

NY Lansing I, LLC  
NY Lansing II, LLC  
33 Lower Main Street / PO Box 384  
Callicoon, NY 12723

June 24, 2024

Town of Lansing Building Department  
29 Auburn Road  
Lansing, New York 14882

Attn: John Zepko  
Director of Planning and Code Enforcement

Re: North Triphammer Road,  
North Parcel Project #1 – Solar Energy Facility  
South Parcel Project #2 - Solar Energy Facility

Dear Mr. Zepko,

The information below is in response to questions raised at the June 12, Zoning Board of Appeals meeting. Please see below for additional information requested and materials attached.

1. What noise is associated with tracker solar panels?

Please see the attached noise study which compares the noise of the inverter with everyday items. While standing at the location of the inverter the noise is comparable to that of a blender being used. As you move farther away from the inverter the noise lessens. There are videos associated with this report that can be accessed with a smart phone or with the link. The location of the inverters in these two projects are a couple hundred feet away from the adjacent residences. Please also see Sungrow Power Supply Co., Ltd Noise test report. At 1 Meter from the inverter they are reporting the decibel to be 75.6 dB and then 10 meters away the decibels drop to 68.2 dB.

2. What construction traffic will be associated with the project site?

Below is an estimated calculation of loads to the site and materials for a 5MW AC construction site.

Civil truck traffic 60 +/- loads 20 tons+/- of stone each.

Mechanical 6 loads +/- post, racks, torque tunes., 43,000 lbs per load.

Modules 18 loads 40,000 lbs per load.

Electric 4 loads 40,000 lbs per load.

The project site is for a 5 MW AC system and a 3 MW AC system. In order to calculate the 3 MW AC site it would be a little more than half of those calculations. Where loads can be combined to benefit both sites and limit trips that will be scheduled accordingly. There will only be one relocation to the site of machinery as the hope is to build both sites at the same time. Once a project starts construction, weather permitting and materials readily available, it takes approximately 4-6 months to complete.

3. Please see attached the FAA “Determination of NO HAZARD to air navigation” Letter issued 6/18/2024

4. Please see attached Glare Analysis letter from PWGC.

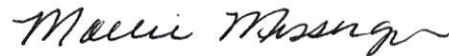
5. Please also see attached the Ecological Best Practices Memorandum from PWGC. This memorandum was requested to show the project developer is aware of the potential endangered species in the area. As of now there are no endangered species listed at the project site. However, should the developer need to act on the best practices, they are listed in this memorandum and will be included as part of the Operation and Maintenance Manual.

6. The fire department was sent the draft Fire Safety plan for review and comment by email on June 19, 2024.

7. The wetlands report will be provided at the meeting on July 10, 2024. It was not complete at the time of this submission deadline.

An informational mailer was sent to the adjacent land owners, to help give them a better understanding of the project. This mailer was sent out on June 21 by our office.

Respectfully Submitted,



Mollie Messenger

Attachments:

- Project Noise study
- Sungrow Power supply Inverter Noise study
- FAA Determination
- PWGC Glare Study
- PWGC Ecological Best Practices Letter

Encs.

Rich Winter, Chief Executive Officer

## How Loud Is 70 Decibels?

70 decibels is as loud as a washing machine or a dishwasher. It is a moderate noise level.

Source:

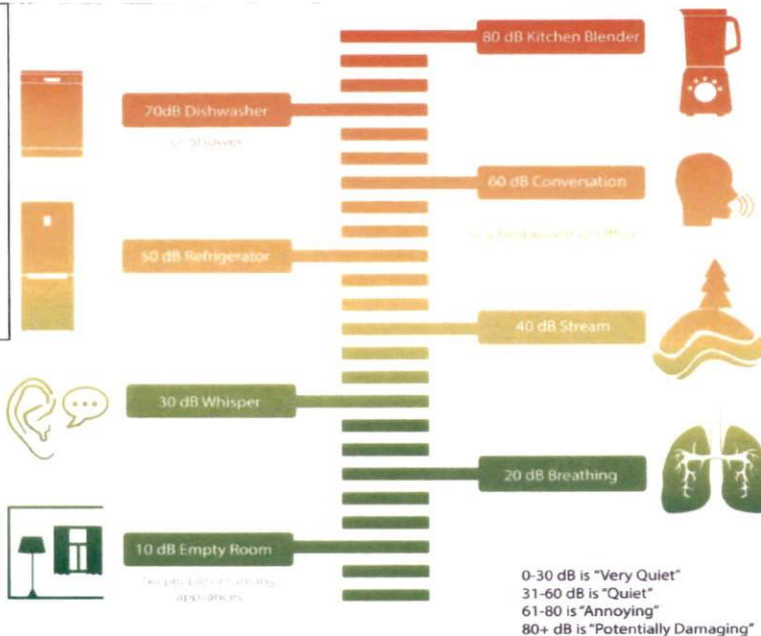
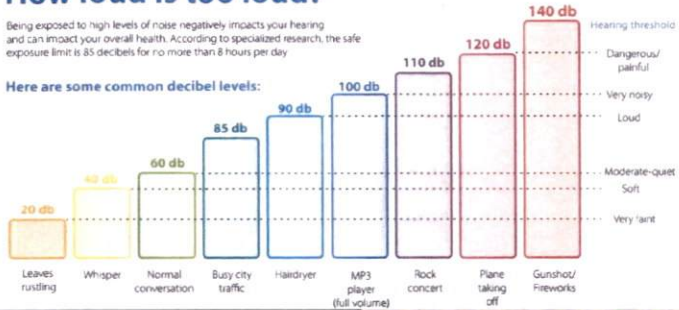
<https://decibelpro.app/blog/how-loud-is-70-db/>

Noise study conducted at Delaware River Solar Harris Road project on 4/23/2024.

## How loud is too loud?

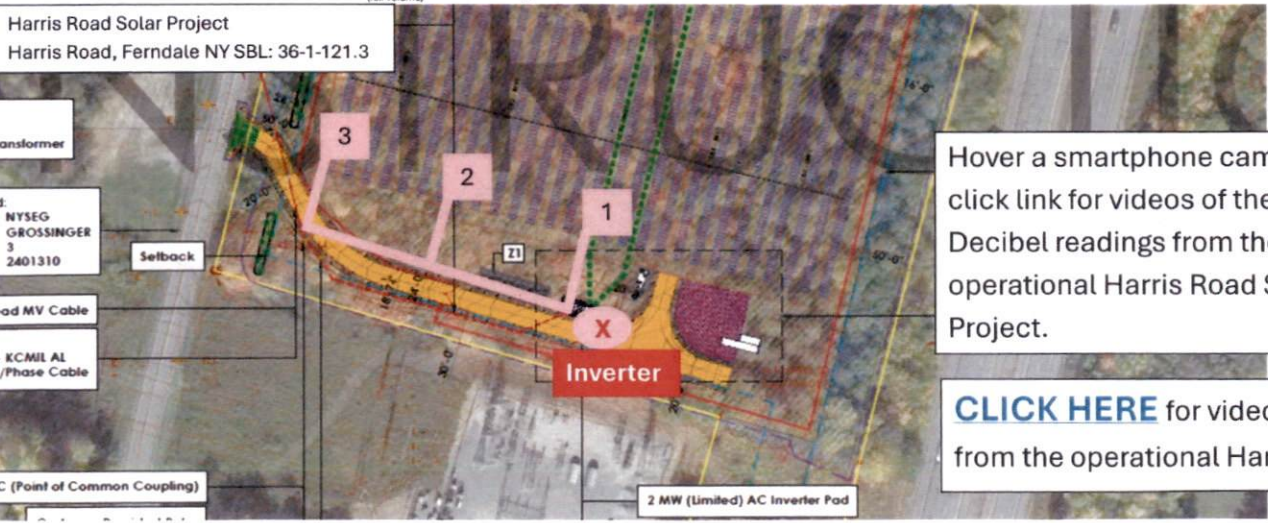
Being exposed to high levels of noise negatively impacts your hearing and can impact your overall health. According to specialized research, the safe exposure limit is 85 decibels for no more than 8 hours per day.

Here are some common decibel levels:



### Harris Road Decibel Meter Key

- X - Inverter
- 1 - 0 feet from inverter
- 2 - 100 feet from inverter
- 3 - 150 feet from inverter

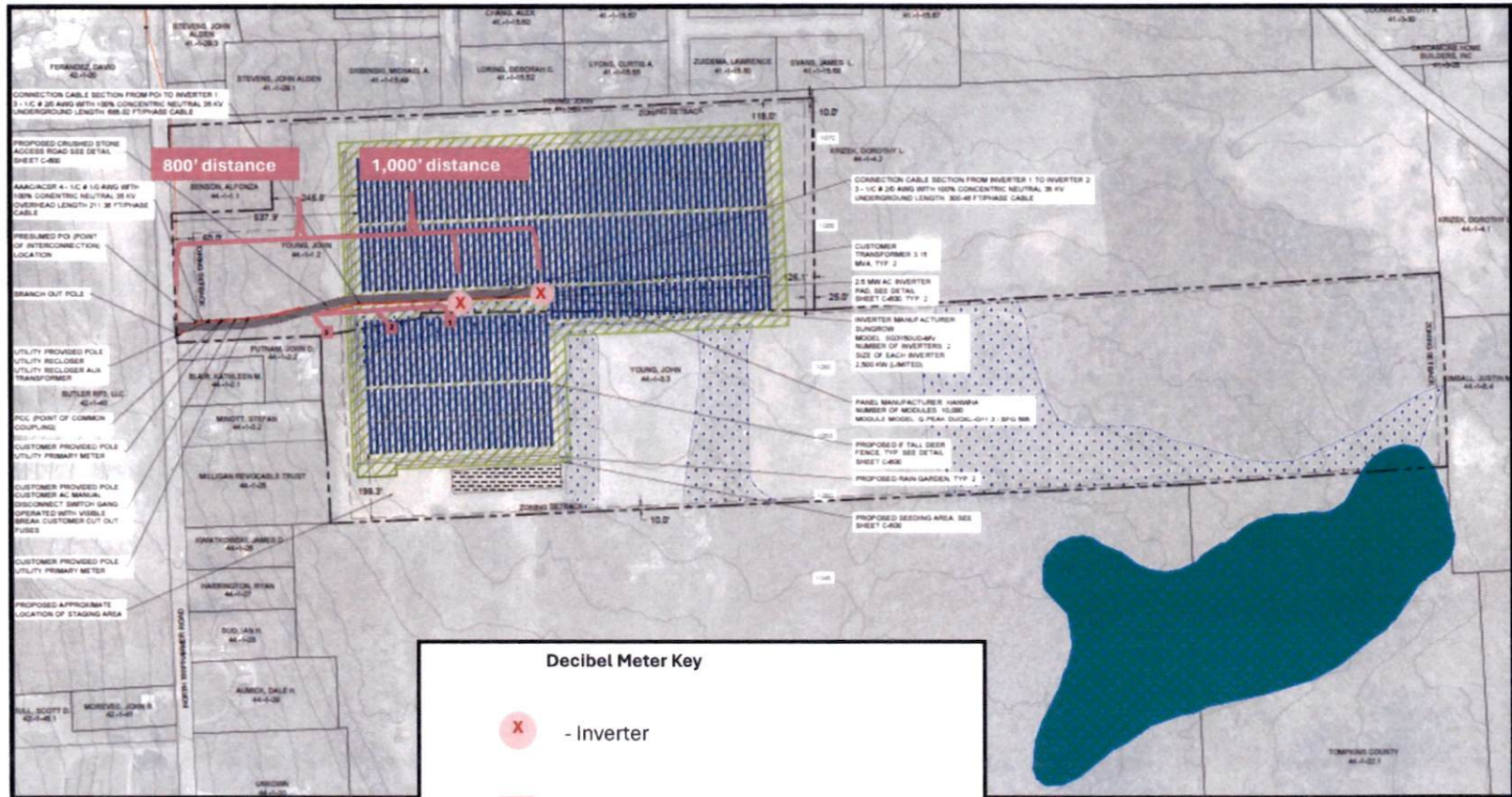


Hover a smartphone camera & click link for videos of the Decibel readings from the operational Harris Road Solar Project.



[CLICK HERE](#) for videos of the Decibel readings from the operational Harris Road Solar Project.

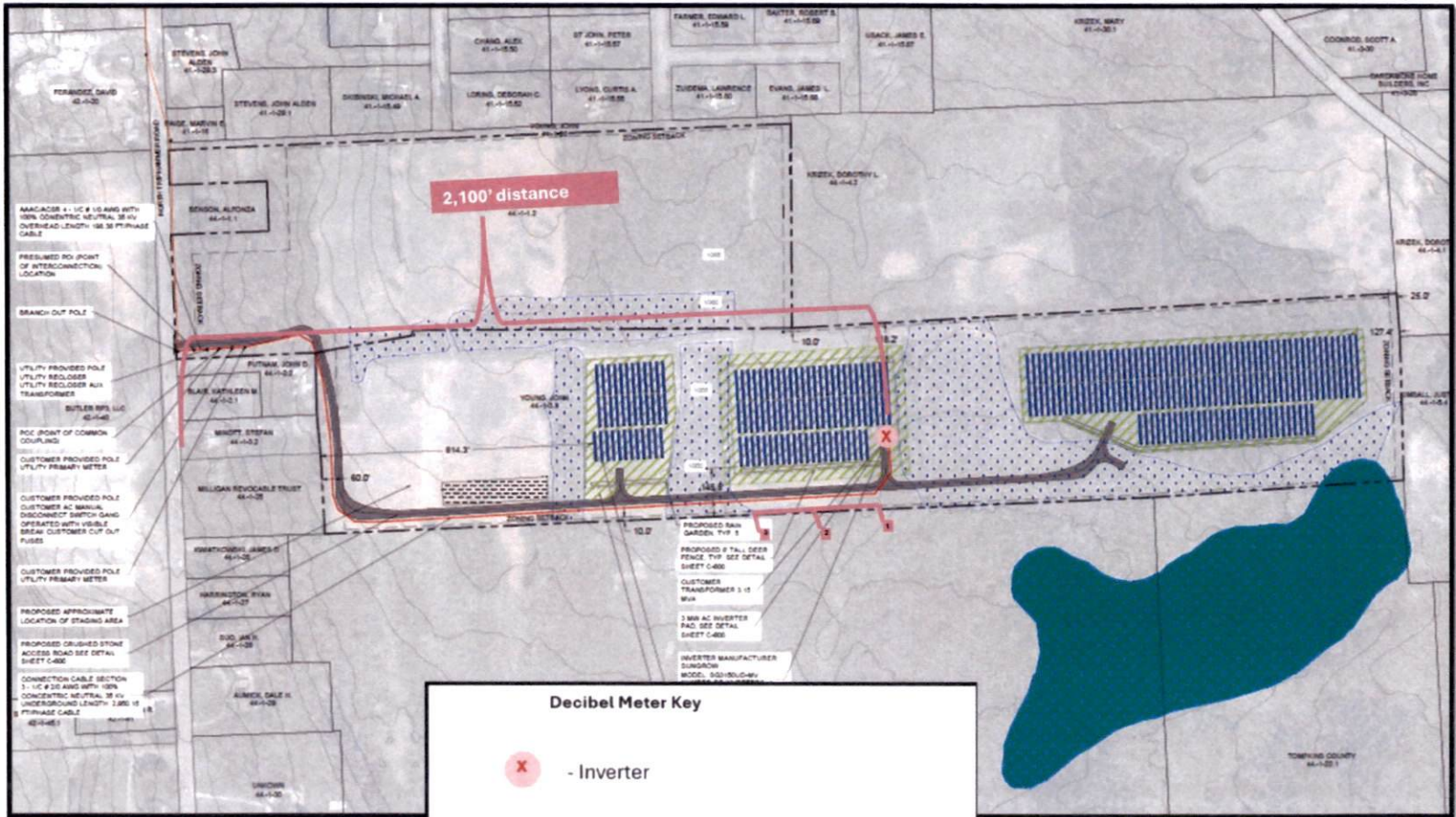
North Triphammer Road  
Solar Project #1



**Decibel Meter Key**

X	- Inverter
1	- 0 feet from inverter. 67 decibels
2	- 100 feet from inverter. 51 decibels
3	- 150 feet from inverter. 47 decibels

North Triphammer Road  
Solar Project #2



**Decibel Meter Key**

X	- Inverter
1	- 0 feet from inverter. 67 decibels
2	- 100 feet from inverter. 51 decibels
3	- 150 feet from inverter. 47 decibels

Sungrow Power Supply Co., Ltd.  
 Add: No. 1699 Xiyou Road, Hefei, China  
 Tel: +86 551 6532 7834  
 Email: info@sungrow.cn  
 Website: www.sungrowpower.com



## Noise Test Report

### TYPE TEST SHEET

This Type Test sheet shall be used to record the results of the type testing of Generating Unit			
Type Tested reference number		SG320HX、SG350HX	
Generating Unit technology		Grid-connected PV Inverter	
System supplier name		Sungrow Power Supply Co., Ltd.	
Address		No.1699 Xiyou Rd., New & High Technology Industrial Development Zone, Hefei, P.R. China	
Tel	+86 551 65327834	Fax	+86 551 6532 7800
E:mail	info@sungrow.cn	Web site	www.sungrowpower.com
Maximum export capacity, use separate sheet if more than one connection option.	N/A	kW single phase, single, split or three phase system	
	352KW	kW three phase	
	N/A	kW two phases in three phase system	
	N/A	kW two phases split phase system	
Compiled by		On behalf of	Sungrow Power Supply Co., Ltd.
Approved by		Test Date	2022-08-14
<p>Note that testing can be done by the manufacturer of an individual component, by an external test house, or by the supplier of the complete system, or any combination of them as appropriate.</p> <p>Where parts of the testing are carried out by persons or organisations other than the supplier then the supplier shall keep copies of all test records and results supplied to them to verify that the testing has been carried out by people with sufficient technical competency to carry out the tests.</p>			

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 Website: www.sungrowpower.com

SUNGROW

The aim of this test is to determine the noise level when the PV Grid inverter in rated working condition.

Used settings of the measurement device for Noise measurement:

Measurement device	Calibration Date	Expire Date
AWA6228+	2022-01-04	2023-01-03

The conditions during testing are specified below:

PGU operation mode	Rated working condition
Voltage range	860-1300V
Grid frequency range	50Hz
Distance	1m, 10 m
Date	2022-08-14

The system noise level please check the table below:

1) Rated working condition (1m)

Orientation	Noise (dB)_1m
Front	74.0
Behind	75.4
Left	75.6
Right	74.4
Maximum Noise	75.6

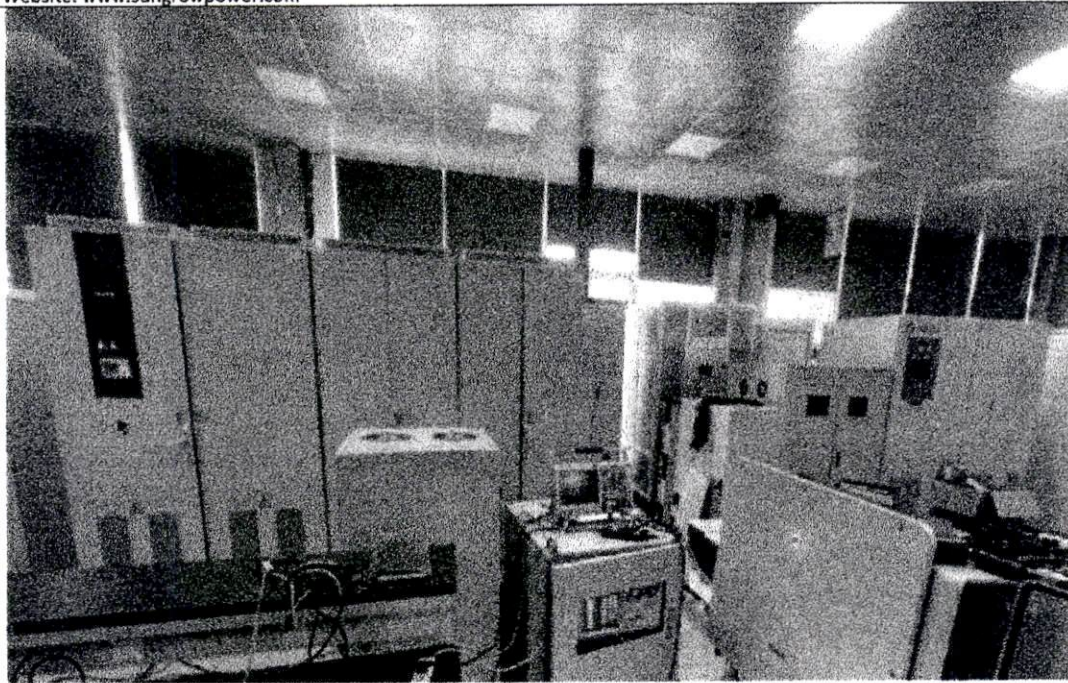
1) Rated working condition (10m)

Orientation	Noise (dB)_10m
Front	66.3
Behind	62.9
Left	68.2
Right	67.4
Maximum Noise	68.2

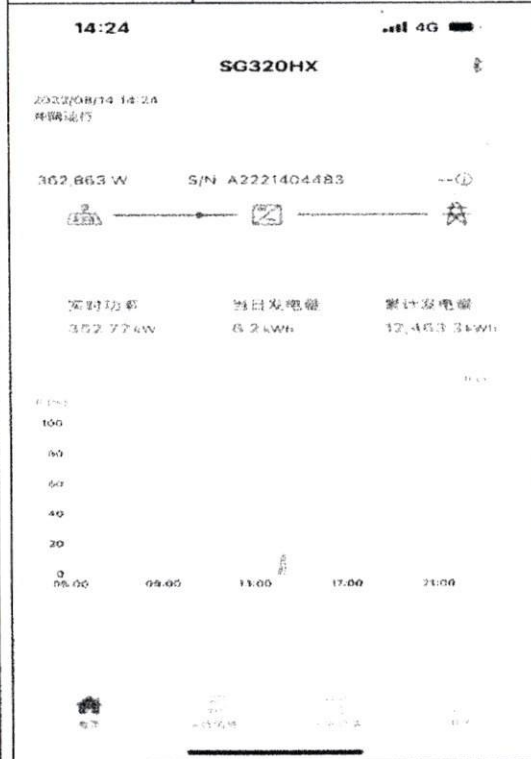
Photo:  
 Rated working condition

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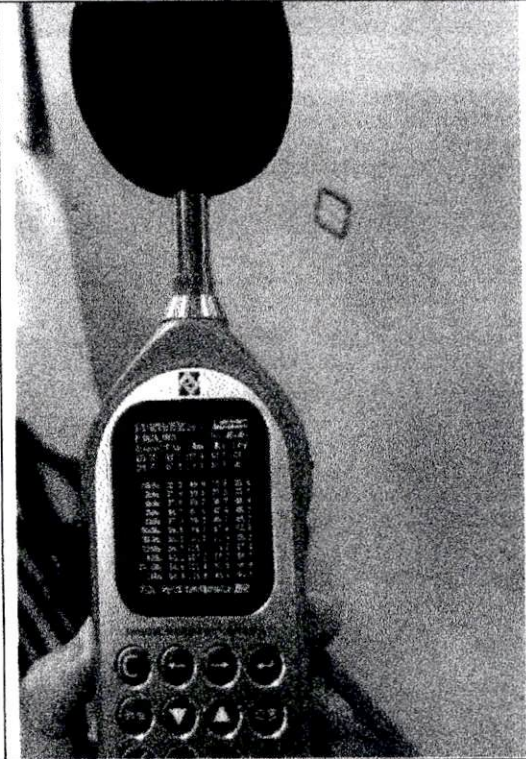
SUNGROW



Operation condition



Background noise

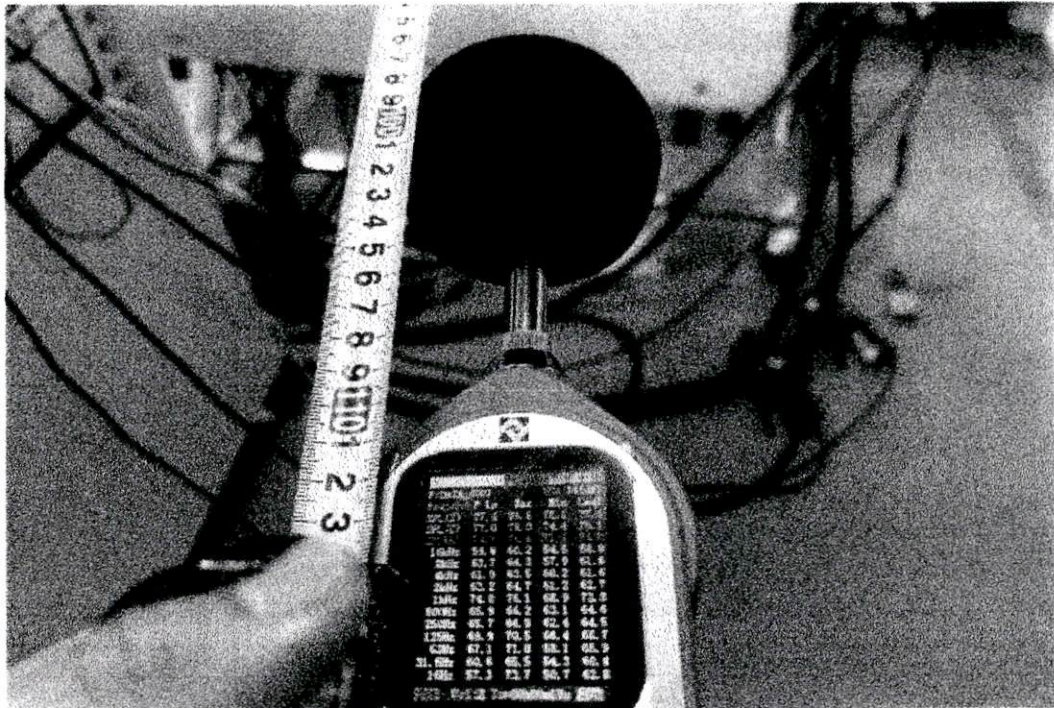




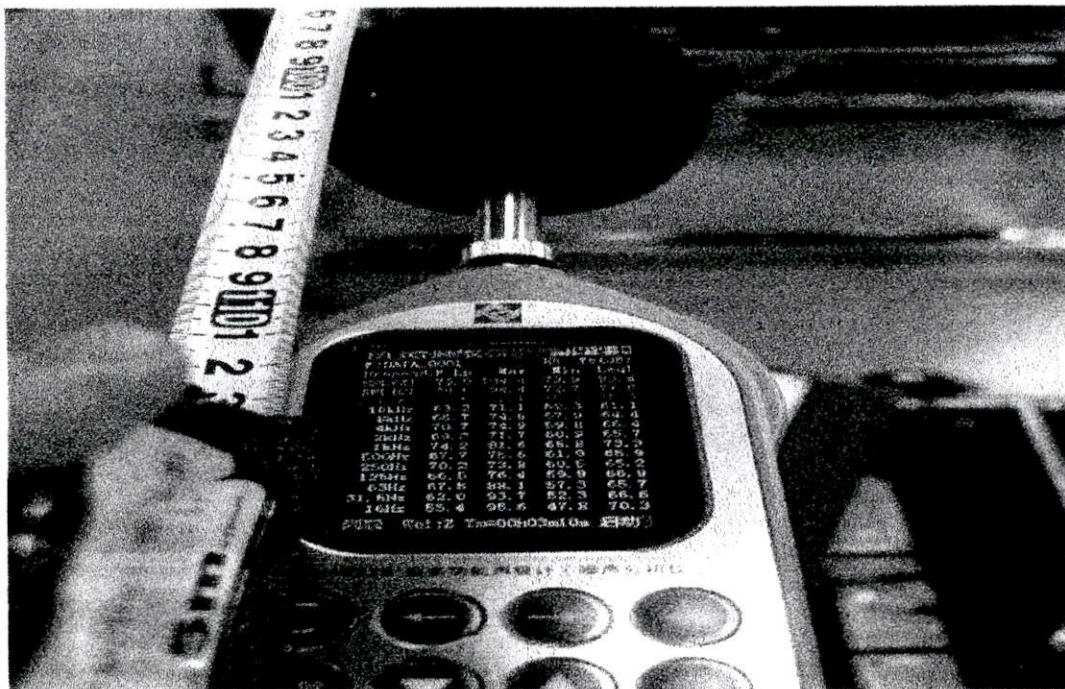
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 Website: www.sungrowpower.com

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1) 1m noise photo



Front



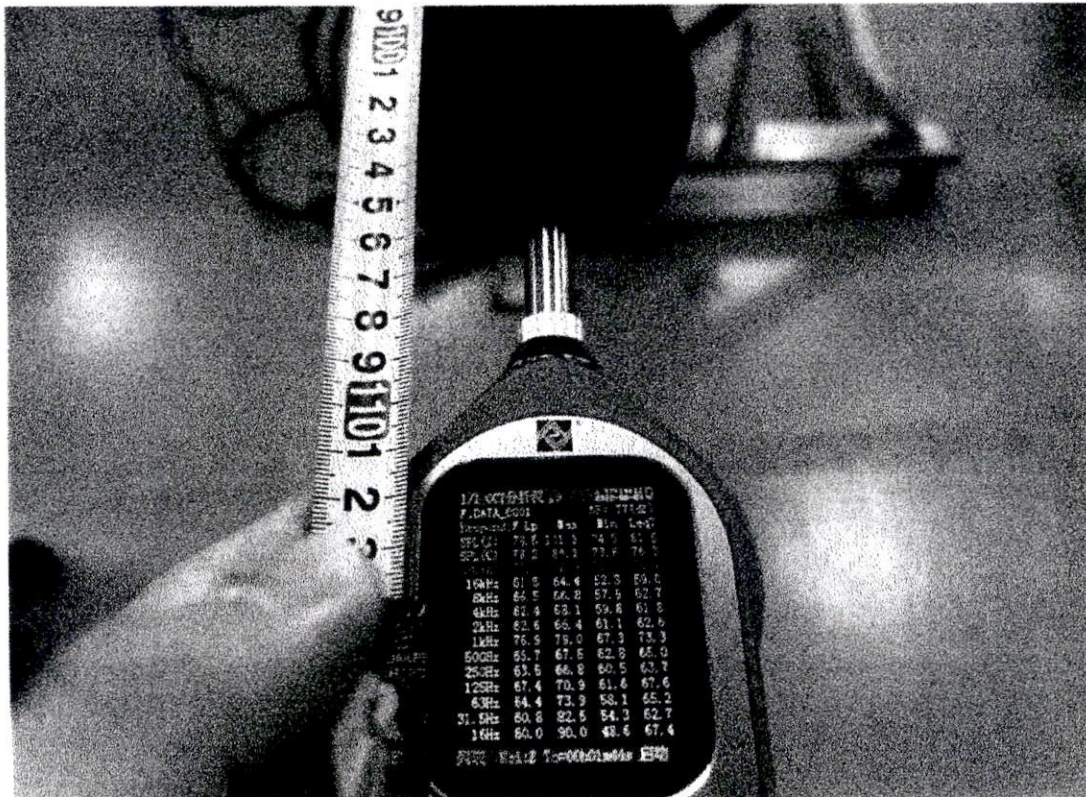
Behind

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Left



Right

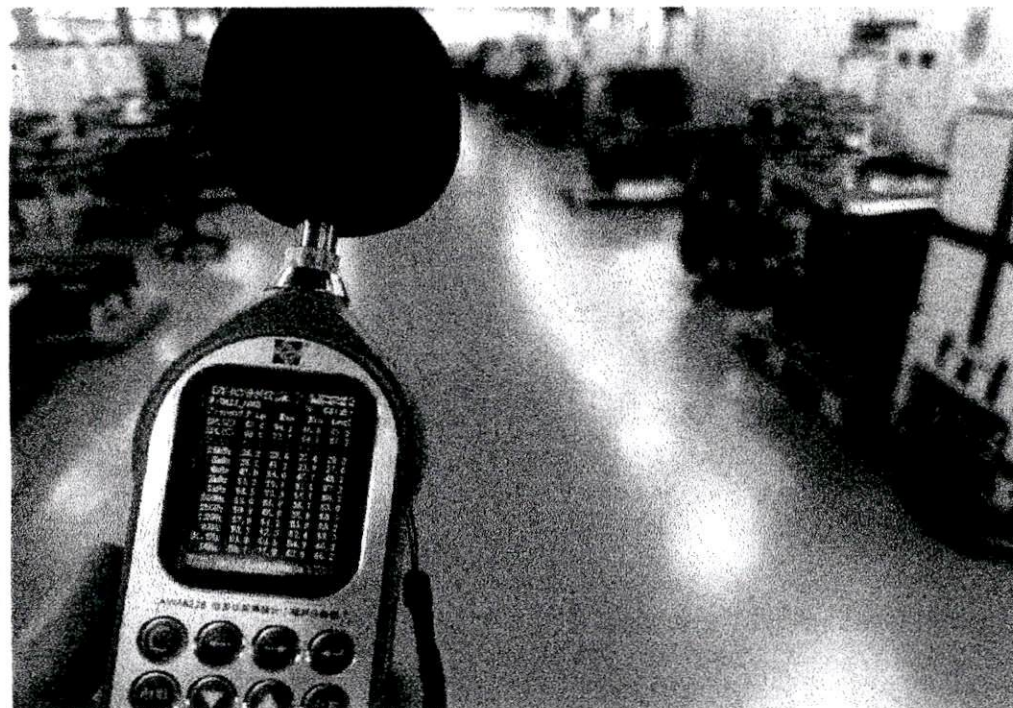
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 Website: www.sungrowpower.com

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2) 10m noise photo



Front



Behind

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Left



Right

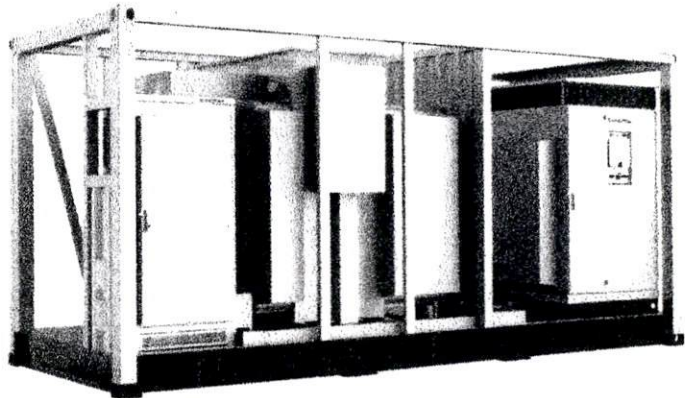
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Website: www.sungrowpower.com

SUNGROW

Additional comments
N/A

# SG3425UD-MV SG3600UD-MV

Turnkey Station for North America 1500 Vdc System  
- MV Transformer Integrated



## HIGH YIELD

- Advanced three-level technology, max. efficiency 98.9%
- Full power operation at 45 °C (113 °F)
- Effective cooling, wide operation temperature
- Max. DC/AC ratio up to 2.0



## SMART O&M

- Integrated current, voltage and MV parameters monitoring function for online analysis and trouble shooting
- Modular design, easy for maintenance



## SAVED INVESTMENT

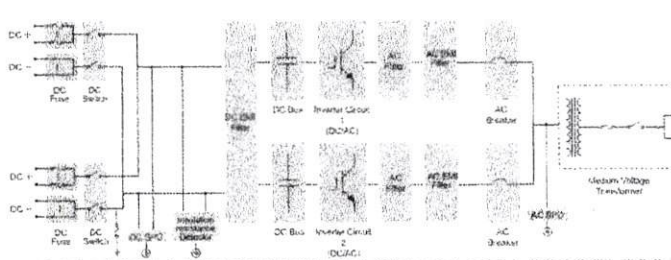
- Low transportation and installation cost due to 20-foot container size design
- DC-coupled storage interface and charging power from the grid, low system cost
- Integrated MV transformer and LV auxiliary power supply
- Q at night optional



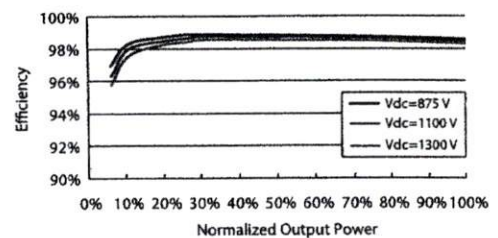
## GRID SUPPORT

- Compliance with standards:UL 1741, UL 1741 SA, IEEE 1547, Rule 21 and NEC code
- Low / High voltage ride through (L/HVRT), L/HFRT, soft start/stop
- Active & reactive power control and power ramp rate control

## CIRCUIT DIAGRAM



## EFFICIENCY CURVE (SG3425UD)





Mail Processing Center  
 Federal Aviation Administration  
 Southwest Regional Office  
 Obstruction Evaluation Group  
 10101 Hillwood Parkway  
 Fort Worth, TX 76177

Aeronautical Study No.  
 2024-AEA-4295-OE

Issued Date: 06/18/2024

Usman Chaudhry  
 P.W. Grosser Consulting  
 630 Johnson Avenue  
 Bohemia, NY 11716

**\*\* DETERMINATION OF NO HAZARD TO AIR NAVIGATION \*\***

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Solar Panel North Triphammer Road Solar Project  
 Location: Lansing, NY  
 Latitude: 42-30-27.00N NAD 83  
 Longitude: 76-29-10.00W  
 Heights: 1065 feet site elevation (SE)  
 15 feet above ground level (AGL)  
 1080 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 12/18/2025 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6068, or [Dianne.Marin@FAA.GOV](mailto:Dianne.Marin@FAA.GOV). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2024-AEA-4295-OE.

**Signature Control No: 618689193-624780656**

( DNE )

Dianne Marin  
Technician

Attachment(s)  
Map(s)





June 14, 2024

Town of Lansing  
Zoning Board of Appeals  
Chairperson Tabrizi  
29 Auburn Road  
Lansing, NY 14882

RE: Glare Analysis Letter  
North Triphammer Road Site  
Lansing, New York  
PWGC Project Number: DRS2404

P.W. Grosser has conducted a glare analysis for the proposed solar facilities located on the east side of North Triphammer Road (County Route 122), Lansing, New York 14882 (Sites). The analysis focused on two Sites, which are identified as NY Lansing I, LLC (Project 1) and NY Lansing II, LLC (Project 2) (Shown in **Attachment A**). Project 1 contains a tax parcel identified in the Tompkins County Tax Map with Parcel ID 44.-1-1.2 and is approximately 35.1 acres. Project 1 is bordered by single-family residential and undeveloped/vegetated land to the north and west, and undeveloped/vegetated land to the east. Project 2 contains a tax parcel identified in the Tompkins County Tax Map with Parcel ID 44.-1-3.3 and is approximately 34.5 acres. Project 2 is bordered by single-family residential and undeveloped/vegetated land to the south and west, and undeveloped/vegetated land to the east. Both sites are currently used for agricultural purposes and the remaining of the subject property is wooded.

#### 1.0 GLARE ANALYSIS METHODS

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P.W. Grosser staff utilized the Sandia National Laboratories (Sandia) Solar Glare Hazard Analysis Tool (SGHAT) in ForgeSolar GlareGauge software application to perform the analysis. This tool provides the user with information on when and where there will be a glare based on user-defined observation locations. The "PV Arrays" were added to the GlareGauge software using the coordinates of the corners of the proposed array areas of both projects. Project 1 contains one proposed array area and Project 2 contains 3 separate proposed array areas. The proposed solar panels will be single axis tracker with a maximum tracking angle of 60 degrees.

There were 24 observation points used in the analysis. These observation points were the non-participating properties surrounding the proposed solar facilities. The observation points heights were set to 6 feet to account for the average observation height of someone at the selected observation locations. Elevations of the observation points are accounted for by the GlareGauge



program. North Triphammer Road was included as a two-way route receptor. The view angle was set to 50 degrees which is the default angle based on FAA research which determined that the impact of glare beyond 50 degrees is mitigated.

The glare analysis accounts for obstructions around the proposed solar facilities. GlareGauge allows the user to include obstructions of a defined height to accommodate the possibility of obstructions affecting the glare at observation points. P.W. Grosser included 10 existing tree line obstructions at an average height of 30 feet.



## 2.0 GLARE

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Glare analysis is used to observe the potential visual impairments to certain receptors. These receptors can include residential properties in the surrounding areas, or drivers using roadways in the surrounding area of the proposed solar facilities. According to the Federal Aviation Administration (FAA), glare is a continuous source of bright light, rather than a momentary flash of bright light, which can pose an ocular hazard to the receptors.

According to ForgeSolar, the ocular impact of glare is quantified by three categories of severity that are represented as different colors.

- Red glare – Possibility to cause permanent eye damage (retinal burn)
- Yellow glare – Possibility to cause temporary after-image.
- Green glare – low possibility of causing flash blindness.

Although retinal burn is noted in the list above, it is typically not a possible outcome from solar panel glare since they do not focus reflected sunlight.

## 3.0 FAA NOTICE CRITERIA

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It is not required for a proposed solar facility to file with the FAA if it is not located within the bounds of an airport, but it is highly recommended to use the FAA Notice Criteria Tool (NCT) to determine whether a proposed structure requires a formal submission to the FAA Obstruction Evaluation Group under 14 CFR Part 77.9. The recommendation is based on the site's location in proximity to a jurisdictional airport.

The Notice criteria tool was used in determining if the proposed solar facilities are located within an FAA-defined impact area. The site coordinates, elevations and structure heights were added to the tool for both Project 1 and 2. The NCT determined that the projects exceed the given criteria, and it was recommended that a submission for an off-airport aeronautical study with the FAA Obstruction Evaluation Group should be filed. P.W. Grosser has submitted a 7460-1 form to the FAA Obstruction Evaluation Group and are waiting for the FAA to process the off-airport aeronautical study. The Notice of Proposed Construction is included as **Attachment B**.



#### 4.0 GLARE ANALYSIS RESULTS

The SGHAT in GlareGauge outputs a Glare Analysis Summary along with PV Array Results of Project 1 and Project 2 and are shown as **Attachment C**. The simulation predicted there would be no glare found at any of the input observation points or along North Triphammer Road from Project 1 or Project 2. **Table 1** shows the ocular effect at each observation point and route receptor.

**Table 1. PV and Receptor Analysis Results**

Receptor	Height Above Ground (ft)	Latitude (deg)	Longitude (deg)	Green Glare (min)	Yellow Glare (min)
OP 1	6	42.509673	-76.488362	0	0
OP 2	6	42.509671	-76.487316	0	0
OP 3	6	42.509681	-76.486222	0	0
OP 4	6	42.509775	-76.485020	0	0
OP 5	6	42.509827	-76.483819	0	0
OP 6	6	42.509953	-76.483003	0	0
OP 7	6	42.511300	-76.480225	0	0
OP 8	6	42.510815	-76.478049	0	0
OP 9	6	42.509113	-76.477019	0	0
OP 10	6	42.510116	-76.476008	0	0
OP 11	6	42.508759	-76.476630	0	0
OP 12	6	42.507335	-76.473648	0	0
OP 13	6	42.506813	-76.473658	0	0
OP 14	6	42.504358	-76.474034	0	0
OP 15	6	42.506094	-76.490143	0	0
OP 16	6	42.505706	-76.490294	0	0
OP 17	6	42.505334	-76.490186	0	0
OP 18	6	42.504919	-76.490079	0	0
OP 19	6	42.507529	-76.489430	0	0
OP 20	6	42.506738	-76.490326	0	0
OP 21	6	42.508874	-76.490390	0	0
OP 22	6	42.510898	-76.490429	0	0
OP 23	6	42.509580	-76.490600	0	0
OP 24	6	42.504862	-76.491086	0	0
N Triphammer Road	4	X	X	0	0



## 5.0 GLARE ANALYSIS SUMMARY

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The proposed solar facilities from Project 1 and Project 2 were modeled using the SGHAT in GlareGauge to determine the glare that the proposed facilities may impose on the non-participating properties surrounding the sites. The analysis performed was based on the 6' observation from the neighboring non-participating structures. The Analysis accounted for the panel specifications as well as the obstructions present. Based on this data, GlareGauge predicted there will be no green or yellow glare present at the observation points or along North Triphammer Road from Project 1 and Project 2. Also, the FAA NCT determined that a notice for the proposed solar facilities is required, which was filed by P.W. Grosser and is awaiting a response from the FAA to complete the off-airport aeronautical study.

**P.W. GROSSER CONSULTING, INC.**

P.W. GROSSER CONSULTING ENGINEER & HYDROGEOLOGIST, P.C.

PHONE: 631.589.6353 630 JOHNSON AVENUE, STE 7  
PWGROSSER.COM BOHEMIA, NY 11716

LONG ISLAND • MANHATTAN • SARATOGA SPRINGS • SYRACUSE • SHELTON



## 6.0 REFERENCES

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Forgesolar help. ForgeSolar. Accessed online.

<https://www.forgesolar.com/help/>

FAA (Federal Aviation Administration). 2018. Technical Guidance for Evaluating Selected Solar Technologies

on Airports. Accessed online at:

<https://www.faa.gov/sites/faa.gov/files/airports/environmental/FAAAirport-Solar-Guide-2018.pdf>

GlareGauge tool in ForgeSolar. Accessed online.

<https://www.forgesolar.com/tools/glaregauge/>



## ATTACHMENT A

**P.W. GROSSER CONSULTING, INC.**  
P.W. GROSSER CONSULTING ENGINEER & HYDROGEOLOGIST, P.C.

PHONE: 631.589.6353 630 JOHNSON AVENUE, STE 7  
**PWGROSSER.COM BOHEMIA, NY 11716**

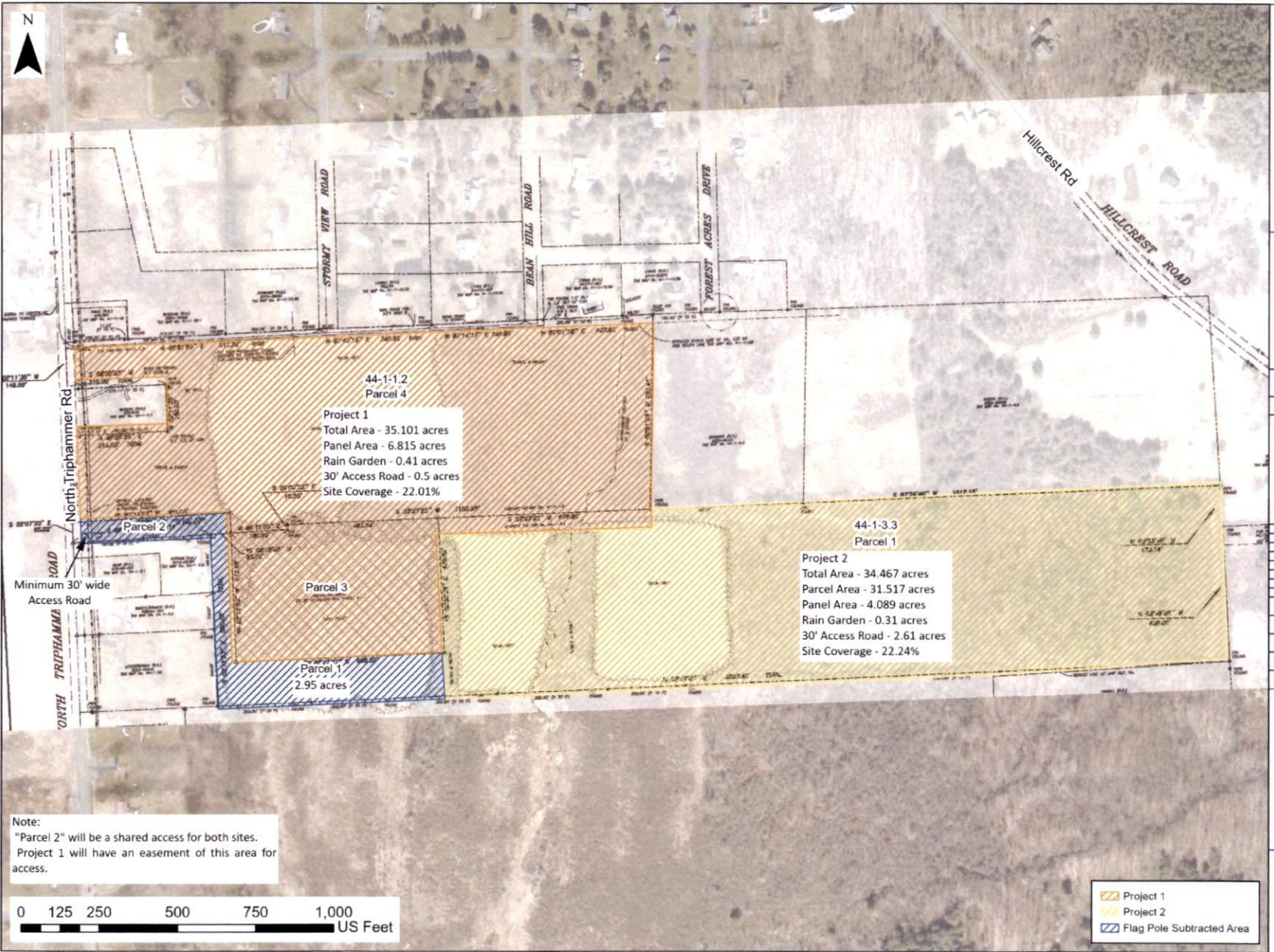
LONG ISLAND

MANHATTAN

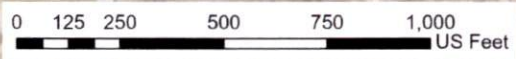
SARATOGA SPRINGS

SYRACUSE

SHELTON



Note:  
 "Parcel 2" will be a shared access for both sites.  
 Project 1 will have an easement of this area for access.



- Project 1
- Project 2
- Flag Pole Subtracted Area



**PWGC**  
 CLIENT DRIVEN SOLUTIONS

P.W. Grosser Consulting Engineer & Hydrogeologist, PC

630 Johnson Ave., Suite 7  
 Bohemia, NY 11716  
 Ph: 631-589-6353 • Fax: 631-589-8705  
 pwgc.info@pwgros.com

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DRAWING AND RELATED DOCUMENTS IS A VIOLATION OF SEC. 7209 OF THE N.Y.S. EDUCATION LAW

DRAWING PREPARED FOR:

REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

Project:	DRS2404	Designed by:	UC
Date:	6/11/2024	Drawn by:	AM
Scale:	A5 SHOWN	Approved by:	UC

## Site Plan

North Triphammer Road  
 Ithaca, NY 14882

FIGURE NO: 2





## ATTACHMENT B

**P.W. GROSSER CONSULTING, INC.**  
P.W. GROSSER CONSULTING ENGINEER & HYDROGEOLOGIST, P.C.

PHONE: 631.589.6353 630 JOHNSON AVENUE, STE 7  
**PWGROSSER.COM BOHEMIA, NY 11716**

LONG ISLAND

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The FAA is currently experiencing delays in processing off-airport aeronautical studies. These delays are currently resulting in an approximate 15 additional days in processing time. The FAA will continue to work aeronautical studies on a first come, first served basis. Please take this possible delay into consideration when determining when to submit your case. If your submitted aeronautical study requires priority and 60 days has elapsed since submission, please contact the OEG Specialist for your state with the rationale for your request and it will be reviewed for escalation. The issue causing these delays is actively being mitigated and is expected to be resolved around August.

« OE/AAA

Notice of Proposed Construction or Alteration - Off Airport

Add a New Case (Off Airport) - Desk Reference Guide V\_2018.2.1

Add a New Case (Off Airport) for Wind Turbines - Met Towers (with WT Farm) - WT-Barge Crane - Desk Reference Guide V\_2018.2.1

Project Name: P.W. -000853692-24 Sponsor: P.W. Grosser Consulting

Details for Case : North Triphammer Road Solar Project

Show Project Summary

<b>Case Status</b>		<b>Date Accepted:</b> 04/11/2024	
<b>ASN:</b> 2024-AEA-4295-OE		<b>Date Determined:</b>	
<b>Status:</b> Work In Progress		<b>Letters:</b> None	
<b>Public Comments:</b> None		<b>Documents:</b> 04/11/2024  Survey - N Trip.pdf	
		<b>Project Documents:</b> None	
<b>Construction / Alteration Information</b>		<b>Structure Summary</b>	
<b>Notice Of:</b> Construction		<b>Structure Type:</b> SOLAR   Solar Panel	
<b>Duration:</b> Permanent		<b>Structure Name:</b> North Triphammer Road Solar Project	
<b>if Temporary :</b> Months: Days:		<b>FDC NOTAM:</b>	
<b>Work Schedule - Start:</b> 04/01/2025		<b>NOTAM Number:</b>	
<b>Work Schedule - End:</b> 08/31/2025		<b>FCC Number:</b>	
<i>*For temporary cranes-Does the permanent structure require separate notice to the FAA? To find out, use the Notice Criteria Tool. If separate notice is required, please ensure it is filed. If it is not filed, please state the reason in the Description of Proposal.</i>		<b>Prior ASN:</b>	
<b>State Filing:</b> Not filed with State			
<b>Structure Details</b>		<b>Proposed Frequency Bands</b>	
<b>Latitude:</b> 42° 30' 27.00" N		<b>Low Freq</b>	<b>High Freq</b>
<b>Longitude:</b> 76° 29' 10.00" W		<b>Freq Unit</b>	<b>ERP</b>
<b>Horizontal Datum:</b> NAD83		<b>ERP Unit</b>	
<b>Site Elevation (SE):</b> 1065 (nearest foot) PASSED			
<b>Structure Height (AGL):</b> 15 (nearest foot)			
<b>Current Height (AGL):</b> (nearest foot)			
<i>* For notice of alteration or existing provide the current AGL height of the existing structure. Include details in the Description of Proposal</i>			
<b>Minimum Operating Height (AGL):</b> (nearest foot)			
<i>* For aeronautical study of a crane or construction equipment the maximum height should be listed above as the Structure Height (AGL). Additionally, provide the minimum operating height to avoid delays if impacts are identified that require negotiation to a reduced height. If the Structure Height and minimum operating height are the same enter the same value in both fields.</i>			
<b>Requested Marking/Lighting:</b> None			
<b>Other :</b>			
<b>Recommended Marking/Lighting:</b>			
<b>Current Marking/Lighting:</b> N/A Proposed Structure			
<b>Other :</b> <input type="text"/>			
<b>Nearest City:</b> Lansing			
<b>Nearest State:</b> New York			
<b>Description of Location:</b> Consists of two properties located east of North Triphammer Road that are a combination of agricultural land and undeveloped forest. Consists of Tax Parcels 44.-1-1.2 and 44.-1-3.3. The site is bordered by residential homes to the north, Hillcrest Road to the east and undeveloped land to the south.			
<b>Description of Proposal:</b> The proposed action includes the development of an approximate 5-megawatt alternating current (MW AC) ground-mounted solar facility. The solar facility would be situated on the central portion of the northern tax parcel (44.-1-1.2) and the western portion of the southern tax parcel (44.-1-3.3).			



## ATTACHMENT C

**P.W. GROSSER CONSULTING, INC.**  
P.W. GROSSER CONSULTING ENGINEER & HYDROGEOLOGIST, P.C.

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# FORGESOLAR GLARE ANALYSIS

Project: **North Triphammer Road, Lansing**

Glare analysis of North Triphammer Road, Lansing, NY.

Site configuration: **Triphammer**

Client: NY Lansing I, LLC

Created 10 Jun, 2024

Updated 14 Jun, 2024

Time-step 1 minute

Timezone offset UTC-5

Minimum sun altitude 0.0 deg

DNI peaks at 1,000.0 W/m<sup>2</sup>

Category 5 MW to 10 MW

Site ID 121553.20826

Ocular transmission coefficient 0.5

Pupil diameter 0.002 m

Eye focal length 0.017 m

Sun subtended angle 9.3 mrad

PV analysis methodology V2



## Summary of Results No glare predicted

PV Array	Tilt °	Orient °	Annual Green Glare		Annual Yellow Glare		Energy kWh
			min	hr	min	hr	
1	SA tracking	SA tracking	0	0.0	0	0.0	-
2A	SA tracking	SA tracking	0	0.0	0	0.0	-
2B	SA tracking	SA tracking	0	0.0	0	0.0	-
2C	SA tracking	SA tracking	0	0.0	0	0.0	-

Total glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
N Triphammer Road	0	0.0	0	0.0
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
OP 7	0	0.0	0	0.0
OP 8	0	0.0	0	0.0
OP 9	0	0.0	0	0.0
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0
OP 12	0	0.0	0	0.0
OP 13	0	0.0	0	0.0
OP 14	0	0.0	0	0.0
OP 15	0	0.0	0	0.0
OP 16	0	0.0	0	0.0
OP 17	0	0.0	0	0.0
OP 18	0	0.0	0	0.0
OP 19	0	0.0	0	0.0
OP 20	0	0.0	0	0.0
OP 21	0	0.0	0	0.0
OP 22	0	0.0	0	0.0
OP 23	0	0.0	0	0.0
OP 24	0	0.0	0	0.0

# Component Data

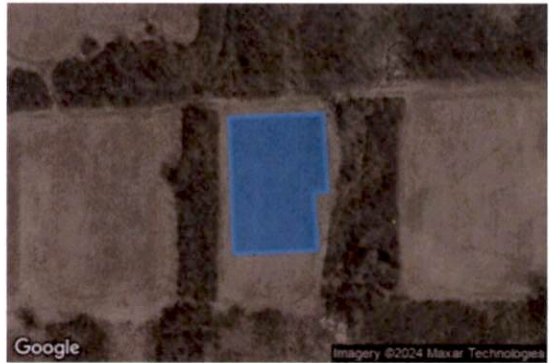
## PV Arrays

**Name:** 1  
**Axis tracking:** Single-axis rotation  
**Backtracking:** Shade-slope  
**Tracking axis orientation:** 180.0°  
**Max tracking angle:** 60.0°  
**Resting angle:** 0.0°  
**Ground Coverage Ratio:** 0.5  
**Rated power:** -  
**Panel material:** Light textured glass with AR coating  
**Reflectivity:** Vary with sun  
**Slope error:** correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	42.506747	-76.486896	1047.71	20.00	1067.71
2	42.506704	-76.488838	1038.72	20.00	1058.72
3	42.507874	-76.488919	1045.41	20.00	1065.41
4	42.507934	-76.486950	1058.38	20.00	1078.38
5	42.508171	-76.486977	1062.92	20.00	1082.92
6	42.508100	-76.488962	1045.73	20.00	1065.73
7	42.509215	-76.489005	1045.02	20.00	1065.02
8	42.509342	-76.484455	1069.39	20.00	1089.39
9	42.507894	-76.484375	1062.95	20.00	1082.95
10	42.507795	-76.486939	1055.40	20.00	1075.40

**Name:** 2A  
**Axis tracking:** Single-axis rotation  
**Backtracking:** Shade-slope  
**Tracking axis orientation:** 180.0°  
**Max tracking angle:** 60.0°  
**Resting angle:** 0.0°  
**Ground Coverage Ratio:** 0.5  
**Rated power:** -  
**Panel material:** Light textured glass with AR coating  
**Reflectivity:** Vary with sun  
**Slope error:** correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	42.506749	-76.486220	1049.04	20.00	1069.04
2	42.507651	-76.486266	1056.46	20.00	1076.46
3	42.507677	-76.485426	1057.49	20.00	1077.49
4	42.507161	-76.485392	1053.73	20.00	1073.73
5	42.507157	-76.485512	1054.03	20.00	1074.03
6	42.506775	-76.485477	1051.02	20.00	1071.02

Name: 2B

Axis tracking: Single-axis rotation

Backtracking: Shade-slope

Tracking axis orientation: 180.0°

Max tracking angle: 60.0°

Resting angle: 0.0°

Ground Coverage Ratio: 0.5

Rated power: -

Panel material: Light textured glass with AR coating

Reflectivity: Vary with sun

Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	42.506700	-76.484614	1052.31	20.00	1072.31
2	42.507576	-76.484697	1059.58	20.00	1079.58
3	42.507649	-76.482953	1066.97	20.00	1086.97
4	42.507080	-76.482908	1062.06	20.00	1082.06
5	42.507060	-76.483259	1058.19	20.00	1078.19
6	42.506757	-76.483224	1058.78	20.00	1078.78

Name: 2C

Axis tracking: Single-axis rotation

Backtracking: Shade-slope

Tracking axis orientation: 180.0°

Max tracking angle: 60.0°

Resting angle: 0.0°

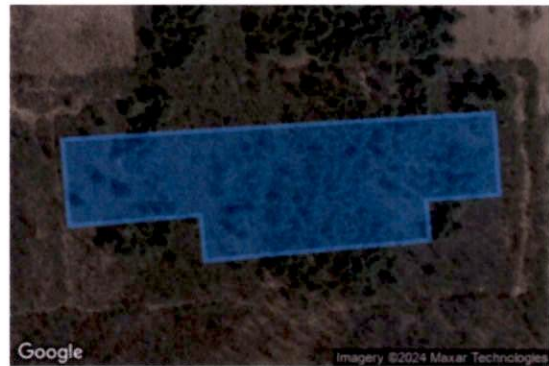
Ground Coverage Ratio: 0.5

Rated power: -

Panel material: Light textured glass with AR coating

Reflectivity: Vary with sun

Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	42.507884	-76.477715	1084.52	20.00	1104.52
2	42.507706	-76.481566	1067.25	20.00	1087.25
3	42.507140	-76.481507	1062.36	20.00	1082.36
4	42.507211	-76.480327	1075.47	20.00	1095.47
5	42.506911	-76.480290	1077.17	20.00	1097.17
6	42.507049	-76.478283	1083.92	20.00	1103.92
7	42.507310	-76.478321	1093.73	20.00	1113.73
8	42.507350	-76.477666	1086.14	20.00	1106.14

## Route Receptors

**Name:** N Triphammer Road

**Path type:** Two-way

**Observer view angle:** 50.0°



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	42.516086	-76.491333	983.06	4.00	987.06
2	42.512045	-76.491172	1011.74	4.00	1015.74
3	42.506854	-76.490904	1005.04	4.00	1009.04
4	42.500558	-76.490593	955.07	4.00	959.07
5	42.498232	-76.490410	939.67	4.00	943.67
6	42.496945	-76.490325	929.07	4.00	933.07

## Discrete Observation Point Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
OP 1	1	42.509673	-76.488362	1060.42	6.00
OP 2	2	42.509671	-76.487316	1071.38	6.00
OP 3	3	42.509681	-76.486222	1074.57	6.00
OP 4	4	42.509775	-76.485020	1076.11	6.00
OP 5	5	42.509827	-76.483819	1078.43	6.00
OP 6	6	42.509953	-76.483003	1122.33	6.00
OP 7	7	42.511300	-76.480225	1093.43	6.00
OP 8	8	42.510815	-76.478049	1092.10	6.00
OP 9	9	42.509113	-76.477019	1084.27	6.00
OP 10	10	42.510116	-76.476008	1092.29	6.00
OP 11	11	42.508759	-76.476630	1084.38	5.00
OP 12	12	42.507335	-76.473648	1089.50	6.00
OP 13	13	42.506813	-76.473658	1087.50	6.00
OP 14	14	42.504358	-76.474034	1087.26	6.00
OP 15	15	42.506094	-76.490143	1011.81	6.00
OP 16	16	42.505706	-76.490294	1002.53	6.00
OP 17	17	42.505334	-76.490186	1001.84	6.00
OP 18	18	42.504919	-76.490079	1000.47	6.00
OP 19	19	42.507529	-76.489430	1034.40	6.00
OP 20	20	42.506738	-76.490326	1011.47	6.00
OP 21	21	42.508874	-76.490390	1017.13	5.00
OP 22	22	42.510898	-76.490429	1029.84	6.00
OP 23	23	42.509580	-76.490600	1014.42	6.00
OP 24	24	42.504862	-76.491086	989.58	6.00



## Obstruction Components

**Name:** Existing Tree Line 1

**Top height:** 30.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	42.505988	-76.475081	1087.46
2	42.507174	-76.475553	1082.27
3	42.507142	-76.475805	1084.53
4	42.505932	-76.475306	1081.33
5	42.505988	-76.475081	1087.46

**Name:** Existing Tree Line 10

**Top height:** 30.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	42.506293	-76.490586	1004.72
2	42.506317	-76.488939	1033.78
3	42.503754	-76.488467	1032.00
4	42.504323	-76.489084	1007.10
5	42.504149	-76.490098	991.92
6	42.504711	-76.490146	998.11
7	42.504861	-76.489556	1004.70
8	42.506206	-76.489685	1021.60
9	42.506190	-76.490586	1003.87
10	42.506293	-76.490586	1004.72

Name: Existing Tree Line 2  
 Top height: 30.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	42.509495	-76.489126	1043.81
2	42.509542	-76.486524	1072.42
3	42.509653	-76.486535	1072.15
4	42.509503	-76.490676	1010.70
5	42.509451	-76.490677	1010.04
6	42.509495	-76.489134	1043.81

Name: Existing Tree Line 3  
 Top height: 30.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	42.509645	-76.486508	1072.33
2	42.509348	-76.486502	1073.85
3	42.509435	-76.482603	1077.79
4	42.509633	-76.482420	1083.26
5	42.509684	-76.481095	1116.25
6	42.511329	-76.480773	1119.25
7	42.511278	-76.482544	1143.13
8	42.509767	-76.482490	1119.11
9	42.509593	-76.484882	1073.86
10	42.509645	-76.486508	1072.33

**Name:** Existing Tree Line 4  
**Top height:** 30.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	42.509643	-76.481065	1106.66
2	42.507982	-76.480885	1070.85
3	42.508195	-76.477934	1075.74
4	42.508611	-76.477956	1076.03
5	42.508840	-76.479383	1077.97
6	42.509346	-76.479753	1076.28
7	42.510145	-76.478664	1085.38
8	42.511054	-76.479823	1097.18
9	42.511078	-76.480627	1100.02
10	42.509644	-76.481065	1106.66

**Name:** Existing Tree Line 5  
**Top height:** 30.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	42.508199	-76.477923	1075.78
2	42.508223	-76.477317	1076.42
3	42.507867	-76.477290	1076.05
4	42.507954	-76.475150	1085.21
5	42.507333	-76.474474	1085.90
6	42.507072	-76.477419	1072.96
7	42.508136	-76.477505	1077.10
8	42.508120	-76.477934	1078.63
9	42.508199	-76.477923	1075.78

**Name:** Existing Tree Line 6  
**Top height:** 30.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	42.506422	-76.483601	1053.84
2	42.504662	-76.483473	1045.55
3	42.504504	-76.481692	1050.44
4	42.505065	-76.478377	1071.52
5	42.505532	-76.477261	1104.48
6	42.507035	-76.477266	1072.57
7	42.506422	-76.483601	1053.84

**Name:** Existing Tree Line 7  
**Top height:** 30.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	42.509403	-76.489261	1042.29
2	42.508083	-76.489261	1042.71
3	42.508003	-76.489261	1041.79
4	42.507964	-76.490854	1007.34
5	42.508569	-76.490860	1007.20
6	42.508605	-76.489985	1025.32
7	42.509277	-76.490023	1029.90
8	42.509399	-76.489824	1032.35
9	42.509403	-76.489261	1042.29

**Name:** Existing Tree Line 8  
**Top height:** 30.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	42.507149	-76.489038	1042.62
2	42.507911	-76.489097	1042.51
3	42.507861	-76.490862	1007.27
4	42.507687	-76.490822	1006.81
5	42.507752	-76.489320	1037.13
6	42.507122	-76.489290	1038.14
7	42.507149	-76.489038	1042.62

**Name:** Existing Tree Line 9  
**Top height:** 30.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	42.506967	-76.490004	1023.09
2	42.506983	-76.489366	1035.81
3	42.507078	-76.489304	1038.11
4	42.507086	-76.489156	1041.02
5	42.506546	-76.489146	1034.51
6	42.506546	-76.489293	1032.12
7	42.506902	-76.489320	1035.39
8	42.506880	-76.489974	1023.14
9	42.506967	-76.490004	1023.09

# Glare Analysis Results

## Summary of Results No glare predicted

PV Array	Tilt °	Orient °	Annual Green Glare		Annual Yellow Glare		Energy kWh
			min	hr	min	hr	
1	SA tracking	SA tracking	0	0.0	0	0.0	-
2A	SA tracking	SA tracking	0	0.0	0	0.0	-
2B	SA tracking	SA tracking	0	0.0	0	0.0	-
2C	SA tracking	SA tracking	0	0.0	0	0.0	-

Total glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
N Triphammer Road	0	0.0	0	0.0
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0
OP 7	0	0.0	0	0.0
OP 8	0	0.0	0	0.0
OP 9	0	0.0	0	0.0
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0
OP 12	0	0.0	0	0.0
OP 13	0	0.0	0	0.0
OP 14	0	0.0	0	0.0
OP 15	0	0.0	0	0.0
OP 16	0	0.0	0	0.0
OP 17	0	0.0	0	0.0
OP 18	0	0.0	0	0.0
OP 19	0	0.0	0	0.0
OP 20	0	0.0	0	0.0
OP 21	0	0.0	0	0.0
OP 22	0	0.0	0	0.0
OP 23	0	0.0	0	0.0
OP 24	0	0.0	0	0.0

**PV: 1** no glare found

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
N Triphammer Road	0	0.0	0	0.0
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0
OP 7	0	0.0	0	0.0
OP 8	0	0.0	0	0.0
OP 9	0	0.0	0	0.0
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0
OP 12	0	0.0	0	0.0
OP 13	0	0.0	0	0.0
OP 14	0	0.0	0	0.0
OP 15	0	0.0	0	0.0
OP 16	0	0.0	0	0.0
OP 17	0	0.0	0	0.0
OP 18	0	0.0	0	0.0
OP 19	0	0.0	0	0.0
OP 20	0	0.0	0	0.0
OP 21	0	0.0	0	0.0
OP 22	0	0.0	0	0.0
OP 23	0	0.0	0	0.0
OP 24	0	0.0	0	0.0

**1 and Route: N Triphammer Road**

No glare found

**1 and OP 1**

No glare found

**1 and OP 2**

No glare found

**1 and OP 3**

No glare found

**1 and OP 4**

No glare found

**1 and OP 5**

No glare found

**1 and OP 6**

No glare found

**1 and OP 7**

No glare found

**1 and OP 8**

No glare found

**1 and OP 9**

No glare found

**1 and OP 10**

No glare found

**1 and OP 11**

No glare found

**1 and OP 12**

No glare found

**1 and OP 13**

No glare found

**1 and OP 14**

No glare found

**1 and OP 15**

No glare found

**1 and OP 16**

No glare found



**1 and OP 17**

No glare found

**1 and OP 18**

No glare found

**1 and OP 19**

No glare found

**1 and OP 20**

No glare found

**1 and OP 21**

No glare found

**1 and OP 22**

No glare found

**1 and OP 23**

No glare found

**1 and OP 24**

No glare found

**PV: 2A** no glare found

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
N Triphammer Road	0	0.0	0	0.0
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0
OP 7	0	0.0	0	0.0
OP 8	0	0.0	0	0.0
OP 9	0	0.0	0	0.0
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0
OP 12	0	0.0	0	0.0
OP 13	0	0.0	0	0.0
OP 14	0	0.0	0	0.0
OP 15	0	0.0	0	0.0
OP 16	0	0.0	0	0.0
OP 17	0	0.0	0	0.0
OP 18	0	0.0	0	0.0
OP 19	0	0.0	0	0.0
OP 20	0	0.0	0	0.0
OP 21	0	0.0	0	0.0
OP 22	0	0.0	0	0.0
OP 23	0	0.0	0	0.0
OP 24	0	0.0	0	0.0

**2A and Route: N Triphammer Road**

No glare found

**2A and OP 1**

No glare found

**2A and OP 2**

No glare found

**2A and OP 3**

No glare found

**2A and OP 4**

No glare found

**2A and OP 5**

No glare found

**2A and OP 6**

No glare found

**2A and OP 7**

No glare found

**2A and OP 8**

No glare found

**2A and OP 9**

No glare found

**2A and OP 10**

No glare found

**2A and OP 11**

No glare found

**2A and OP 12**

No glare found

**2A and OP 13**

No glare found

**2A and OP 14**

No glare found

**2A and OP 15**

No glare found

**2A and OP 16**

No glare found

**2A and OP 17**

No glare found

**2A and OP 18**

No glare found

**2A and OP 19**

No glare found

**2A and OP 20**

No glare found

**2A and OP 21**

No glare found

**2A and OP 22**

No glare found

**2A and OP 23**

No glare found

**2A and OP 24**

No glare found

**PV: 2B** no glare found

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
N Triphammer Road	0	0.0	0	0.0
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0
OP 7	0	0.0	0	0.0
OP 8	0	0.0	0	0.0
OP 9	0	0.0	0	0.0
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0
OP 12	0	0.0	0	0.0
OP 13	0	0.0	0	0.0
OP 14	0	0.0	0	0.0
OP 15	0	0.0	0	0.0
OP 16	0	0.0	0	0.0
OP 17	0	0.0	0	0.0
OP 18	0	0.0	0	0.0
OP 19	0	0.0	0	0.0
OP 20	0	0.0	0	0.0
OP 21	0	0.0	0	0.0
OP 22	0	0.0	0	0.0
OP 23	0	0.0	0	0.0
OP 24	0	0.0	0	0.0

**2B and Route: N Triphammer Road**

No glare found

**2B and OP 1**

No glare found

**2B and OP 2**

No glare found

**2B and OP 3**

No glare found

**2B and OP 4**

No glare found

**2B and OP 5**

No glare found

**2B and OP 6**

No glare found

**2B and OP 7**

No glare found

**2B and OP 8**

No glare found

**2B and OP 9**

No glare found

**2B and OP 10**

No glare found

**2B and OP 11**

No glare found

**2B and OP 12**

No glare found

**2B and OP 13**

No glare found

**2B and OP 14**

No glare found

**2B and OP 15**

No glare found

**2B and OP 16**

No glare found

**2B and OP 17**

No glare found

**2B and OP 18**

No glare found

**2B and OP 19**

No glare found

**2B and OP 20**

No glare found

**2B and OP 21**

No glare found

**2B and OP 22**

No glare found

**2B and OP 23**

No glare found

**2B and OP 24**

No glare found

**PV: 2C** no glare found

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
N Triphammer Road	0	0.0	0	0.0
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0
OP 7	0	0.0	0	0.0
OP 8	0	0.0	0	0.0
OP 9	0	0.0	0	0.0
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0
OP 12	0	0.0	0	0.0
OP 13	0	0.0	0	0.0
OP 14	0	0.0	0	0.0
OP 15	0	0.0	0	0.0
OP 16	0	0.0	0	0.0
OP 17	0	0.0	0	0.0
OP 18	0	0.0	0	0.0
OP 19	0	0.0	0	0.0
OP 20	0	0.0	0	0.0
OP 21	0	0.0	0	0.0
OP 22	0	0.0	0	0.0
OP 23	0	0.0	0	0.0
OP 24	0	0.0	0	0.0

**2C and Route: N Triphammer Road**

No glare found

**2C and OP 1**

No glare found

**2C and OP 2**

No glare found

**2C and OP 3**

No glare found



**2C and OP 4**

No glare found

**2C and OP 5**

No glare found

**2C and OP 6**

No glare found

**2C and OP 7**

No glare found

**2C and OP 8**

No glare found

**2C and OP 9**

No glare found

**2C and OP 10**

No glare found

**2C and OP 11**

No glare found

**2C and OP 12**

No glare found

**2C and OP 13**

No glare found

**2C and OP 14**

No glare found

**2C and OP 15**

No glare found

**2C and OP 16**

No glare found

**2C and OP 17**

No glare found

**2C and OP 18**

No glare found

**2C and OP 19**

No glare found

**2C and OP 20**

No glare found

**2C and OP 21**

No glare found

**2C and OP 22**

No glare found

**2C and OP 23**

No glare found

**2C and OP 24**

No glare found

# Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.

The algorithm does not rigorously represent the detailed geometry of a system; detailed features such as gaps between modules, variable height of the PV array, and support structures may impact actual glare results. However, we have validated our models against several systems, including a PV array causing glare to the air-traffic control tower at Manchester-Boston Regional Airport and several sites in Albuquerque, and the tool accurately predicted the occurrence and intensity of glare at different times and days of the year.

Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare. This primarily affects V1 analyses of path receptors.

Random number computations are utilized by various steps of the annual hazard analysis algorithm. Predicted minutes of glare can vary between runs as a result. This limitation primarily affects analyses of Observation Point receptors, including ATCTs. Note that the SGHAT/ ForgeSolar methodology has always relied on an analytical, qualitative approach to accurately determine the overall hazard (i.e. green vs. yellow) of expected glare on an annual basis.

The analysis does not automatically consider obstacles (either man-made or natural) between the observation points and the prescribed solar installation that may obstruct observed glare, such as trees, hills, buildings, etc.

The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)

The variable direct normal irradiance (DNI) feature (if selected) scales the user-prescribed peak DNI using a typical clear-day irradiance profile. This profile has a lower DNI in the mornings and evenings and a maximum at solar noon. The scaling uses a clear-day irradiance profile based on a normalized time relative to sunrise, solar noon, and sunset, which are prescribed by a sun-position algorithm and the latitude and longitude obtained from Google maps. The actual DNI on any given day can be affected by cloud cover, atmospheric attenuation, and other environmental factors.

The ocular hazard predicted by the tool depends on a number of environmental, optical, and human factors, which can be uncertain. We provide input fields and typical ranges of values for these factors so that the user can vary these parameters to see if they have an impact on the results. The speed of SGHAT allows expedited sensitivity and parametric analyses.

The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.

Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.

Refer to the Help page at [www.forgesolar.com/help/](http://www.forgesolar.com/help/) for assumptions and limitations not listed here.

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

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June 24, 2024

NY Lansing I, LLC and NY Lansing II, LLC  
140 East 45th Street (Suite 32B-1)  
New York, New York 10017

RE: Ecological Best Practices Memorandum  
North Triphammer Road Site  
Lansing, New York  
PWGC Project#: DRS2404

P.W. Grosser Consulting, Inc. (PWGC) is pleased to present you with this ecological best practices memorandum related to the above-referenced site. The completed scope of work was based upon conversations and an agreement between PWGC and NY Lansing I, LLC and NY Lansing II, LLC, as well as in consultation with the United State Fish and Wildlife Service (USFWS) based upon the Information for Planning and Consultation (IPaC) report generated for the site. It should be noted that this scope of work did not / does not include any form of onsite habitat assessment and / or endangered species population survey. This is a set of best practices recommendations based upon PWGC's desktop analysis of the site and USFWS consultation. (Please note that at the time of this memorandum, PWGC is still waiting on final USFWS confirmation of our Northern long-eared bat [NLEB] best practices.)

It should be noted that this memorandum is focused on voluntary best practices put together with USFWS guidance, and not on mandatory actions driven by NYSDEC regulations. In fact, when entering the project site into the NYSDEC Environmental Resource Mapper and the NYSDEC EAF Mapper and generating a populated EAF, the project site is not identified as containing any species of plant or animal listed by the federal government or NYS as being endangered, threatened, rare, or of special concern.

#### BACKGROUND

NY Lansing I, LLC and NY Lansing II, LLC (Client) retained P.W. Grosser Consulting, Inc. (PWGC) to perform a Ecological Desktop Analysis and to prepare a set of best practices for the two proposed solar project areas (hereafter referred to as "Site") located On North Triphammer Road, Lansing, New York. The two proposed solar project areas are 14.02 acres and 19.55 acres, respectively. The purpose of the set of best practices is to create a guidance document to address the endangered species act species in question identified in the site's USFWS IPaC Report. The IPaC report is included as **Attachment A**. The three species identified in the report are the Northern Long-eared Bat (*Myotis septentrionalis*), an endangered species, the Tricolored Bat (*Perimyotis subflavus*), a proposed endangered species, and the Monarch Butterfly (*Danaus plexippus*), a candidate species.

Northern long-eared bat (NLEB) range appears to overlap with the site per the USFWS IPaC Report. The potential for impact of the projects to the Northern long-eared bat was evaluated via the USFWS Northern long-eared bat determination key. Based upon the proposed project parameters, the projects reached a preliminary determination of "may affect" for NLEB. This determination was relayed to the USFWS, who directed PWGC towards the Interim Voluntary





Guidance for the Northern Long-Eared Bat: Forest Habitat Modification (included as **Attachment B**) for further guidance. Recommendations for best management practices (BMPs) for the NLEB are provided below.

For the tri-colored bat (TCB), USFWS guidance indicates the following – “this species only needs to be considered if the project includes wind turbine operations”. These projects do not include wind turbine operations. Regardless, the USFWS has indicated that BMPs being selected for the NLEB are also reasonable options for the protection of TCBs as well.

The monarch butterfly is considered by the USFWS to be a candidate species. Per the USFWS, candidate species receive no statutory protection under the Endangered Species Act. With that said, BMPs for this species based on the Landowner Guide: Nationwide Candidate Conservation Agreement for Monarch Butterfly on Energy and Transportation Lands (included as **Attachment C**) are presented below.

The Site is located on North Triphammer Road, Lansing, New York, identified as the tax parcels 44.-1-3.3 and 44.-1-1.2 on the Tompkins County Tax Map.

#### RECOMMENDATIONS

Based upon the proposed projects, the information outlined above, and in consultation with the USFWS, PWGC offers the following ecological best practices recommendations for implementation to best protect the three species in question.

#### **Northern Long-Eared Bat (Based on the Interim Voluntary Guidance for the Northern Long-Eared Bat: Forest Habitat Modification)**

1. Complete a species presence / absence survey in compliance with USFWS guidance to determine if evidence of an onsite NLEB population exists. If evidence of an onsite population is identified, proceed to recommendations 2 through 4. If evidence of an onsite population is not identified, no additional recommendations are required.

Alternatively, the project could forgo a survey and assume the presence of an onsite population and proceed directly to recommendations 2 through 4. Recommendation 5 should be followed in either scenario.

2. Avoid the use of herbicide or other pesticides (e.g., fungicides, insecticides, or rodenticides), if possible.

a. If the use of these products is required, limit it to targeted application only.

3. Avoid the use of artificial lighting within 1,000 feet of suitable northern long-eared bat roosting habitat.

4. Avoid cutting or other means of knocking down, bringing down, topping, or trimming trees that are suitable for northern long-eared bat roosting (i.e., live trees and/or snags  $\geq 3$  inches dbh that have exfoliating bark, cracks, crevices, and/or cavities).



5. Should an NLEB be identified onsite during construction, work should cease until an onsite habitat assessment / population survey meeting USFWS guidance can be completed to determine the size of the population present onsite, the location of the population, and suitable next steps.

#### **Tri-Colored Bat**

1. USFWS has indicated that the TCB is not a species of concern for the subject property based upon their known range. However, they have indicated that the BMPs listed above for the NLEB would be the best options for protection of TCBs as well.

#### **Monarch Butterfly (Based on the Landowner Guide: Nationwide Candidate Conservation Agreement for Monarch Butterfly on Energy and Transportation Lands)**

1. Perform seeding and planting to restore or create habitat.
  - a. Completing seeding or planting projects that create areas of suitable habitat with milkweed and/or floral resources available throughout the growing season.
  - b. Seed mixes should be free of invasive or aggressive nonnative species that inhibit species diversity when established.
  - c. Seed mixes and plugs should not be treated with systemic insecticides. Determine applicability of seeding and planting based on seasonality, frequency, location, and timing for implementation based on state or regional guidelines.
  - d. Maintaining (where possible) existing corridors of naturally vegetated green spaces that allow for species migration and movement.
2. Perform brush removal to restore grassland habitat (where applicable).
  - a. Removal of dense brush using forestry mowing, chainsaws, or other mechanical methods to promote more open grassland habitat types. Maintenance of brush management involves monitoring for regrowth or reoccurrence of brush.
3. Maintain undisturbed suitable habitat idle lands or set- asides (where possible).
  - a. Maintaining areas of suitable habitat annually that will be undisturbed by temporary losses from construction, maintenance, or vegetation management in any given year.
  - b. These areas may change spatially on an annual basis as new habitat becomes available and maintenance needs occur.
4. Perform conservation-timed mowing to avoid harm to monarchs at times of year they are present.
  - a. Conduct mowing and/or haying practices in a manner consistent with the intent and recommendations outlined in published BMPs for monarchs, and in conjunction with operational needs.
  - b. Timing may be informed by published guidance, annual monitoring documented by Journey North, or in consultation with the Program Administrator or USFWS Agreement Coordinator. (In our region, the best times to mow are before May 1st and after October





1st.) If possible, avoid mowing no more than twice per year and avoid mowing while native plants are in bloom or before they have dispersed seed.

5. If necessary for the projects, only perform targeted herbicide treatments to maintain habitat and minimize pesticide exposure.

a. Targeted application of herbicides completed in a manner that applies chemicals to a specific plant or group of plants while avoiding herbicides contacting off-target vegetation.

#### EXCLUSIONS

This memorandum does not include any form of onsite habitat assessment and / or endangered species population survey. This is a set of best practices recommendations based upon PWGC's desktop analysis of the site and USFWS consultation. Should an onsite habitat assessment and / or endangered species population survey be requested / required, it should be performed by a qualified ecologist with species specific knowledge.

Regards,  
P.W. GROSSER CONSULTING

Michael Gaul  
Senior Project Manager

