

May 17, 2024

VIA E-MAIL AND FEDERAL EXPRESS

Mr. Steven Kahl
Executive Secretary
North Dakota Public Service Commission
600 E. Boulevard, Dept. 408
Bismarck, ND 58505-0480

**Re: Otter Tail Power Company
Amend – Luverne Wind Upgrade
Siting Application – Steele County
Case No. PU-23-176**

Dear Mr. Kahl:

Enclosed for filing in connection with the above-referenced matter are an original and six (6) copies of this letter and the following documents, submitted by Otter Tail Power Company (“Otter Tail”):

1. Sound Level Assessment Report;
2. A letter from the State Historical Society of North Dakota, dated May 16, 2024; and
3. Three Sound Waiver Agreements (Pederson, D. & V. Johnson, and S. & S. Johnson).

At the time the North Dakota Public Service Commission (“Commission”) issued its Order, dated August 16, 2023, in the above-referenced matter, Otter Tail had obtained sound waivers from the owners of two residences (*see* Appendix A (Acoustic Assessment Results and Sound Waivers) to Exhibit A (Environmental and Regulatory Compliance Memorandum) filed with the Certification of Bradley E. Tollerson, Docket Item #1). Otter Tail was also seeking sound waivers from the owners of three additional residences.


Since issuance of the Order, Otter Tail has obtained sound waivers from the owners of the three residences, and those sound waiver agreements are enclosed. An updated Sound Level Assessment Report is also enclosed that accounts for the five waivers received (for Receptors L20, L21, L31, L36, and L38), and demonstrates compliance with the Commission’s sound avoidance area requirement in NDAC § 69-06-08-01(4) at all residences.

Electronic versions of the enclosures and this letter were submitted to the Commission today via e-mail.

Mr. Steven Kahl
May 17, 2024
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If you have any questions, please let me know.

Sincerely,

A handwritten signature in black ink that reads "Mollie M. Smith". The signature is written in a cursive style with a large, stylized 'M' at the beginning.

MOLLIE M. SMITH

MMS/82290667

Enclosures

cc: Lisa McFarland (w/ enclosures, via e-mail)
Bryce Haugen (w/ enclosures, via e-mail)



SOUND LEVEL ASSESSMENT REPORT

Otter Tail Luverne Wind Repower Project Steele County, North Dakota

Prepared for:

Atwell, LLC
311 North Main
Ann Arbor, Michigan 48104

Prepared by:



Epsilon Associates, Inc.
3 Mill & Main Place, Suite 250
Maynard, MA 01754

November 3, 2023

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1.0 EXECUTIVE SUMMARY

The Luverne Wind Energy Center Repowering Project (the Project) is an existing wind park in Steele County, North Dakota that is planned to be repowered by Otter Tail Power Company (Otter Tail). Atwell has retained Epsilon Associates, Inc. (Epsilon) to conduct a sound level assessment for this Project. This report presents the results of the sound level modeling from the proposed repower in Steele County.

This sound level assessment includes computer modeling to predict worst-case future L_{eq} sound levels from the Project, and a comparison of operational sound levels to the North Dakota Administrative Code Energy Conversion Facility Siting Criteria of 45 dBA within 100 feet of an inhabited residence or community building. Additionally, receptors that have signed noise waivers with Otter Tail Power have been compared to the Waiver criterion of 50 dBA within 200 feet of the inhabited residence or community building. Sound level modeling was conducted for all Otter Tail Luverne Wind Repower wind turbines.

The L_{eq} sound levels modeled at receptors in Steele County ranged from 23 to 50 dBA. The highest L_{eq} sound level modeled at a receptor that has signed a waiver with Otter Tail is 50 dBA. The highest L_{eq} sound level modeled at a receptor that has not signed a waiver with Otter Tail is 45 dBA. The L_{eq} sound levels at all receptors without a signed waiver are at or below the limit of 45 dBA within 100 feet of an inhabited residence or community building. Therefore, the Project meets the State's regulations with respect to sound.

2.0 INTRODUCTION

The proposed repower Project will consist of 33 repowered wind turbines. The proposed wind turbines are all GE 1.5MW units with a rotor diameter of 97 meters and a hub height of 80 meters. Figure 2-1 shows the locations of the 33 wind turbines in Steele County over aerial imagery.

A detailed discussion of sound from wind turbines is presented in a white paper prepared by the Renewable Energy Research Laboratory.¹ A few points are repeated herein. 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.

This report presents the findings of a sound level modeling analysis for the Project. The Project wind turbines were modeled in CadnaA using sound data from GE technical reports. The results of this analysis are found within this report.

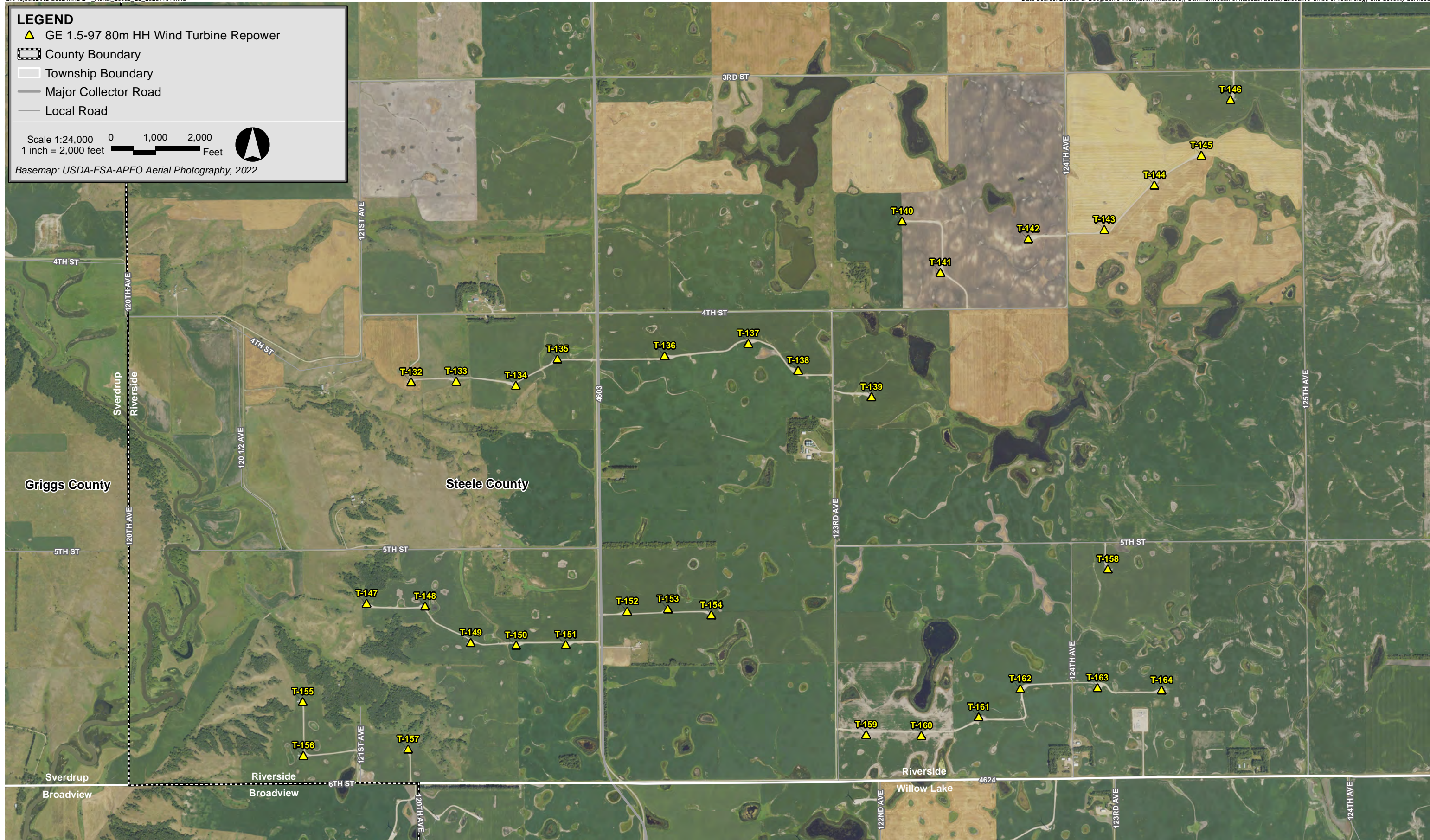
¹ Renewable Energy Research Laboratory, Department of Mechanical and Industrial Engineering, University of Massachusetts at Amherst, [Wind Turbine Acoustic Noise](#), June 2002, amended January 2006.

LEGEND

- ▲ GE 1.5-97 80m HH Wind Turbine Repower
- ▭ County Boundary
- ▭ Township Boundary
- Major Collector Road
- Local Road

Scale 1:24,000
1 inch = 2,000 feet

Basemap: USDA-FSA-APFO Aerial Photography, 2022



Luverne Wind Repower Steele County, North Dakota

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 characteristics²:

- 3 dB increase or decrease results in a change in sound that is just perceptible to the average person,
- 5 dB increase or decrease is described as a clearly noticeable change in sound level, and
- 10 dB 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.³ 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 levels are measured sound levels without any weighting curve and are otherwise referred

² Bies, David, and Colin Hansen. 2009. *Engineering Noise Control: Theory and Practice*, 4th Edition. New York: Taylor and Francis.

³ *American National Standard Electroacoustics – Sound Level Meters – Part 1: Specifications*, ANSI S1.4-2014 (R2019), published by the Standards Secretariat of the Acoustical Society of America, Melville, NY.

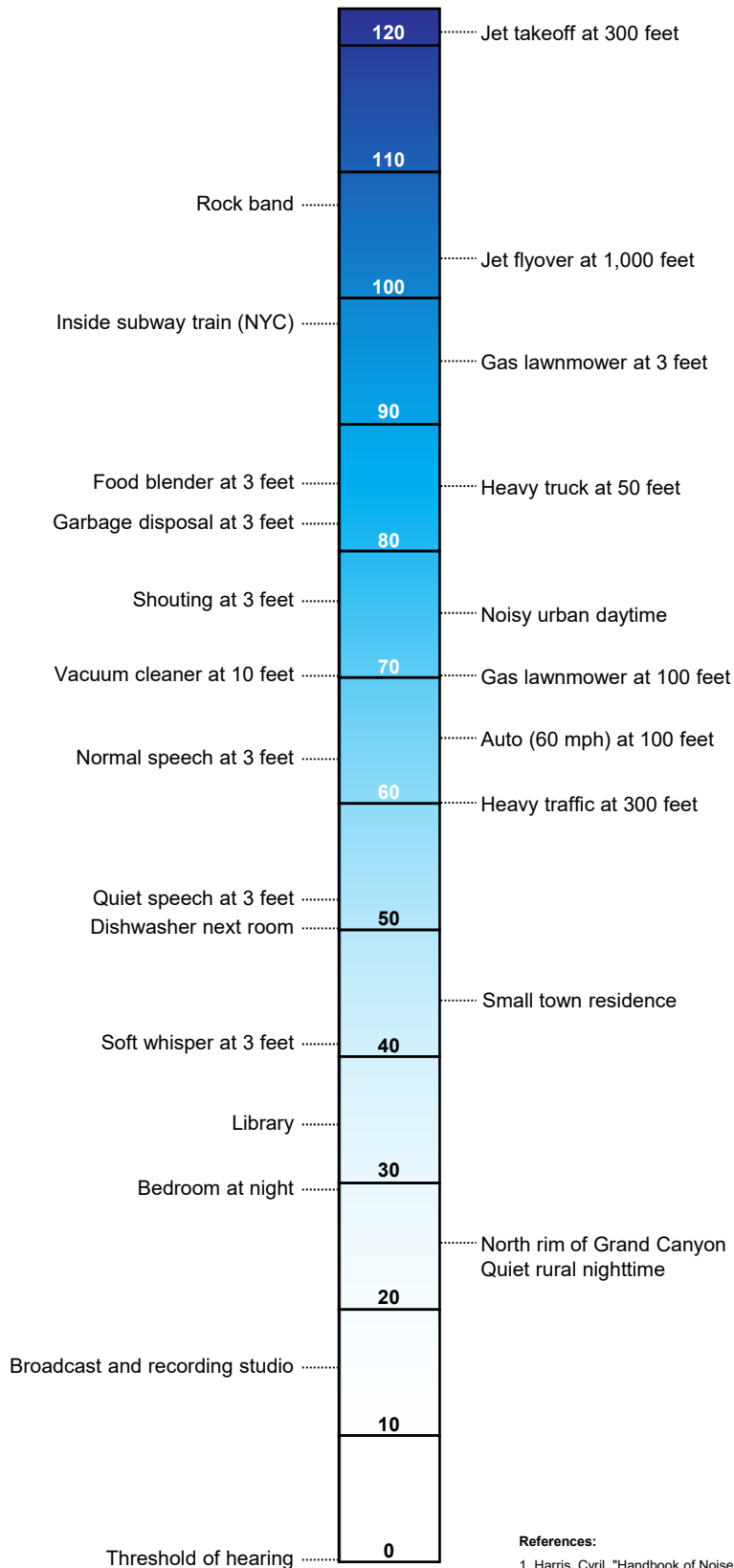
to as “unweighted”. Sound pressure levels for some common indoor and outdoor environments are shown in Figure 3-1.

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 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. The L_{eq} is a sound level metric that is commonly reported in community sound level monitoring and is utilized in this report. The L_{eq} is described in further detail below.

- 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, AFDTIC, 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 North Dakota State Regulations

The Project, located in North Dakota, is required to comply with the following sound requirement:

Section 69-06-08-01 Energy Conversion Facility Siting Criteria

4. Additional avoidance areas for wind energy conversion facilities. A wind energy conversion facility site must not include a geographic area where, due to operation of the facility, the sound levels within one hundred feet of an inhabited residence or a community building will exceed forty-five dBA. The sound level avoidance area criteria may be waived in writing by the owner of the occupied residence or the community building.

4.3 Local Regulations

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

Therefore, modeling receptors were evaluated in this analysis against the 45 dBA limit.

5.0 MODELED SOUND LEVELS

5.1 Sound Sources

5.1.1 *Project Wind Turbines*

The sound level analysis for the Project includes 33 wind turbines. These 33 wind turbines are depicted in Figure 5-1. The array consists of one (1) wind turbine model: the GE 1.5-97 at a hub height of 80-meters. The GE 1.5-97 wind turbines have a rotor diameter of 97 meters. Technical reports from GE⁴ were provided to Epsilon which documented the expected sound power levels associated with the GE 1.5-97.

5.2 Modeling Methodology

The sound impacts associated with the proposed wind turbines were predicted using the CadnaA sound level calculation software developed by DataKustik GmbH. This software uses the ISO 9613-2 international standard for sound propagation.⁵ 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 CadnaA 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 5-1 below.

- *Project Array:* This analysis is for the wind turbine array dated December 20, 2022. The proposed Project array is identified in Figure 5-1. The wind turbine coordinates are provided in Appendix A.
- *Modeling Receptor Locations:* A modeling receptor dataset dated January 26, 2023 was provided to Epsilon. The dataset included 40 receptors. Atwell provided additional information indicating if each receptor was inhabited or uninhabited, the resulting 39 inhabited receptors were input to the CadnaA model. All modeling 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. In order to provide robust modeling coverage of each inhabited location, additional modeling locations were included offset by 100 feet away (or 200 feet for receptors with signed waivers) from the center point of the receptor in each of the four cardinal directions (north, south, east and west). Therefore, each inhabited location was evaluated at a total of five locations; the center point of the receptor itself, and at the four offset locations on land 100 feet (or 200 feet for receptors with signed waivers) from the receptor. This resulted in a total of 195 receptors. The center points of the modeled locations (receptors) are shown in Figure 5-1. Details of each modeling location are presented in Appendix B.

⁴ General Electric Company, Technical Documentation Wind Turbine Generator Systems 1.6-97 RePower – 60 Hz Product Acoustic Specifications, Rev. 02, 2020.

⁵ *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).

- *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 CadnaA 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 5.1. Documentation from GE provided levels that represent “worst-case” operational sound level emissions for the Project’s proposed wind turbines were input into the model.
- *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 which corresponds to “hard ground” consisting of a hard ground surface. The model, consistent with the standard, allows inputs between 0 (hard ground) and 1 (porous ground). This is a conservative approach 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 were input into CadnaA to model wind turbine generated L_{eq} sound pressure levels during conditions when worst-case sound power levels are expected. Sound pressure levels were modeled at 39 receptors within the vicinity of the Project. 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.

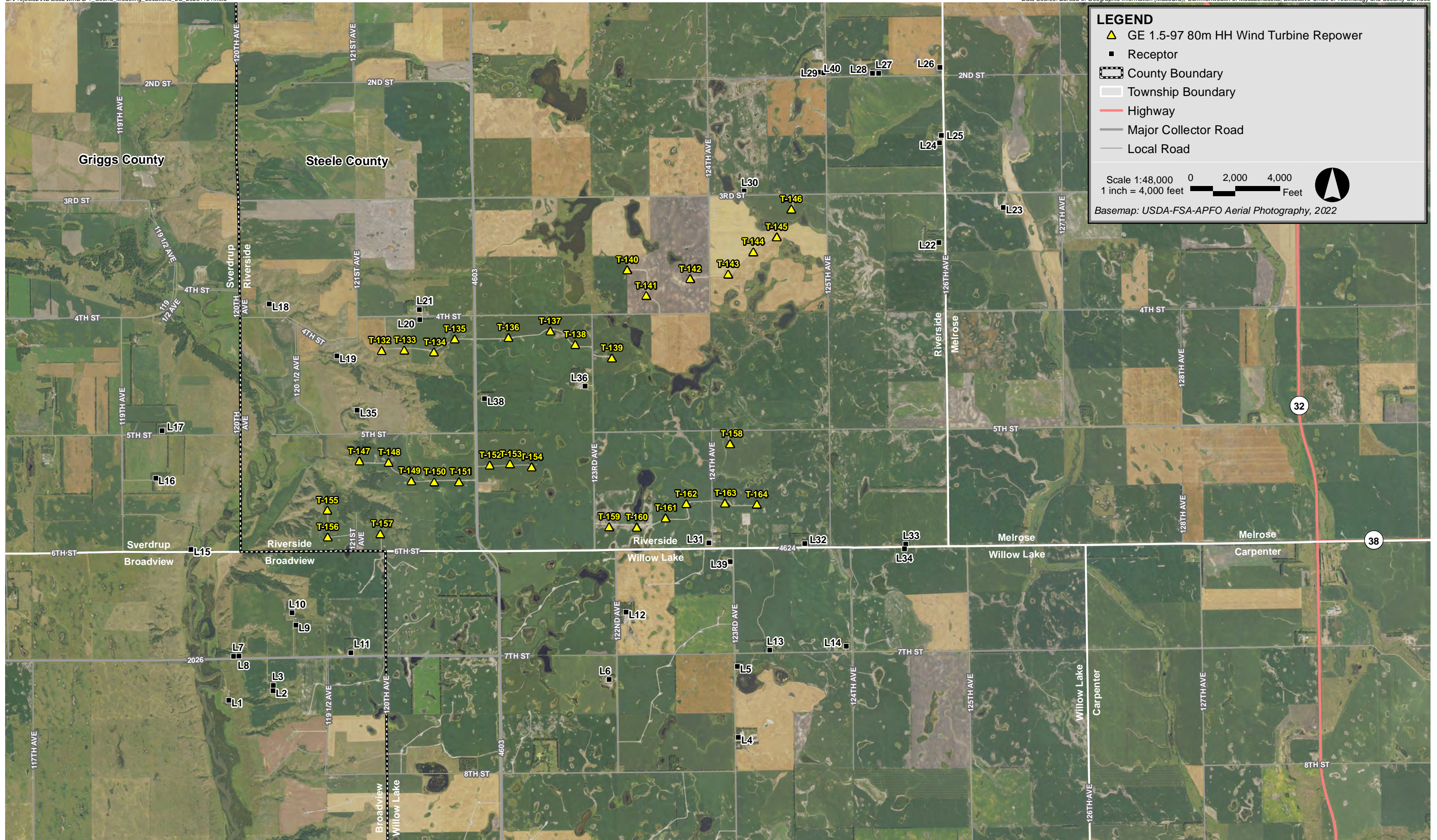
Several modeling assumptions inherent in the ISO 9613-2 calculation methodology, or selected as conditional inputs by Epsilon, were implemented in the CadnaA model to ensure conservative results (i.e., higher sound levels), and are described below:

- 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 5-1 Summary of Key Sound Level Modeling Inputs

Modeling Parameter	Description / Value
Wind Turbine Array	Provided by Atwell
Terrain	U.S.G.S. Data
Wind Turbine Sound Power Levels	GE Specifications Documentation
Meteorological Conditions	T=10°C / RH=70%
Ground Absorption Factor	0

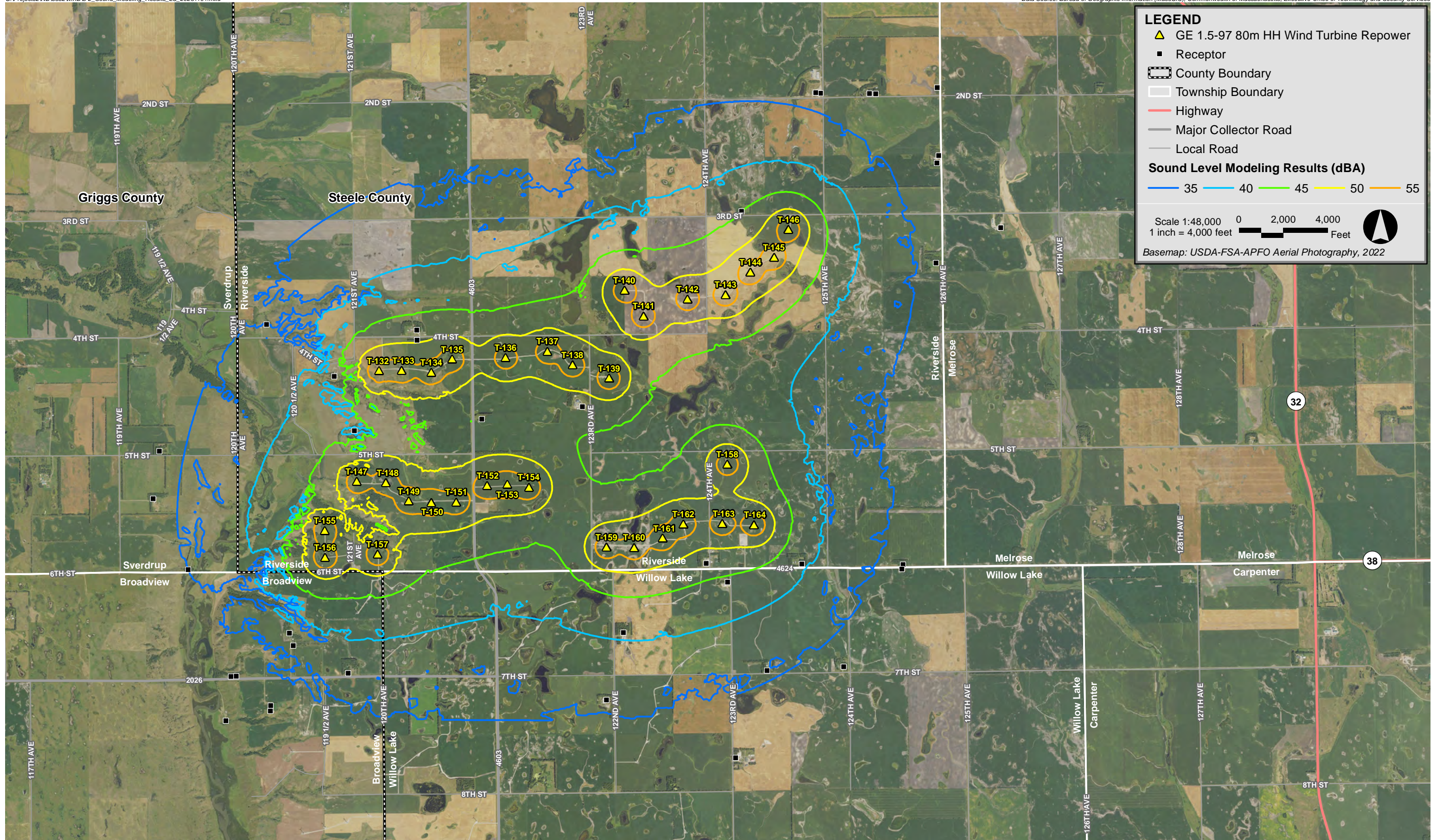


Luverne Wind Repower Steele County, North Dakota

5.3 Sound Level Modeling Results

All modeled sound levels, as output from CadnaA are A-weighted equivalent sound levels (L_{eq} , dBA). Table B-1.1 in Appendix B shows the predicted broadband (dBA) sound levels at the 39 receptors and their additional offset locations modeled for the Project. The broadband L_{eq} sound levels range from 23 to 50 dBA. These sound levels represent the worst-case future L_{eq} sound levels produced by the Project wind turbines. The maximum modeled sound level of 50 dBA occurs at receptor #20, which has signed a waiver with Otter Tail Power. The highest modeled sound level at a receptor which has not signed a waiver with Otter Tail Power is 45 dBA, which occurs at receptor #30. Table B-1.2 in Appendix B shows the predicted sound levels sorted from high to low.

In addition to the discrete modeling points, L_{eq} sound level isolines generated from the modeling grid are presented in Figure 5-2.



Luverne Wind Repower Steele County, North Dakota

6.0 EVALUATION OF SOUND LEVELS

The Project is subject to the requirements contained in the North Dakota Energy Conversion Facility Siting Criteria. Sound levels from operation of the Project are limited by these regulations to 45 dBA within 100 feet of an inhabited residence or community building. Additionally, sound levels from the operation of the Project are limited by the Noise Waiver to 50 dBA within 200 feet of an inhabited residence or community building for any locations which has a signed Noise Waiver with Otter Tail Power. All modeled sound levels, as output from CadnaA and presented in Appendix B, are A-weighted equivalent sound levels (L_{eq} , dBA). These levels may be used in evaluating measured sound pressure levels over typical averaging durations, (i.e., ten (10) minutes or one (1) hour).

A review of Table B-1.2 in Appendix B shows the highest sound level within 100 feet of an inhabited residence or community building that has not signed a waiver with Otter Tail Power in this analysis to be 45 dBA. This occurs at Receptor #30. The results also show that the highest sound level within 200 feet of an inhabited residence or community building that has signed a waiver with Otter Tail Power in this analysis to be 50 dBA. This occurs at Receptors #20. Therefore, the Project is in compliance with the North Dakota Administrative Code Energy Conversion Facility Siting Criteria with respect to sound.

7.0 CONCLUSIONS

A comprehensive sound level modeling assessment was conducted for the Otter Tail Luverne Wind Repower Project within Steele County, North Dakota. Sound levels resulting from the operation of all 33 Project wind turbines were calculated at 39 modeling receptors, and isolines were generated from a grid encompassing the area surrounding the wind turbines. The predicted L_{eq} sound levels at all receptors in the study area ranged from 23 to 50 dBA. Predicted sound levels at all receptor locations that have not signed a waiver with Otter Tail Power are at or below the state limit of 45 dBA within 100 feet of an inhabited residence or community building. Predicted sound levels at all receptor locations that have signed waivers with Otter Tail Power are at or below the waiver limit of 50 dBA within 200 feet of an inhabited residence or community building. Thus, the Project meets the requirements with respect to sound in the regulations.

Appendix A

Sound Source Coordinates

Table A-1: Wind Turbine Coordinates

Wind Turbine ID	Wind Turbine Type	Hub Height (m)	Coordinates NAD83 UTM Zone 14N (meters)	
			X (Easting)	Y (Northing)
T-132	GE 1.5-97	80	578517.24	5244672.39
T-133	GE 1.5-97	80	578826.67	5244676.53
T-134	GE 1.5-97	80	579235.03	5244648.56
T-135	GE 1.5-97	80	579519.62	5244830.47
T-136	GE 1.5-97	80	580251.83	5244851.41
T-137	GE 1.5-97	80	580824.66	5244937.29
T-138	GE 1.5-97	80	581167.19	5244752.82
T-139	GE 1.5-97	80	581668.21	5244570.68
T-140	GE 1.5-97	80	581878.53	5245774.06
T-141	GE 1.5-97	80	582139.93	5245422.35
T-142	GE 1.5-97	80	582741.17	5245652.97
T-143	GE 1.5-97	80	583261.20	5245715.78
T-144	GE 1.5-97	80	583604.29	5246020.87
T-145	GE 1.5-97	80	583926.35	5246225.65
T-146	GE 1.5-97	80	584124.89	5246606.30
T-147	GE 1.5-97	80	578212.34	5243156.78
T-148	GE 1.5-97	80	578613.18	5243139.56
T-149	GE 1.5-97	80	578926.12	5242888.10
T-150	GE 1.5-97	80	579235.93	5242870.26
T-151	GE 1.5-97	80	579576.05	5242874.84
T-152	GE 1.5-97	80	579996.11	5243102.73
T-153	GE 1.5-97	80	580275.47	5243117.98
T-154	GE 1.5-97	80	580570.56	5243077.44
T-155	GE 1.5-97	80	577775.59	5242483.98
T-156	GE 1.5-97	80	577780.43	5242117.25
T-157	GE 1.5-97	80	578497.71	5242160.33
T-158	GE 1.5-97	80	583286.60	5243393.02
T-159	GE 1.5-97	80	581632.29	5242258.43
T-160	GE 1.5-97	80	582010.61	5242252.24
T-161	GE 1.5-97	80	582401.49	5242380.30
T-162	GE 1.5-97	80	582685.87	5242572.91
T-163	GE 1.5-97	80	583215.05	5242580.37
T-164	GE 1.5-97	80	583653.42	5242564.57

Appendix B

Sound Level Modeling Results - Tabular

Table B-1.1: Sound Level Modeling Results Sorted by Receptor ID

Receptor ID	Signed Waiver	Coordinates		Source Only L _{eq} Sound Level (dBA)
		UTM NAD83 Zone 14N		
		X (m)	Y (m)	
L1	No	576423.27	5239881.84	23
L1-E	No	576453.73	5239882.23	24
L1-S	No	576423.66	5239851.37	23
L1-W	No	576392.80	5239881.44	23
L1-N	No	576422.87	5239912.31	24
L2	No	577029.96	5240014.58	29
L2-E	No	577060.43	5240014.98	33
L2-S	No	577030.36	5239984.11	25
L2-W	No	576999.50	5240014.18	25
L2-N	No	577029.57	5240045.05	30
L3	No	577035.85	5240087.47	31
L3-E	No	577066.32	5240087.86	30
L3-S	No	577036.25	5240057.00	30
L3-W	No	577005.39	5240087.07	27
L3-N	No	577035.46	5240117.93	32
L4	No	583399.72	5239374.00	33
L4-E	No	583430.19	5239374.43	32
L4-S	No	583400.15	5239343.53	32
L4-W	No	583369.25	5239373.57	33
L4-N	No	583399.29	5239404.46	33
L5	No	583387.15	5240348.46	35
L5-E	No	583417.62	5240348.89	35
L5-S	No	583387.58	5240317.99	35
L5-W	No	583356.69	5240348.03	35
L5-N	No	583386.72	5240378.93	35
L6	No	581632.42	5240165.69	36
L6-E	No	581662.89	5240166.11	36
L6-S	No	581632.85	5240135.22	36
L6-W	No	581601.96	5240165.26	36
L6-N	No	581632.00	5240196.15	36
L7	No	576491.93	5240485.96	28
L7-E	No	576522.40	5240486.35	28
L7-S	No	576492.32	5240455.49	27
L7-W	No	576461.46	5240485.56	30
L7-N	No	576491.53	5240516.42	26
L8	No	576564.55	5240490.68	31
L8-E	No	576595.02	5240491.08	32
L8-S	No	576564.95	5240460.21	31
L8-W	No	576534.08	5240490.29	31
L8-N	No	576564.15	5240521.15	26
L9	No	577344.04	5240910.55	38
L9-E	No	577374.51	5240910.95	38

Table B-1.1: Sound Level Modeling Results Sorted by Receptor ID

Receptor ID	Signed Waiver	Coordinates		Source Only L _{eq} Sound Level (dBA)
		UTM NAD83 Zone 14N		
		X (m)	Y (m)	
L9-S	No	577344.44	5240880.09	38
L9-W	No	577313.57	5240910.15	37
L9-N	No	577343.64	5240941.02	38
L10	No	577289.60	5241080.11	39
L10-E	No	577320.07	5241080.51	39
L10-S	No	577290.00	5241049.65	39
L10-W	No	577259.13	5241079.71	39
L10-N	No	577289.20	5241110.58	39
L11	No	578096.72	5240534.24	37
L11-E	No	578127.19	5240534.64	37
L11-S	No	578097.13	5240503.77	37
L11-W	No	578066.25	5240533.83	37
L11-N	No	578096.32	5240564.71	38
L12	No	581862.55	5241090.16	41
L12-E	No	581893.02	5241090.59	41
L12-S	No	581862.98	5241059.69	41
L12-W	No	581832.09	5241089.74	41
L12-N	No	581862.13	5241120.63	41
L13	No	583831.22	5240569.56	36
L13-E	No	583861.69	5240569.99	36
L13-S	No	583831.65	5240539.09	36
L13-W	No	583800.75	5240569.12	36
L13-N	No	583830.79	5240600.02	36
L14	No	584880.11	5240621.88	33
L14-E	No	584910.58	5240622.32	33
L14-S	No	584880.55	5240591.42	32
L14-W	No	584849.64	5240621.45	33
L14-N	No	584879.67	5240652.35	33
L15	No	575905.69	5241949.56	35
L15-E	No	575936.16	5241949.95	35
L15-S	No	575906.09	5241919.09	35
L15-W	No	575875.23	5241949.17	35
L15-N	No	575905.30	5241980.03	35
L16	No	575424.70	5242922.41	34
L16-E	No	575455.16	5242922.80	34
L16-S	No	575425.09	5242891.94	34
L16-W	No	575394.23	5242922.02	34
L16-N	No	575424.31	5242952.87	34
L17	No	575509.75	5243573.82	34
L17-E	No	575540.22	5243574.21	34
L17-S	No	575510.14	5243543.35	34
L17-W	No	575479.28	5243573.42	34

Table B-1.1: Sound Level Modeling Results Sorted by Receptor ID

Receptor ID	Signed Waiver	Coordinates		Source Only L _{eq} Sound Level (dBA)
		UTM NAD83 Zone 14N		
		X (m)	Y (m)	
L17-N	No	575509.36	5243604.28	34
L18	No	576978.42	5245308.26	36
L18-E	No	577008.89	5245308.66	36
L18-S	No	576978.82	5245277.79	36
L18-W	No	576947.96	5245307.86	36
L18-N	No	576978.03	5245338.73	35
L19	No	577903.54	5244595.42	43
L19-E	No	577934.00	5244595.83	43
L19-S	No	577903.94	5244564.95	43
L19-W	No	577873.07	5244595.02	43
L19-N	No	577903.13	5244625.89	44
L20	Yes	579040.35	5245093.04	50
L20-E	Yes	579101.30	5245093.45	50
L20-S	Yes	579040.76	5245032.09	50
L20-W	Yes	578979.40	5245092.63	49
L20-N	Yes	579039.94	5245153.99	49
L21	Yes	579035.09	5245231.44	48
L21-E	Yes	579096.04	5245231.85	48
L21-S	Yes	579035.50	5245170.49	48
L21-W	Yes	578974.14	5245231.03	48
L21-N	Yes	579034.68	5245292.39	47
L22	No	586144.56	5246150.00	33
L22-E	No	586175.02	5246150.45	33
L22-S	No	586145.00	5246119.54	33
L22-W	No	586114.09	5246149.56	34
L22-N	No	586144.11	5246180.47	31
L23	No	587027.75	5246631.22	30
L23-E	No	587058.22	5246631.67	30
L23-S	No	587028.20	5246600.75	29
L23-W	No	586997.28	5246630.77	30
L23-N	No	587027.30	5246661.68	30
L24	No	586153.90	5247517.22	32
L24-E	No	586184.37	5247517.67	32
L24-S	No	586154.35	5247486.75	33
L24-W	No	586123.43	5247516.77	33
L24-N	No	586153.45	5247547.69	32
L25	No	586178.12	5247618.30	32
L25-E	No	586208.58	5247618.74	31
L25-S	No	586178.56	5247587.83	32
L25-W	No	586147.65	5247617.85	32
L25-N	No	586177.67	5247648.76	32
L26	No	586157.97	5248548.89	30

Table B-1.1: Sound Level Modeling Results Sorted by Receptor ID

Receptor ID	Signed Waiver	Coordinates		Source Only L _{eq} Sound Level (dBA)
		UTM NAD83 Zone 14N		
		X (m)	Y (m)	
L26-E	No	586188.43	5248549.33	30
L26-S	No	586158.41	5248518.42	31
L26-W	No	586127.50	5248548.44	30
L26-N	No	586157.52	5248579.35	30
L27	No	585319.35	5248466.39	29
L27-E	No	585349.81	5248466.83	30
L27-S	No	585319.79	5248435.92	29
L27-W	No	585288.88	5248465.95	28
L27-N	No	585318.90	5248496.86	30
L28	No	585233.95	5248467.61	33
L28-E	No	585264.41	5248468.05	30
L28-S	No	585234.39	5248437.14	33
L28-W	No	585203.48	5248467.16	33
L28-N	No	585233.51	5248498.07	33
L29	No	584561.59	5248475.39	34
L29-E	No	584592.06	5248475.83	34
L29-S	No	584562.03	5248444.93	34
L29-W	No	584531.12	5248474.96	34
L29-N	No	584561.15	5248505.86	34
L30	No	583482.04	5246855.54	45
L30-E	No	583512.51	5246855.97	45
L30-S	No	583482.48	5246825.07	45
L30-W	No	583451.58	5246855.10	45
L30-N	No	583481.61	5246886.00	45
L31	Yes	582997.86	5242037.63	47
L31-E	Yes	583058.81	5242038.05	47
L31-S	Yes	582998.29	5241976.68	47
L31-W	Yes	582936.91	5242037.20	48
L31-N	Yes	582997.43	5242098.57	48
L32	No	584307.76	5242029.53	41
L32-E	No	584338.23	5242029.97	41
L32-S	No	584308.20	5241999.07	41
L32-W	No	584277.29	5242029.10	41
L32-N	No	584307.32	5242060.00	41
L33	No	585692.25	5242020.78	34
L33-E	No	585722.72	5242021.22	33
L33-S	No	585692.70	5241990.31	34
L33-W	No	585661.79	5242020.34	34
L33-N	No	585691.81	5242051.25	34
L34	No	585673.49	5241957.43	34
L34-E	No	585703.96	5241957.87	32
L34-S	No	585673.93	5241926.96	34

Table B-1.1: Sound Level Modeling Results Sorted by Receptor ID

Receptor ID	Signed Waiver	Coordinates		Source Only L _{eq} Sound Level (dBA)
		UTM NAD83 Zone 14N		
		X (m)	Y (m)	
L34-W	No	585643.02	5241956.99	33
L34-N	No	585673.05	5241987.90	34
L35	No	578181.62	5243851.70	38
L35-E	No	578212.08	5243852.11	38
L35-S	No	578182.02	5243821.24	40
L35-W	No	578151.15	5243851.30	38
L35-N	No	578181.21	5243882.17	38
L36	Yes	581301.12	5244181.87	48
L36-E	Yes	581362.07	5244182.29	48
L36-S	Yes	581301.54	5244120.92	47
L36-W	Yes	581240.17	5244181.45	47
L36-N	Yes	581300.70	5244242.82	48
L38	Yes	579925.20	5244012.65	47
L38-E	Yes	579986.14	5244013.07	47
L38-S	Yes	579925.61	5243951.70	47
L38-W	Yes	579864.25	5244012.24	47
L38-N	Yes	579924.78	5244073.60	47
L39	No	583289.33	5241779.21	44
L39-E	No	583319.80	5241779.64	44
L39-S	No	583289.76	5241748.74	44
L39-W	No	583258.87	5241778.78	44
L39-N	No	583288.90	5241809.68	44
L40	No	584496.45	5248483.45	34
L40-E	No	584526.92	5248483.89	34
L40-S	No	584496.89	5248452.99	34
L40-W	No	584465.99	5248483.01	34
L40-N	No	584496.02	5248513.92	34

Table B-1.2: Sound Level Modeling Results Sorted by Sound Level

Receptor ID	Signed Waiver	Coordinates		Source Only L _{eq} Sound Level (dBA)
		UTM NAD83 Zone 14N		
		X (m)	Y (m)	
L20-S	Yes	579040.76	5245062.57	50
L20-E	Yes	579070.82	5245093.45	50
L20	Yes	579040.35	5245093.04	50
L20-W	Yes	579009.88	5245092.63	49
L20-N	Yes	579039.94	5245123.51	49
L21-S	Yes	579035.50	5245200.97	48
L36-N	Yes	581300.70	5244212.34	48
L31-N	Yes	582997.43	5242068.09	48
L21-E	Yes	579065.56	5245231.85	48
L36-E	Yes	581331.59	5244182.29	48
L31-W	Yes	582967.39	5242037.20	48
L21	Yes	579035.09	5245231.44	48
L21-W	Yes	579004.62	5245231.03	48
L36	Yes	581301.12	5244181.87	48
L31	Yes	582997.86	5242037.63	47
L36-W	Yes	581270.65	5244181.45	47
L31-E	Yes	583028.33	5242038.05	47
L36-S	Yes	581301.54	5244151.40	47
L21-N	Yes	579034.68	5245261.91	47
L31-S	Yes	582998.29	5242007.16	47
L38-S	Yes	579925.61	5243982.18	47
L38-N	Yes	579924.78	5244043.12	47
L38	Yes	579925.20	5244012.65	47
L38-E	Yes	579955.66	5244013.07	47
L38-W	Yes	579894.73	5244012.24	47
L30-S	No	583482.48	5246825.07	45
L30-E	No	583512.51	5246855.97	45
L30	No	583482.04	5246855.54	45
L30-W	No	583451.58	5246855.10	45
L30-N	No	583481.61	5246886.00	45
L39-N	No	583288.90	5241809.68	44
L39-W	No	583258.87	5241778.78	44
L39	No	583289.33	5241779.21	44
L39-E	No	583319.80	5241779.64	44
L39-S	No	583289.76	5241748.74	44
L19-N	No	577903.13	5244625.89	44
L19-E	No	577934.00	5244595.83	43
L19-S	No	577903.94	5244564.95	43
L19	No	577903.54	5244595.42	43
L19-W	No	577873.07	5244595.02	43
L32-W	No	584277.29	5242029.10	41
L32-N	No	584307.32	5242060.00	41

Table B-1.2: Sound Level Modeling Results Sorted by Sound Level

Receptor ID	Signed Waiver	Coordinates		Source Only L _{eq} Sound Level (dBA)
		UTM NAD83 Zone 14N		
		X (m)	Y (m)	
L32	No	584307.76	5242029.53	41
L32-S	No	584308.20	5241999.07	41
L32-E	No	584338.23	5242029.97	41
L12-N	No	581862.13	5241120.63	41
L12-E	No	581893.02	5241090.59	41
L12	No	581862.55	5241090.16	41
L12-W	No	581832.09	5241089.74	41
L12-S	No	581862.98	5241059.69	41
L35-S	No	578182.02	5243821.24	40
L10-N	No	577289.20	5241110.58	39
L10-E	No	577320.07	5241080.51	39
L10	No	577289.60	5241080.11	39
L10-W	No	577259.13	5241079.71	39
L10-S	No	577290.00	5241049.65	39
L9-N	No	577343.64	5240941.02	38
L9-E	No	577374.51	5240910.95	38
L9	No	577344.04	5240910.55	38
L35-E	No	578212.08	5243852.11	38
L35	No	578181.62	5243851.70	38
L9-S	No	577344.44	5240880.09	38
L35-W	No	578151.15	5243851.30	38
L35-N	No	578181.21	5243882.17	38
L11-N	No	578096.32	5240564.71	38
L9-W	No	577313.57	5240910.15	37
L11-E	No	578127.19	5240534.64	37
L11	No	578096.72	5240534.24	37
L11-W	No	578066.25	5240533.83	37
L11-S	No	578097.13	5240503.77	37
L6-N	No	581632.00	5240196.15	36
L6-E	No	581662.89	5240166.11	36
L6	No	581632.42	5240165.69	36
L6-W	No	581601.96	5240165.26	36
L18-S	No	576978.82	5245277.79	36
L6-S	No	581632.85	5240135.22	36
L18	No	576978.42	5245308.26	36
L18-W	No	576947.96	5245307.86	36
L18-E	No	577008.89	5245308.66	36
L13-N	No	583830.79	5240600.02	36
L13-W	No	583800.75	5240569.12	36
L13	No	583831.22	5240569.56	36
L13-S	No	583831.65	5240539.09	36
L13-E	No	583861.69	5240569.99	36

Table B-1.2: Sound Level Modeling Results Sorted by Sound Level

Receptor ID	Signed Waiver	Coordinates		Source Only L _{eq} Sound Level (dBA)
		UTM NAD83 Zone 14N		
		X (m)	Y (m)	
L15-E	No	575936.16	5241949.95	35
L15-N	No	575905.30	5241980.03	35
L15	No	575905.69	5241949.56	35
L5-W	No	583356.69	5240348.03	35
L5-S	No	583387.58	5240317.99	35
L15-S	No	575906.09	5241919.09	35
L15-W	No	575875.23	5241949.17	35
L5-N	No	583386.72	5240378.93	35
L5	No	583387.15	5240348.46	35
L5-E	No	583417.62	5240348.89	35
L18-N	No	576978.03	5245338.73	35
L33-W	No	585661.79	5242020.34	34
L40-S	No	584496.89	5248452.99	34
L17-E	No	575540.22	5243574.21	34
L33-N	No	585691.81	5242051.25	34
L29-S	No	584562.03	5248444.93	34
L34-N	No	585673.05	5241987.90	34
L33	No	585692.25	5242020.78	34
L33-S	No	585692.70	5241990.31	34
L29-W	No	584531.12	5248474.96	34
L40-W	No	584465.99	5248483.01	34
L16-E	No	575455.16	5242922.80	34
L17-S	No	575510.14	5243543.35	34
L17	No	575509.75	5243573.82	34
L17-N	No	575509.36	5243604.28	34
L22-W	No	586114.09	5246149.56	34
L29	No	584561.59	5248475.39	34
L40	No	584496.45	5248483.45	34
L40-E	No	584526.92	5248483.89	34
L29-E	No	584592.06	5248475.83	34
L16-S	No	575425.09	5242891.94	34
L16	No	575424.70	5242922.41	34
L16-N	No	575424.31	5242952.87	34
L17-W	No	575479.28	5243573.42	34
L34	No	585673.49	5241957.43	34
L29-N	No	584561.15	5248505.86	34
L40-N	No	584496.02	5248513.92	34
L34-S	No	585673.93	5241926.96	34
L16-W	No	575394.23	5242922.02	34
L22-S	No	586145.00	5246119.54	33
L22	No	586144.56	5246150.00	33
L34-W	No	585643.02	5241956.99	33

Table B-1.2: Sound Level Modeling Results Sorted by Sound Level

Receptor ID	Signed Waiver	Coordinates		Source Only L _{eq} Sound Level (dBA)
		UTM NAD83 Zone 14N		
		X (m)	Y (m)	
L33-E	No	585722.72	5242021.22	33
L22-E	No	586175.02	5246150.45	33
L14-E	No	584910.58	5240622.32	33
L14-N	No	584879.67	5240652.35	33
L14-W	No	584849.64	5240621.45	33
L14	No	584880.11	5240621.88	33
L2-E	No	577060.43	5240014.98	33
L28-S	No	585234.39	5248437.14	33
L28-W	No	585203.48	5248467.16	33
L28	No	585233.95	5248467.61	33
L4-N	No	583399.29	5239404.46	33
L24-W	No	586123.43	5247516.77	33
L4-W	No	583369.25	5239373.57	33
L24-S	No	586154.35	5247486.75	33
L28-N	No	585233.51	5248498.07	33
L4	No	583399.72	5239374.00	33
L24	No	586153.90	5247517.22	32
L4-E	No	583430.19	5239374.43	32
L4-S	No	583400.15	5239343.53	32
L24-N	No	586153.45	5247547.69	32
L34-E	No	585703.96	5241957.87	32
L25-W	No	586147.65	5247617.85	32
L25	No	586178.12	5247618.30	32
L25-S	No	586178.56	5247587.83	32
L25-N	No	586177.67	5247648.76	32
L24-E	No	586184.37	5247517.67	32
L14-S	No	584880.55	5240591.42	32
L8-E	No	576595.02	5240491.08	32
L3-N	No	577035.46	5240117.93	32
L8	No	576564.55	5240490.68	31
L8-S	No	576564.95	5240460.21	31
L22-N	No	586144.11	5246180.47	31
L25-E	No	586208.58	5247618.74	31
L3	No	577035.85	5240087.47	31
L8-W	No	576534.08	5240490.29	31
L26-S	No	586158.41	5248518.42	31
L26	No	586157.97	5248548.89	30
L2-N	No	577029.57	5240045.05	30
L26-N	No	586157.52	5248579.35	30
L26-E	No	586188.43	5248549.33	30
L26-W	No	586127.50	5248548.44	30
L7-W	No	576461.46	5240485.56	30

Table B-1.2: Sound Level Modeling Results Sorted by Sound Level

Receptor ID	Signed Waiver	Coordinates		Source Only L _{eq} Sound Level (dBA)
		UTM NAD83 Zone 14N		
		X (m)	Y (m)	
L23-N	No	587027.30	5246661.68	30
L3-E	No	577066.32	5240087.86	30
L27-E	No	585349.81	5248466.83	30
L27-N	No	585318.90	5248496.86	30
L28-E	No	585264.41	5248468.05	30
L3-S	No	577036.25	5240057.00	30
L23-W	No	586997.28	5246630.77	30
L23-E	No	587058.22	5246631.67	30
L23	No	587027.75	5246631.22	30
L27-S	No	585319.79	5248435.92	29
L23-S	No	587028.20	5246600.75	29
L27	No	585319.35	5248466.39	29
L2	No	577029.96	5240014.58	29
L27-W	No	585288.88	5248465.95	28
L7-E	No	576522.40	5240486.35	28
L7	No	576491.93	5240485.96	28
L3-W	No	577005.39	5240087.07	27
L7-S	No	576492.32	5240455.49	27
L8-N	No	576564.15	5240521.15	26
L7-N	No	576491.53	5240516.42	26
L2-W	No	576999.50	5240014.18	25
L2-S	No	577030.36	5239984.11	25
L1-N	No	576422.87	5239912.31	24
L1-E	No	576453.73	5239882.23	24
L1	No	576423.27	5239881.84	23
L1-W	No	576392.80	5239881.44	23
L1-S	No	576423.66	5239851.37	23



May 16, 2024

Angelique Theriot
SEARCH
angelique.theriot@searchinc.com

SHSND Ref.: 23-0240 Luverne Wind Upgrade Project, PU-23-176 in Steele County, North Dakota

Dear Angelique,

From your submission on behalf of Atwell, LLC and Atwell's previous submissions on behalf of Otter Tail Power for the repower of the Luverne Wind farm, it is our understanding that SHSND Ref: 23-0240 Luverne Wind Upgrade Project involves replacing blades, hubs, and gear boxes on 33 existing wind turbines, which will result in an increase to the total height of the turbines. After reviewing the cultural resources survey of the additional area of potential effect, it is our determination that there are no additional adverse effects to significant sites from this project provided it takes place in the location and in the manner described in the documentation.

Thank you for the opportunity to review this project under North Dakota cultural resources consultation. This letter does not serve as federal agency consultation or SHPO consultation for compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, (36 CFR Part 800), or the National Environmental Policy Act, as amended, (42 U.S.C. §§ 4321- 4347).

If you have any questions, please contact Lorna Meidinger, Lead Historic Preservation Specialist at lbmeidinger@nd.gov or (701) 328-2089.

Sincerely,

for William D. Peterson, PhD
Director, State Historical Society of North Dakota

23-0240

110071

STEELE COUNTY, Recorded: 7/12/2023 at 12:18 PM

Pg: 1 of 8

110071

Fee: \$65.00

RECORDER'S OFFICE STEELE COUNTY, ND7/12/2023 at 12:18 PM

I CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD THIS DATE.

Jenny Foss, County Recorder



By Jenny L. Foss

ATWELL GROUP 7100 E PLEASANT VALLEY RD STE INDEPENDENCE, OH 44131-5559

THIS INSTRUMENT WAS DRAFTED BY AND AFTER RECORDING RETURN TO: Otter Tail Power Company PO Box 496 Fergus Falls, MN 56538 Attention: Bryce Haugen (218) 739-8385

THIS SOUND WAIVER AGREEMENT (this "Agreement"), is dated and effective as of July 12, 2023 ("Effective Date"), by and between Mark H. Pedersen, an unmarried individual, with a mailing address of 714 124th Avenue SE, Luverne, ND 58056, Scott G. Pedersen, an unmarried individual, with a mailing address of 724 124th Avenue SE, Luverne, ND 58056, and Evelyn E. Pedersen, an unmarried individual, with a mailing address of 714 124th Avenue SE, Luverne, ND 58056 ("Owner"), and Otter Tail Power Company, a Minnesota corporation ("OTP"), with a mailing address of PO Box 496, Fergus Falls, Minnesota 56538.

RECITALS:

A. Owner owns a residence located on certain real property in Steele County, North Dakota, as more particularly described on the attached Exhibit A ("Owner Property").

B. OTP owns, operates, and maintains a wind energy generation facility ("Project") on certain real property located adjacent to and in the vicinity of the Owner Property (collectively, the "Project Property"). OTP intends to install new turbine technology on the Project ("Project Upgrades").

C. To the extent applicable, OTP intends for the Project, with the Project Upgrades, to comply with the North Dakota Public Service Commission's ("Commission") siting rules for wind energy generation facilities. One of the Commission's current rules states that sound levels from a wind energy generation facility must not exceed 45 A-weighted decibels ("dBA") within 100 feet of an inhabited residence ("Sound Requirement"), unless a waiver is obtained from the owner of the residence. North Dakota Administrative Code Section 69-06-08-01(4). Based on a third-party sound expert's analysis, Project sound levels with the Project Upgrades may exceed 45 dBA (but are expected to be below 50 dBA) within 100 feet of Owner's residence on the Owner Property.

D. Owner is willing to grant to OTP a waiver of the Sound Requirement for the Owner's residence on the Owner Property as it relates to OTP's Project on the Project Property, as set forth below.

AGREEMENT:

NOW, THEREFORE, in consideration of the premises and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto agree that the Recitals set forth above are hereby incorporated into the Agreement and further agree as follows:

1. Sound Waiver. Owner agrees to and hereby does waive the Project's compliance with the Sound Requirement with respect to the residence on the Owner Property.
2. Cooperation. Owner agrees to not publicly oppose or otherwise object to the Project and to execute and deliver such reasonably requested documents and take such action as may be reasonably requested by OTP to carry out the purposes and intent of this Agreement.
3. Term of Agreement. The term of this Agreement shall commence on the Effective Date and shall continue until December 31, 2105.
4. Consideration. The consideration for this Agreement is set forth on the attached Exhibit B, which Exhibit B shall be removed before recording this Agreement in the official real property records of the county in which the Owner Property is located. Owner and OTP agree that such removal of Exhibit B prior to recording shall not affect the validity of this Agreement.
5. Termination. OTP shall have the right, at any time during the Term, to terminate this Agreement as to all or any part of the Owner Property by providing written notice to Owner. Following any such termination, OTP is authorized to file a release of this Agreement in the official real property records of the county in which the Owner Property is located.
6. Authority; Title. Owner represents and warrants that it is the sole owner of the Owner Property in fee simple and has the full and unrestricted right and authority to execute and deliver this Agreement and to grant to OTP the waiver and other rights granted hereunder. Each person signing this Agreement on behalf of Owner is authorized to do so, and all persons having any ownership or interest in the Owner Property have signed this Agreement on behalf of Owner.
7. Assignment. OTP shall have the right at any time, without need for consent from Owner, to assign or convey all or any portion of this Agreement to an assignee or assignees, on an exclusive or nonexclusive basis, or to mortgage or collaterally assign all or any part of its interest in the Agreement and its rights under the Agreement to any entity (each a "Mortgagee" and collectively, "Mortgagees"). OTP may mortgage or encumber any part of OTP's rights and interests under the Agreement without the need for consent from Owner, provided that any such mortgage attaches only to OTP's rights and does not otherwise attach to the Owner Property. Owner shall have the right to sell, convey, or transfer its interest in the Owner Property, or a portion thereof, without the need for consent from OTP, provided that Owner shall, prior to any such sale,

conveyance, or other transfer, give written notice to OTP thereof, which notice shall include the name, address, and telephone number of the proposed transferee.

8. **Notice.** All communications required or permitted by this Agreement shall be given in writing by personal delivery (confirmed by courier delivery service) or first-class U.S. mail, postage prepaid, return receipt requested, certified, addressed as follows:

If to Owner:

Mark H. Pedersen
714 124th Avenue SE, Luverne, ND 58056
Phone: 701-789-0556
E-mail: _____

Scott G. Pedersen
724 124th Avenue SE, Luverne, ND 58056
Phone: 701-797-7099
E-mail: _____

Evelyn E. Pedersen
714 124th Avenue SE, Luverne, ND 58056
Phone: 701-789-0171
E-mail: _____

If to OTP:

Otter Tail Power Company
Attn: Bryce Haugen
PO Box 496
Fergus Falls, Minnesota 56538
Phone: 218-739-8385
E-mail: bhaugen@otpc.com

Any party may change its address for purposes of this paragraph by giving notice of such change to the other parties in the manner provided in this Section 7. Any notice provided for herein shall become effective only upon actual receipt by the party to whom it is given, unless such notice is mailed by certified mail, return receipt requested, in which case it shall be deemed to be received five (5) business days after the date mailed.

9. **Recording.** Owner and OTP agree that this Agreement may be recorded by OTP in the official real property records of the county in which the Owner Property is located.

10. **Miscellaneous.** This Agreement shall be governed by the laws of the State of North Dakota. This Agreement constitutes the entire agreement between OTP and Owner with respect to the subject matter hereof and supersedes any and all prior oral or written understandings, representations or statements among the parties with respect to the subject matter hereof. This Agreement may not be amended except in a writing executed by both parties. This Agreement

may be executed in two or more counterparts and by different parties on separate counterparts, all of which shall be considered one and the same agreement and each of which shall be deemed an original. Nothing herein shall be deemed to create a joint venture or partnership between parties hereto. In the event of breach of this Agreement, OTP shall be entitled to all remedies provided at law or in equity, including injunctive relief. The prevailing party in any action arising out of, or in connection with, this Agreement shall be entitled to be reimbursed its costs and expenses, including reasonable attorney fees, by the non-prevailing party. NEITHER PARTY SHALL BE ENTITLED TO, AND OWNER AND OTP HEREBY WAIVE ANY AND ALL RIGHTS TO RECOVER, CONSEQUENTIAL, INCIDENTAL, AND PUNITIVE OR EXEMPLARY DAMAGES, HOWEVER ARISING, WHETHER IN CONTRACT, IN TORT, OR OTHERWISE, UNDER OR WITH RESPECT TO ANY ACTION TAKEN IN CONNECTION WITH THIS AGREEMENT.

[Signature pages follow.]

Dated this 22 day of June, 2023.

OWNER: Mark H. Pedersen, an unmarried individual

Mark H. Pedersen
Mark H. Pedersen

STATE OF NORTH DAKOTA §

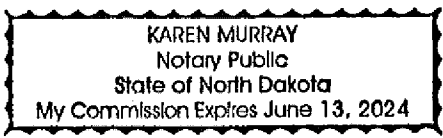
§

COUNTY OF Barnes §

On this 22 day of June, in the year 2023 before me personally appeared Mark H. Pedersen, an unmarried individual, known to me to be the person who is described in and who executed the within instrument, and acknowledged to me that that person (or they) executed the same.

My commission expires: June 13, 2023
[SEAL]

Karen Murray
Notary Public



Dated this 28 day of June, 2023.

OWNER: Scott G. Pedersen, an
unmarried individual

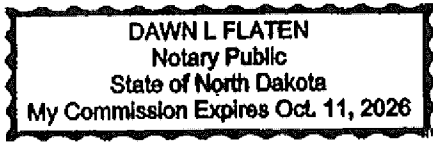
Scott G. Pedersen
Scott G. Pedersen

STATE OF NORTH DAKOTA §
 §
COUNTY OF Steele §

On this 28 day of June, in the year 2023 before me personally appeared **Scott G. Pedersen**, an unmarried individual, known to me to be the person who is described in and who executed the within instrument, and acknowledged to me that that person (or they) executed the same.

My commission expires: Oct 11, 2026
[SEAL]

Dawn L. Flaten
Notary Public



Dated this 22 day of June, 2023.

OWNER: Evelyn E. Pedersen, an unmarried individual

Evelyn E. Pedersen
Evelyn E. Pedersen

STATE OF NORTH DAKOTA §
 §
COUNTY OF Barnes §

On this 22 day of June, in the year 2023 before me personally appeared Evelyn E. Pedersen, an unmarried individual, known to me to be the person who is described in and who executed the within instrument, and acknowledged to me that that person (or they) executed the same.

My commission expires: June 13, 2024
[SEAL]

Karen Murray
Notary Public

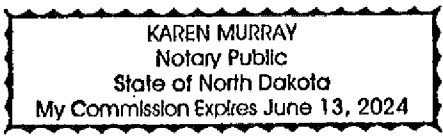


EXHIBIT A

Legal Description of the Owner Property

The following described property located in Steele County, North Dakota:

Parcel 1:

The following described land located in Steele County, North Dakota:

**Southwest Quarter (SW $\frac{1}{4}$) of Section
Twenty-eight (28), Township 145 North,
Range 57 West**

Tax Identification Number: 16-0000-03315-000

110112

STEELE COUNTY, Recorded: 8/8/2023 at 1:58 PM

Pg: 1 of 6

110112

Fee: \$20.00

RECORDER'S OFFICE STEELE COUNTY, ND8/8/2023 at 1:58 PM

I CERTIFY THAT THIS INSTRUMENT WAS FILED
FOR RECORD THIS DATE.

Jenny Foss, County Recorder



By Jenny L. Foss

ATWELL-GROUP 7100 E PLEASANT VALLEY RD STE
INDEPENDENCE, OH 44131-5559

THIS INSTRUMENT WAS DRAFTED BY
AND AFTER RECORDING RETURN TO:
Otter Tail Power Company
PO Box 496
Fergus Falls, MN 56538
Attention: Bryce Haugen
(218) 739-8385

THIS SOUND WAIVER AGREEMENT (this "Agreement"), is dated and effective as of 8-2, 2023 ("Effective Date"), by and between David A. Johnson and Valerie D. Johnson, husband and wife ("Owner"), with a mailing address of P.O. Box 188, Hope, North Dakota 58046, and Otter Tail Power Company, a Minnesota corporation ("OTP"), with a mailing address of PO Box 496, Fergus Falls, Minnesota 56538.

RECITALS:

A. Owner owns a residence located on certain real property in Steele County, North Dakota, as more particularly described on the attached Exhibit A ("Owner Property").

B. OTP owns, operates, and maintains a wind energy generation facility ("Project") on certain real property located adjacent to and in the vicinity of the Owner Property (collectively, the "Project Property"). OTP intends to install new turbine technology on the Project ("Project Upgrades").

C. To the extent applicable, OTP intends for the Project, with the Project Upgrades, to comply with the North Dakota Public Service Commission's ("Commission") siting rules for wind energy generation facilities. One of the Commission's current rules states that sound levels from a wind energy generation facility must not exceed 45 A-weighted decibels ("dBA") within 100 feet of an inhabited residence ("Sound Requirement"), unless a waiver is obtained from the owner of the residence. North Dakota Administrative Code Section 69-06-08-01(4). Based on a third-party sound expert's analysis, Project sound levels with the Project Upgrades may exceed 45 dBA (but are expected to be below 50 dBA) within 100 feet of Owner's residence on the Owner Property.

D. Owner is willing to grant to OTP a waiver of the Sound Requirement for the Owner's residence on the Owner Property as it relates to OTP's Project on the Project Property, as set forth below.

AGREEMENT:

NOW, THEREFORE, in consideration of the premises and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto agree that the Recitals set forth above are hereby incorporated into the Agreement and further agree as follows:

1. **Sound Waiver.** Owner agrees to and hereby does waive the Project's compliance with the Sound Requirement with respect to the residence on the Owner Property.
2. **Cooperation.** Owner agrees to not publicly oppose or otherwise object to the Project and to execute and deliver such reasonably requested documents and take such action as may be reasonably requested by OTP to carry out the purposes and intent of this Agreement.
3. **Term of Agreement.** The term of this Agreement shall commence on the Effective Date and shall continue until December 31, 2105.
4. **Consideration.** The consideration for this Agreement is set forth on the attached Exhibit B, which Exhibit B shall be removed before recording this Agreement in the official real property records of the county in which the Owner Property is located. Owner and OTP agree that such removal of Exhibit B prior to recording shall not affect the validity of this Agreement.
5. **Termination.** OTP shall have the right, at any time during the Term, to terminate this Agreement as to all or any part of the Owner Property by providing written notice to Owner. Following any such termination, OTP is authorized to file a release of this Agreement in the official real property records of the county in which the Owner Property is located.
6. **Authority; Title.** Owner represents and warrants that it is the sole owner of the Owner Property in fee simple and has the full and unrestricted right and authority to execute and deliver this Agreement and to grant to OTP the waiver and other rights granted hereunder. Each person signing this Agreement on behalf of Owner is authorized to do so, and all persons having any ownership or interest in the Owner Property have signed this Agreement on behalf of Owner.
7. **Assignment.** OTP shall have the right at any time, without need for consent from Owner, to assign or convey all or any portion of this Agreement to an assignee or assignees, on an exclusive or nonexclusive basis, or to mortgage or collaterally assign all or any part of its interest in the Agreement and its rights under the Agreement to any entity (each a "Mortgagee" and collectively, "Mortgagees"). OTP may mortgage or encumber any part of OTP's rights and interests under the Agreement without the need for consent from Owner, provided that any such mortgage attaches only to OTP's rights and does not otherwise attach to the Owner Property. Owner shall have the right to sell, convey, or transfer its interest in the Owner Property, or a portion thereof, without the need for consent from OTP, provided that Owner shall, prior to any such sale, conveyance, or other transfer, give written notice to OTP thereof, which notice shall include the name, address, and telephone number of the proposed transferee.

8. Notice. All communications required or permitted by this Agreement shall be given in writing by personal delivery (confirmed by courier delivery service) or first-class U.S. mail, postage prepaid, return receipt requested, certified, addressed as follows:

If to Owner:

David & Valerie Johnson

P.O. Box 188

Hope, North Dakota 58046

Phone: 701-789-0785

E-mail: johnsongrainfarms@gmail.com

If to OTP:

Otter Tail Power Company

Attn: Bryce Haugen

PO Box 496

Fergus Falls, Minnesota 56538

Phone: 218-739-8385

E-mail: bhaugen@otpc.com

Any party may change its address for purposes of this paragraph by giving notice of such change to the other parties in the manner provided in this Section 7. Any notice provided for herein shall become effective only upon actual receipt by the party to whom it is given, unless such notice is mailed by certified mail, return receipt requested, in which case it shall be deemed to be received five (5) business days after the date mailed.

9. Recording. Owner and OTP agree that this Agreement may be recorded by OTP in the official real property records of the county in which the Owner Property is located.

10. Miscellaneous. This Agreement shall be governed by the laws of the State of North Dakota. This Agreement constitutes the entire agreement between OTP and Owner with respect to the subject matter hereof and supersedes any and all prior oral or written understandings, representations or statements among the parties with respect to the subject matter hereof. This Agreement may not be amended except in a writing executed by both parties. This Agreement may be executed in two or more counterparts and by different parties on separate counterparts, all of which shall be considered one and the same agreement and each of which shall be deemed an original. Nothing herein shall be deemed to create a joint venture or partnership between parties hereto. In the event of breach of this Agreement, OTP shall be entitled to all remedies provided at law or in equity, including injunctive relief. The prevailing party in any action arising out of, or in connection with, this Agreement shall be entitled to be reimbursed its costs and expenses, including reasonable attorney fees, by the non-prevailing party. NEITHER PARTY SHALL BE ENTITLED TO, AND OWNER AND OTP HEREBY WAIVE ANY AND ALL RIGHTS TO RECOVER, CONSEQUENTIAL, INCIDENTAL, AND PUNITIVE OR EXEMPLARY DAMAGES, HOWEVER ARISING, WHETHER IN CONTRACT, IN TORT, OR OTHERWISE, UNDER OR WITH RESPECT TO ANY ACTION TAKEN IN CONNECTION WITH THIS AGREEMENT.

[Signature pages follow.]

Dated this 8th day of July, 2023.

OWNER: David A. Johnson and
Valerie D. Johnson, husband and wife

David A. Johnson
David A. Johnson

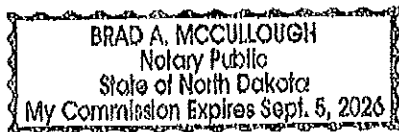
Valerie D. Johnson
Valerie D. Johnson

STATE OF NORTH DAKOTA §

COUNTY OF Steele §

On this 8th day of July, in the year 2023 before me personally appeared David A. Johnson and Valerie D. Johnson, as husband and wife, known to me to be the persons who are described in and who executed the within instrument, and acknowledged to me that that they executed the same.

My commission expires: 9/5/26
[SEAL]



[Signature]
Notary Public

OTP:

Otter Tail Power Company,
a Minnesota corporation

By: Bryce A. Hansen

Its: Energy Developer

STATE OF MINNESOTA)
COUNTY OF Otter Tail) ss.

The foregoing instrument was acknowledged before me this 8th day of August, 2023, by Bryce Hansen, the Eng. Developer of Otter Tail Power Company, a Minnesota corporation, on behalf of the corporation.

Kimberly Ann Ward
Notary Public

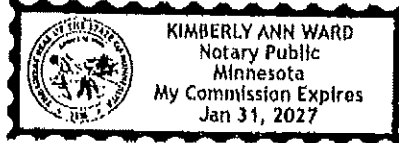


EXHIBIT A

Legal Description of the Owner Property

The following described property located in Steele County, North Dakota:

Parcel 1:

A tract of land situated in the Southeast Quarter (SE $\frac{1}{4}$) of Section Twenty-eight (28), in Township One Hundred Forty-five (145) North, of Range Fifty-even (57) West of the Fifth Principal Meridian, Steele County, North Dakota, more particularly described as follows: Beginning at the northeast corner of said Southeast Quarter (SE $\frac{1}{4}$); thence west along the north quarter line of said Southeast Quarter (SE $\frac{1}{4}$) a distance of 1,094 feet to a point; thence south parallel to the east quarter line of said Southeast Quarter (SE $\frac{1}{4}$) a distance of 744 feet to a point; thence east parallel to the north line of said Southeast Quarter (SE $\frac{1}{4}$) a distance of 1,094 feet to a point on the east quarter line of said Southeast Quarter (SE $\frac{1}{4}$); thence north along said east quarter line of said Southeast Quarter (SE $\frac{1}{4}$) a distance of 744 feet to the point of beginning;

Tax Identification Number: 16-0000-03314-010

110162

STEELE COUNTY, Recorded: 9/26/2023 at 9:04 AM

Pg: 1 of 6

110162

Fee: \$20.00

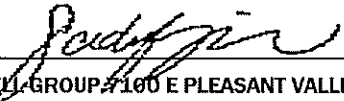
RECORDER'S OFFICE STEELE COUNTY, ND9/26/2023 at 9:04 AM

I CERTIFY THAT THIS INSTRUMENT WAS FILED
FOR RECORD THIS DATE.

Sady Kjorven, County Recorder



By


ATWELL GROUP #100 E PLEASANT VALLEY RD STE
INDEPENDENCE, OH 44131-5559

THIS INSTRUMENT WAS DRAFTED BY
AND AFTER RECORDING RETURN TO:
Otter Tail Power Company
PO Box 496
Fergus Falls, MN 56538
Attention: Bryce Haugen
(218) 739-8385

THIS SOUND WAIVER AGREEMENT (this "Agreement"), is dated and effective as of September 11, 2023 ("Effective Date"), by and between Steven M. Johnson and Stephanie Jo Johnson, husband and wife, ("Owner"), with a mailing address of 12154 4th Street SE, Luverne, North Dakota 58056, and Otter Tail Power Company, a Minnesota corporation ("OTP"), with a mailing address of PO Box 496, Fergus Falls, Minnesota 56538.

RECITALS:

- A. Owner owns a residence located on certain real property in Steele County, North Dakota, as more particularly described on the attached Exhibit A ("Owner Property").
- B. OTP owns, operates, and maintains a wind energy generation facility ("Project") on certain real property located adjacent to and in the vicinity of the Owner Property (collectively, the "Project Property"). OTP intends to install new turbine technology on the Project ("Project Upgrades").
- C. To the extent applicable, OTP intends for the Project, with the Project Upgrades, to comply with the North Dakota Public Service Commission's ("Commission") siting rules for wind energy generation facilities. One of the Commission's current rules states that sound levels from a wind energy generation facility must not exceed 45 A-weighted decibels ("dBA") within 100 feet of an inhabited residence ("Sound Requirement"), unless a waiver is obtained from the owner of the residence. North Dakota Administrative Code Section 69-06-08-01(4). Based on a third-party sound expert's analysis, Project sound levels with the Project Upgrades may exceed 45 dBA (but are expected to be below 50 dBA) within 100 feet of Owner's residence on the Owner Property.

D. Owner is willing to grant to OTP a waiver of the Sound Requirement for the Owner's residence on the Owner Property as it relates to OTP's Project on the Project Property, as set forth below.

AGREEMENT:

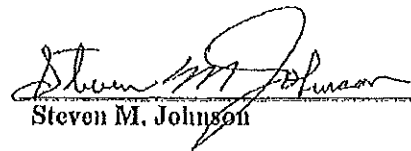
NOW, THEREFORE, in consideration of the premises and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto agree that the Recitals set forth above are hereby incorporated into the Agreement and further agree as follows:


1. **Sound Waiver.** Owner agrees to and hereby does waive the Project's compliance with the Sound Requirement with respect to the residence on the Owner Property.
2. **Cooperation.** Owner agrees to not publicly oppose or otherwise object to the Project and to execute and deliver such reasonably requested documents and take such action as may be reasonably requested by OTP to carry out the purposes and intent of this Agreement.
3. **Term of Agreement.** The term of this Agreement shall commence on the Effective Date and shall continue until December 31, 2105.
4. **Consideration.** The consideration for this Agreement is set forth on the attached Exhibit B, which Exhibit B shall be removed before recording this Agreement in the official real property records of the county in which the Owner Property is located. Owner and OTP agree that such removal of Exhibit B prior to recording shall not affect the validity of this Agreement.
5. **Termination.** OTP shall have the right, at any time during the Term, to terminate this Agreement as to all or any part of the Owner Property by providing written notice to Owner. Following any such termination, OTP is authorized to file a release of this Agreement in the official real property records of the county in which the Owner Property is located.
6. **Authority; Title.** Owner represents and warrants that it is the sole owner of the Owner Property in fee simple and has the full and unrestricted right and authority to execute and deliver this Agreement and to grant to OTP the waiver and other rights granted hereunder. Each person signing this Agreement on behalf of Owner is authorized to do so, and all persons having any ownership or interest in the Owner Property have signed this Agreement on behalf of Owner.
7. **Assignment.** OTP shall have the right at any time, without need for consent from Owner, to assign or convey all or any portion of this Agreement to an assignee or assignees, on an exclusive or nonexclusive basis, or to mortgage or collaterally assign all or any part of its interest in the Agreement and its rights under the Agreement to any entity (each a "Mortgagee" and collectively, "Mortgagees"). OTP may mortgage or encumber any part of OTP's rights and interests under the Agreement without the need for consent from Owner, provided that any such mortgage attaches only to OTP's rights and does not otherwise attach to the Owner Property. Owner shall have the right to sell, convey, or transfer its interest in the Owner Property, or a portion thereof, without the need for consent from OTP, provided that Owner shall, prior to any such sale, conveyance, or other transfer, give written notice to OTP thereof, which notice shall include the name, address, and telephone number of the proposed transferee.

[Signature pages follow.]

Dated this 1 day of September 2023.

OWNER: Steven M. Johnson and
Stephanie Jo Johnson, husband and
wife


Steven M. Johnson

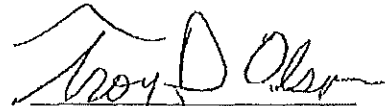

Stephanie Jo Johnson

STATE OF NORTH DAKOTA §

COUNTY OF Griggs §

On this 1 day of Sept, in the year 2023 before me personally appeared Steven M. Johnson and Stephanie Jo Johnson, as husband and wife, known to me to be the persons who are described in and who executed the within instrument, and acknowledged to me that they executed the same.

My commission expires: 11/06/2023
[SEAL]


Notary Public

TROY D. OLSON
Notary Public
State of North Dakota
My Commission Expires Nov. 6, 2023

EXHIBIT A

Legal Description of the Owner Property

The following described property located in Steele County, North Dakota:

Parcel 1:

TOWNSHIP 145 NORTH, RANGE 57 WEST;

Section 20; SW1/4; and SE1/4, LESS that part of the SE1/4 more particularly described as follows, to-wit: Beginning at the Southeast corner of said Section 20; thence North 00°00'00" East (assumed bearing), along the East line of said Section 20, for a distance of 190.00 feet; thence South 89°54'20" West for a distance of 270.00 feet; thence South 00°00'00" West for a distance of 190.00 feet to a point on the South line of said Section 20; thence North 89°54'20" East, along the South line of said Section 20, for a distance of 270.00 feet to the point of beginning; AND FURTHER LESS that part of the SE1/4 more particularly described as follows, to-wit: Commencing at the Southeast corner of said Section 20, thence North 00°00'00" East (assumed bearing), along the East line of said Section 20, for a distance of 190 feet; thence South 89°54'20" West for a distance of 270 feet to the point of beginning; thence South 00°00'00" West for a distance of 190 feet to a point on the South line of said Section 20; thence South 89°54'20" West for a distance of 50 feet; thence North 00°00'00" East for a distance of 190 feet; thence North 89°54'20" East a distance of 50 feet to the point of beginning.

Tax Identification Number: 16-0000-03281-000