Only Results - Alternative Array

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
698	704703.29	4828772.50	Non-Participating	South Dakota	1	29
699	704732.97	4828770.97	Non-Participating	South Dakota	1	29
700	704743.05	4828746.45	Non-Participating	South Dakota	1	29
701	704782.48	4828751.87	Non-Participating	South Dakota	1	29
702	704796.10	4828794.68	Non-Participating	South Dakota	1	29
703	704817.70	4828795.20	Non-Participating	South Dakota	1	29
704	704836.47	4828797.77	Non-Participating	South Dakota	1	29
705	704856.56	4828770.84	Non-Participating	South Dakota	1	29
706	704855.50	4828801.47	Non-Participating	South Dakota	1	29
707	704895.68	4828810.27	Non-Participating	South Dakota	1	29
708	704891.61	4828777.74	Non-Participating	South Dakota	1	29
709	704914.82	4828777.88	Non-Participating	South Dakota	1	29
710	704923.96	4828810.72	Non-Participating	South Dakota	1	29
711	704947.07	4828815.31	Non-Participating	South Dakota	1	29
712	704976.61	4828823.78	Non-Participating	South Dakota	1	29
713	705004.60	4828829.14	Non-Participating	South Dakota	1	29
714	705033.09	4828831.35	Non-Participating	South Dakota	1	29
715	704643.69	4828894.85	Non-Participating	South Dakota	1	29
716	704685.55	4828860.34	Non-Participating	South Dakota	1	29
717	704716.03	4828832.45	Non-Participating	South Dakota	1	29
718	704752.95	4828842.64	Non-Participating	South Dakota	1	29
719	704775.41	4828844.64	Non-Participating	South Dakota	1	29
720	704815.16	4828852.78	Non-Participating	South Dakota	1	29
721	704845.87	4828884.07	Non-Participating	South Dakota	1	29
722	704881.27	4828861.57	Non-Participating	South Dakota	1	29
723	704898.75	4828856.59	Non-Participating	South Dakota	1	29
724	704933.94	4828866.36	Non-Participating	South Dakota	1	29
725	704983.46	4828881.30	Non-Participating	South Dakota	1	29
726	705020.82	4829044.05	Non-Participating	South Dakota	1	29
727	704090.37	4829425.88	Non-Participating	South Dakota	1	29
728	704015.10	4829497.03	Non-Participating	South Dakota	1	29
729	704140.49	4829544.72	Non-Participating	South Dakota	1	29
730	704000.89	4829862.49	Non-Participating	South Dakota	1	29
731	703944.27	4829849.85	Non-Participating	South Dakota	1	29
732	704067.63	4830354.06	Non-Participating	South Dakota	1	30
733	705489.39	4830596.80	Non-Participating	South Dakota	1	35
734	703668.33	4830842.49	Non-Participating	South Dakota	1	29
735	703972.01	4831224.31	Non-Participating	South Dakota	1	31
736	704299.99	4830881.97	Non-Participating	South Dakota	1	32
737	704916.66	4830874.26	Non-Participating	South Dakota	1	34
738	705096.30	4830861.02	Non-Participating	South Dakota	1	35
739	705481.17	4830895.95	Non-Participating	South Dakota	1	36
740	704028.51	4831683.73	Non-Participating	South Dakota	1	32
741	704663.19	4832358.83	Non-Participating	South Dakota	1	36
742	704666.19	4832791.85	Non-Participating	South Dakota	1	36
743	704643.10	4832809.62	Non-Participating	South Dakota	1	36
744	704012.68	4832757.85	Non-Participating	South Dakota	1	33
745	703622.76	4832429.96	Non-Participating	South Dakota	1	31

Table D-1: Project Only Results - Alternative Array

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Noise Area Class.	Project Only Broadband L ₅₀ Sound Level (dBA)
	X (m)	Y (m)				
746	703900.32	4833237.25	Non-Participating	South Dakota	1	32
747	703981.67	4833479.14	Non-Participating	South Dakota	1	33
748	703900.85	4833546.01	Non-Participating	South Dakota	1	32
749	703953.06	4833803.10	Non-Participating	South Dakota	1	32
750	703877.92	4834322.90	Non-Participating	South Dakota	1	32
751	703115.78	4835451.23	Non-Participating	South Dakota	1	30
752	703164.32	4835650.06	Non-Participating	South Dakota	1	28
A	712158.94	4832287.00	Non-Participating	Minnesota	1	41
B	712675.48	4832272.50	Non-Participating	Minnesota	1	39
C	712885.07	4832032.10	Non-Participating	Minnesota	1	39
D	707132.31	4837379.49	Non-Participating	Minnesota	1	40
E	707199.51	4837381.57	Non-Participating	Minnesota	1	40
F	718750.18	4829719.41	Non-Participating	Minnesota	1	33
H	712862.66	4832031.39	Non-Participating	Minnesota	1	39
I	710895.09	4843889.83	Non-Participating	Minnesota	1	29
J	705563.49	4837361.96	Targeted	Minnesota	1	46
K	703235.27	4848223.84	Non-Participating	South Dakota	1	19
L	703055.10	4848224.96	Non-Participating	South Dakota	1	19
N1	715712.50	4831245.52	Non-Participating	Minnesota	1	42
N7	712508.03	4832184.52	Non-Participating	Minnesota	1	39
N8	710307.95	4832588.36	Participating	Minnesota	1	46
N9	709858.42	4832463.19	Participating	Minnesota	1	47
N10	710527.10	4829926.70	Non-Participating	Minnesota	1	34
N11	710006.75	4829851.12	Participating	Minnesota	1	33
N16	703119.22	4848225.24	Non-Participating	South Dakota	1	19
N18	703012.25	4848234.77	Non-Participating	South Dakota	1	19
N19	703006.98	4847997.82	Non-Participating	South Dakota	1	16
N20	703184.00	4848093.37	Non-Participating	South Dakota	1	16
N21	703175.60	4848057.09	Non-Participating	South Dakota	1	16
N22	703289.81	4848227.56	Non-Participating	South Dakota	1	18
N23	703278.77	4848275.25	Non-Participating	South Dakota	1	19
N24	703426.63	4847498.89	Non-Participating	South Dakota	1	15
N25	703419.37	4847459.42	Non-Participating	South Dakota	1	15
N26	703621.29	4845626.04	Non-Participating	South Dakota	1	23
N27	719788.78	4840865.90	Non-Participating	Minnesota	1	25
N28	717647.77	4834465.50	Non-Participating	Minnesota	1	36
N30	713229.35	4832282.49	Non-Participating	Minnesota	1	39
N31	713010.86	4832312.23	Non-Participating	Minnesota	1	39
N32	709098.10	4836931.87	Targeted	Minnesota	1	45
N33	708666.86	4835693.48	Non-Participating	Minnesota	1	44
N39	713597.65	4832689.58	Non-Participating	Minnesota	1	39



Walleye Wind Project Rock County, Minnesota

Appendix E

Total Sound Levels at Modeled Receptors in Minnesota

Table E-1: Project + Existing Non-Project + Ambient Sound Levels at Receptors

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Modeled Project Only L ₅₀ Sound Level (dBA)	Modeled Existing Non- Project Wind Turbines Only L ₅₀ Sound Level (dBA)	Total L ₅₀ Sound Level (Modeled + Ambient)				
	X (m)	Y (m)					35 dBA Ambient	40 dBA Ambient	45 dBA Ambient	47 dBA Ambient	50 dBA Ambient
1	707116.78	4847096.66	Non-Participating	Minnesota	17	23	35	40	45	47	50
2	708305.93	4846606.91	Targeted	Minnesota	24	26	36	40	45	47	50
3	708808.42	4847183.67	Non-Participating	Minnesota	24	28	36	40	45	47	50
4	708792.98	4847121.48	Non-Participating	Minnesota	24	28	36	40	45	47	50
5	710426.31	4847027.49	Non-Participating	Minnesota	24	30	36	40	45	47	50
8	711430.37	4847100.31	Non-Participating	Minnesota	25	31	37	41	45	47	50
9	712168.22	4847234.98	Non-Participating	Minnesota	24	34	38	41	45	47	50
10	710761.49	4845648.59	Non-Participating	Minnesota	25	29	36	40	45	47	50
11	709848.84	4845674.79	Non-Participating	Minnesota	26	28	36	40	45	47	50
12	706632.23	4846993.25	Non-Participating	Minnesota	23	18	35	40	45	47	50
13	706608.96	4846127.80	Non-Participating	Minnesota	24	24	36	40	45	47	50
14	705141.88	4845829.90	Non-Participating	Minnesota	18	19	35	40	45	47	50
15	705259.97	4845158.83	Non-Participating	Minnesota	26	23	36	40	45	47	50
16	706765.76	4845113.79	Non-Participating	Minnesota	27	24	36	40	45	47	50
17	706751.88	4844577.57	Non-Participating	Minnesota	27	23	36	40	45	47	50
18	707270.50	4843918.01	Non-Participating	Minnesota	29	21	36	40	45	47	50
19	707512.81	4843649.75	Non-Participating	Minnesota	29	19	36	40	45	47	50
20	708478.92	4845354.11	Participating	Minnesota	27	25	36	40	45	47	50
21	708394.51	4843668.42	Non-Participating	Minnesota	29	24	36	40	45	47	50
22	708430.29	4843394.56	Non-Participating	Minnesota	30	17	36	40	45	47	50
23	709900.19	4845248.40	Non-Participating	Minnesota	27	27	36	40	45	47	50
24	709448.97	4843803.26	Non-Participating	Minnesota	29	26	36	40	45	47	50
25	709614.12	4843929.95	Participating	Minnesota	29	26	36	40	45	47	50
26	711647.33	4843990.24	Non-Participating	Minnesota	28	26	36	40	45	47	50
27	711345.52	4843862.96	Non-Participating	Minnesota	29	25	36	40	45	47	50
28	716954.85	4842454.09	Non-Participating	Minnesota	20	25	36	40	45	47	50
29	716642.97	4842773.33	Non-Participating	Minnesota	26	25	36	40	45	47	50
30	716510.64	4842848.35	Non-Participating	Minnesota	26	28	36	40	45	47	50
31	714115.37	4842462.46	Non-Participating	Minnesota	29	27	37	41	45	47	50
32	713178.15	4842909.97	Non-Participating	Minnesota	29	27	37	41	45	47	50
33	711938.71	4842378.30	Participating	Minnesota	31	25	37	41	45	47	50
34	710644.98	4842349.07	Non-Participating	Minnesota	32	25	37	41	45	47	50
35	709819.25	4842500.41	Participating	Minnesota	32	25	37	41	45	47	50
36	707468.78	4842249.89	Non-Participating	Minnesota	32	21	37	41	45	47	50
37	706814.15	4842351.53	Non-Participating	Minnesota	31	20	37	41	45	47	50
38	706284.12	4842225.69	Non-Participating	Minnesota	31	22	37	41	45	47	50
39	706067.54	4843190.56	Non-Participating	Minnesota	29	22	36	40	45	47	50
40	705275.87	4843735.83	Non-Participating	Minnesota	27	21	36	40	45	47	50
41	706750.62	4840653.78	Non-Participating	Minnesota	35	22	38	41	45	47	50
42	706742.54	4840668.93	Non-Participating	Minnesota	35	22	38	41	45	47	50
43	707861.60	4840458.05	Non-Participating	Minnesota	40	15	41	43	46	48	50
44	708158.48	4840697.92	Non-Participating	Minnesota	41	22	42	44	46	48	51
45	708427.46	4841672.29	Non-Participating	Minnesota	35	23	38	41	45	47	50
46	708976.50	4840717.57	Participating	Minnesota	46	20	46	47	48	49	51
47	710262.92	4840946.97	Non-Participating	Minnesota	36	21	39	42	46	47	50
48	710762.86	4840767.53	Non-Participating	Minnesota	36	19	38	41	45	47	50
49	712384.27	4840783.97	Non-Participating	Minnesota	34	25	38	41	45	47	50
50	713334.25	4840942.29	Non-Participating	Minnesota	32	25	37	41	45	47	50
51	713754.99	4840911.87	Non-Participating	Minnesota	31	24	37	41	45	47	50
52	714456.02	4840842.55	Non-Participating	Minnesota	30	18	36	40	45	47	50
53	714992.51	4842006.83	Non-Participating	Minnesota	28	26	36	40	45	47	50
54	715567.30	4840772.12	Non-Participating	Minnesota	30	25	37	41	45	47	50
55	716141.80	4840921.50	Non-Participating	Minnesota	28	26	36	40	45	47	50
56	716669.20	4840946.13	Non-Participating	Minnesota	27	21	36	40	45	47	50
57	718688.18	4841612.49	Non-Participating	Minnesota	26	24	36	40	45	47	50
58	718385.04	4840853.05	Non-Participating	Minnesota	25	25	36	40	45	47	50
59	718574.90	4840839.53	Non-Participating	Minnesota	26	25	36	40	45	47	50
60	719858.02	4841887.30	Non-Participating	Minnesota	25	25	36	40	45	47	50
61	720051.79	4841014.92	Non-Participating	Minnesota	25	25	36	40	45	47	50
62	720869.50	4840872.15	Non-Participating	Minnesota	25	25	36	40	45	47	50
63	721441.68	4839367.75	Non-Participating	Minnesota	25	23	36	40	45	47	50
64	721085.12	4839469.21	Non-Participating	Minnesota	25	23	36	40	45	47	50

Table E-1: Project + Existing Non-Project + Ambient Sound Levels at Receptors

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Modeled Project Only L ₅₀ Sound Level (dBA)	Modeled Existing Non- Project Wind Turbines Only L ₅₀ Sound Level (dBA)	Total L ₅₀ Sound Level (Modeled + Ambient)				
	X (m)	Y (m)					35 dBA Ambient	40 dBA Ambient	45 dBA Ambient	47 dBA Ambient	50 dBA Ambient
65	719813.12	4840097.41	Non-Participating	Minnesota	25	24	36	40	45	47	50
66	718919.37	4839262.10	Non-Participating	Minnesota	28	24	36	40	45	47	50
67	718471.98	4839347.33	Non-Participating	Minnesota	28	24	36	40	45	47	50
68	717296.33	4839345.88	Non-Participating	Minnesota	29	23	36	40	45	47	50
69	716610.59	4839807.02	Non-Participating	Minnesota	30	24	36	40	45	47	50
70	716604.40	4840268.87	Non-Participating	Minnesota	29	24	36	40	45	47	50
71	715049.56	4840410.68	Non-Participating	Minnesota	31	23	37	41	45	47	50
72	714242.60	4839322.89	Participating	Minnesota	37	16	39	42	46	47	50
73	713478.59	4839242.77	Participating	Minnesota	39	16	40	43	46	48	50
74	713369.04	4839338.51	Non-Participating	Minnesota	39	20	40	42	46	48	50
75	713446.60	4840263.13	Non-Participating	Minnesota	34	24	38	41	45	47	50
76	713297.01	4840333.99	Non-Participating	Minnesota	34	24	38	41	45	47	50
78	711303.00	4839031.07	Participating	Minnesota	44	19	45	46	48	49	51
79	710297.92	4839470.58	Participating	Minnesota	42	19	43	44	47	48	51
80	710098.76	4839796.54	Non-Participating	Minnesota	41	18	42	43	46	48	51
81	710126.39	4840144.45	Non-Participating	Minnesota	40	18	41	43	46	48	50
82	708819.05	4839037.31	Non-Participating	Minnesota	46	22	46	47	48	49	51
83	708536.61	4839970.02	Participating	Minnesota	47	21	47	48	49	50	52
84	707329.06	4839034.08	Non-Participating	Minnesota	44	13	44	45	47	49	51
85	706870.81	4839475.06	Non-Participating	Minnesota	40	21	41	43	46	48	50
86	706925.99	4839978.62	Non-Participating	Minnesota	38	21	40	42	46	47	50
87	705855.19	4839004.53	Participating	Minnesota	47	12	47	47	49	50	52
88	706656.02	4838157.19	Non-Participating	Minnesota	43	12	43	44	47	48	51
89	707058.95	4838411.07	Non-Participating	Minnesota	43	12	43	44	47	48	51
90	707064.45	4838031.04	Non-Participating	Minnesota	42	12	42	44	47	48	51
91	707510.54	4837477.67	Targeted	Minnesota	41	17	42	43	46	48	51
92	708141.65	4837461.67	Participating	Minnesota	42	12	43	44	47	48	51
93	708243.59	4837310.77	Participating	Minnesota	42	12	43	44	47	48	51
94	708400.98	4838664.74	Targeted	Minnesota	47	13	47	48	49	50	52
95	708687.83	4837450.43	Participating	Minnesota	43	19	44	45	47	49	51
96	709771.69	4837511.27	Targeted	Minnesota	44	16	45	46	48	49	51
97	710445.82	4837977.55	Targeted	Minnesota	44	13	45	46	48	49	51
98	710772.80	4837437.00	Non-Participating	Minnesota	42	19	43	44	47	48	51
99	711645.42	4837393.46	Non-Participating	Minnesota	41	13	42	43	46	48	51
100	711810.77	4837813.61	Targeted	Minnesota	42	22	43	44	47	48	51
101	712200.34	4837408.33	Non-Participating	Minnesota	40	20	41	43	46	48	50
102	713104.19	4837670.84	Non-Participating	Minnesota	46	17	46	47	48	49	51
103	713167.31	4837435.71	Non-Participating	Minnesota	44	17	45	46	48	49	51
104	713992.36	4837483.37	Targeted	Minnesota	46	19	47	47	49	50	52
105	715042.04	4837912.39	Non-Participating	Minnesota	37	21	39	42	46	47	50
106	715021.68	4838699.63	Non-Participating	Minnesota	36	23	39	42	46	47	50
107	715090.43	4838637.19	Non-Participating	Minnesota	36	21	39	41	46	47	50
108	715313.77	4837500.27	Targeted	Minnesota	36	22	38	41	45	47	50
109	715783.84	4837663.54	Non-Participating	Minnesota	34	22	38	41	45	47	50
110	716026.85	4837558.63	Non-Participating	Minnesota	33	22	37	41	45	47	50
111	716411.22	4837638.23	Non-Participating	Minnesota	32	21	37	41	45	47	50
112	716797.43	4837677.61	Non-Participating	Minnesota	31	20	37	41	45	47	50
113	717493.50	4837682.56	Non-Participating	Minnesota	31	22	36	41	45	47	50
114	717959.58	4838266.65	Non-Participating	Minnesota	29	23	36	40	45	47	50
115	718096.72	4837655.04	Non-Participating	Minnesota	30	22	36	40	45	47	50
116	718635.34	4837734.24	Non-Participating	Minnesota	29	22	36	40	45	47	50
117	718973.38	4837665.43	Non-Participating	Minnesota	28	22	36	40	45	47	50
118	719803.30	4838775.43	Non-Participating	Minnesota	27	21	36	40	45	47	50
119	719789.20	4838850.50	Non-Participating	Minnesota	27	22	36	40	45	47	50
120	720329.65	4837683.29	Non-Participating	Minnesota	27	22	36	40	45	47	50
121	720497.83	4837781.83	Non-Participating	Minnesota	27	22	36	40	45	47	50
122	721468.69	4838097.90	Non-Participating	Minnesota	25	22	36	40	45	47	50
123	720672.05	4836880.47	Non-Participating	Minnesota	27	22	36	40	45	47	50
124	719773.40	4836874.47	Non-Participating	Minnesota	28	22	36	40	45	47	50
125	721504.01	4835748.19	Non-Participating	Minnesota	26	12	35	40	45	47	50
126	719835.22	4835489.72	Non-Participating	Minnesota	29	19	36	40	45	47	50
127	719971.96	4835872.49	Non-Participating	Minnesota	29	20	36	40	45	47	50

Table E-1: Project + Existing Non-Project + Ambient Sound Levels at Receptors

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Modeled Project Only L ₅₀ Sound Level (dBA)	Modeled Existing Non- Project Wind Turbines Only L ₅₀ Sound Level (dBA)	Total L ₅₀ Sound Level (Modeled + Ambient)				
	X (m)	Y (m)					35 dBA Ambient	40 dBA Ambient	45 dBA Ambient	47 dBA Ambient	50 dBA Ambient
128	719000.79	4835890.62	Non-Participating	Minnesota	30	21	36	40	45	47	50
129	718569.06	4835055.95	Participating	Minnesota	32	21	37	41	45	47	50
130	718342.87	4835837.33	Participating	Minnesota	31	21	37	41	45	47	50
131	718247.08	4836742.93	Non-Participating	Minnesota	30	14	36	40	45	47	50
132	718240.47	4836646.55	Non-Participating	Minnesota	30	15	36	40	45	47	50
133	718177.51	4836701.05	Non-Participating	Minnesota	30	14	36	40	45	47	50
134	716977.83	4836815.57	Participating	Minnesota	32	22	37	41	45	47	50
135	716901.55	4835960.23	Non-Participating	Minnesota	33	20	37	41	45	47	50
136	715586.54	4836002.19	Non-Participating	Minnesota	35	21	38	41	45	47	50
137	715661.98	4836017.28	Non-Participating	Minnesota	34	20	38	41	45	47	50
138	714868.50	4835985.41	Non-Participating	Minnesota	37	19	39	42	46	47	50
139	715186.22	4835692.77	Participating	Minnesota	36	20	39	42	46	47	50
140	715206.94	4835652.83	Participating	Minnesota	37	21	39	42	46	47	50
141	714264.50	4835959.15	Non-Participating	Minnesota	39	16	40	42	46	48	50
142	712603.23	4835802.92	Participating	Minnesota	42	18	43	44	47	48	51
143	712308.20	4836059.46	Non-Participating	Minnesota	41	12	42	43	46	48	50
144	710937.13	4835543.44	Participating	Minnesota	43	12	44	45	47	48	51
145	710551.74	4835854.65	Non-Participating	Minnesota	44	16	45	46	48	49	51
146	709610.69	4835866.83	Non-Participating	Minnesota	43	14	44	45	47	49	51
147	708710.52	4836244.46	Participating	Minnesota	47	14	47	48	49	50	52
148	708431.38	4835795.37	Targeted	Minnesota	46	19	47	47	49	50	52
149	707467.79	4835655.21	Non-Participating	Minnesota	45	10	45	46	48	49	51
150	707382.61	4835946.18	Non-Participating	Minnesota	44	11	45	45	48	49	51
152	706957.43	4836478.77	Non-Participating	Minnesota	40	18	41	43	46	48	50
153	707156.95	4836908.27	Non-Participating	Minnesota	40	11	41	43	46	48	50
154	705991.93	4837185.67	Participating	Minnesota	46	11	47	47	49	50	52
155	705492.89	4835958.91	Non-Participating	Minnesota	39	10	40	42	46	48	50
156	705858.11	4834844.91	Non-Participating	Minnesota	35	9	38	41	45	47	50
157	707016.69	4835236.06	Non-Participating	Minnesota	40	10	41	43	46	48	50
158	707356.17	4834741.12	Non-Participating	Minnesota	40	10	41	43	46	48	50
159	707085.43	4834360.19	Participating	Minnesota	38	10	40	42	46	48	50
160	708322.34	4834109.83	Non-Participating	Minnesota	39	10	41	43	46	48	50
161	708977.90	4835337.39	Targeted	Minnesota	42	18	43	44	47	48	51
162	709241.42	4834293.09	Non-Participating	Minnesota	42	18	43	44	47	48	51
163	710284.41	4834655.57	Targeted	Minnesota	47	14	47	47	49	50	52
164	713539.68	4834701.97	Participating	Minnesota	45	14	45	46	48	49	51
165	713519.94	4833754.80	Participating	Minnesota	44	11	44	45	47	49	51
166	714328.91	4834335.98	Participating	Minnesota	40	12	41	43	46	48	50
167	715389.72	4834427.12	Non-Participating	Minnesota	44	17	44	45	47	49	51
168	715960.50	4833594.78	Targeted	Minnesota	45	20	46	47	48	49	51
169	717742.89	4833679.69	Non-Participating	Minnesota	40	20	42	43	46	48	50
170	717526.44	4834457.10	Participating	Minnesota	37	20	39	42	46	47	50
171	717942.71	4834486.94	Participating	Minnesota	35	20	38	41	45	47	50
172	721247.61	4833637.06	Non-Participating	Minnesota	28	20	36	40	45	47	50
173	720587.26	4833766.80	Non-Participating	Minnesota	29	20	36	40	45	47	50
174	719968.80	4833440.58	Non-Participating	Minnesota	30	20	36	40	45	47	50
175	720001.01	4832510.77	Non-Participating	Minnesota	30	20	36	40	45	47	50
176	720086.46	4832488.58	Non-Participating	Minnesota	30	20	36	40	45	47	50
177	718057.16	4832879.43	Non-Participating	Minnesota	38	14	40	42	46	48	50
178	718221.38	4832811.99	Non-Participating	Minnesota	37	15	39	42	46	47	50
179	720138.53	4831804.67	Non-Participating	Minnesota	30	20	36	40	45	47	50
180	720018.46	4831817.27	Non-Participating	Minnesota	30	20	36	40	45	47	50
181	718905.22	4831299.44	Non-Participating	Minnesota	35	20	38	41	45	47	50
182	717421.25	4831235.51	Non-Participating	Minnesota	40	18	41	43	46	48	50
183	716309.79	4831038.21	Non-Participating	Minnesota	40	18	41	43	46	48	50
184	715633.49	4831085.85	Targeted	Minnesota	44	17	44	45	47	49	51
185	716220.40	4831908.27	Non-Participating	Minnesota	39	20	40	42	46	48	50
186	716577.54	4832695.90	Non-Participating	Minnesota	45	20	46	46	48	49	51
187	716382.77	4832803.70	Participating	Minnesota	45	20	46	46	48	49	51
188	716021.03	4832717.66	Participating	Minnesota	41	19	42	44	46	48	51
189	715946.91	4832805.42	Participating	Minnesota	41	19	42	44	46	48	51
190	715198.78	4832781.62	Non-Participating	Minnesota	39	12	40	42	46	48	50

Table E-1: Project + Existing Non-Project + Ambient Sound Levels at Receptors

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Modeled Project Only L ₅₀ Sound Level (dBA)	Modeled Existing Non- Project Wind Turbines Only L ₅₀ Sound Level (dBA)	Total L ₅₀ Sound Level (Modeled + Ambient)				
	X (m)	Y (m)					35 dBA Ambient	40 dBA Ambient	45 dBA Ambient	47 dBA Ambient	50 dBA Ambient
191	715208.57	4833157.75	Non-Participating	Minnesota	40	19	41	43	46	48	50
192	714338.84	4832655.97	Participating	Minnesota	39	11	40	43	46	48	50
193	713317.82	4832719.65	Non-Participating	Minnesota	40	11	41	43	46	48	50
194	712633.30	4832532.44	Non-Participating	Minnesota	41	14	42	43	46	48	50
195	712594.49	4832495.72	Non-Participating	Minnesota	41	16	42	43	46	48	50
197	712507.23	4832437.14	Non-Participating	Minnesota	41	17	42	43	46	48	50
198	712346.67	4832653.95	Non-Participating	Minnesota	42	16	43	44	47	48	51
199	712846.95	4832428.39	Non-Participating	Minnesota	40	19	41	43	46	48	50
200	712862.53	4832429.34	Non-Participating	Minnesota	40	19	41	43	46	48	50
201	712882.15	4832429.34	Non-Participating	Minnesota	40	18	41	43	46	48	50
202	712894.50	4832431.01	Non-Participating	Minnesota	40	16	41	43	46	48	50
203	712928.71	4832437.86	Non-Participating	Minnesota	40	14	41	43	46	48	50
204	712936.81	4832480.03	Non-Participating	Minnesota	40	11	41	43	46	48	50
205	712995.55	4832445.10	Non-Participating	Minnesota	40	11	41	43	46	48	50
206	712932.00	4832382.02	Non-Participating	Minnesota	40	15	41	43	46	48	50
207	712889.30	4832379.64	Non-Participating	Minnesota	40	19	41	43	46	48	50
208	712851.04	4832377.53	Non-Participating	Minnesota	40	19	41	43	46	48	50
209	712836.85	4832377.30	Non-Participating	Minnesota	40	19	41	43	46	48	50
210	712823.45	4832370.97	Non-Participating	Minnesota	40	19	41	43	46	48	50
211	712537.69	4832295.51	Non-Participating	Minnesota	40	18	41	43	46	48	50
212	712564.57	4832317.29	Non-Participating	Minnesota	40	18	41	43	46	48	50
213	712605.45	4832307.68	Non-Participating	Minnesota	40	19	41	43	46	48	50
214	712629.62	4832300.88	Non-Participating	Minnesota	40	19	41	43	46	48	50
215	712674.11	4832322.67	Non-Participating	Minnesota	40	19	41	43	46	48	50
216	712679.19	4832298.37	Non-Participating	Minnesota	40	19	41	43	46	48	50
217	712717.98	4832312.61	Non-Participating	Minnesota	40	19	41	43	46	48	50
218	712785.61	4832316.50	Non-Participating	Minnesota	40	19	41	43	46	48	50
219	712778.81	4832299.33	Non-Participating	Minnesota	40	19	41	43	46	48	50
220	712829.55	4832333.38	Non-Participating	Minnesota	40	19	41	43	46	48	50
221	712830.18	4832309.03	Non-Participating	Minnesota	40	19	41	43	46	48	50
222	712867.95	4832305.17	Non-Participating	Minnesota	40	19	41	43	46	48	50
223	713109.05	4832338.04	Non-Participating	Minnesota	40	18	41	43	46	48	50
224	713137.94	4832336.46	Non-Participating	Minnesota	40	19	41	43	46	48	50
225	713168.29	4832342.12	Non-Participating	Minnesota	40	16	41	43	46	48	50
226	713226.79	4832342.81	Non-Participating	Minnesota	40	15	41	43	46	48	50
227	713292.76	4832253.02	Non-Participating	Minnesota	40	19	42	43	46	48	50
228	713308.00	4832224.79	Non-Participating	Minnesota	41	19	42	43	46	48	51
229	713375.93	4832184.38	Non-Participating	Minnesota	41	19	42	44	47	48	51
230	713431.00	4832183.48	Non-Participating	Minnesota	41	19	42	44	47	48	51
231	712884.28	4832262.41	Non-Participating	Minnesota	40	19	41	43	46	48	50
232	712831.97	4832268.25	Non-Participating	Minnesota	40	19	41	43	46	48	50
233	712837.31	4832254.52	Non-Participating	Minnesota	40	19	41	43	46	48	50
234	712834.64	4832232.89	Non-Participating	Minnesota	40	19	41	43	46	48	50
235	712848.32	4832199.78	Non-Participating	Minnesota	40	19	41	43	46	48	50
236	712887.35	4832233.70	Non-Participating	Minnesota	40	19	41	43	46	48	50
237	712890.56	4832202.61	Non-Participating	Minnesota	40	19	41	43	46	48	50
238	712780.48	4832264.85	Non-Participating	Minnesota	40	19	41	43	46	48	50
239	712785.27	4832251.36	Non-Participating	Minnesota	40	19	41	43	46	48	50
240	712780.83	4832224.05	Non-Participating	Minnesota	40	19	41	43	46	48	50
241	712787.28	4832192.10	Non-Participating	Minnesota	40	19	41	43	46	48	50
242	712719.68	4832205.22	Non-Participating	Minnesota	40	19	41	43	46	48	50
243	712719.10	4832249.73	Non-Participating	Minnesota	40	19	41	43	46	48	50
244	712718.61	4832266.40	Non-Participating	Minnesota	40	19	41	43	46	48	50
245	712753.58	4832271.17	Non-Participating	Minnesota	40	19	41	43	46	48	50
246	712748.37	4832234.80	Non-Participating	Minnesota	40	19	41	43	46	48	50
247	712673.11	4832238.71	Non-Participating	Minnesota	40	19	41	43	46	48	50
248	712675.00	4832216.30	Non-Participating	Minnesota	40	19	41	43	46	48	50
249	712677.58	4832191.27	Non-Participating	Minnesota	40	19	41	43	46	48	50
250	712618.78	4832190.35	Non-Participating	Minnesota	40	19	41	43	46	48	50
251	712564.96	4832190.52	Non-Participating	Minnesota	40	19	41	43	46	48	50
252	712570.97	4832213.69	Non-Participating	Minnesota	40	19	41	43	46	48	50
253	712571.98	4832232.04	Non-Participating	Minnesota	40	19	41	43	46	48	50

Table E-1: Project + Existing Non-Project + Ambient Sound Levels at Receptors

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Modeled Project Only L ₅₀ Sound Level (dBA)	Modeled Existing Non- Project Wind Turbines Only L ₅₀ Sound Level (dBA)	Total L ₅₀ Sound Level (Modeled + Ambient)				
	X (m)	Y (m)					35 dBA Ambient	40 dBA Ambient	45 dBA Ambient	47 dBA Ambient	50 dBA Ambient
254	712571.88	4832259.87	Non-Participating	Minnesota	40	19	41	43	46	48	50
255	712608.06	4832231.58	Non-Participating	Minnesota	40	19	41	43	46	48	50
256	712456.59	4832228.74	Non-Participating	Minnesota	40	18	41	43	46	48	50
257	712392.84	4832139.24	Non-Participating	Minnesota	40	18	41	43	46	48	50
258	712456.01	4832133.54	Non-Participating	Minnesota	40	18	41	43	46	48	50
259	712503.93	4832139.10	Non-Participating	Minnesota	40	18	41	43	46	48	50
260	712459.29	4832110.14	Non-Participating	Minnesota	40	18	41	43	46	48	50
261	712508.07	4832110.19	Non-Participating	Minnesota	40	18	41	43	46	48	50
262	712450.68	4832077.28	Non-Participating	Minnesota	40	18	41	43	46	48	50
263	712507.77	4832084.46	Non-Participating	Minnesota	40	18	41	43	46	48	50
264	712553.69	4832079.29	Non-Participating	Minnesota	40	18	41	43	46	48	50
265	712626.23	4832098.28	Non-Participating	Minnesota	40	17	41	43	46	48	50
266	712568.90	4832143.05	Non-Participating	Minnesota	40	18	41	43	46	48	50
267	712613.84	4832149.49	Non-Participating	Minnesota	40	17	41	43	46	48	50
268	712636.39	4832149.27	Non-Participating	Minnesota	40	19	41	43	46	48	50
269	712676.17	4832149.03	Non-Participating	Minnesota	40	19	41	43	46	48	50
270	712679.14	4832113.16	Non-Participating	Minnesota	40	19	41	43	46	48	50
271	712678.29	4832087.92	Non-Participating	Minnesota	40	19	41	43	46	48	50
272	712720.39	4832155.88	Non-Participating	Minnesota	40	19	41	43	46	48	50
273	712724.09	4832116.02	Non-Participating	Minnesota	40	19	41	43	46	48	50
274	712724.53	4832087.84	Non-Participating	Minnesota	40	19	41	43	46	48	50
275	712745.94	4832084.47	Non-Participating	Minnesota	40	19	41	43	46	48	50
276	712790.68	4832081.04	Non-Participating	Minnesota	40	19	41	43	46	48	50
277	712790.26	4832095.01	Non-Participating	Minnesota	40	19	41	43	46	48	50
278	712788.37	4832119.07	Non-Participating	Minnesota	40	19	41	43	46	48	50
279	712789.00	4832150.71	Non-Participating	Minnesota	40	19	41	43	46	48	50
280	712759.46	4832158.67	Non-Participating	Minnesota	40	19	41	43	46	48	50
281	712834.02	4832154.99	Non-Participating	Minnesota	40	19	41	43	46	48	50
282	712841.90	4832109.02	Non-Participating	Minnesota	40	19	41	43	46	48	50
283	712845.16	4832086.79	Non-Participating	Minnesota	40	19	42	43	46	48	50
284	712877.12	4832089.52	Non-Participating	Minnesota	41	19	42	43	46	48	50
285	712900.32	4832095.23	Non-Participating	Minnesota	41	19	42	43	46	48	50
286	712889.85	4832123.54	Non-Participating	Minnesota	40	19	42	43	46	48	50
287	712889.80	4832163.62	Non-Participating	Minnesota	40	19	41	43	46	48	50
288	712889.23	4832144.18	Non-Participating	Minnesota	40	19	42	43	46	48	50
289	712730.42	4832035.84	Non-Participating	Minnesota	40	18	41	43	46	48	50
290	712794.99	4832046.39	Non-Participating	Minnesota	40	19	41	43	46	48	50
291	712794.24	4832015.06	Non-Participating	Minnesota	40	18	42	43	46	48	50
292	712796.38	4831988.68	Non-Participating	Minnesota	40	18	42	43	46	48	50
293	712732.53	4831979.23	Non-Participating	Minnesota	40	15	41	43	46	48	50
294	712734.58	4832008.79	Non-Participating	Minnesota	40	17	41	43	46	48	50
295	712733.41	4831929.85	Non-Participating	Minnesota	40	18	41	43	46	48	50
296	712732.95	4831902.51	Non-Participating	Minnesota	40	18	41	43	46	48	50
297	712735.50	4831869.27	Non-Participating	Minnesota	40	18	42	43	46	48	50
298	712751.54	4831840.81	Non-Participating	Minnesota	41	18	42	43	46	48	50
299	712791.52	4831841.65	Non-Participating	Minnesota	41	18	42	43	46	48	50
300	712798.77	4831870.72	Non-Participating	Minnesota	41	18	42	43	46	48	50
301	712772.78	4831901.49	Non-Participating	Minnesota	41	18	42	43	46	48	50
302	712790.64	4831921.66	Non-Participating	Minnesota	41	18	42	43	46	48	50
303	712842.90	4831916.61	Non-Participating	Minnesota	41	18	42	43	46	48	50
304	711473.36	4832637.58	Participating	Minnesota	45	16	45	46	48	49	51
305	711252.43	4832635.31	Participating	Minnesota	45	16	45	46	48	49	51
306	710955.15	4832635.80	Participating	Minnesota	45	15	46	46	48	49	51
307	710371.01	4832978.05	Participating	Minnesota	46	10	47	47	49	50	52
308	708958.17	4832642.70	Participating	Minnesota	40	15	41	43	46	48	50
309	708910.35	4832432.23	Participating	Minnesota	40	16	41	43	46	48	50
310	708545.61	4832471.18	Participating	Minnesota	38	18	40	42	46	48	50
311	707948.72	4832546.75	Non-Participating	Minnesota	38	18	40	42	46	48	50
312	707785.26	4832449.07	Non-Participating	Minnesota	38	9	40	42	46	48	50
313	707392.79	4832577.65	Non-Participating	Minnesota	40	17	41	43	46	48	50
314	707103.01	4833341.74	Non-Participating	Minnesota	39	11	41	43	46	48	50
315	705808.16	4832506.07	Non-Participating	Minnesota	45	8	45	46	48	49	51

Table E-1: Project + Existing Non-Project + Ambient Sound Levels at Receptors

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Modeled Project Only L ₅₀ Sound Level (dBA)	Modeled Existing Non- Project Wind Turbines Only L ₅₀ Sound Level (dBA)	Total L ₅₀ Sound Level (Modeled + Ambient)				
	X (m)	Y (m)					35 dBA Ambient	40 dBA Ambient	45 dBA Ambient	47 dBA Ambient	50 dBA Ambient
316	706307.90	4832597.14	Participating	Minnesota	47	8	47	47	49	50	52
317	706391.85	4832533.05	Participating	Minnesota	46	9	47	47	49	50	52
318	705921.04	4831717.10	Participating	Minnesota	46	13	47	47	49	50	52
319	707124.26	4832268.92	Participating	Minnesota	44	17	44	45	47	49	51
320	707148.31	4831858.58	Participating	Minnesota	45	11	45	46	48	49	51
321	706377.57	4830879.08	Non-Participating	Minnesota	39	10	41	43	46	48	50
322	706795.99	4830788.28	Non-Participating	Minnesota	38	8	40	42	46	48	50
323	707286.36	4830938.93	Participating	Minnesota	38	8	40	42	46	48	50
324	708796.80	4831061.44	Non-Participating	Minnesota	34	8	38	41	45	47	50
325	708665.52	4830816.87	Non-Participating	Minnesota	35	11	38	41	45	47	50
326	709134.89	4830862.41	Non-Participating	Minnesota	36	9	39	41	46	47	50
327	709959.89	4830915.52	Non-Participating	Minnesota	38	9	40	42	46	47	50
328	710444.83	4830632.98	Participating	Minnesota	36	16	39	42	46	47	50
329	711156.75	4831002.57	Non-Participating	Minnesota	37	17	39	42	46	47	50
330	712129.09	4830942.84	Non-Participating	Minnesota	37	18	39	42	46	47	50
331	713644.87	4830986.83	Participating	Minnesota	46	19	46	47	49	50	51
332	714014.30	4831109.09	Participating	Minnesota	47	19	47	48	49	50	52
333	715256.78	4831015.51	Non-Participating	Minnesota	46	17	46	47	48	49	51
334	715114.86	4831046.13	Non-Participating	Minnesota	46	17	47	47	49	50	52
335	715280.87	4830888.83	Non-Participating	Minnesota	46	17	47	47	49	50	52
336	720850.87	4829589.22	Non-Participating	Minnesota	28	21	36	40	45	47	50
337	720471.34	4829713.08	Non-Participating	Minnesota	29	21	36	40	45	47	50
338	718660.97	4829287.11	Non-Participating	Minnesota	32	24	37	41	45	47	50
339	718547.55	4829529.40	Non-Participating	Minnesota	33	24	37	41	45	47	50
340	718705.42	4829658.28	Non-Participating	Minnesota	33	23	37	41	45	47	50
341	718207.07	4829650.23	Non-Participating	Minnesota	34	24	38	41	45	47	50
342	718488.68	4830493.21	Non-Participating	Minnesota	39	22	41	43	46	48	50
343	718614.16	4830476.57	Non-Participating	Minnesota	38	22	40	42	46	47	50
344	716736.70	4829503.83	Non-Participating	Minnesota	37	24	39	42	46	47	50
345	716664.22	4829593.01	Non-Participating	Minnesota	37	24	39	42	46	47	50
346	716087.40	4829579.09	Targeted	Minnesota	40	22	41	43	46	48	50
347	715685.16	4829460.28	Non-Participating	Minnesota	41	22	42	44	46	48	51
348	714913.69	4829173.93	Non-Participating	Minnesota	42	22	43	44	47	48	51
349	714617.74	4829521.25	Participating	Minnesota	46	20	46	47	49	50	51
350	713650.85	4830171.47	Non-Participating	Minnesota	45	13	46	46	48	49	51
351	712905.87	4829462.35	Non-Participating	Minnesota	37	19	39	42	46	47	50
352	712717.46	4829343.28	Participating	Minnesota	36	19	39	41	46	47	50
353	712178.69	4830005.45	Non-Participating	Minnesota	36	18	39	41	46	47	50
354	712093.44	4829732.15	Non-Participating	Minnesota	35	11	38	41	45	47	50
355	707416.58	4830311.62	Non-Participating	Minnesota	35	8	38	41	45	47	50
356	712848.91	4827911.62	Non-Participating	Minnesota	32	18	37	41	45	47	50
357	713480.57	4827427.94	Non-Participating	Minnesota	32	21	37	41	45	47	50
358	713672.96	4827918.96	Non-Participating	Minnesota	33	21	37	41	45	47	50
359	713975.46	4828553.70	Non-Participating	Minnesota	36	21	39	42	46	47	50
360	713820.87	4828830.04	Non-Participating	Minnesota	37	20	39	42	46	47	50
361	714217.10	4827915.58	Non-Participating	Minnesota	33	23	37	41	45	47	50
362	715474.31	4827938.91	Non-Participating	Minnesota	33	27	38	41	45	47	50
363	715541.50	4827975.19	Participating	Minnesota	33	27	38	41	45	47	50
364	716139.42	4827816.29	Non-Participating	Minnesota	32	29	38	41	45	47	50
365	716987.91	4827842.08	Non-Participating	Minnesota	31	31	38	41	45	47	50
366	717070.79	4827804.48	Non-Participating	Minnesota	31	32	38	41	45	47	50
367	717108.39	4828849.54	Non-Participating	Minnesota	34	27	38	41	45	47	50
368	718562.18	4828640.41	Non-Participating	Minnesota	31	27	37	41	45	47	50
369	718674.18	4828400.30	Non-Participating	Minnesota	30	27	37	41	45	47	50
370	718602.36	4827497.49	Non-Participating	Minnesota	29	32	37	41	45	47	50
371	718830.45	4827566.20	Non-Participating	Minnesota	28	31	37	41	45	47	50
372	719830.43	4828111.38	Non-Participating	Minnesota	28	25	36	40	45	47	50
373	719778.19	4828092.97	Non-Participating	Minnesota	28	26	36	40	45	47	50
374	715248.44	4827383.73	Non-Participating	Minnesota	32	28	37	41	45	47	50
375	713888.51	4826969.27	Non-Participating	Minnesota	31	23	37	41	45	47	50
376	705300.91	4848839.14	Non-Participating	Minnesota	20	22	35	40	45	47	50
377	706631.09	4848703.62	Non-Participating	Minnesota	20	23	35	40	45	47	50

Table E-1: Project + Existing Non-Project + Ambient Sound Levels at Receptors

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Modeled Project Only L ₅₀ Sound Level (dBA)	Modeled Existing Non- Project Wind Turbines Only L ₅₀ Sound Level (dBA)	Total L ₅₀ Sound Level (Modeled + Ambient)				
	X (m)	Y (m)					35 dBA Ambient	40 dBA Ambient	45 dBA Ambient	47 dBA Ambient	50 dBA Ambient
378	706929.07	4848599.18	Non-Participating	Minnesota	17	22	35	40	45	47	50
379	707922.77	4848733.84	Non-Participating	Minnesota	20	24	35	40	45	47	50
380	709860.15	4848794.24	Non-Participating	Minnesota	23	30	36	40	45	47	50
381	710296.98	4848793.31	Non-Participating	Minnesota	23	32	37	41	45	47	50
382	710975.28	4848884.65	Non-Participating	Minnesota	23	36	39	41	46	47	50
479	706044.71	4849773.17	Non-Participating	Minnesota	14	24	35	40	45	47	50
480	707387.55	4850254.10	Non-Participating	Minnesota	16	21	35	40	45	47	50
481	707945.22	4849861.93	Non-Participating	Minnesota	14	24	35	40	45	47	50
482	709936.28	4850179.20	Non-Participating	Minnesota	22	32	37	41	45	47	50
483	706553.32	4850323.54	Non-Participating	Minnesota	19	25	36	40	45	47	50
484	707466.63	4850517.83	Non-Participating	Minnesota	16	21	35	40	45	47	50
485	706627.42	4850969.47	Non-Participating	Minnesota	20	25	36	40	45	47	50
600	721504.45	4832717.79	Non-Participating	Minnesota	24	11	35	40	45	47	50
601	721107.43	4831397.47	Non-Participating	Minnesota	27	13	36	40	45	47	50
602	721193.76	4829744.37	Non-Participating	Minnesota	27	20	36	40	45	47	50
603	721607.87	4829645.45	Non-Participating	Minnesota	27	20	36	40	45	47	50
604	720771.23	4828229.30	Non-Participating	Minnesota	27	23	36	40	45	47	50
605	720294.73	4827201.39	Non-Participating	Minnesota	26	26	36	40	45	47	50
606	719889.27	4826965.25	Non-Participating	Minnesota	27	28	36	40	45	47	50
607	720233.54	4825646.32	Non-Participating	Minnesota	25	27	36	40	45	47	50
608	719207.30	4824943.60	Non-Participating	Minnesota	25	30	37	41	45	47	50
609	718925.56	4826292.09	Non-Participating	Minnesota	26	34	38	41	45	47	50
610	718736.06	4826853.88	Non-Participating	Minnesota	28	34	38	41	45	47	50
611	718258.61	4826322.24	Non-Participating	Minnesota	27	42	43	44	47	48	51
612	717984.98	4825391.46	Non-Participating	Minnesota	26	40	41	43	46	48	50
613	716906.43	4826389.27	Non-Participating	Minnesota	29	43	44	45	47	49	51
614	716639.93	4826263.50	Non-Participating	Minnesota	29	41	42	44	47	48	51
615	715859.70	4826343.35	Participating	Minnesota	29	34	38	41	45	47	50
616	712762.52	4826456.76	Non-Participating	Minnesota	29	19	36	40	45	47	50
617	710508.38	4828661.23	Non-Participating	Minnesota	32	17	37	41	45	47	50
618	710312.21	4827758.12	Participating	Minnesota	30	17	36	40	45	47	50
619	708971.55	4828978.11	Participating	Minnesota	31	16	37	41	45	47	50
620	708880.83	4829066.94	Non-Participating	Minnesota	31	16	37	41	45	47	50
621	708621.24	4827744.01	Non-Participating	Minnesota	29	16	36	40	45	47	50
622	707666.58	4829219.47	Non-Participating	Minnesota	31	16	36	41	45	47	50
623	707381.37	4829213.15	Non-Participating	Minnesota	31	15	37	41	45	47	50
624	707003.03	4829294.84	Non-Participating	Minnesota	32	16	37	41	45	47	50
625	706769.91	4829219.83	Participating	Minnesota	31	16	37	41	45	47	50
626	707202.71	4829656.80	Non-Participating	Minnesota	33	7	37	41	45	47	50
627	706884.07	4829695.44	Non-Participating	Minnesota	33	8	37	41	45	47	50
628	706800.75	4829875.13	Non-Participating	Minnesota	33	7	37	41	45	47	50
629	706334.75	4829721.80	Participating	Minnesota	33	12	37	41	45	47	50
630	706496.34	4829597.02	Non-Participating	Minnesota	32	13	37	41	45	47	50
631	706398.43	4829578.24	Non-Participating	Minnesota	32	13	37	41	45	47	50
632	706314.88	4829561.32	Non-Participating	Minnesota	32	13	37	41	45	47	50
633	706251.50	4829532.13	Non-Participating	Minnesota	32	13	37	41	45	47	50
634	705621.54	4829441.98	Non-Participating	Minnesota	31	15	36	41	45	47	50
635	705623.53	4828995.44	Non-Participating	Minnesota	30	15	36	40	45	47	50
636	705654.15	4828680.11	Non-Participating	Minnesota	29	15	36	40	45	47	50
A	712158.94	4832287.00	Non-Participating	Minnesota	41	17	42	43	46	48	50
B	712675.48	4832272.50	Non-Participating	Minnesota	40	19	41	43	46	48	50
C	712885.07	4832032.10	Non-Participating	Minnesota	41	19	42	43	46	48	50
D	707132.31	4837379.49	Non-Participating	Minnesota	40	14	41	43	46	48	50
E	707199.51	4837381.57	Non-Participating	Minnesota	40	15	41	43	46	48	50
F	718750.18	4829719.41	Non-Participating	Minnesota	33	23	37	41	45	47	50
H	712862.66	4832031.39	Non-Participating	Minnesota	41	19	42	43	46	48	50
I	710895.09	4843889.83	Non-Participating	Minnesota	29	26	36	40	45	47	50
J	705563.49	4837361.96	Targeted	Minnesota	46	12	46	47	48	49	51
N1	715712.50	4831245.52	Non-Participating	Minnesota	42	17	43	44	47	48	51
N7	712508.03	4832184.52	Non-Participating	Minnesota	40	18	41	43	46	48	50
N8	710307.95	4832588.36	Participating	Minnesota	46	10	46	47	48	49	51
N9	709858.42	4832463.19	Participating	Minnesota	47	18	47	48	49	50	52

Table E-1: Project + Existing Non-Project + Ambient Sound Levels at Receptors

Receptor ID	Coordinates UTM NAD83 Zone 14N		Participation Status	Receptor State (MN or SD)	Modeled Project Only L ₅₀ Sound Level (dBA)	Modeled Existing Non- Project Wind Turbines Only L ₅₀ Sound Level (dBA)	Total L ₅₀ Sound Level (Modeled + Ambient)				
	X (m)	Y (m)					35 dBA Ambient	40 dBA Ambient	45 dBA Ambient	47 dBA Ambient	50 dBA Ambient
N10	710527.10	4829926.70	Non-Participating	Minnesota	34	17	37	41	45	47	50
N11	710006.75	4829851.12	Participating	Minnesota	34	15	37	41	45	47	50
N27	719788.78	4840865.90	Non-Participating	Minnesota	25	25	36	40	45	47	50
N28	717647.77	4834465.50	Non-Participating	Minnesota	36	20	39	42	46	47	50
N30	713229.35	4832282.49	Non-Participating	Minnesota	41	19	42	43	46	48	50
N31	713010.86	4832312.23	Non-Participating	Minnesota	40	18	41	43	46	48	50
N32	709098.10	4836931.87	Targeted	Minnesota	45	12	46	46	48	49	51
N33	708666.86	4835693.48	Non-Participating	Minnesota	44	19	45	46	48	49	51
N39	713597.65	4832689.58	Non-Participating	Minnesota	40	11	41	43	46	48	50