Attachment C

Noise Study

A NOISE IMPACT ASSESSMENT FOR

Summit Lake BESS Project

Nobles County, Minnesota

DECEMBER 11, 2025

PREPARED FOR:

geronimo power

PREPARED BY:

Westwood

Westwood

Noise Impact Assessment

Summit Lake BESS Project

Nobles County, Minnesota

Prepared For:

Geronimo Power
8400 Normandale Lake Blvd
Suite 1200
Bloomington, MN 55437

Prepared By:

Westwood Professional Services
12701 Whitewater Drive
Suite 300
Minnetonka, MN 55343

Project Number: R0036437.00
Date: December 11, 2025

Executive Summary

Westwood Professional Services, Inc. (Westwood) was contracted by Geronimo Power (Client) to complete a noise assessment for the Summit Lake BESS Project (Project) located in Nobles County, Minnesota. The Project has a proposed nameplate capacity of 200 MW. This noise impact assessment was completed in support of the Site Permit Application (SPA), as required under the Power Plant Siting Act (Minnesota Statutes Chapter 216E) and Minnesota Public Utilities Commission (MPUC).

An operational noise impact evaluation was conducted for the proposed Project layout. Note that this analysis considers end-of-life (EOL) equipment configuration, including augmentation. Project-generated noise levels were predicted at all Noise Area Classification 1 (NAC-1) receptors within 3200' of the Project boundary. Noise level regulations include the noise level limits set forth within Minnesota Rules Chapter 7030.

All NAC-1 receptors within 3200' of the proposed Project boundary modeled at or below the applicable Project noise level limit of 50 dBA, given the equipment assumptions herein; compliance with Minn. R. 7030 is expected.

Table of Contents

Tables

Figures

Appendices

1.0 Project Background

1.1 Site Description

The proposed Project is located in Nobles County, Minnesota. Noise sensitive receptors in the Project vicinity include residences. Existing noise sources in the Project vicinity include local road traffic and nearby wind turbines. The primary land uses in the Project vicinity are residential and agricultural.

1.2 Project Description

The Project is proposed to include battery energy storage systems (BESS) and associated equipment/infrastructure. At the time of this study, the layout has not yet been finalized.

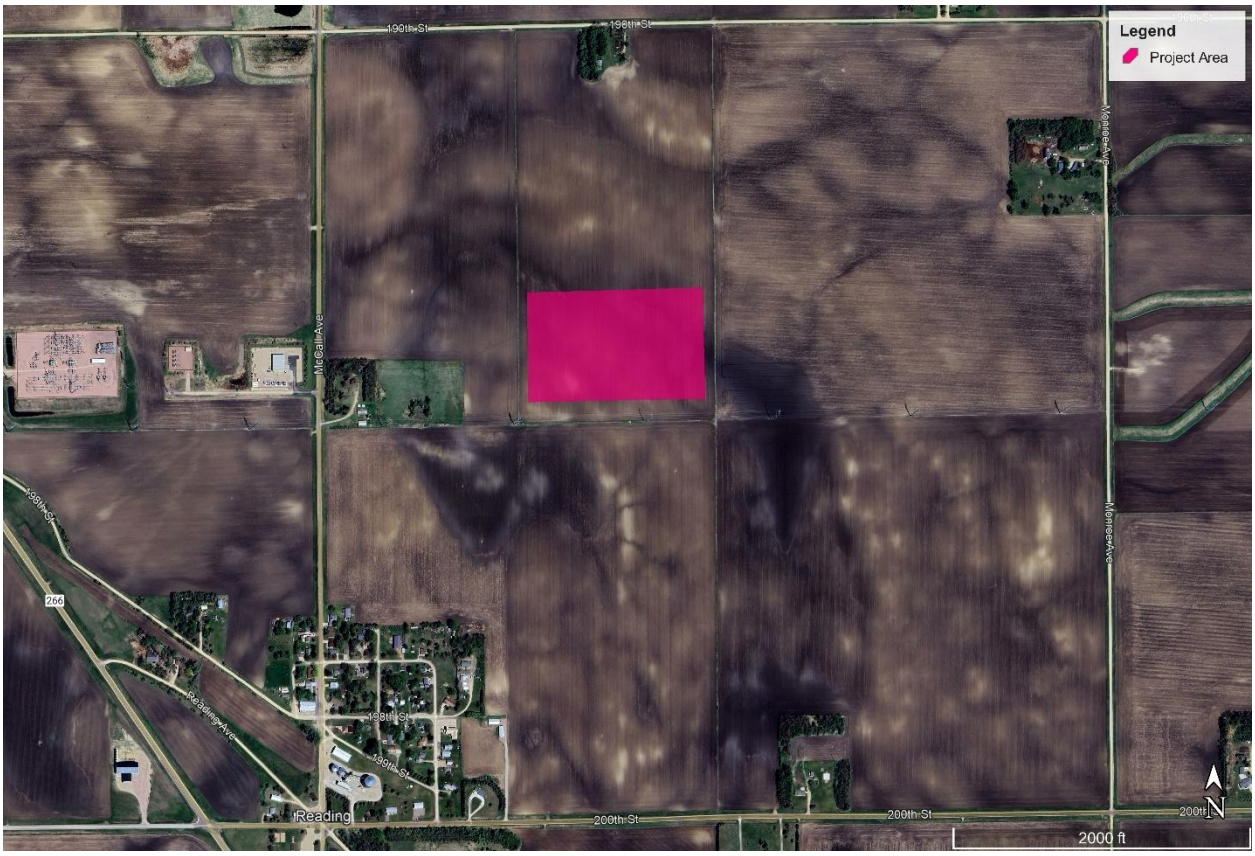

Figure 1: Project Overview

2.0 Regulatory Setting & Noise Level Requirements

Minn. R. 7030.0040 sets forth noise level limits according to different land uses. The most noise sensitive areas in the Project Area are occupied residential homes. Occupied residences are classified as Noise Area Classification (NAC) 1 per MN Rules 7030.0050, Subp. 2. NAC-1 has the lowest (most restrictive) noise limits of the three NACs. Agricultural land is classified as NAC-3, which has the highest noise limits of the three NACs. As the noise level limits for NAC-1 are the most restrictive, they are listed in **Table 1** below and are used throughout to confirm compliance with Minn. R. 7030.0040.

Table 1 Minnesota Rules Chapter 7030 NAC-1 Noise Level Limits

Noise Level Metric	Daytime Limit (dBA)	Nighttime Limit (dBA)
L_{50}	60	50
L_{10}	65	55

These limits are expressed as L_{50} and L_{10}, which are statistical noise level metrics representing the noise level that is exceeded 50% and 10% of the measurement period, respectively. However, noise modeling most accurately predicts L_{eq} levels, which is the equivalent continuous noise level or the overall average noise level over the measurement period. L_{10} levels are, on average, 3 dBA higher than L_{eq} levels, while L_{50} levels are typically below L_{eq} levels. As such, modeled L_{eq} levels can be used as a conservative metric for ensuring compliance with the L_{50} levels specified in Minn. R. 7030.0040. Therefore, if L_{eq} limits are assumed to be the same as the L_{50} limits, any modeled noise level below the L_{eq} limits would be below the L_{50} limits prescribed by Minn. R. 7030.0040.

Table 2 Minnesota Rules Chapter 7030 L_{50} Noise Level Limits Expressed as L_{eq}

Noise Level Metric	Daytime Limit (dBA)	Nighttime Limit (dBA)
L_{eq}	60	50

The above limits refer to total noise level, which includes both ambient noise and Project noise. To ensure that the Project-generated noise does not cause or significantly contribute to an exceedance of the limits, if background sound levels are equal to or greater than the applicable state standard at the nearby receptors (or in the absence of site-specific ambient noise measurements), modeled Project-only nighttime noise levels at receptors will be held to a limit of 45 dBA. Given this, if total noise does exceed the limits, it will be primarily the result of non-Project noise contributions. Under these conditions, the contribution of the Project will be less than 3 dBA, which is the generally recognized minimum detectible change in environmental noise levels. This is an accepted practice to show compliance with Minn. R. 7030.

3.0 Modeling Methodology & Parameters

A noise propagation model was developed and run for the Project using CADNA-A (a noise modeling software in compliance with ISO 9613-2). The proposed BESS and medium voltage transformers (MVT) units were modeled as omnidirectional point sources with noise source data from manufacturer-provided test reports. Note that BESS noise source data assumes implementation of manufacturer-provided low noise configuration.

Model parameters were as follows:

- Ground absorption factor of G=0.0 over water and large areas of hard ground, G = 0.5 everywhere else
- Receptor height of 1.5 m above ground level
- Assumed meteorological conditions of 10°C and 70% humidity
- No other model adjustments

Project equipment and layout configuration details are shown below in **Table 3**. Note that equipment quantities herein are conceptual and preliminary in nature and will be updated as Project design progresses. Unweighted octave-band sound power levels for Project equipment are listed in **Table 4** along with overall A-weighted sound power level.

Table 3 Project Equipment & Layout Configuration

Noise Source	# of Units	Equipment Model/Reference	Est. Source Height Above Ground Level (AGL)
BESS	288	Sungrow PowerTitan 2.0 – Low Noise (ST5015UX-4H-US-LN)	2.9 m
MVT	72	Sungrow MVS5140-LS-US	2.9 m

Table 4 Project Equipment Spectral & Overall Data

Noise Source	Unweighted Octave Band (Hz) Sound Power Levels (dB L_w)								Broadband Sound Power Level
	63	125	250	500	1000	2000	4000	8000	
BESS	88.7	85.8	82.7	79.4	77.8	73.9	69.5	64.5	83 dBA
MVT	84.9	84.4	86.7	81.6	77.2	73.7	67.8	58.9	84 dBA

NAC-1 receptors were identified within 3200' of the Project boundary. Note that receptor locations have not been field verified and are based upon aerial imagery only. Additionally, receptors were categorized by distance from the Project boundary, shown in **Table 5** below.

Table 5 NAC-1 Receptor Distance Distribution

Distance from Project Boundary	# of NAC-1 Receptors
<50'	0
50' - 100'	0
100' - 200'	0
200' - 400'	0
400' - 800'	0
800' - 1600'	7
1600' - 3200'	40

4.0 Noise Level Estimates & Impact Assessment

A predictive model was run using the inputs above to predict Project-generated noise at all NAC-1 receptors within 3200' of the Project boundary. All receptors modeled at or below the applicable Project noise level limit of 45 dBA and compliance with Minn. R. 7030 is expected. A Project noise contour figure can be found in **Appendix A**. Predicted Project-generated noise levels at each NAC-1 receptor can be found alongside receptor location coordinates in **Appendix B**.

Appendix A Project-Generated Noise Level Contours

Data Source(s): Westwood (2025); Esri WMS World Imagery Basemap (Accessed 2025).

N

0 600 Feet

Summit Lake BESS Project | Nobles County, Minnesota

Project Noise Contours at 1.5m | Exhibit 1

Legend

BESS Area

Receptor

Noise Contour [dB(A)]

45

Westwood

Toll Free (888) 937-5150 westwoodps.com

Appendix B Receptor Locations & Modeling Results

Receptor ID	UTM NAD83 Zone 15		Elevation AMSL (m)	Predicted Project-generated Sound Pressure Level (dBA)
	Easting (m)	Northing (m)		
R-1	282050.0	4844070.0	528.5	37.7
R-2	282739.0	4844133.0	519.7	31.2
R-3	282969.0	4843789.0	520.1	31.6
R-4	282375.0	4842557.0	532.3	33.9
R-5	281725.0	4842571.0	527.4	31.4
R-6	281674.0	4842583.0	525.1	31.3
R-7	281658.0	4842620.0	525.3	31.6
R-8	281665.0	4842665.0	526.4	32.4
R-9	281610.0	4842650.0	524.2	31.7
R-10	281616.0	4842682.0	525.0	32.1
R-11	281677.0	4842699.0	527.5	35.4
R-12	281613.0	4842709.0	525.3	33.6
R-13	281667.0	4842758.0	527.9	36.1
R-14	281614.0	4842759.0	525.9	35.7
R-15	281622.0	4842803.0	526.3	36.4
R-16	281616.0	4842823.0	526.3	36.6
R-17	281624.0	4842860.0	527.5	37.2
R-18	281549.0	4842828.0	525.5	36.1
R-19	281551.0	4842780.0	525.5	35.6
R-20	281550.0	4842756.0	525.5	35.3
R-21	281504.0	4842825.0	525.5	35.8
R-22	281505.0	4842878.0	525.4	36.3
R-23	281501.0	4842905.0	525.1	36.4
R-24	281555.0	4842710.0	524.2	32.1
R-25	281546.0	4842692.0	524.5	33.1
R-26	281560.0	4842667.0	524.3	31.9
R-27	281500.0	4842710.0	523.8	33.6
R-28	281437.0	4842762.0	524.1	34.4
R-29	281390.0	4842798.0	523.1	31.7
R-30	281389.0	4842831.0	523.6	34.1
R-31	281443.0	4842825.0	525.2	35.2
R-32	281337.0	4842780.0	521.8	31.2
R-33	281384.0	4842868.0	523.8	34.2
R-34	281384.0	4842894.0	523.2	34.0
R-35	281435.0	4842937.0	523.7	34.8
R-36	281433.0	4842911.0	524.1	35.0
R-37	281431.0	4842885.0	524.8	35.2
R-38	281443.0	4842865.0	525.5	35.5
R-39	281549.0	4842541.0	523.5	30.4
R-40	281492.0	4842535.0	522.5	30.0
R-41	281433.0	4842534.0	522.5	31.2
R-42	281340.0	4842475.0	521.5	30.4
R-43	281303.0	4842548.0	520.5	29.0
R-44	281589.0	4842389.0	522.2	29.0
R-45	281117.0	4842854.0	521.0	29.9
R-46	281145.0	4842961.0	523.5	33.2
R-47	281501.0	4843406.0	527.5	42.2