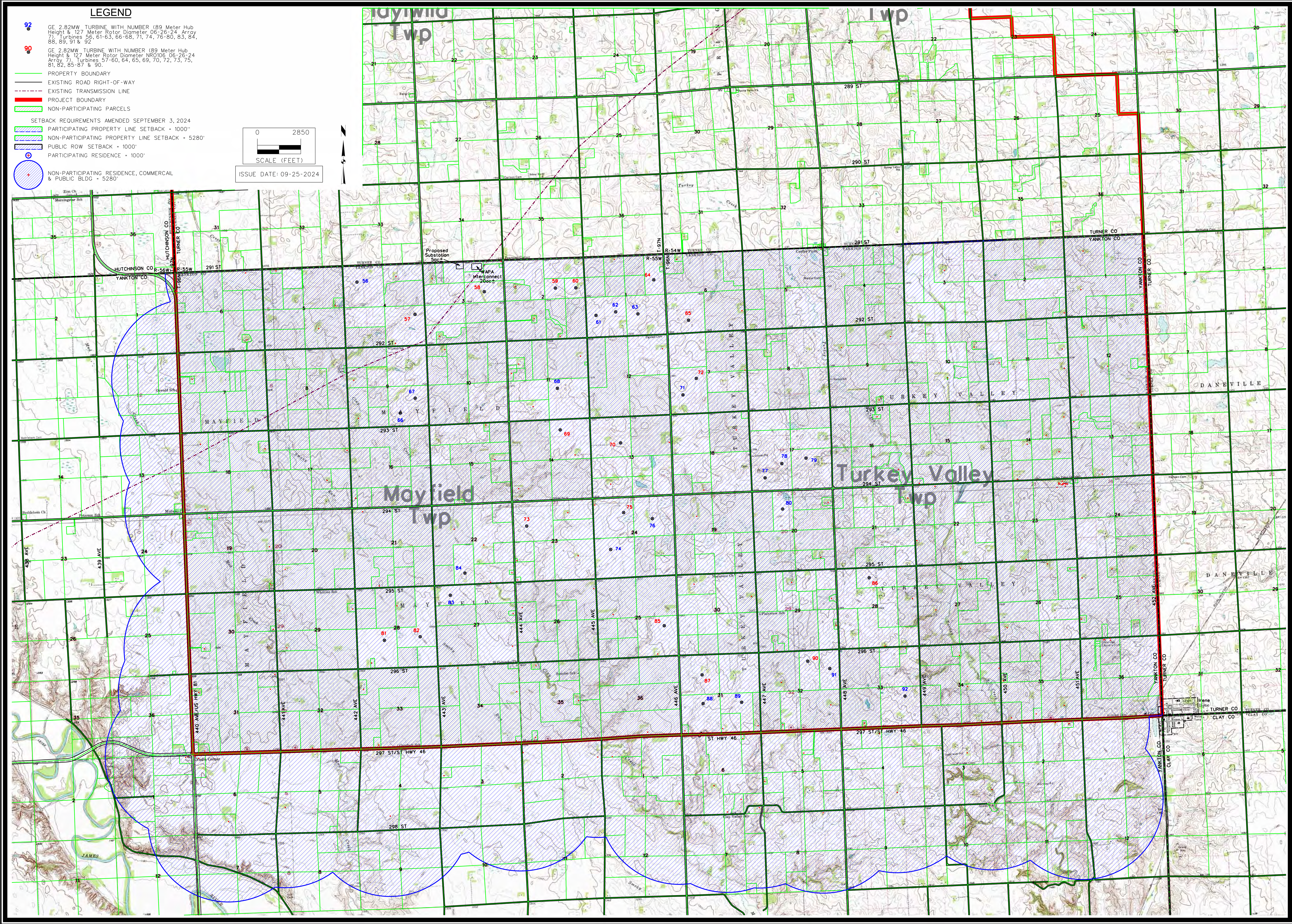

LEGEND

- 92 — GE 2.82MW TURBINE WITH NUMBER (89 Meter Hub Height & 127 Meter Rotor Diameter 06-26-24 Array 7). Turbines 56, 61-63, 66-68, 71, 74, 76-80, 83, 84, 88, 89, 91 & 92
- 90 — GE 2.82MW TURBINE WITH NUMBER (89 Meter Hub Height & 127 Meter Rotor Diameter NRO106 06-26-24 Array 7). Turbines 57-60, 64, 65, 69, 70, 72, 73, 75, 81, 82, 85-87 & 90.
- PROPERTY BOUNDARY
- EXISTING ROAD RIGHT-OF-WAY
- EXISTING TRANSMISSION LINE
- PROJECT BOUNDARY
- NON-PARTICIPATING PARCELS

SETBACK REQUIREMENTS AMENDED SEPTEMBER 3, 2024

- PARTICIPATING PROPERTY LINE SETBACK = 1000''
- NON-PARTICIPATING PROPERTY LINE SETBACK = 5280'
- PUBLIC ROW SETBACK = 1000'
- PARTICIPATING RESIDENCE = 1000'
- NON-PARTICIPATING RESIDENCE, COMMERCAIL & PUBLIC BLDG = 5280'

0 2850
SCALE (FEET)

ISSUE DATE: 09-25-2024

SWAN LAKE WIND

YANKTON CO CUP SITE PLAN

YANKTON COUNTY, SOUTH DAKOTA

MARK	REVISION	DATE	BY

Engineer: BF | Checked By: MGG | Scale: 1"= 2500'
Technician: DW | Date: 5/8/24 | Field Bk: | Pg:
Project No: 1231501 | Sheet 1 of 1

SNYDER & ASSOCIATES, INC.
231 BENNETT AVENUE
COUNCIL BLUFFS, IA 51503
712-322-3202 | www.snyder-associates.com

SNYDER & ASSOCIATES

Project No: 1231501

Sheet 1 of 1

SOUND LEVEL ASSESSMENT REPORT

Swan Lake Wind Project
Yankton County, South Dakota

Prepared for:

Swan Lake Wind, LLC
700 Universe Boulevard
Juno Beach, Florida 33408

Prepared by:

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

August 9, 2024

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LIST OF TABLES

1.0 EXECUTIVE SUMMARY

The Swan Lake Wind Project (Project) is a proposed wind power generation facility that will consist of 97 wind turbines in Yankton and Turner Counties, South Dakota. The proposed Project is being developed by Swan Lake Wind, LLC (Swan Lake Wind), an indirect, wholly-owned subsidiary of NextEra Energy Resources, LLC (NextEra Energy Resources or NEER). SWCA Environmental Consultants (SWCA), retained to assist in the permitting of the Project, has retained Epsilon Associates, Inc. (Epsilon) to conduct a pre-construction sound level assessment for this Project.

A sound level modeling assessment, specific to Yankton County, was conducted for the Project with 97 proposed wind turbines and 9 (nine) alternate wind turbine locations. Thirty-seven (37) of the modeled wind turbines are within Yankton County and 69 are within Turner County. The Project is anticipated to be composed of GE 2.82-127 wind turbines at a hub height of 89 meters. All Project wind turbines will have Low Noise Trailing Edge (LNTE) blades. The model included 63 wind turbines in a noise reduced operation (NRO), of which 22 are within Yankton County. A collector substation was also included in the sound model.

Project-only sound levels were modeled at property lines in the vicinity of the Project to evaluate compliance with the Yankton County Zoning Ordinance and at residences to evaluate sound level criteria set forth by NEER.

The predicted worst-case sound levels from the Swan Lake Wind Project at non-participating parcel boundaries are below the applied Yankton County sound limit of 60 dBA. The predicted worst-case sound levels are also at or below the criteria set forth by NEER at non-participating and participating residences in Yankton County. Therefore, the Project complies with the Yankton County ordinance and meets the requirements set forth by NEER under the modeled operation scenario.

2.0 INTRODUCTION

The Swan Lake Wind Project will consist of 97 General Electric (GE) 2.82-127 wind turbines. There are 36 turbines proposed in Yankton County, South Dakota and 69 turbines proposed in Turner County, South Dakota. All wind turbines will have Low Noise Trailing Edge (LNTE) blades. A collector substation is proposed for the Project in Yankton County with two (2) 170 megavolt-ampere (MVA) transformers. Figure 2-1 shows the locations of the 97 wind turbines and nine (9) alternate wind turbine locations and the substation over aerial imagery. The nine alternate wind turbines are all GE 2.82 megawatt (MW) units and located in Turner County. Of the modeled 106 wind turbines, 63 GE 2.82 MW wind turbines are proposed to operate under a noise reduction operation (NRO).

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, later advances in wind turbine design 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, environmental sound levels generally also increase with increasing wind speed with or without the presence of wind turbines.

The Project wind turbines were modeled in CadnaA using sound data from GE technical reports. The proposed substation was also included in the model. The results of this analysis are found within this report.

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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.

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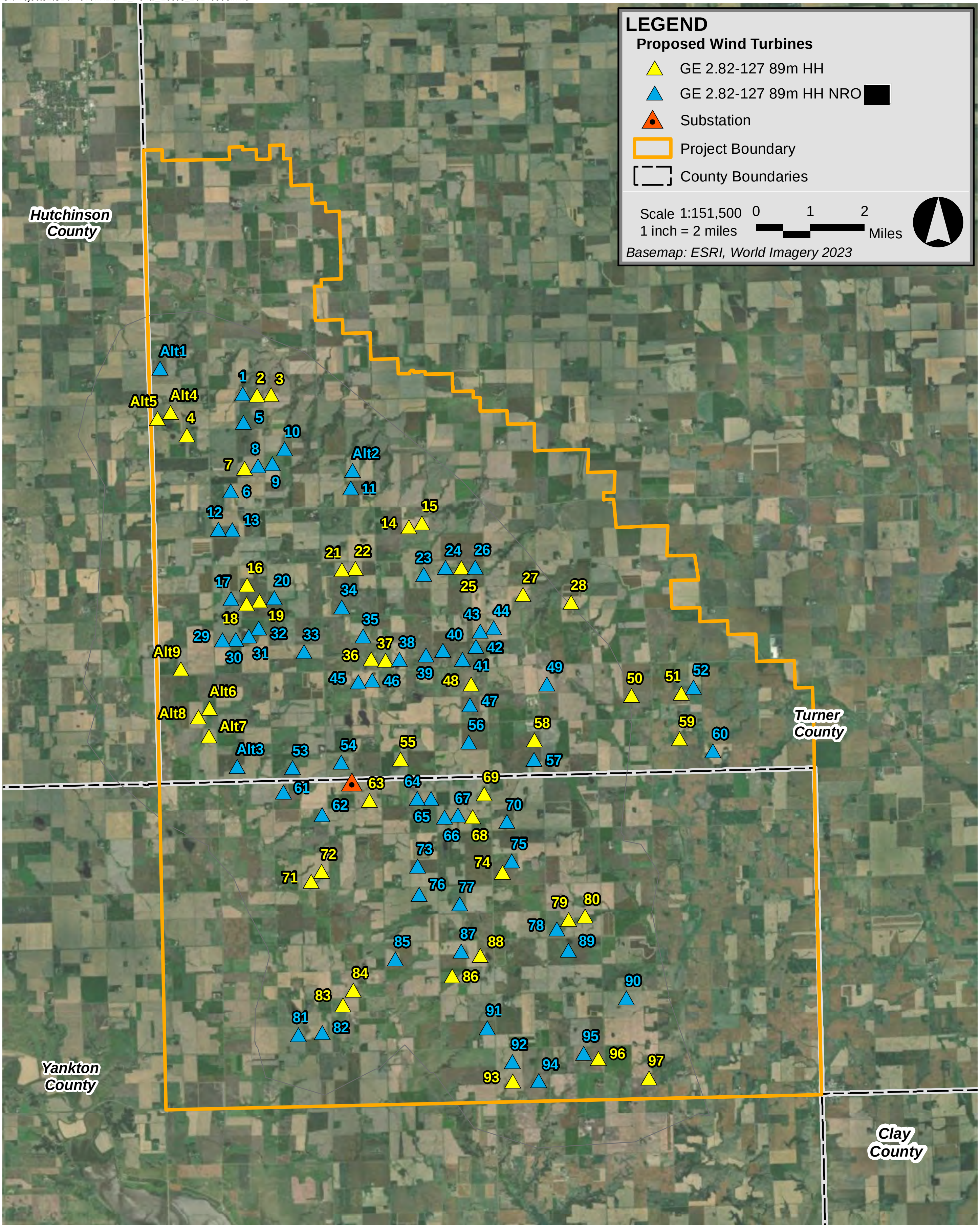


Swan Lake Wind Project **Turner and Yankton Counties, South Dakota**

Epsilon ASSOCIATES INC.

Figure 2-1
Aerial Locus

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 characteristics[2]:

- 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.

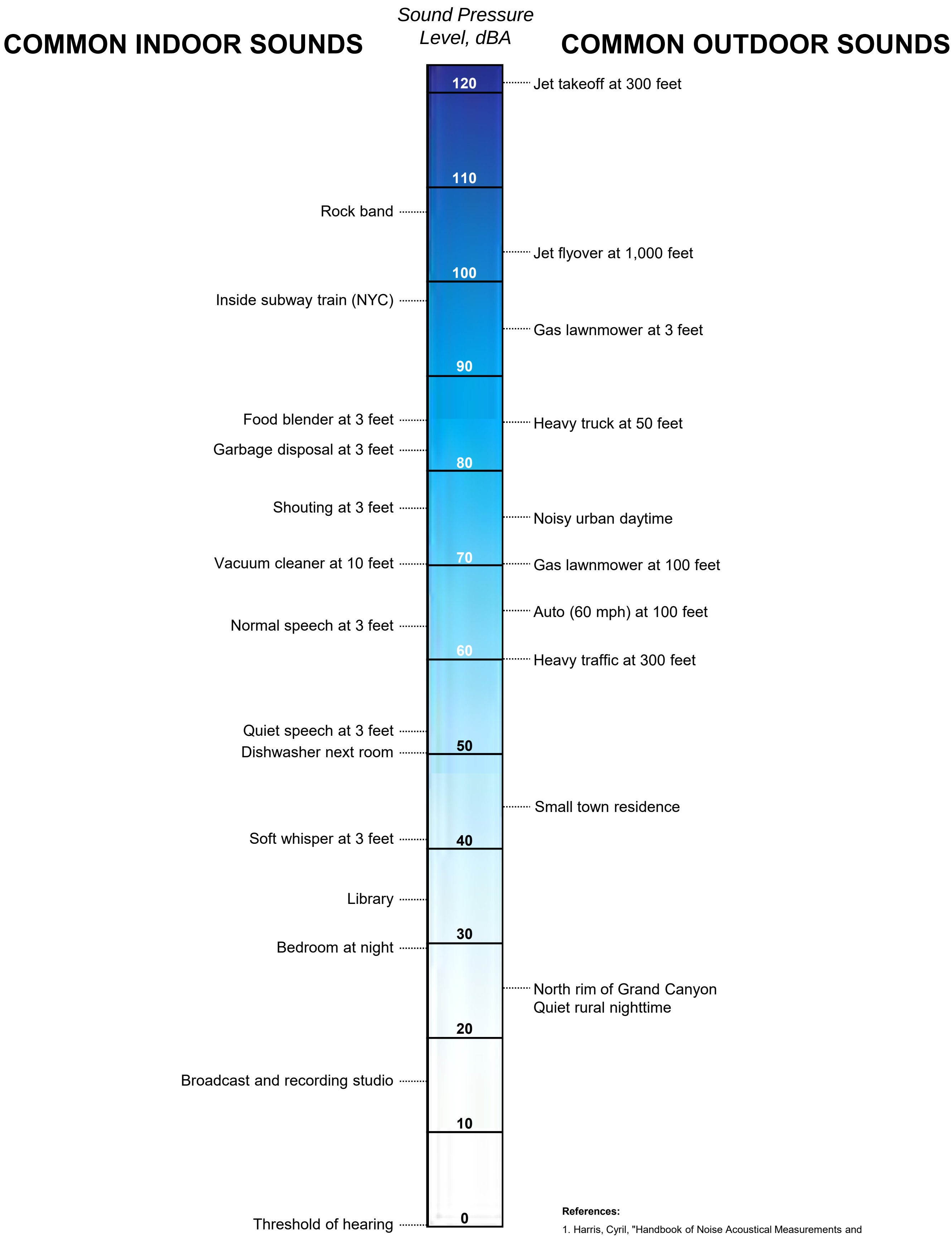
Because the sounds in our environment vary with time they cannot simply be described with a single number. Two methods are used for describing variable sounds. These are exceedance levels and the equivalent level, both of which are derived from some number of moment-to-moment A-weighted sound level measurements. Exceedance levels are values from the cumulative amplitude distribution of all 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 may be reported in community sound studies 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.



References:

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

Figure 3-1

Common Indoor and Outdoor Sound Levels

4.0 NOISE REGULATIONS & CRITERIA

4.1 Federal Regulations

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

4.2 South Dakota State Regulations

There are no current state community noise regulations applicable to this Project. The South Dakota Public Utilities Commission (SDPUC), as part of their orders granting permission to construct wind energy facilities, has included permit conditions with specific sound level limits.

4.3 Yankton County Regulations

The portion of the proposed Swan Lake Wind Project within Yankton County is subject to the following sound level requirements in Article 26 Section 2605.16 of Yankton County Zoning Ordinance 2020, Noise subsection of Large or Commercial Wind Energy Conversion Systems (WECS): "Noise level shall not exceed 60 dB, including constructive interference effects, measured at the closest point on the closest property line from the base of the system." Epsilon assumes the sound level limit is in A-weighted decibels (dBA), which is more typical for community sound level criteria and found as the weighting specified in Yankton County's Small Wind Energy Conversion Systems section.

4.4 NextEra Energy Resources Criteria

NextEra Energy Resources has instructed Epsilon to evaluate predicted sound levels at residences in Yankton County against the following thresholds: 45 dBA average A-weighted sound pressure level at non-participating residences and 50 dBA average A-weighted sound pressure level at participating residences.

5.0 MODELED SOUND LEVELS

5.1 Sound Sources

5.1.1 Project Wind Turbines

The sound level analysis for the Project conservatively includes 106 wind turbines, including 97 proposed locations and nine (9) alternates. The array consists of GE 2.82 MW wind turbines. There are 37 turbines proposed in Yankton County and 69 turbines proposed in Turner County. The nine alternate wind turbines are all located in Turner County. All wind turbines will have Low Noise Trailing Edge blades.

All GE 2.82-127 LNTE wind turbines have a rotor diameter of 127 meters and a hub height of 89 meters. A technical report from GE[4] was provided to Epsilon which documents the expected sound power levels associated with the GE 2.82-127 LNTE wind turbine. Sixty-three (63) GE 2.82-127 LNTE wind turbines are proposed to operate under noise reduced operation as identified in applicable figures within this report. As described by the acoustic document from GE[5], a wind turbine in NRO 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 for this wind turbine type. The NRO mode included in the modeling of the Project is NRO[redacted].

5.1.2 Project Substation

The proposed substation will be located northeast of wind turbine 63 as shown in Figure 5-1. The proposed substation will feature two (2) 170 MVA transformers. Epsilon estimated octave-band sound power levels using methods outlined in the Electric Power Plant Environmental Noise Guide[6] (EEI Noise Guide) and assuming the transformer will have a NEMA[7] rating of 75 dBA. Table 5-1 summarizes the sound power level data used in the modeling.

---

4 GE Renewable Energy, Technical Documentation Wind Turbine Generator Systems 2.x-127 with LNTE – 60 Hz Product Acoustic Specifications, Rev. 03, 2021-01-19.

5 GE Renewable Energy, Technical Documentation Wind Turbine Generator Systems 2.5-127 and 2.8-127 with LNTE 60 Hz Product Acoustic Specifications Noise Reduced Operation according to IEC, Rev. 07, 2022-09-18.

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

7 National Electrical Manufacturers Association

Table 5-1 Modeled Substation Transformer Sound Power Levels

Maximum Rating	Broadband dBA	Sound Power Levels per Octave Band Center Frequency [Hz] 31.5 dB	63 dB	125 dB	250 dB	500 dB	1k dB	2k dB	4k dB	8k dB
170 MVA	95	92	98	100	95	95	89	84	79	72

5.2 Modeling Methodology

The sound levels associated with the proposed Project 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.[8] The software offers a 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 5-2 below.

- *Project Array:* This analysis is for the wind turbine array dated July 18, 2024 with a Project Boundary dated May 10, 2024. The proposed Project array and Project Boundary are identified in Figure 5-1. The wind turbine global coordinates and other wind turbine details are provided in Appendix A.

- *Parcel Participation:* A dataset containing participation status information for property parcels in the proximity of the Project was provided on June 18, 2024. Participating parcels from this dataset are shown in Figure 5-1.

- *Modeling Receptor Locations:* A modeling receptor dataset was provided to Epsilon with a date of May 28, 2024. These receptors, characterized as homes, were deduced to a dataset of homes within 1.5 miles of a proposed wind turbine or the substation and limited to those within Yankton County for this study, resulting in 285 receptors. These were input into the sound level 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. Participation status for each home was assigned as described above. All modeling receptors are identified in Figure 5-1 and are distinguished as either participating or non-participating.

---

8 *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 within Yankton County. 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 were generated from elevation information in a GeoTIFF file (a.k.a. DEM or digital elevation model at a resolution of 1 meter) downloaded from the National Elevation Dataset (NED) developed by the U.S. Geological Survey. The contour interval in the sound level model is 3 meters.

- *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 to 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". The model, consistent with the ISO 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.

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℃/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 5-2 Summary of Key Sound Level Modeling Inputs

Modeling Parameter	Description / Value
Wind Turbine Array	Provided by NEER, Dated 7/18/2024
Terrain	U.S.G.S. Data
Wind Turbine Sound Power Levels	GE Specifications Documentation
Transformer Sound Power Levels	EEI Noise Guide Calculation
Meteorological Conditions	T=10℃ / RH=70%
Ground Absorption Factor	0

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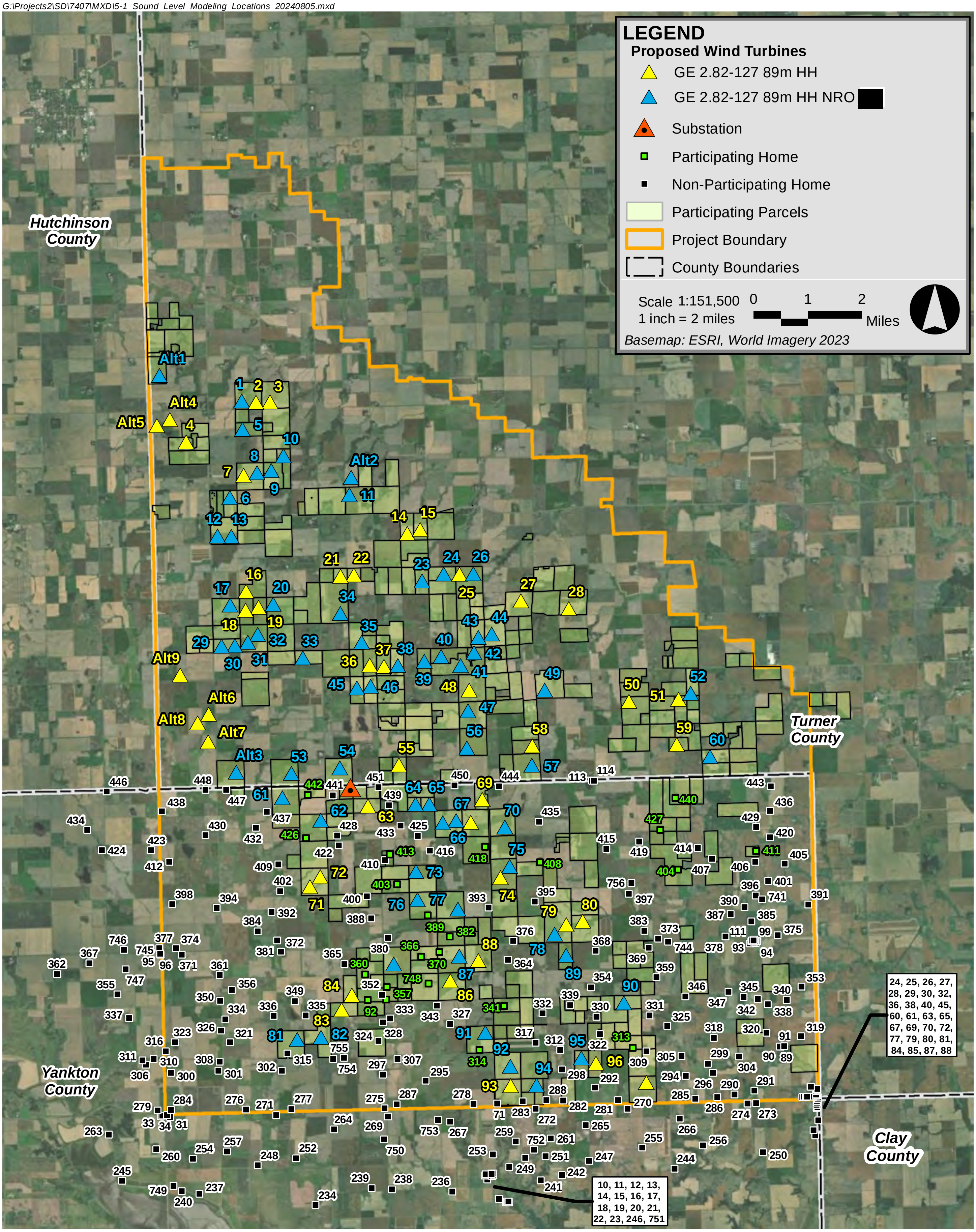

Swan Lake Wind Project **Turner and Yankton Counties, South Dakota**

Epsilon ASSOCIATES INC.

Figure 5-1

Sound Level Modeling Locations

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 in Appendix B shows the predicted "Project Only" broadband (dBA) sound levels at the 285 homes in Yankton County modeled within proximity to the Project. These broadband L_{eq} sound levels range from 15 to 45 dBA and represent the worst-case future L_{eq} sound levels produced solely by the Project wind turbines and substation. The maximum modeled sound level of 45 dBA is predicted at participating and non-participating homes. In addition to the discrete modeling points, sound level isolines generated from the modeling grid are presented in Figure 5-2. The sound levels presented in the table and in the figure do not include any contribution from existing sound sources in the area.

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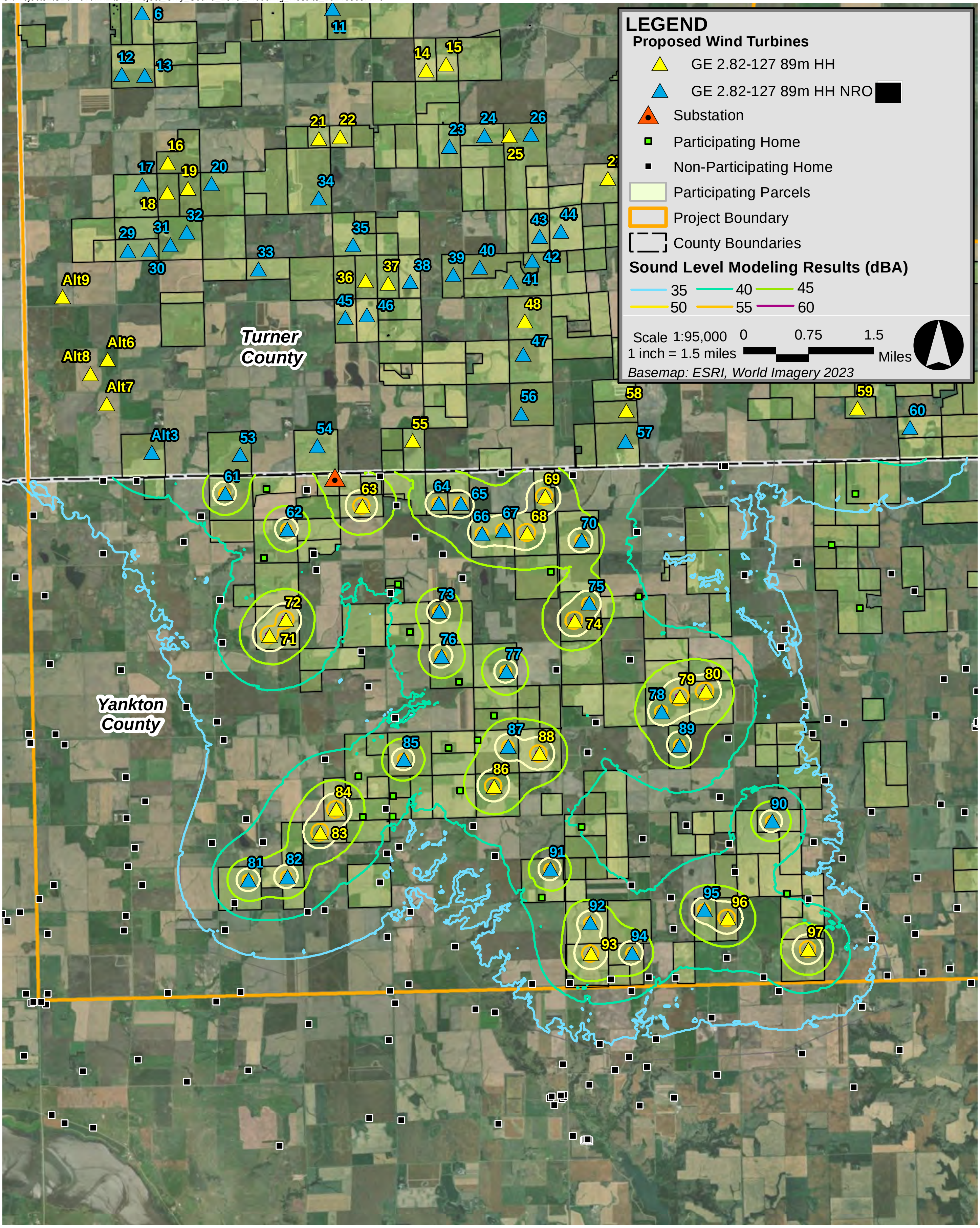

Swan Lake Wind Project **Turner and Yankton Counties, South Dakota**

Epsilon Associates Inc.

Figure 5-2

Project Only Sound Level Modeling Results

6.0 EVALUATION OF SOUND LEVELS

6.1 Yankton County Evaluation

The Project is subject to the requirements contained in the Yankton County Zoning Ordinance for Large or Commercial Wind Energy Conversion Systems. The sound level limit in this regulation is 60 dBA[9] at a property line. Figure 6-1 provides a detailed depiction of the sound level isolines from the model as they relate to property lines in Yankton County. A close review of the map set shows the 60 dBA L_{eq} sound level isolines do not extend beyond the extents of participating parcel boundaries. Therefore, the Project complies with the Yankton County ordinance under the modeled operation scenario.

6.2 NextEra Energy Resources Criteria Evaluation

NextEra Energy Resources has instructed Epsilon to evaluate predicted sound levels at residences in Yankton County against specific thresholds for non-participating and participating residences; 45 dBA and 50 dBA, respectively. Table B-1 in Appendix B presents an evaluation for all individual residences included in the model. The table shows the highest predicted worst-case sound level to be 45 dBA at receptors #92, 451, 439, 418, and 283. Receptors 92 and 418 are participating residences, and receptors 451, 439, and 283 are non-participating residences. In conclusion, the sound levels from the Swan Lake Wind Project are at or below the NEER criterion of 45 dBA at all modeled non-participating residences in Yankton County and below the NEER criterion of 50 dBA at all modeled participating residences in Yankton County meeting the requirements set forth by NEER under the modeled operation scenario.

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9 A-weighted decibels assumed by Epsilon. The zoning ordinance states “dB”.

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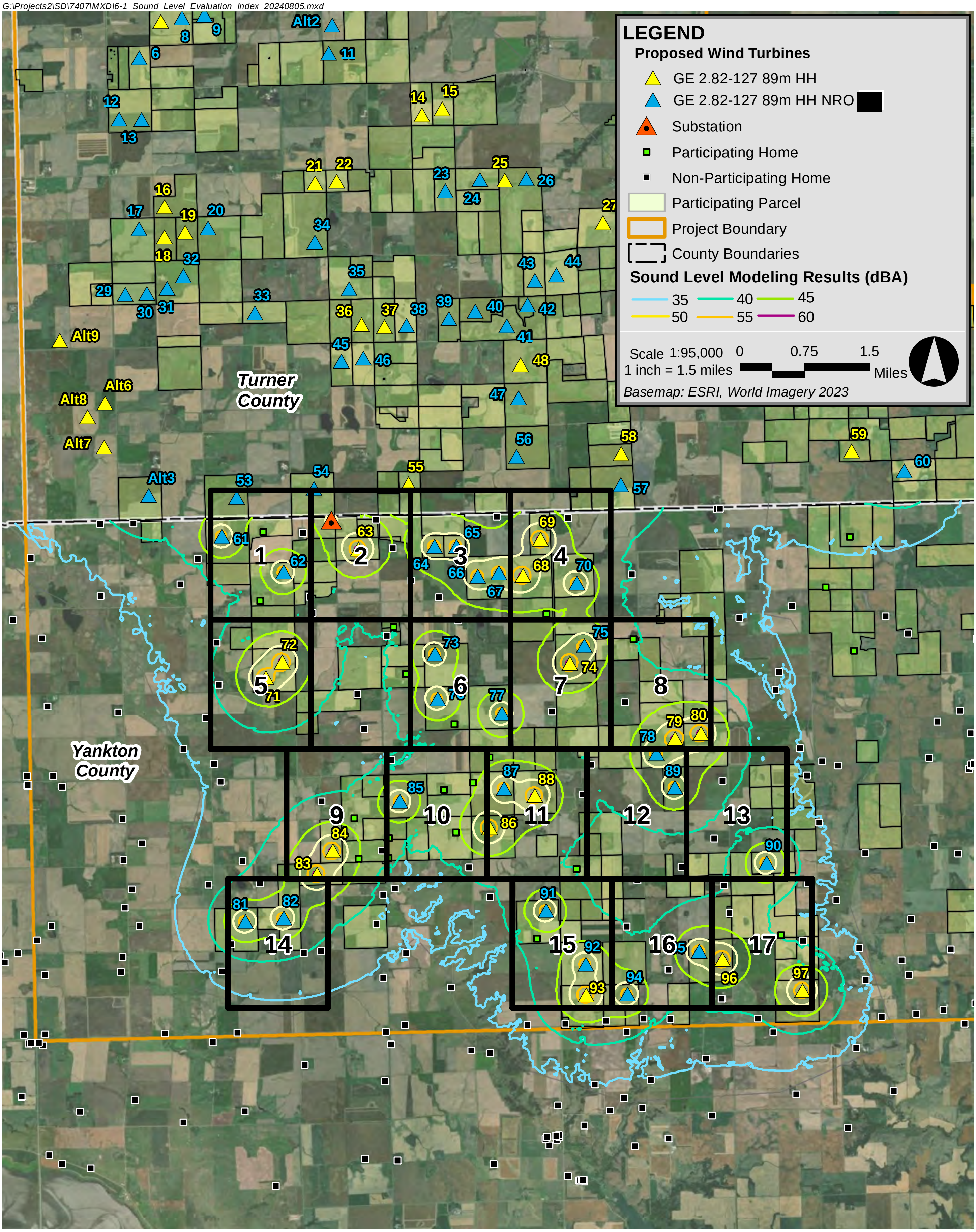

Swan Lake Wind Project **Turner and Yankton Counties, South Dakota**

Epsilon ASSOCIATES INC.

Figure 6-1 Index
Sound Level Evaluation

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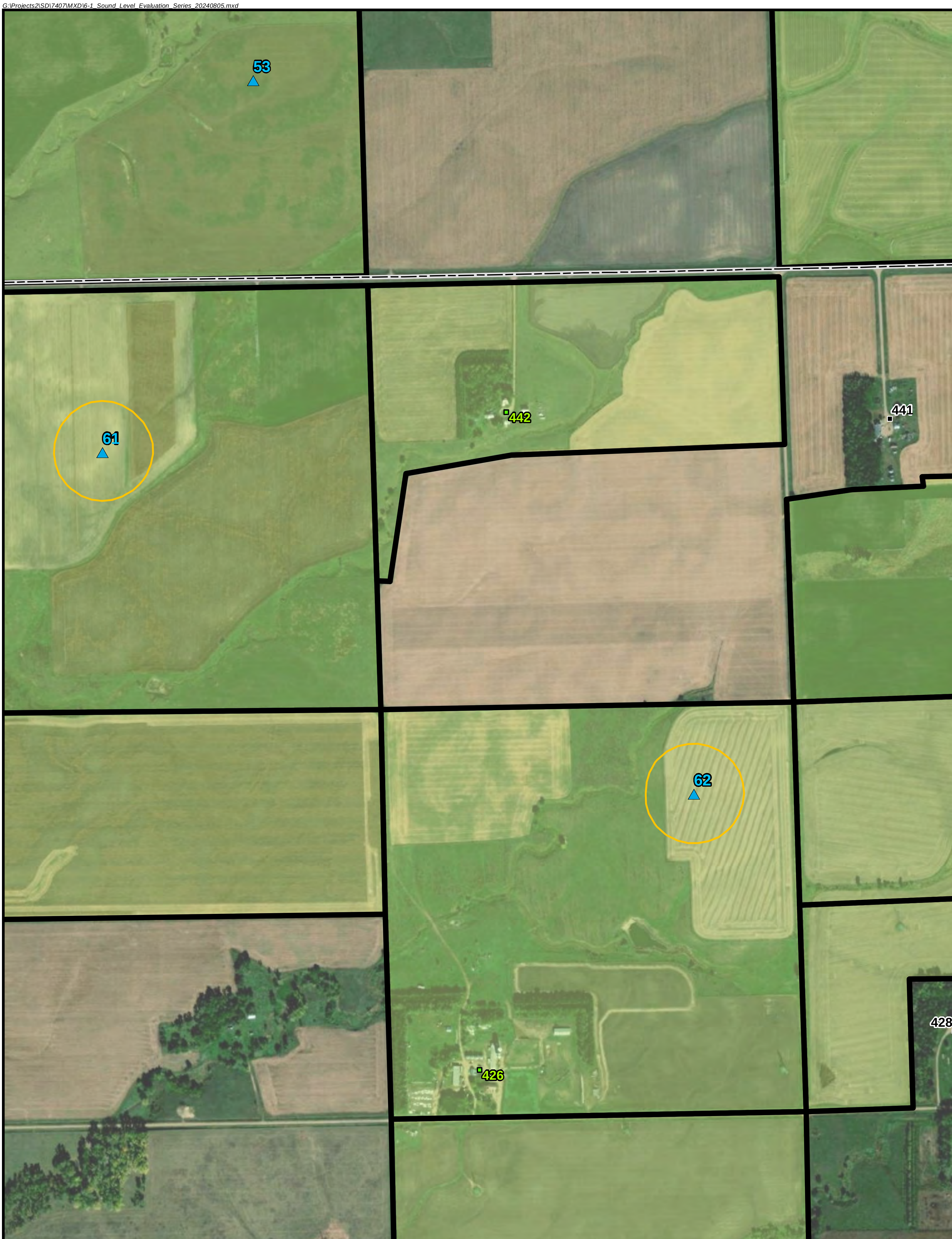


LEGEND

Proposed Wind Turbines

GE 2.82-127 89m HH

GE 2.82-127 89m HH NRO

Participating Home

Non-Participating Home

Substation

Participating Parcel

Project Boundary

County Boundaries

Sound Level Modeling Results (dBA)

55 (for reference)

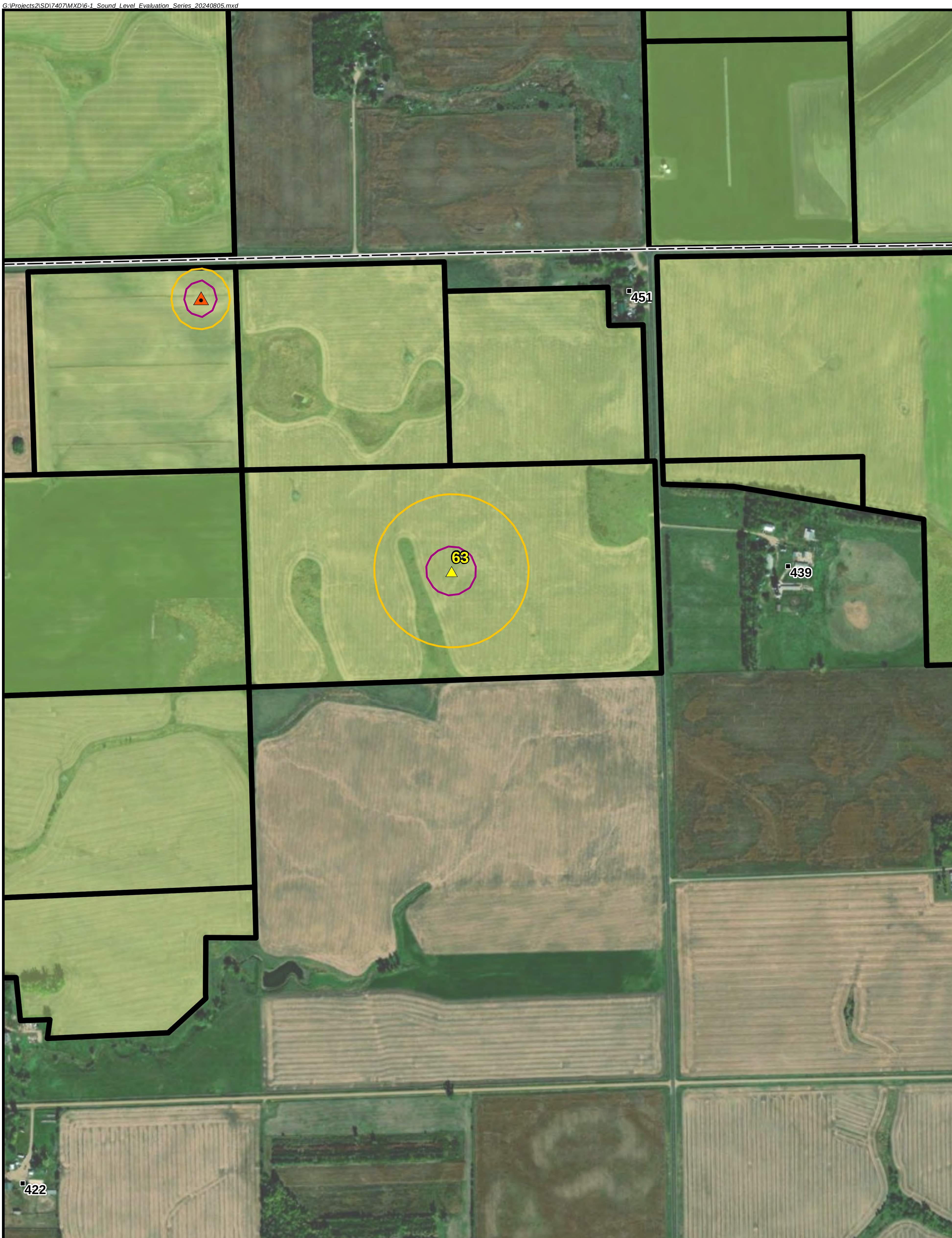
60

Scale 1:7,200
1 inch = 600 feet

0 325 650 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17



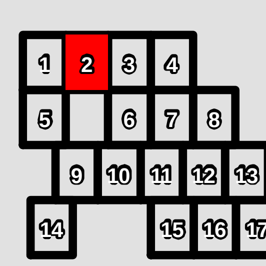
LEGEND

Proposed Wind Turbines
- GE 2.82-127 89m HH
- GE 2.82-127 89m HH NRO
- Participating Home
- Non-Participating Home
- Substation
- Participating Parcel
- Project Boundary
- County Boundaries

Sound Level Modeling Results (dBA)
- 55 (for reference)
- 60

Scale 1:7,200
1 inch = 600 feet
0 325 650 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



Swan Lake Wind Project **Turner and Yankton Counties, South Dakota**

Epsilon ASSOCIATES INC.

Figure 6-1, Map 2 of 17
Sound Level Evaluation

LEGEND

Proposed Wind Turbines

- GE 2.82-127 89m HH
- GE 2.82-127 89m HH NRO
- Participating Home
- Non-Participating Home
- Substation
- Participating Parcel
- Project Boundary
- County Boundaries

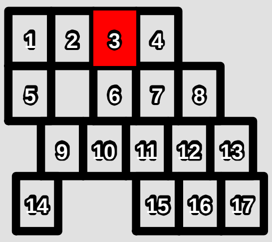
Sound Level Modeling Results (dBA)

- 55 (for reference)
- 60

Scale 1:7,200
1 inch = 600 feet

0 325 650 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



Swan Lake Wind Project **Turner and Yankton Counties, South Dakota**

Epsilon ASSOCIATES INC.

Figure 6-1, Map 3 of 17
Sound Level Evaluation

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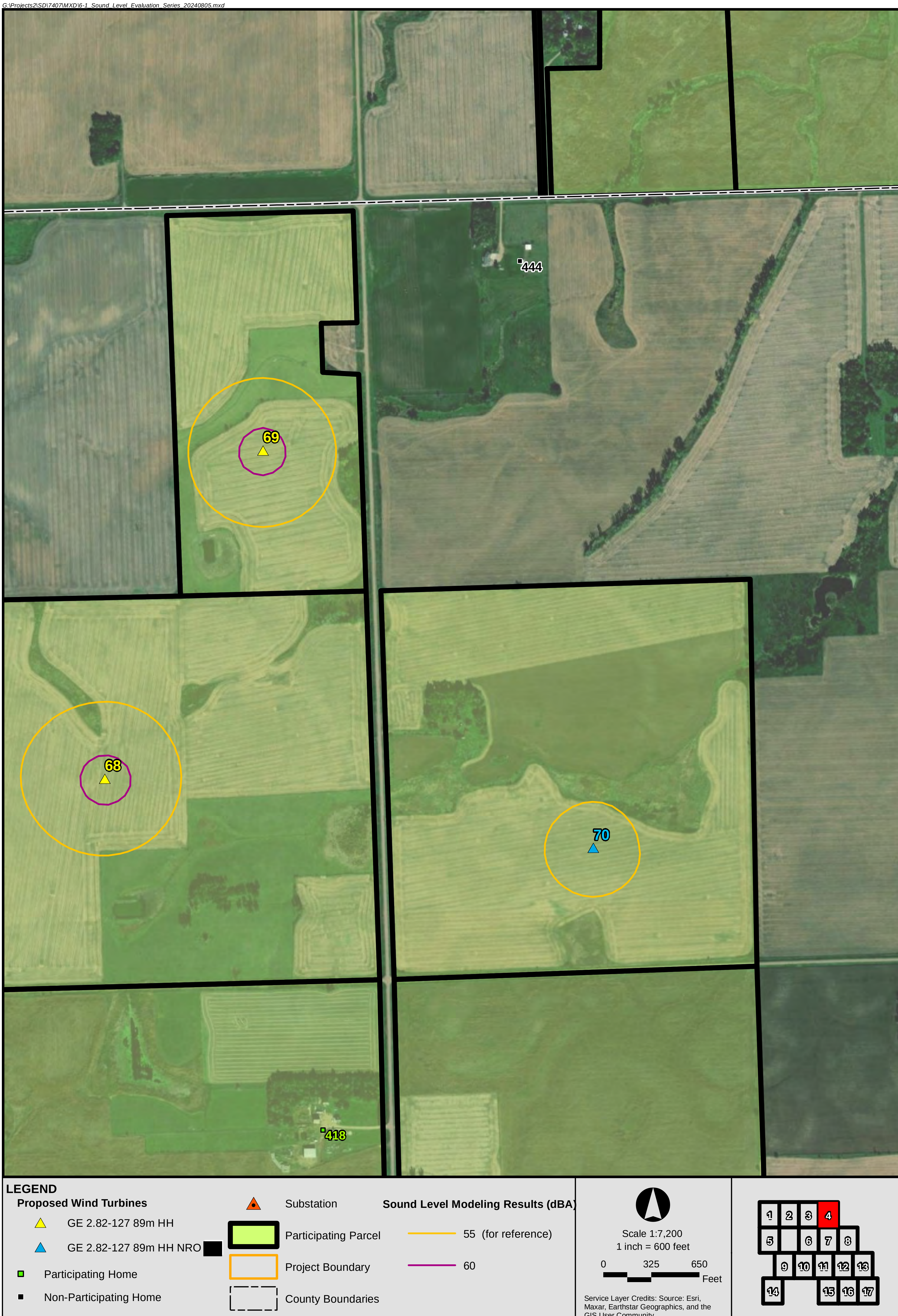

Swan Lake Wind Project **Turner and Yankton Counties, South Dakota**

Epsilon ASSOCIATES INC.

Figure 6-1, Map 4 of 17

Sound Level Evaluation

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LEGEND

Proposed Wind Turbines

GE 2.82-127 89m HH

GE 2.82-127 89m HH NRO

Participating Home

Non-Participating Home

Substation

Participating Parcel

Project Boundary

County Boundaries

Sound Level Modeling Results (dBA)

55 (for reference)

60

Scale 1:7,200
1 inch = 600 feet

0 325 650 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

Swan Lake Wind Project **Turner and Yankton Counties, South Dakota**

Epsilon ASSOCIATES INC.

Figure 6-1, Map 5 of 17

Sound Level Evaluation

LEGEND

Proposed Wind Turbines

GE 2.82-127 89m HH

GE 2.82-127 89m HH NRO

Participating Home

Non-Participating Home

Substation

Participating Parcel

Project Boundary

County Boundaries

Sound Level Modeling Results (dBA)

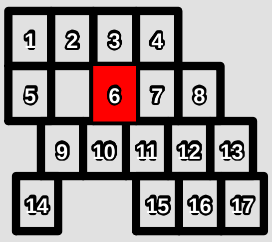
55 (for reference)

60

Scale 1:7,200
1 inch = 600 feet

0 325 650
Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



Swan Lake Wind Project **Turner and Yankton Counties, South Dakota**

Epsilon ASSOCIATES INC.

Figure 6-1, Map 6 of 17
Sound Level Evaluation

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LEGEND

Proposed Wind Turbines

GE 2.82-127 89m HH

GE 2.82-127 89m HH NRO[redacted]

Participating Home

Non-Participating Home

Substation

Participating Parcel

Project Boundary

County Boundaries

Sound Level Modeling Results (dBA)

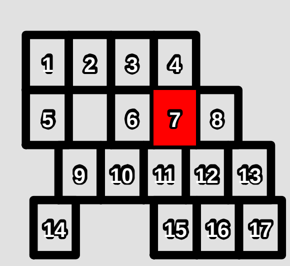
55 (for reference)

60

Scale 1:7,200
1 inch = 600 feet

0 325 650 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



Swan Lake Wind Project **Turner and Yankton Counties, South Dakota**

Epsilon ASSOCIATES INC.

Figure 6-1, Map 7 of 17
Sound Level Evaluation

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LEGEND

Proposed Wind Turbines

GE 2.82-127 89m HH

GE 2.82-127 89m HH NRO

Participating Home

Non-Participating Home

Substation

Participating Parcel

Project Boundary

County Boundaries

Sound Level Modeling Results (dBA)

55 (for reference)

60

Scale 1:7,200
1 inch = 600 feet

0 325 650 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

Swan Lake Wind Project Turner and Yankton Counties, South Dakota

Epsilon ASSOCIATES INC.

Figure 6-1, Map 8 of 17
Sound Level Evaluation

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LEGEND

Proposed Wind Turbines

GE 2.82-127 89m HH

GE 2.82-127 89m HH NRO

Participating Home

Non-Participating Home

Substation

Participating Parcel

Project Boundary

County Boundaries

Sound Level Modeling Results (dBA)

55 (for reference)

60

Scale 1:7,200
1 inch = 600 feet

0 325 650 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

Swan Lake Wind Project **Turner and Yankton Counties, South Dakota**

Epsilon ASSOCIATES INC.

Figure 6-1, Map 9 of 17

Sound Level Evaluation

LEGEND

Proposed Wind Turbines

- GE 2.82-127 89m HH
- GE 2.82-127 89m HH NRO
- Participating Home
- Non-Participating Home
- Substation
- Participating Parcel
- Project Boundary
- County Boundaries

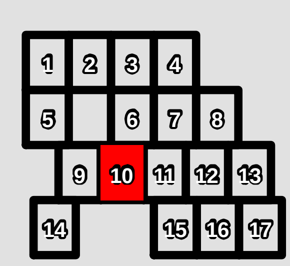
Sound Level Modeling Results (dBA)

- 55 (for reference)
- 60

Scale 1:7,200
1 inch = 600 feet

0 325 650 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



Swan Lake Wind Project **Turner and Yankton Counties, South Dakota**

Epsilon ASSOCIATES INC.

Figure 6-1, Map 10 of 17

Sound Level Evaluation

Swan Lake Wind Project Turner and Yankton Counties, South Dakota

Epsilon ASSOCIATES INC.

Figure 6-1, Map 11 of 17

Sound Level Evaluation

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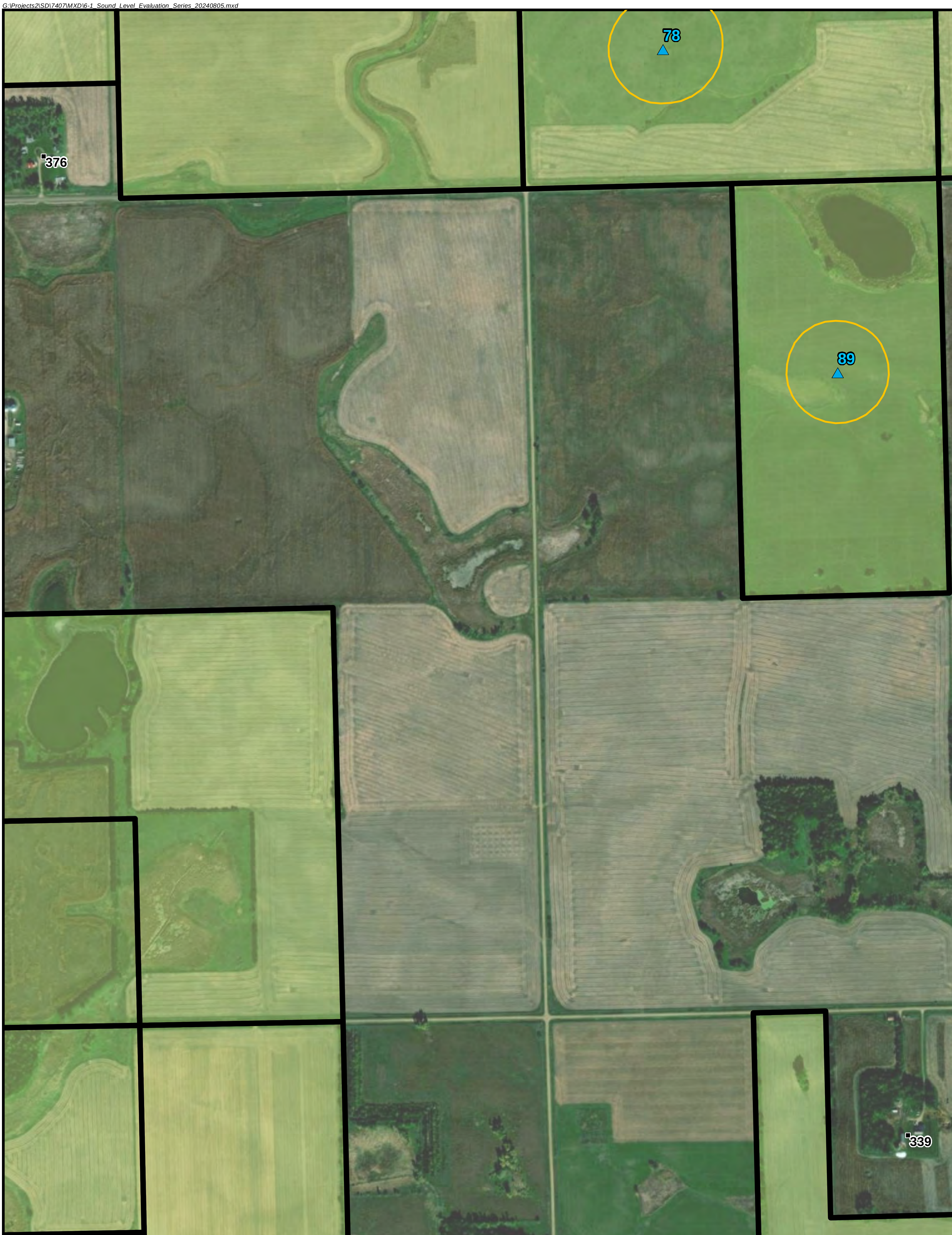

LEGEND

Proposed Wind Turbines

- GE 2.82-127 89m HH
- GE 2.82-127 89m HH NRO
- Participating Home
- Non-Participating Home

- Substation
- Participating Parcel
- Project Boundary
- County Boundaries

Sound Level Modeling Results (dBA)

- 55 (for reference)
- 60

Scale 1:7,200
1 inch = 600 feet

0 325 650
Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

1 2 3 4
5 6 7 8
9 10 11 12 13
14 15 16 17

Swan Lake Wind Project **Turner and Yankton Counties, South Dakota**

Epsilon ASSOCIATES INC.

Figure 6-1, Map 12 of 17

Sound Level Evaluation

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LEGEND

Proposed Wind Turbines

- GE 2.82-127 89m HH
- GE 2.82-127 89m HH NRO [redacted]
- Participating Home
- Non-Participating Home
- Substation
- Participating Parcel
- Project Boundary
- County Boundaries

Sound Level Modeling Results (dBA)

- 55 (for reference)
- 60

Scale 1:7,200
1 inch = 600 feet

0 325 650
Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

1 2 3 4
5 6 7 8
9 10 11 12 13
14 15 16 17

Swan Lake Wind Project **Turner and Yankton Counties, South Dakota**

Epsilon ASSOCIATES INC.

Figure 6-1, Map 13 of 17

Sound Level Evaluation

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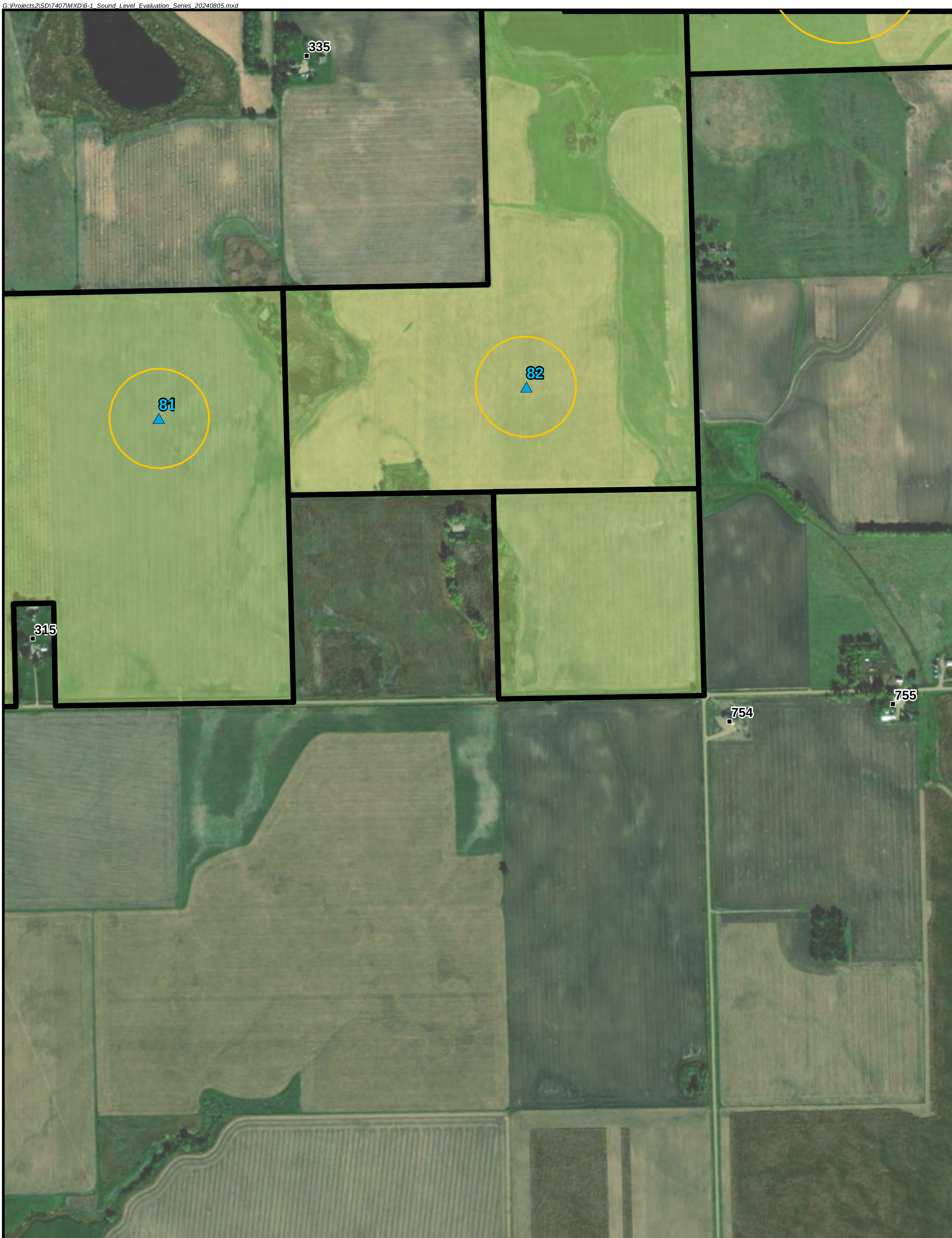


LEGEND

Proposed Wind Turbines

GE 2.82-127 89m HH

GE 2.82-127 89m HH NRO

Participating Home

Non-Participating Home

Substation

Participating Parcel

Project Boundary

County Boundaries

Sound Level Modeling Results (dBA)

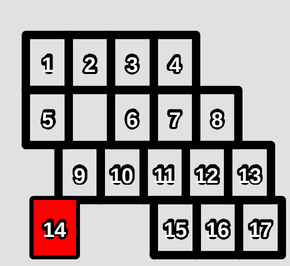
55 (for reference)

60

Scale 1:7,200
1 inch = 600 feet

0 325 650
Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



Swan Lake Wind Project **Turner and Yankton Counties, South Dakota**

Epsilon ASSOCIATES INC.

Figure 6-1, Map 14 of 17
Sound Level Evaluation

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LEGEND

Proposed Wind Turbines

GE 2.82-127 89m HH

GE 2.82-127 89m HH NRO

Participating Home

Non-Participating Home

Substation

Participating Parcel

Project Boundary

County Boundaries

Sound Level Modeling Results (dBA)

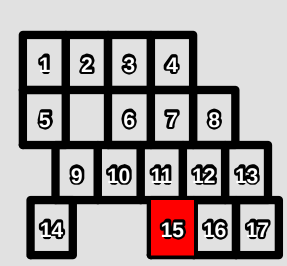
55 (for reference)

60

Scale 1:7,200
1 inch = 600 feet

0 325 650
Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



Swan Lake Wind Project **Turner and Yankton Counties, South Dakota**

Epsilon ASSOCIATES INC.

Figure 6-1, Map 15 of 17
Sound Level Evaluation

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LEGEND

Proposed Wind Turbines

GE 2.82-127 89m HH

GE 2.82-127 89m HH NRO

Participating Home

Non-Participating Home

Substation

Participating Parcel

Project Boundary

County Boundaries

Sound Level Modeling Results (dBA)

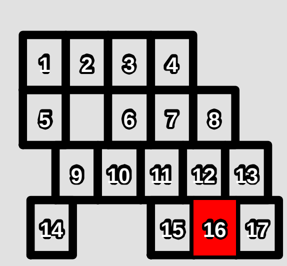
55 (for reference)

60

Scale 1:7,200
1 inch = 600 feet

0 325 650 Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



Swan Lake Wind Project **Turner and Yankton Counties, South Dakota**

Epsilon ASSOCIATES INC.

Figure 6-1, Map 16 of 17

Sound Level Evaluation

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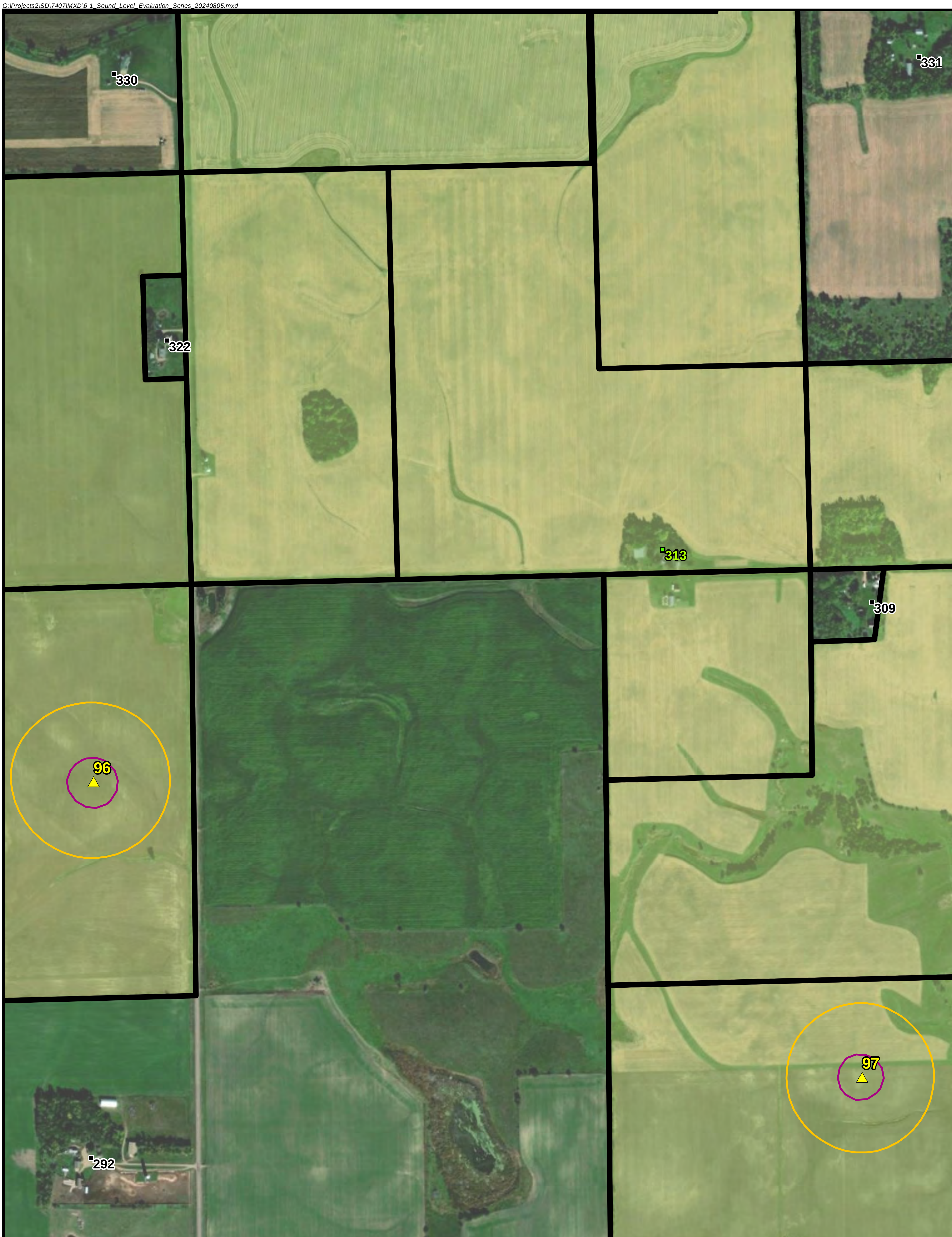

LEGEND

Proposed Wind Turbines

GE 2.82-127 89m HH

GE 2.82-127 89m HH NRO

Participating Home

Non-Participating Home

Substation

Participating Parcel

Project Boundary

County Boundaries

Sound Level Modeling Results (dBA)

55 (for reference)

60

Scale 1:7,200
1 inch = 600 feet

0 325 650
Feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

1 2 3 4
5 6 7 8
9 10 11 12 13
14 15 16 17

Swan Lake Wind Project **Turner and Yankton Counties, South Dakota**

Epsilon ASSOCIATES INC.

Figure 6-1, Map 17 of 17

Sound Level Evaluation