Appendix H

Noise Propagation and Modeling Assessment

Louise Solar Project
Mower County, Minnesota

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Westwood

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Minnetonka, MN 55343

main (952) 937-5150
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November 11, 2020

Scott Wentzell
EDF Renewables
10 Second Street NE, Suite 400
Minneapolis, MN 55413

Re: Louise Solar Project; Noise Propagation and Modeling Assessment
Mower County, MN
Project No. R0014192.01

Dear Mr. Wentzell:

Westwood Professional Services, Inc. (Westwood) was authorized by EDF Renewables (Client) to provide noise modeling for the Louise Solar Project in Mower County, Minnesota. It is our understanding that the purpose of this modeling is to determine noise levels generated from 14 step up locations consisting of one inverter each location, and one substation location consisting of 1 transformer.

Predicted noise levels were determined using the Cadna-A noise propagation and modeling software. The Project Area is considered a Noise Classification Area 1 (NAC 1) with daytime noise allowances of 60 decibels (dBA) and nighttime noise allowances of 50 dBA according to the Minn. Stat. § 116.07 and Minnesota Rules, Chapter 7030 noise ordinance. Westwood modeled the distance from the noise generation sources until rural background noise levels of 40 dBA were reestablished. Rural background noise levels are congruent with the ANSI S12.9-13/Part 3 Category 6: Very Quiet Rural Residential with a typical daytime ambient noise level of approximately 40.0 dBA.

According to manufacturer provided data, the step up location inverters are expected to produce approximately 67 dBA at 1 meter from the noise source during peak production. The main power transformer located at the substation is expected to produce approximately 95 dBA at 1 meter from the power source.

Predicted noise levels were determined using an aggregate of output levels from the transformer and inverters. The total distance from the noise generation sources until rural background noise levels are reestablished are discussed below.

The inverter locations throughout the Project Area reestablished rural background sound levels on an average of 9.08 meters (29.8 feet) from the location centers. The transformer within the substation located on the southeast portion of the Project Area reestablished rural background sound levels on an average of 86.8 meters (284.85 ft) from the transformer center. The noise levels to the east of the transformer reestablish rural background levels within the transformer boundaries.

Ambient levels are reestablished within the project boundary, no increased sound levels are expected outside the project perimeter. The predicted noise concentration zones and propagation model are shown on the attached Exhibits.

Based on the total predicted distances to reestablishing rural background sounds levels of 40 dBA, the noise levels produced by the Louise Solar Facility are properly mitigated by existing topographical variances and/or distances within the facility and therefore noise impacts are not expected from the facility on the surrounding area.

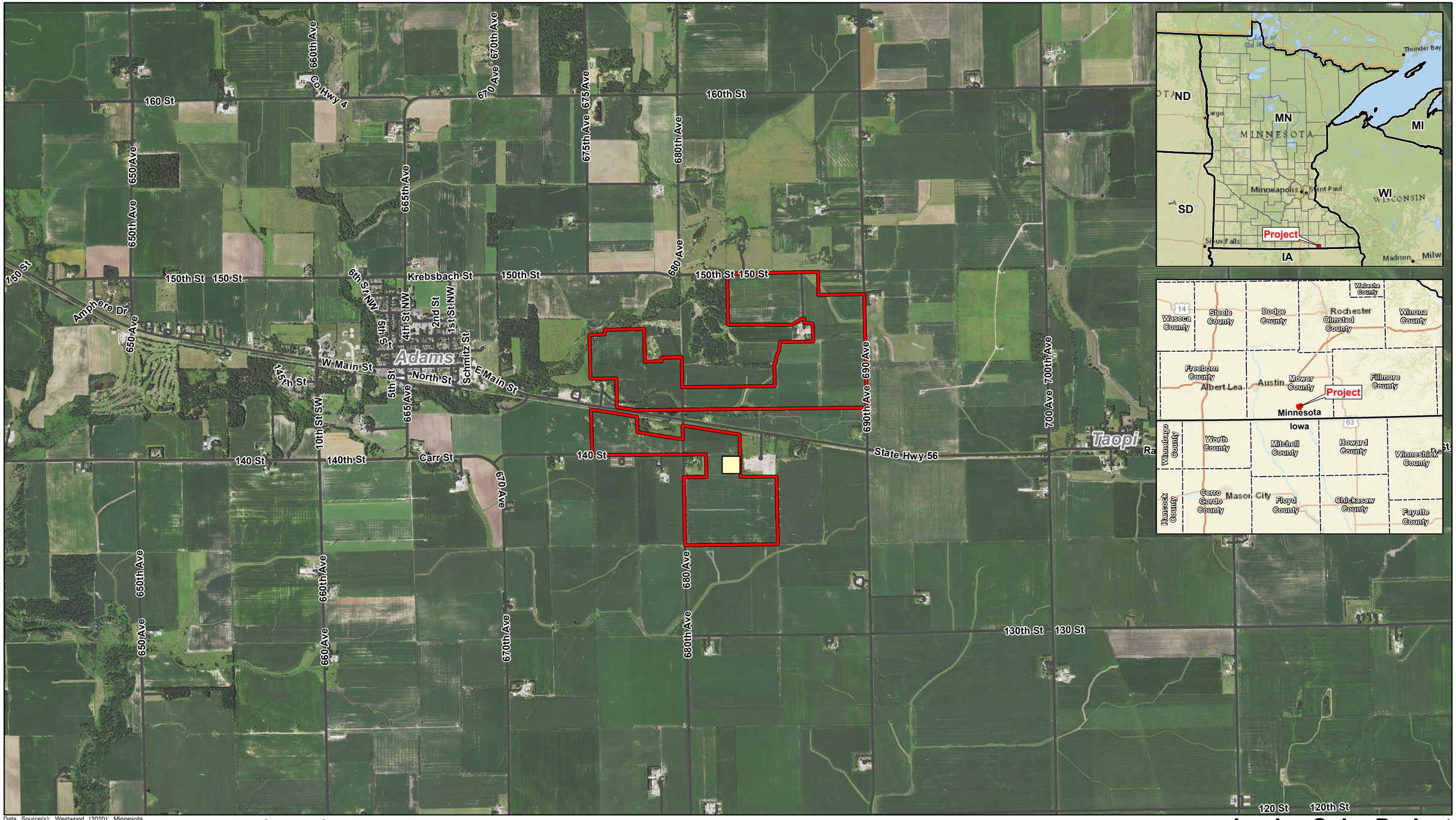
In performing its services, Westwood Professional Services used that degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession currently practicing in the same locality. No warranty, express or implied, is made.

If you have any questions or wish to discuss any particular aspect of the project, please feel free to call Megan Lamb at (612) 619-9230. We look forward to being of continued service to you.

Sincerely,

WESTWOOD PROFESSIONAL SERVICES

Megan Lamb
Environmental Scientist



Data Source(s): Westwood (2020); Minnesota NAIP Imagery (2019); ESRI WMS National Geographic & World Streets Basemaps (Accessed 2020); Census Bureau (2019).

Legend

- Project Boundary
- Substation
- Census Road

N

0 0.5 Miles

Louise Solar Project

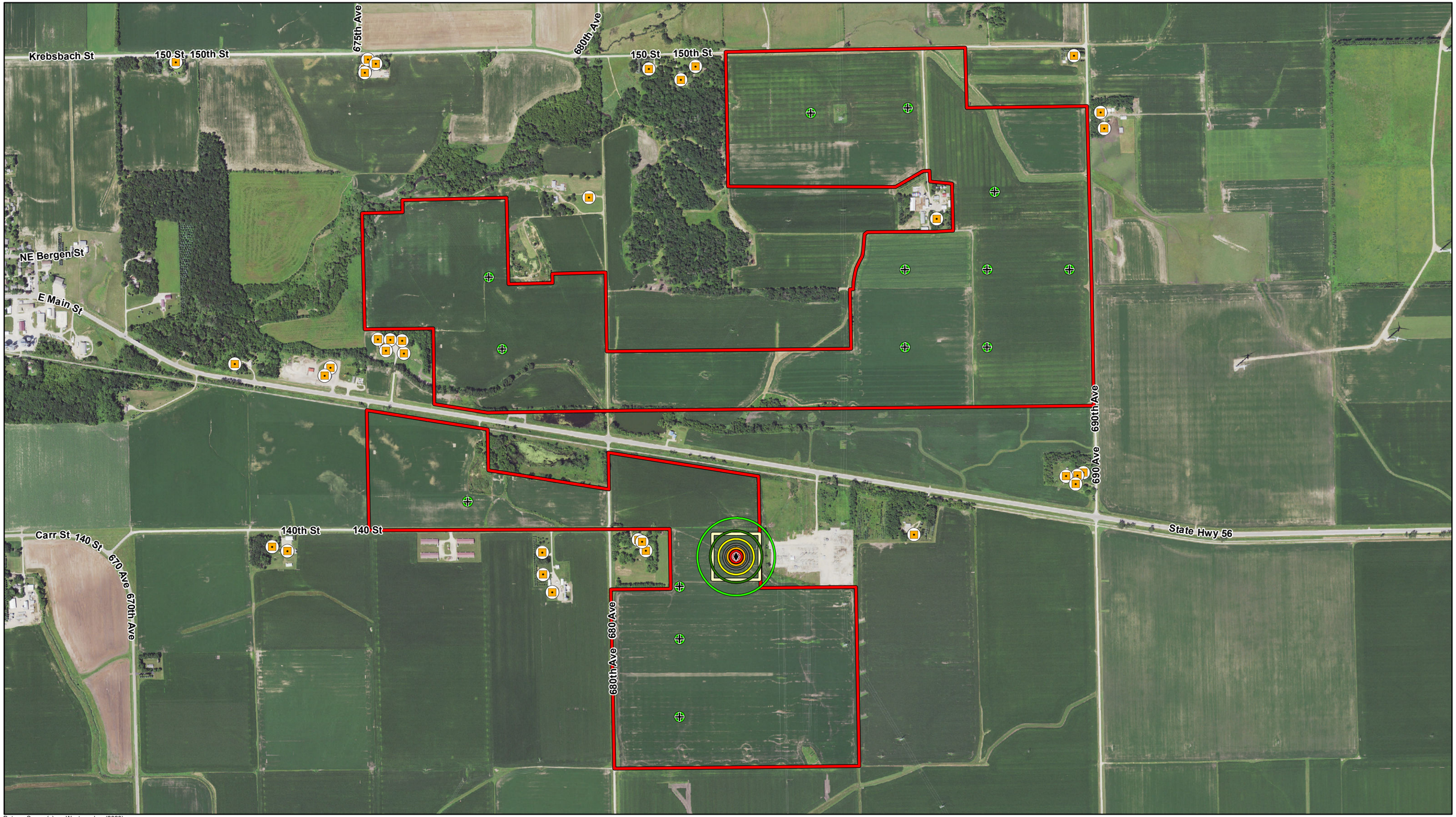
Mower County, Minnesota

Project Overview

EXHIBIT 1

Westwood
Toll Free (888) 937-5150 westwoodps.com
Westwood Professional Services, Inc.

Map Document: N:\0014192.01\GIS\Noise Exhibits\Louise_Noise_Ex1_ProjectOverviewMap_201111.mxd 11/11/2020 3:50:16 PM radevito



Data Source(s): Westwood (2020); Minnesota NAIP Imagery (2019); Census Bureau (2019).

Legend

- Project Boundary
- Substation Boundary
- Inverter Skid
- Substation Transformer
- Occupied Noise Receptor

Decibel Levels

95dBA	67dBA	55dBA	40dBA
75dBA	65dBA	50dBA	35dBA
70dBA	60dBA	45dBA	

N

0 Feet 1,000

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Westwood Professional Services, Inc.

Louise Solar Project

Mower County, Minnesota

Noise Impact Assessment

EXHIBIT 2

Map Document: N:\0014192.01\GIS\Noise Exhibits\Louise_Noise_Ex2_NoiseImpactAssessmentMap_201111.mxd 11/11/2020 3:51:53 PM radevito

Data Source(s): Westwood (2020); ERSI WMS World Imagery Basemap (Accessed 2020).

Legend

- Project Boundary
- Substation Boundary
- Inverter Skid
- Substation Transformer

Decibel Levels

- 95dBA
- 75dBA
- 70dBA
- 67dBA
- 65dBA
- 60dBA
- 55dBA
- 50dBA
- 45dBA
- 40dBA
- 35dBA

N

0 Feet 100

Louise Solar Project

Mower County, Minnesota

Substation Noise Impact Assessment

EXHIBIT 3

Westwood
Toll Free (888) 937-5150 westwoodps.com
Westwood Professional Services, Inc.

Map Document: N:\00141\92.01\GIS\Noise Exhibits\Louise_Noise_Ex3_SubstationNoiseImpactAssessmentMap_201111.mxd 11/11/2020 3:50:40 PM radevito

Data Source(s): Westwood (2020); ERSI WMS World Imagery Basemap (Accessed 2020).

Legend

+	Inverter Skid
▭	Inverter Skid Boundary

Decibel Levels

67dBA	40dBA
45dBA	35dBA

N

0 25 Feet

Louise Solar Project

Mower County, Minnesota

Single Inverter Noise Impact Assessment

EXHIBIT 4

Westwood
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Westwood Professional Services, Inc.

Map Document: N:\0014192.01\GIS\Noise Exhibits\Louise_Noise_Ex4_SingleInverterImpactAssessmentMap_201111.mxd 11/11/2020 3:51:30 PM radevito