

Town of Manlius

Planning Board Agenda

November 14, 2022

6:30PM

1. Zoom Meeting Instructions

Documents:

[ZOOM PLANNING BOARD MEETING INSTRUCTIONS NOVEMBER 14, 2022.PDF](#)

2. Pledge Of Allegiance

3. Approval Of Minutes October 24, 2022

4. Discussion With The Mayor Of Chittenango Regarding Megnin Farms

5. Grazi Zazzara Jr. - 344 S. Warren Street, Syracuse, NY 13202 - ZOne Change Recommendation To Town Board - Eastern Hills Bible Church - RA To RM - 4600 Enders Road, Manlius, NY 13104 - Tax Map # 117.2-01-04.0

Documents:

[4600 ENDERS ROAD - PLANNING BOARD APPLICATION.PDF](#)
[4600 ENDERS ROAD - SHORT FORM EAF.PDF](#)
[4600 ENDERS ROAD - SITE PARKING.PDF](#)
[4600 ENDERS ROAD - ZONE CHANGE APPLICATION.PDF](#)
[UPDATED - 4600 ENDERS ROAD - COVER LETTER, APPLICATION AND SUPPORTING DOCS.PDF](#)
[UPDATED - 4600 ENDERS ROAD - SURVEY.PDF](#)
[UPDATED -4600 ENDERS ROAD - MAP.PDF](#)

6. Horizon Solar Power And Catalyze Energy - 33 Boston Post Road West - Suite 220, Marlborough, MA 01752 - Initial Presentation - 4.25 MW Solar Array - 7869 Peck Road, Kirkville, 13082 - Tax Map # 042.-021-32.1

Documents:

[7869 PECK ROAD - PLANNING BOARD APPLICATION.PDF](#)
[7869 PECK ROAD - SPECIAL USE PERMIT APPLICATION.PDF](#)
[7869 PECK ROAD - FULL EAF SIGNED.PDF](#)
[7869 PECK ROAD - DECOMMISSIONING AND REMOVAL PLAN.PDF](#)
[7869 PECK ROAD - FINAL CESIR NYSOLAR07 V1_REDACTED.PDF](#)
[7869 PECK ROAD - CIVIL PLANS.PDF](#)
[7869 PECK ROAD - CONDENSED PLAN.PDF](#)
[7869 PECK ROAD - EXAMPLE EQUIPMENT DATASHEETS.PDF](#)
[7869 PECK ROAD - MEMO OF LEASE.PDF](#)
[7869 PECK ROAD - SURVEY.PDF](#)
[7869 PECK ROAD - WARNER FARM - SOILS REPORT.PDF](#)
[7869 PECK ROAD - WARNER GLARE STUDY.PDF](#)
[7869 PECK ROAD - WARNER O AND M PLAN.PDF](#)

7. Dennis Flynn - 7418 Kirkville Road, E. Syracuse, NY 13057 - Special Use Permit Renewal - Dog Boarding - Same Address - Tax Map # 055.-01-10.2

Documents:

[7418 KIRKVILLE ROAD - SPECIAL USE PERMIT RENEWAL APPLIATION.PDF](#)
[7418 KIRKVILLE ROAD - ORIGINAL SPECIAL USE PERMIT APPLICATION.PDF](#)
[7418 KIRKVILLE ROAD - MEMO FROM CODE OFFICER.PDF](#)

8. Other Business

9. Adjournment



November 14, 2022

Virtual Planning Board Meeting

Instructions to attend the November 14, 2022 virtual Planning Board meeting:

The easiest way to join is to go to our website www.TownOfManlius.org and click on the link that is located on the homepage. You can also watch on our Facebook page by searching for "Town of Manlius"

Enter the meeting url web address as listed below:

<https://us02web.zoom.us/j/88270851276?>

Password to join when prompted:

Password: 785723

Enter your email address and name and join the meeting!

Join by telephone by dialing the number below:

1-(929) -436-2866

When prompted to enter the Webinar ID, use the number below followed by #

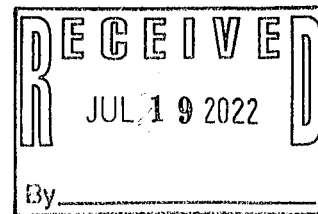
Webinar ID: 882 7085 1276

Press # again to skip the personal id and enter the password below followed by #

Password: 785723

Expected
Fee: _____

TOWN OF MANLIUS
PLANNING DEPARTMENT
INITIAL APPEARANCE APPLICATION



DATE: 7/19/22

Name of Project: 4600 ENDERS RD REDEVELOPMENT

Applicant must submit 12 copies of all site plans, surveys, and supporting data with the final application before a planning board meeting can be scheduled.

Location of Project: 4600 ENDERS RD.

Type of Project:

☐ Division of Land ☐ Subdivision ☐ Accessory Use ☒ Zone Change ☐ Site Review ☐ Other _____

Developer: CORAZI ZAZZARA Phone: 315 369-5670

Address: 344 S. WARREN ST SYRACUSE, NY. Zip: 13202

Tax Map Number(#)/s: 117.2-01-04.D

Present Zoning: RA Desired Zoning: CA

Total Acreage: _____ Total Number of Lots: _____

Property Owner/s: EASTERN HILLS BIBLE CHURCH Phone: 315 682-5008

Address: 4600 ENDERS RD, MANLIUS N.Y. Zip: 13104

Tax Map#(s): 117.2-01-04.D Owner's Signature: _____

Printed Name: MICHAEL CARVER

Property Owner/s: _____ Phone: _____

Address: _____ Zip: _____

Tax Map#(s): _____ Owner's Signature: _____

Printed Name: _____

Use next page for additional known property owners' information

Planning Board Meeting Date Assignment: _____

Fee: _____ Paid: _____ Per: ☐ Credit/Debit Card ☐ Check ☐ Cash

TOWN OF MANLIUS
PLANNING DEPARTMENT
INITIAL APPEARANCE APPLICATION
(continued)

Property Owner/s: EASTERN HILLS BIBLE CHURCH Phone: (315) 692-5008
Address: 4600 ENDERS RD, MANLIUS, NY Zip: 13104
Tax Map#(s): 117.2-01-04.0 Owner's Signature: Michael P. Garver FOR EASTERN HILLS BIBLE CHURCH
Printed Name: MICHAEL P. GARVER

Property Owner/s: _____ Phone: _____
Address: _____ Zip: _____
Tax Map#(s): _____ Owner's Signature: [Signature]
Printed Name: Grazius Zama Jr

Property Owner/s: _____ Phone: _____
Address: _____ Zip: _____
Tax Map#(s): _____ Owner's Signature: _____
Printed Name: _____

Property Owner/s: _____ Phone: _____
Address: _____ Zip: _____
Tax Map#(s): _____ Owner's Signature: _____
Printed Name: _____

Property Owner/s: _____ Phone: _____
Address: _____ Zip: _____
Tax Map#(s): _____ Owner's Signature: _____
Printed Name: _____

Property Owner/s: _____ Phone: _____
Address: _____ Zip: _____
Tax Map#(s): _____ Owner's Signature: _____
Printed Name: _____

TOWN OF MANLIUS

DISCLOSURE AFFIDAVIT

This affidavit is a part of and must be completed and attached to every application, petition, request submitted for a *site plan, variance, amendment, change of zoning, approval of a plat, exemption from a plat or official map, license or permit.*

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

I. Garrison Zarr Jr., being duly sworn, deposes and says that (s) he is:

Applicant
(applicant, petitioner, corporation officer, property owner, etc.)

II. That deponent has read and is familiar with the provisions of the General Municipal Law, Section 809 which states:

- A. Every application, petition or request submitted for a site plan, variance, amendment, change of zoning, approval of a plat, exemption from a plat or official map, license or permit, pursuant to the provisions or any ordinance, local law, rule or regulation constituting the zoning and planning regulations of a municipality shall state the name, residence and the nature and extent of the interest of any state officer or any officer or employee of such municipality is a part, in the person, partnership or association making such application, petition or request (hereinafter called the applicant) to the extent known to such applicant.
- B. For the purpose of this action an officer or employee shall be deemed to have an interest in the applicant when (s)he, his/her spouse, or their brothers, sisters, parents, children, grandchildren, or the spouse of any of them:
 - 1) is the applicant, or
 - 2) is an officer, director, partner or employee of the applicant, or
 - 3) legally or beneficially owns or controls stock of a corporate applicant or is a member of a partnership or association applicant, or
 - 4) is a party to an agreement with such an applicant, express or implied, whereby (s) he may receive any payment or other benefit, whether or not for services rendered, or contingent upon the favorable approval of such application, petition or request.
- C. Ownership of less than five percent (5%) of the stock of a corporation whose stock is listed on the New York or American Stock Exchanges shall not constitute an interest for the purposes of this section.
- D. A person who knowingly and intentionally violates this section shall be guilty of a misdemeanor.

III. That no Town of Manlius officer, employee or a relative of either, as defined in Section 809 General Municipal Law has any interest in this application.

-OR-

If a Town of Manlius officer, employee or relative of either as defined in Section 809 General Municipal law has any interest in this application, the full particulars are provided on an attached sheet.

Date: 7/15/, 20 22.

MICHAEL P. GARVER
(Print Name)

Michael P. Garver
(Signature)

EASTERN HILLS BIBLE CHURCH
(Entity Name)

Michael P. Garver CHAIRMAN EASTERN HILLS
By (Officer) (Title) BIBLE CHURCH

4600 ENDEAVOR RD MANLIUS, NY 13061
(Mailing Address of Applicant)

(315) 682-5008
(Telephone Number)

Date: 7/18/22, 20 22.

GRAZIANO ZAZZARA
(Print Name)

[Signature]
(Signature)

N/A (Proprietor)
(Entity Name)

By (Officer) (Title)

344 S WALKER ST, SYRACUSE NY 13202
(Mailing Address of Applicant)

315 299 6200
(Telephone Number)

ACKNOWLEDGEMENTS

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

On this 15th day of July in the year 20 22, before me, the undersigned, a notary public in and for said state, personally appeared Graziano Zazzara, and Michael Garver, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within Petition and acknowledged to me the he/she/they executed the same in his/her/their capacity, and that by his/her/their signature(s) on the Petition, the individual or the persons upon behalf of which the individual acted executed the instrument.

[Signature]
Notary Public

KAITLYN QUESINBERRY
NOTARY PUBLIC STATE OF NEW YORK
Registration No. 01QU6395745
Qualified in Onondaga County
Commission Expires August 5, 2023

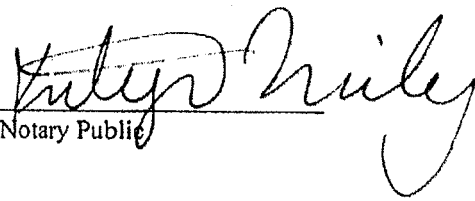
CORPORATE ACKNOWLEDGEMENT

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

Gina Zaun Jr, being duly sworn, deposes and says the
s(he) is the man of 4600 Enders Road LLC
corporation named in the within Application/Petition, that s(he) has read the foregoing affidavit and
knows the contents thereof; that the same is true of s(he) own knowledge, except as to those matters
therein stated to be alleged upon information and belief, and as to those matters s(he) believes it to be
true.


Applicant Signature

Subscribed to me before this day
Of July 15th, 20 22


Notary Public

KAITLYN QUESINBERRY
NOTARY PUBLIC STATE OF NEW YORK
Registration No 01QU6395745
Qualified in Onondaga County
Commission Expires August 5 2023

Short Environmental Assessment Form

Part 1 - Project Information

Instructions for Completing

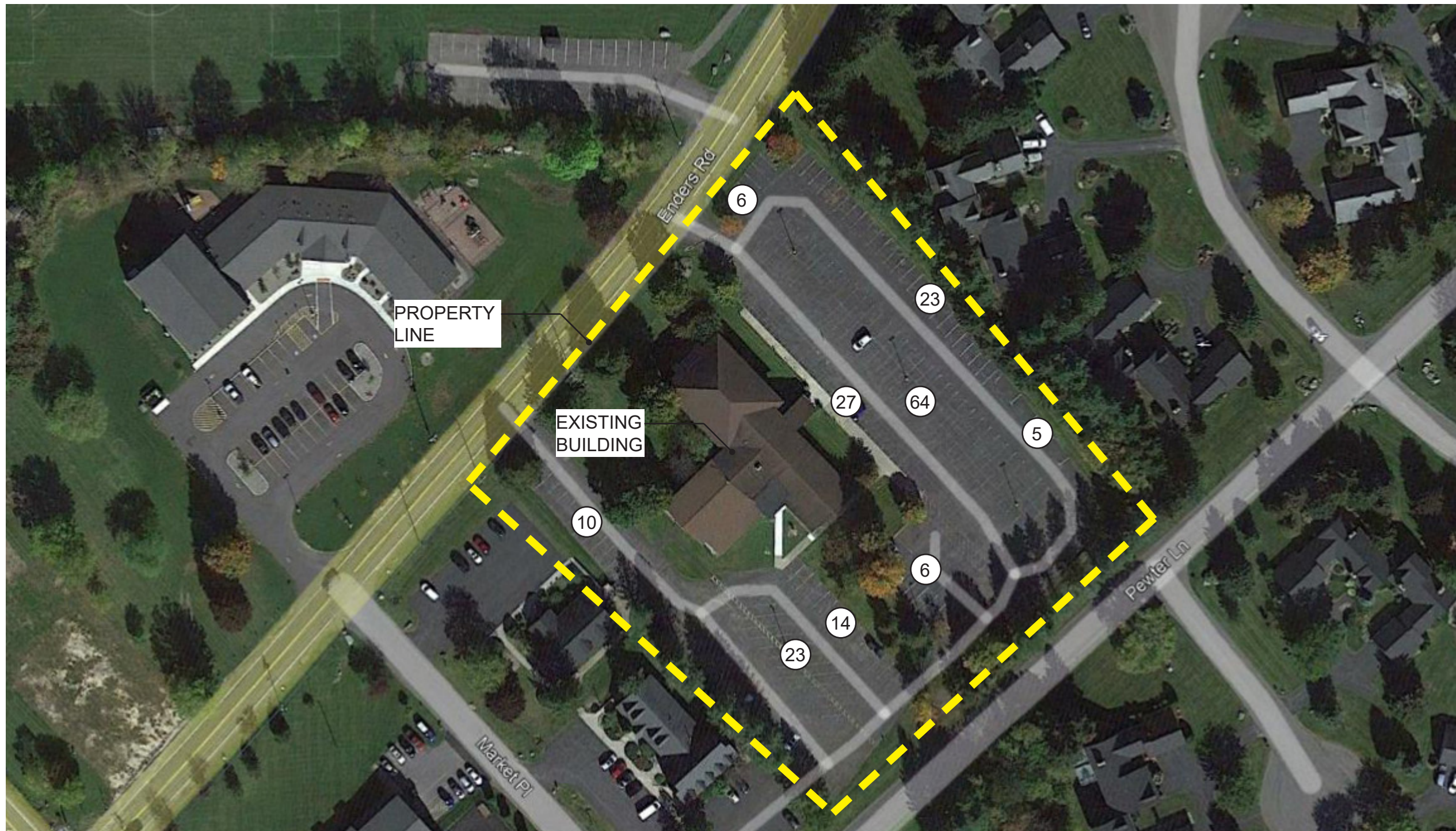
Part 1 – Project Information The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 – Project and Sponsor Information							
Name of Action or Project: 4600 Enders Road, Malius NY							
Project Location (describe, and attach a location map): 4600 Enders Road, North of intersection with NYS Route 92							
Brief Description of Proposed Action: Redevelopment of existing church facility for use as an events venue							
Name of Applicant or Sponsor: Grazi Zazzara		Telephone: 315 569-5679 E-Mail: gzaazara26@gmail.com					
Address: 344 S. Warren St							
City/PO: Syracuse		State: NY	Zip Code: 13202				
1. <u>Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation?</u>			<table border="1" style="width: 100%; text-align: center;"> <tr> <td style="width: 50%;">NO</td> <td style="width: 50%;">YES</td> </tr> <tr> <td>☐</td> <td>☒</td> </tr> </table>	NO	YES	☐	☒
NO	YES						
☐	☒						
If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.							
2. <u>Does the proposed action require a permit, approval or funding from any other government Agency?</u>			<table border="1" style="width: 100%; text-align: center;"> <tr> <td style="width: 50%;">NO</td> <td style="width: 50%;">YES</td> </tr> <tr> <td>☐</td> <td>☒</td> </tr> </table>	NO	YES	☐	☒
NO	YES						
☐	☒						
If Yes, list agency(s) name and permit or approval: Manlius Zoning approval Manlius Building Permit							
3. a. <u>Total acreage of the site of the proposed action?</u> _____ acres b. <u>Total acreage to be physically disturbed?</u> _____ acres c. <u>Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor?</u> _____ acres							
4. <u>Check all land uses that occur on, are adjoining or near the proposed action:</u> ☐ Urban ☐ Rural (non-agriculture) ☐ Industrial ☒ Commercial ☒ Residential (suburban) ☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other(Specify): ☐ Parkland							

5. Is the proposed action,	NO	YES	N/A
a. <u>A permitted use under the zoning regulations?</u>	☐	☒	☐
b. <u>Consistent with the adopted comprehensive plan?</u>	☐	☒	☐
6. <u>Is the proposed action consistent with the predominant character of the existing built or natural landscape?</u>	NO	YES	
	☐	☒	
7. <u>Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area?</u>	NO	YES	
If Yes, identify: _____	☒	☐	
8. a. <u>Will the proposed action result in a substantial increase in traffic above present levels?</u>	NO	YES	
b. Are public transportation services available at or near the site of the proposed action?	☒	☐	
c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	☐	☒	
9. <u>Does the proposed action meet or exceed the state energy code requirements?</u>	NO	YES	
If the proposed action will exceed requirements, describe design features and technologies: _____ _____	☐	☒	
10. <u>Will the proposed action connect to an existing public/private water supply?</u>	NO	YES	
If No, describe method for providing potable water: _____ _____	☐	☒	
11. <u>Will the proposed action connect to existing wastewater utilities?</u>	NO	YES	
If No, describe method for providing wastewater treatment: _____ _____	☐	☒	
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places?	NO	YES	
	☒	☐	
b. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	☒	☐	
13. a. <u>Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?</u>	NO	YES	
	☒	☐	
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	☒	☐	
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____ _____ _____			

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply: ☐ Shoreline ☐ Forest ☐ Agricultural/grasslands ☐ Early mid-successional ☐ Wetland ☐ Urban ☒ Suburban		
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	NO	YES
	☒	☐
16. Is the project site located in the 100-year flood plan?	NO	YES
	☒	☐
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes.	NO	YES
	☐	☒
a. Will storm water discharges flow to adjacent properties?	☒	☐
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?	☐	☒
If Yes, briefly describe: 		
18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)? If Yes, explain the purpose and size of the impoundment:	NO	YES
	☒	☐
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe:	NO	YES
	☒	☐
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe:	NO	YES
	☒	☐
I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE Applicant/sponsor/name: <u>Geni Zazzu</u> Date: <u>7/18/22</u> Signature:  Title: <u>manj</u>		



BUILDING SIZE: ±15,144 SF
LOT SIZE: 2.83 ACRES
TOTAL AVAILABLE PARKING: ±178 SPACES

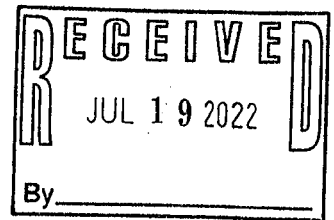
4600 ENDERS ROAD
MANLIUS, NEW YORK 13104

DATE: JULY 18, 2022
SCALE: NOT TO SCALE
SHEET NAME: EXISTING SITE PLAN
SHEET NUMBER: A101



ARCHITECTS
239 E. Water Street - 2nd Fl.
Syracuse, New York 13202
www.in-ARCHITECTS.com

**TOWN OF MANLIUS
ZONE CHANGE APPLICATION**



1. Name of Person applying for Zone Change CRAZI LAZZARA
Address of person applying 344 S. WARREN ST, SYRACUSE N.Y. 13202
Cell Number 315 569-5678 Phone Number -
2. Name: (owner of record) of land where Zone Change would occur EASTERN HILLS BIBLE CHURCH
Address (owner of record) 4600 ENDERS RD, MANLIUS N.Y. 13109
Cell Number (owner of record) --- Phone Number 315 682-5006
3. Tax Map Number of property where Zone Change would occur 117.2-01-04.0
4. Is this property located in a flood hazard area? NO
If so, what flood area is the property in it in?

5. Present zoning classification of property RA
6. Desired zoning classification CA
Reason for Change of Zone (use additional sheets if necessary) To Allow for change of use to Banquet/Events Venue.
7. What is lot size? 2.83 Acres
8. If the Zone Change is granted, will the use of the property conform to the District regulations as stated in Chapter 155 Article III of the Town of Manlius Municipal Code? YES
9. Is the property within the protectively zoned area of a housing project authorized under the public housing law? NO
10. Is the property within five hundred (500) feet of the boundaries of any city, village, town, county, state park or parkway? NO
If yes, please specify _____
11. Is the property within five hundred (500) feet from the boundary of any existing or proposed County or State park or other recreation area, or from the right-of-way of any existing or proposed county or state parkway, thruway, expressway, road or highway, or from the existing or proposed right-of-way of any stream or drainage channel owned by the county or for which the county has established channel lines, or from the existing or proposed boundary of any county or state owned land on which a public building or institution is situated? NO

If yes, please specify _____

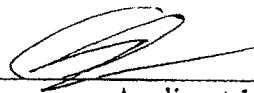
12. List the uses of all abutting property RESIDENTIAL, COMMERCIAL

13. The following must be included with your 12 application packets unless otherwise specified and/or specifically waived by the Town Board:

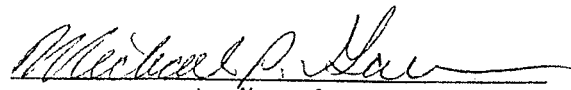
- An environmental assessment form which can be obtained from the Town Clerk, or an environmental impact statement.
- Copy of a survey of the premises certified by a New York State licensed surveyor.
- Legal description of the premises.
- This application must be signed by both the owner of record of the property and the applicant.

The failure to answer any question on this application, the failure to submit any item as specified or the failure to execute this application will result in a delay in the processing of the application.

Date 7/15/2022


Applicant 1

Date 7/15/2022


Applicant 2

Date _____

Applicant

TOWN OF MANLIUS

DISCLOSURE AFFIDAVIT

This affidavit is a part of and must be completed and attached to every application, petition, request submitted for a *site plan, variance, amendment, change of zoning, approval of a plat, exemption from a plat or official map, license or permit.*

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

I. Grazias Zaza Y, being duly sworn, deposes and says that (s) he is:

Applicant
(applicant, petitioner, corporation officer, property owner, etc.)

II. That deponent has read and is familiar with the provisions of the General Municipal Law, Section 809 which states:

- A. Every application, petition or request submitted for a site plan, variance, amendment, change of zoning, approval of a plat, exemption from a plat or official map, license or permit, pursuant to the provisions or any ordinance, local law, rule or regulation constituting the zoning and planning regulations of a municipality shall state the name, residence and the nature and extent of the interest of any state officer or any officer or employee of such municipality is a part, in the person, partnership or association making such application, petition or request (hereinafter called the applicant) to the extent known to such applicant.
- B. For the purpose of this action an officer or employee shall be deemed to have an interest in the applicant when (s)he, his/her spouse, or their brothers, sisters, parents, children, grandchildren, or the spouse of any of them:
 - 1) is the applicant, or
 - 2) is an officer, director, partner or employee of the applicant, or
 - 3) legally or beneficially owns or controls stock of a corporate applicant or is a member of a partnership or association applicant, or
 - 4) is a party to an agreement with such an applicant, express or implied, whereby (s) he may receive any payment or other benefit, whether or not for services rendered, or contingent upon the favorable approval of such application, petition or request.
- C. Ownership of less than five percent (5%) of the stock of a corporation whose stock is listed on the New York or American Stock Exchanges shall not constitute an interest for the purposes of this section.
- D. A person who knowingly and intentionally violates this section shall be guilty of a misdemeanor.

III. That no Town of Manlius officer, employee or a relative of either, as defined in Section 809 General Municipal Law has any interest in this application.

-OR-

If a Town of Manlius officer, employee or relative of either as defined in Section 809 General Municipal law has any interest in this application, the full particulars are provided on an attached sheet.

Date: _____, 20____.

MICHAEL P. GARVER
(Print Name)

Michael P. Garver
(Signature)

EASTERN HILLS BIBLE CHURCH
(Entity Name)

Michael P. Garver CHAIRMAN, BOARD OF
By (Officer) (Title) ELDER

4000 ENDERS RD, MANLIUS NY 13004
(Mailing Address of Applicant)

(315) 682-5008
(Telephone Number)

Date: 7/15, 2022.

GRAZIANO ZAZZARA JR
(Print Name)

[Signature]
(Signature)

N/A (Proprietor B/R)
(Entity Name)

By (Officer) (Title)

344 S Warren Street, Syracuse, NY 13202
(Mailing Address of Applicant)

315 299 6292
(Telephone Number)

ACKNOWLEDGEMENTS

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

On this 15th day of July in the year 2022, before me, the undersigned, a notary public in and for said state, personally appeared Graziano Zazzara, Michael Garver, and _____ personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within Petition and acknowledged to me the he/she/they executed the same in his/her/their capacity, and that by his/her/their signature(s) on the Petition, the individual or the persons upon behalf of which the individual acted executed the instrument.

[Signature]
Notary Public

KAITLYN QUESINBERRY
NOTARY PUBLIC STATE OF NEW YORK
Registration No. 01QU6395745
Qualified in Onondaga County
Commission Expires August 5, 2023

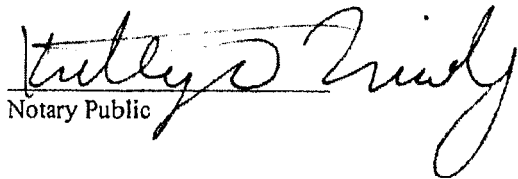
CORPORATE ACKNOWLEDGEMENT

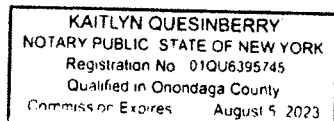
STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

Graham Zarni X, being duly sworn, deposes and says the
s(he) is the manager of 4600 Ends Run LLC
corporation named in the within Application/Petition, that s(he) has read the foregoing affidavit and
knows the contents thereof; that the same is true of s(he) own knowledge, except as to those matters
therein stated to be alleged upon information and belief, and as to those matters s(he) believes it to be
true.

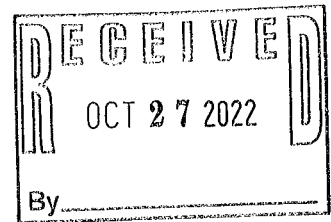

Applicant Signature

Subscribed to me before this day
Of July 15th, 20 22


Notary Public



Graziano Zazzara Jr
Icon Companies
344 S. Warren Street, Suite 202
Syracuse, New York 13202



October 27, 2022

Town of Manlius
301 Brooklea Drive
Fayetteville, NY 13066

**Re: Zone Change Request for 4600 Enders Road, Manlius New York
(tax map number 117.2-01-04.0)**

Dear Sir/Madam:

We are currently under contract to purchase the property located at 4600 Enders Road, Town of Manlius, tax map number 117.2-01-04.0 (the "Property") from Eastern Hills Bible Church ("Seller").

We have been active in the real estate development in the Central New York area for many years. We have a history of taking vacant under-utilized properties and redeveloping them to allow them to become areas that benefit the surrounding community and add to the tax base. We believe the Property, which is now mostly vacant and unused, can be updated and put back into productive use for the community.

The Property is currently zoned as RA Restricted Agricultural District. This zoning classification was appropriate prior to the commercialization of the surrounding area on Enders Road and Cazenovia Road, which is now a vibrant district.

With the Eastern Hills Bible Church moving to their new location, the previous church structure will remain vacant on the Property. It would benefit the community and Town to have the Property re-zoned as RM. The Seller is fully in agreement with the request for the zone change and we have submitted signed documentation to that end.

The Applicant proposes to use the Property as a mixed use property consisting of a very light office use, and, the balance to be market rate apartments. This would be a much lighter parking use and traffic generator than it had previously as a church, and, lighter than would be under some uses permitted under current RA Zoning

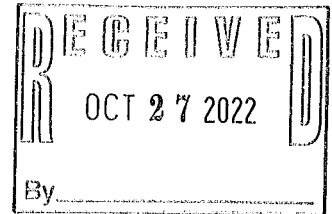
We look forward to discussing this request with the Town and the Planning Board.

Best regards,

A handwritten signature in black ink, appearing to be "GZ" followed by a stylized flourish.

Graziano Zazzara
President
Icon Companies

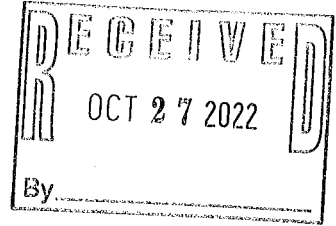
**TOWN OF MANLIUS
ZONE CHANGE APPLICATION**



1. Name of Person applying for Zone Change GRAZI ZAZZARA JR
Address of person applying 344 S Warren Street, Syracuse NY 13202
Cell Number _____ Phone Number 315 299 6292
2. Name: (owner of record) of land where Zone Change would occur Eastern Hills Bible Church
Address (owner of record) 4600 Ender Road
Cell Number (owner of record) _____ Phone Number _____
3. Tax Map Number of property where Zone Change would occur 117.2-81-046
4. Is this property located in a flood hazard area? NO
If so, what flood area is the property in it in?

5. Present zoning classification of property RA
6. Desired zoning classification RM
Reason for Change of Zone (use additional sheets if necessary) See cover letter.

7. What is lot size? _____
8. If the Zone Change is granted, will the use of the property conform to the District regulations as stated in Chapter 155 Article III of the Town of Manlius Municipal Code? YES
9. Is the property within the protectively zoned area of a housing project authorized under the public housing law? NO
10. Is the property within five hundred (500) feet of the boundaries of any city, village, town, county, state park or parkway? NO
If yes, please specify _____
11. Is the property within five hundred (500) feet from the boundary of any existing or proposed County or State park or other recreation area, or from the right-of-way of any existing or proposed county or state parkway, thruway, expressway, road or highway, or from the existing or proposed right-of-way of any stream or drainage channel owned by the county or for which the county has established channel lines, or from the existing or proposed boundary of any county or state owned land on which a public building or institution is situated? _____



If yes, please specify _____

12. List the uses of all abutting property Residential, Commercial

13. The following must be included with your 12 application packets unless otherwise specified and/or specifically waived by the Town Board:

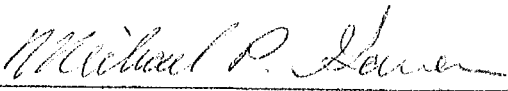
- An environmental assessment form which can be obtained from the Town Clerk, or an environmental impact statement.
- Copy of a survey of the premises certified by a New York State licensed surveyor.
- Legal description of the premises.
- This application must be signed by both the owner of record of the property and the applicant.

The failure to answer any question on this application, the failure to submit any item as specified or the failure to execute this application will result in a delay in the processing of the application.

Date 10/27/22


Applicant 1

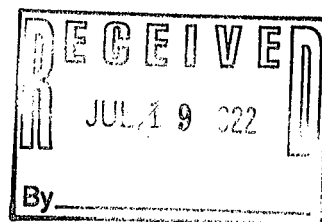
Date 10/27/2022


Applicant 2

Date _____

Applicant

Short Environmental Assessment Form **Part 1 - Project Information**



Instructions for Completing

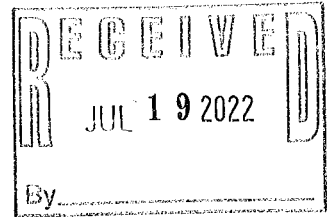
Part 1 - Project Information The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 - Project and Sponsor Information							
Name of Action or Project: 4600 Enders Road, Malius NY							
Project Location (describe, and attach a location map): 4600 Enders Road, North of intersection with NYS Route 92							
Brief Description of Proposed Action: Redevelopment of existing church facility for use as an events venue							
Name of Applicant or Sponsor: Grazi Zazzara		Telephone: 315 569-5678					
		E-Mail: 92AZZARA26@GMAIL.COM					
Address: 344 S. WARREN ST							
City/PO: SYRACUSE		State: N.Y.	Zip Code: 13202				
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation?			<table border="1" style="width:100%; text-align: center;"> <tr> <td>NO</td> <td>YES</td> </tr> <tr> <td>☐</td> <td>☒</td> </tr> </table>	NO	YES	☐	☒
NO	YES						
☐	☒						
If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.							
2. Does the proposed action require a permit, approval or funding from any other government Agency?			<table border="1" style="width:100%; text-align: center;"> <tr> <td>NO</td> <td>YES</td> </tr> <tr> <td>☐</td> <td>☒</td> </tr> </table>	NO	YES	☐	☒
NO	YES						
☐	☒						
If Yes, list agency(s) name and permit or approval: Manlius Zoning approval Manlius Building Permit							
3. a. Total acreage of the site of the proposed action?		_____ acres					
b. Total acreage to be physically disturbed?		_____ acres					
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor?		_____ acres					
4. Check all land uses that occur on, are adjoining or near the proposed action:							
☐ Urban ☐ Rural (non-agriculture) ☐ Industrial ☒ Commercial ☒ Residential (suburban)							
☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other(Specify):							
☐ Parkland							

5. Is the proposed action,	NO	YES	N/A
a. <u>A permitted use under the zoning regulations?</u>	☐	☒	☐
b. <u>Consistent with the adopted comprehensive plan?</u>	☐	☒	☐
6. <u>Is the proposed action consistent with the predominant character of the existing built or natural landscape?</u>	NO	YES	
	☐	☒	
7. <u>Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area?</u>	NO	YES	
If Yes, identify: _____	☒	☐	
8. a. <u>Will the proposed action result in a substantial increase in traffic above present levels?</u>	NO	YES	
b. Are public transportation services available at or near the site of the proposed action?	☒	☐	
c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	☐	☒	
9. <u>Does the proposed action meet or exceed the state energy code requirements?</u>	NO	YES	
If the proposed action will exceed requirements, describe design features and technologies: _____ _____	☐	☒	
10. <u>Will the proposed action connect to an existing public/private water supply?</u>	NO	YES	
If No, describe method for providing potable water: _____ _____	☐	☒	
11. <u>Will the proposed action connect to existing wastewater utilities?</u>	NO	YES	
If No, describe method for providing wastewater treatment: _____ _____	☐	☒	
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places?	NO	YES	
	☒	☐	
b. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	☒	☐	
13. a. <u>Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?</u>	NO	YES	
	☒	☐	
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	☒	☐	
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____ _____ _____			

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:		
☐ Shoreline ☐ Forest ☐ Agricultural/grasslands ☐ Early mid-successional ☐ Wetland ☐ Urban ☒ Suburban		
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	NO	YES
	☒	☐
16. Is the project site located in the 100-year flood plan?	NO	YES
	☒	☐
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes,	NO	YES
a. Will storm water discharges flow to adjacent properties?	☐	☒
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)? If Yes, briefly describe:	☐	☒
18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)? If Yes, explain the purpose and size of the impoundment:	NO	YES
	☒	☐
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe:	NO	YES
	☒	☐
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe:	NO	YES
	☒	☐
I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE		
Applicant/sponsor/name: <u>GOADI ZAZZAN</u> Date: <u>7/18/22</u>		
Signature: <u></u> Title: <u>MANAGER</u>		



TOWN OF MANLIUS

DISCLOSURE AFFIDAVIT

This affidavit is a part of and must be completed and attached to every application, petition, request submitted for a *site plan, variance, amendment, change of zoning, approval of a plat, exemption from a plat or official map, license or permit.*

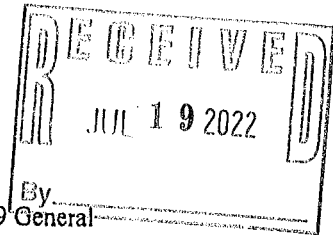
STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

I. Gerrard Zaza Jr., being duly sworn, deposes and says that (s) he is:

Applicant
(applicant, petitioner, corporation officer, property owner, etc.)

II. That deponent has read and is familiar with the provisions of the General Municipal Law, Section 809 which states:

- A. Every application, petition or request submitted for a site plan, variance, amendment, change of zoning, approval of a plat, exemption from a plat or official map, license or permit, pursuant to the provisions or any ordinance, local law, rule or regulation constituting the zoning and planning regulations of a municipality shall state the name, residence and the nature and extent of the interest of any state officer or any officer or employee of such municipality is a part, in the person, partnership or association making such application, petition or request (hereinafter called the applicant) to the extent known to such applicant.
- B. For the purpose of this action an officer or employee shall be deemed to have an interest in the applicant when (s)he, his/her spouse, or their brothers, sisters, parents, children, grandchildren, or the spouse of any of them:
 - 1) is the applicant, or
 - 2) is an officer, director, partner or employee of the applicant, or
 - 3) legally or beneficially owns or controls stock of a corporate applicant or is a member of a partnership or association applicant, or
 - 4) is a party to an agreement with such an applicant, express or implied, whereby (s) he may receive any payment or other benefit, whether or not for services rendered, or contingent upon the favorable approval of such application, petition or request.
- C. Ownership of less than five percent (5%) of the stock of a corporation whose stock is listed on the New York or American Stock Exchanges shall not constitute an interest for the purposes of this section.
- D. A person who knowingly and intentionally violates this section shall be guilty of a misdemeanor.



III. That no Town of Manlius officer, employee or a relative of either, as defined in Section 809 General Municipal Law has any interest in this application.

-OR-

If a Town of Manlius officer, employee or relative of either as defined in Section 809 General Municipal law has any interest in this application, the full particulars are provided on an attached sheet.

Date: 7/15/, 20 22.

MICHAEL P. GARVER
(Print Name)

Michael P. Garver
(Signature)

EASTERN HILLS BIBLE CHURCH
(Entity Name)

Michael P. Garver CHAIRMAN EASTERN HILLS
By (Officer) (Title) BIBLE CHURCH

4600 ENPEES RD MANLIUS NY 13024
(Mailing Address of Applicant)

(315) 682-5008
(Telephone Number)

Date: 7/18/22, 20 22.

GORTIANO ZAZZARA
(Print Name)

[Signature]
(Signature)

N/A (Proprietor)
(Entity Name)

By (Officer) (Title)

344 S WASHINGTON SYRACUSE NY 13204
(Mailing Address of Applicant)

315 259 6200
(Telephone Number)

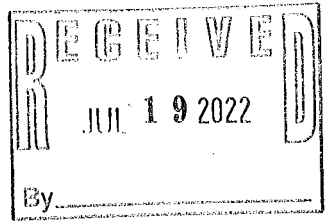
ACKNOWLEDGEMENTS

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

On this 15th day of July in the year 20 22, before me, the undersigned, a notary public in and for said state, personally appeared Gortiano Zazzara, Michael Garver, and _____ personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within Petition and acknowledged to me the he/she/they executed the same in his/her/their capacity, and that by his/her/their signature(s) on the Petition, the individual or the persons upon behalf of which the individual acted executed the instrument.

[Signature]
Notary Public

KAITLYN QUESINBERRY
NOTARY PUBLIC STATE OF NEW YORK
Registration No 01QU6395745
Qualified in Onondaga County
Commission Expires August 5 2023



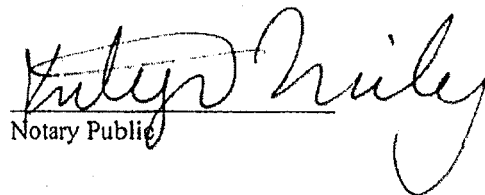
CORPORATE ACKNOWLEDGEMENT

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

Graeme Zarn Jr, being duly sworn, deposes and says the
s(he) is the manager of 4600 Enders Road LLC
corporation named in the within Application/Petition, that s(he) has read the foregoing affidavit and
knows the contents thereof; that the same is true of s(he) own knowledge, except as to those matters
therein stated to be alleged upon information and belief, and as to those matters s(he) believes it to be
true.


Applicant Signature

Subscribed to me before this day
Of July 15th, 20 22

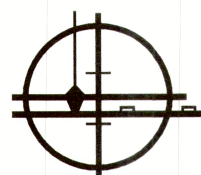

Notary Public

KAITLYN QUESINBERRY
NOTARY PUBLIC STATE OF NEW YORK
Registration No 01QU6395745
Qualified in Onondaga County
Commission Expires August 5 2023

Pt of Lots 98 & 99. Town of Manlius
Onondaga Co., N.Y.

Scale 1" = 30'

July 12, 2022



D. W. HANNIG L.S., P.C.

SURVEYORS - PLANNERS - CONSULTANTS
THE MARKET PLACE, BUILDING #1
MANLIUS, NEW YORK 13104

PHONE: (315) 682-5225 - FAX: (315) 682-7774

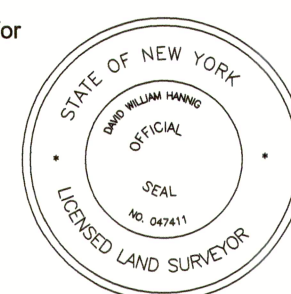
Projects/J82841A/base plan/dwg/ Final Map 4600 enders rd Church

Subject to a Current Abstract of Title

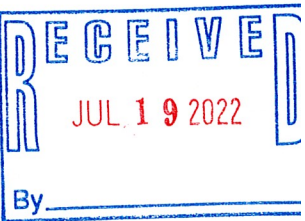
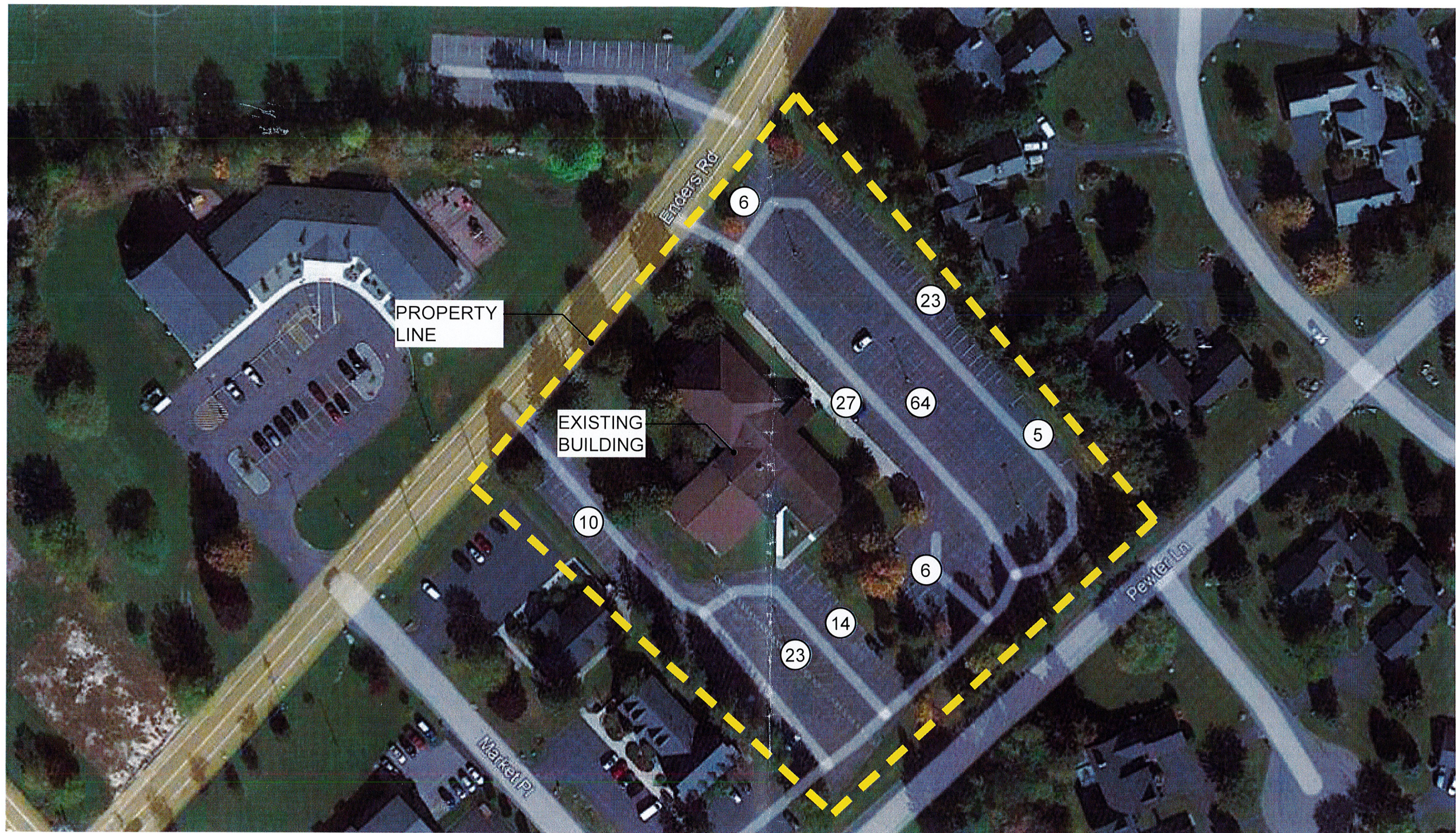
In my professional opinion, and based on my observations and/or scope of service, I hereby certify this map was made from an actual survey on 7/12/2022, and this map is correct.

This certification is void unless signed in RED ink.

DAVID WILLIAM HANNIG, P.L.S., - N.Y.S. LIC. NO. 47411



The underground utilities shown have been located from field survey information and existing drawings. The surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area either in service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated although he does certify that they are located as accurately as possible from information available. The surveyor has not physically located the underground utilities - Underground Facilities Protective Organization (315) 437-7333.



BUILDING SIZE: ±15,144 SF
 LOT SIZE: 2.83 ACRES
 TOTAL AVAILABLE PARKING: ±178 SPACES

4600 ENDERS ROAD
 MANLIUS, NEW YORK 13104

DATE: JULY 18, 2022
 SCALE: NOT TO SCALE
 SHEET NAME: EXISTING SITE PLAN
 SHEET NUMBER: A101



ARCHITECTS
 239 E. Water Street - 2nd Fl.
 Syracuse, New York 13202
 www.in-ARCHITECTS.com

Expected
Fee: _____

TOWN OF MANLIUS
PLANNING DEPARTMENT
INITIAL APPEARANCE APPLICATION

DATE: 11/1/22

Name of Project: Warner Farm Solar Project

Applicant must submit 12 copies of all site plans, surveys, and supporting data with the final application before a planning board meeting can be scheduled.

Location of Project: 7859 Peck Rd, Kirkville (approx)

Type of Project:

☐ Division of Land ☐ Subdivision ☐ Accessory Use ☐ Zone Change ☒ Site Review ☐ Other

Developer: Horizon Solar Power and Catalyze Energy Phone: 312-972-5055

Address: 33 Boston Post Rd W - Suite 220, Marlborough MA Zip: 01752

Tax Map Number(#)/s: PIN 042.-01-32.1

Present Zoning: RA Desired Zoning: same

Total Acreage: 30.75 Total Number of Lots: 1

Property Owner/s: Marijane M. Warner Phone: 315-656-2305

Address: 7865 Peck Rd, Kirkville NY Zip: 13082

Tax Map#(s): PIN 042.-01-32.1 Owner's Signature: _____

Printed Name: Marijane M. Warner

Property Owner/s: _____ Phone: _____

Address: _____ Zip: _____

Tax Map#(s): _____ Owner's Signature: _____

Printed Name: _____

Use next page for additional known property owners' information

Planning Board Meeting Date Assignment: _____

Fee: _____ Paid: _____ Per: ☐ Credit/Debit Card ☐ Check ☐ Cash

Planning Board - Initial

TOWN OF MANLIUS

DISCLOSURE AFFIDAVIT

This affidavit is a part of and must be completed and attached to every application, petition, request submitted for a *site plan, variance, amendment, change of zoning, approval of a plat, exemption from a plat or official map, license or permit.*

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

I. Andy Melka, being duly sworn, deposes and says that (s) he is:

authorized representative of the Applicant, NYSOLAR07 LLC

(applicant, petitioner, corporation officer, property owner, etc.)

II. That deponent has read and is familiar with the provisions of the General Municipal Law, Section 809 which states:

- A. Every application, petition or request submitted for a site plan, variance, amendment, change of zoning, approval of a plat, exemption from a plat or official map, license or permit, pursuant to the provisions or any ordinance, local law, rule or regulation constituting the zoning and planning regulations of a municipality shall state the name, residence and the nature and extent of the interest of any state officer or any officer or employee of such municipality is a part, in the person, partnership or association making such application, petition or request (hereinafter called the applicant) to the extent known to such applicant.
- B. For the purpose of this action an officer or employee shall be deemed to have an interest in the applicant when (s)he, his/her spouse, or their brothers, sisters, parents, children, grandchildren, or the spouse of any of them:
 - 1) is the applicant, or
 - 2) is an officer, director, partner or employee of the applicant, or
 - 3) legally or beneficially owns or controls stock of a corporate applicant or is a member of a partnership or association applicant, or
 - 4) is a party to an agreement with such an applicant, express or implied, whereby (s) he may receive any payment or other benefit, whether or not for services rendered, or contingent upon the favorable approval of such application, petition or request.
- C. Ownership of less than five percent (5%) of the stock of a corporation whose stock is listed on the New York or American Stock Exchanges shall not constitute an interest for the purposes of this section.
- D. A person who knowingly and intentionally violates this section shall be guilty of a misdemeanor.

III. That no Town of Manlius officer, employee or a relative of either, as defined in Section 809 General Municipal Law has any interest in this application.

-OR-

If a Town of Manlius officer, employee or relative of either as defined in Section 809 General Municipal law has any interest in this application, the full particulars are provided on an attached sheet.

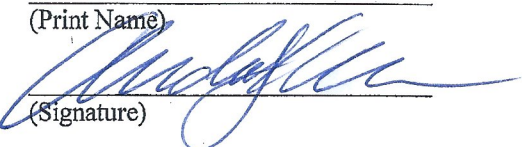
Date: Nov 1st, 2022.

Date: _____, 20 ____.

Andy Melka

(Print Name)

(Print Name)


(Signature)

(Signature)

NYSOLAR07

(Entity Name)

(Entity Name)

Andy Melka, Director, Development

By (Officer) (Title)

By (Officer) (Title)

33 Boston Post Rd, Marlborough MA 01752
(Mailing Address of Applicant)

(Mailing Address of Applicant)

312-972-5055
(Telephone Number)

(Telephone Number)

ACKNOWLEDGEMENTS

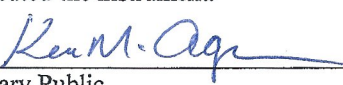
Illinois
STATE OF ~~NEW YORK~~)

Cook) SS:

COUNTY OF ~~ONONDAGA~~)

On this 2nd day of November in the year 20 22, before me, the undersigned, a notary public in and for said state, personally appeared Andrew Melka,

and _____ personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within Petition and acknowledged to me the he/she/they executed the same in his/her/their capacity, and that by his/her/their signature(s) on the Petition, the individual or the persons upon behalf of which the individual acted executed the instrument.


Notary Public

OFFICIAL SEAL
KAREN M AGORANOS
NOTARY PUBLIC - STATE OF ILLINOIS
MY COMMISSION EXPIRES:06/08/24

STATE OF ~~NEW YORK~~)
COUNTY OF ~~ONONDAGA~~) SS:


Applicant Signature

Subscribed to me before this day ^{2nd}
Of November, 20 22

Ken M. Ag
Notary Public



**TOWN OF MANLIUS
SPECIAL PERMIT APPLICATION
(Original or Renewal)**

DATE: 11/1/22

Tax Map # 042.-01-32.1

I Andy Melka, as representative of NYSOLAR07 LLC, as applicant relative to property located at 7859 Peck Rd (approx), Kirkville NY 13082

hereby request/apply for issuance/renewal (CIRCLE ONE) of a **SPECIAL PERMIT** from the Town of Manlius Town Board as required by the Town of Manlius Code, submit the following application and documentary evidence and/or information, including comprising the Exhibits in support of this request and certify that it is correct, true and accurate to the best of my/our knowledge and after reasonable due diligence and investigation. I further knowledge and agree that should any such evidence or information be later determined as false or not credible in any material respect, any special permit issued/renewed based thereon may be determined by the Town Board as void from the start or revocable.


Applicant's Signature

A 1. Owner(s) of property: Marijane M. Warner

A 2. Status (Owner, Lessee) of each applicant: Lessee

A 3. Present Zoning of Property: RA

A.4. Present Use of Property (describe in detail as best as reasonably possible- add additional pages as needed): vacant farmland

A5Describe property condition at present: crops and grasses

B 1. Proposed use of property: 4.25MW ac community solar project

B 2. Anticipated number of employees, guests, customers on property:

No permanent personnel on-site. Project will be monitored remotely and have maintenance personnel on-site annually and as-needed for maintenance (approx 5-10 visits per year)

B 3. Hours of Proposed Operation: daylight hours (passive solar generation)

B 4. Anticipated Automobile Parking: None.

B 5. Parking Area Buffer/Screening: Screening proposed along the southern edge of the site, as described in the plans.

B 6. Anticipated Vehicle Traffic Volume/Flow: 10-20 vehicle trips to site per year.

B 7. Proposed Site Lighting: None.

B 8. Anticipated noise sources, known decibel levels: Inverter fans run at less than 65dBA at 1 meter distance; at 20 meters, inaudible above ambient sound levels.

B 9. Landscape:

a) Existing landscaping: None.

b) Proposed landscaping: Line of mixed tree species along the southern boundary of the solar array, as shown and described on the plans.

B 10. Proposed Signage: Safety and contact signage only.

B 11. Level of municipal and other services required to support the proposed activity (i.e., water supply sanitary sewage facilities): None.

B 12. Specific Requirements:

Town Code (District) Requirement; Proposal:

Parking Spaces	<u>0</u>	<u>0</u>
Lot Coverage	<u>n/a</u>	<u>n/a</u>
Front Yard Setback	<u>50</u>	<u>50</u>
Side Yard Setback	<u>50</u>	<u>50</u>
Rear Yard Setback	<u>50</u>	<u>50</u>
Maximum Height of Building	<u>20</u>	<u><10</u>

EXHIBITS TO SPECIAL PERMIT APPLICATION:

1. Detailed site plan of any proposed construction anticipated (attach as Exhibit "A"). The Town Board requires that drawings be certified by the appropriate design professional, i.e. a licensed engineer, architect, or surveyor, and include, except as may be permitted at #10 below, at time of application such detail as required per Town Zoning Code §155-28A (1) (13) for site plan submission.
2. Survey Map (Exhibit "B") Certified by a licensed surveyor within two years of date of application. Survey should show all existing state of facts, improvements, structures, easements, rights-of-way, appropriations, landscape features, encroachments and existing pavement on site. Any survey map last re-dated prior to 60 days before the application filing date shall be accompanied by an affidavit from the applicant, owner or occupant, i.e. someone with personal knowledge, that the survey map accurately shows the state of facts of the survey map as of the date of the application filing or if it does not the affidavit should describe any change features.
3. Legal description of proposed site (Exhibit "C"). The legal description must be in a form sufficient to follow the legal description on the survey map submitted.
4. Drainage, SWPPP if applicable, sanitary sewer, water service plans and specifications for proposed site (certified by a licensed professional engineer). Attach as Exhibit "D" and as applicable, numbered sub-exhibits e.g. "D-1", "D-2" etc.
5. Environmental Assessment Form (Exhibit "E"). A short environmental assessment form (see attached form) may be provided with any application for an unlisted action, however acceptance of same shall not be deemed a waiver by the Town of its right to require a long EAF with appropriate documentary substantiation of answers provided (including without limitation #6 following). For Type One Actions a long EAF must be submitted at time of application.
6. Freshwater Wetlands Letter. Pursuant to 6 NYCRR 663.4(a), where the application involves conduct of regulated activity on freshwater wetlands or adjacent areas, the applicant must obtain either a permit or letter of permission from the DEC or the authorized local government having jurisdiction over the wetland. Any delineation such determination is based on shall likewise be provided. Attach as Exhibit "F" and as applicable, with numbered sub-exhibits.
7. Professional Fees Reimbursement Agreement (Exhibit "G").
8. Disclosure Affidavit. The applicant shall submit an affidavit attesting it has reviewed General Municipal Law §809 and is familiar with the provisions contained therein, that no state officer, or any officer or employee of the County of Onondaga or Town of Manlius has any interest in the person, partnership or association owning the premises subject of the application or making such application, and that no other violation of §809 shall result from such application (Exhibit "H").

9. Filing and Professional Review Fees. At the time of application filing, applicant shall submit \$100.00 in the form of a check payable to the Town of Manlius for Special Permit filing or renewal fees. Site Plan filing and Professional Review fees must be paid per Town Code Fee Schedule prior to commencement of Planning Board advisory review.

10. NOTE: THE ABOVE ARE NOT INTENDED AS AN EXHAUSTIVE LISTING OF THE APPLICATION REQUIREMENTS. THE APPLICANT SHALL BE RESPONSIBLE FOR FAMILIARIZING ITSELF WITH ALL TOWN CODE ZONING, SITE PLAN REVIEW, AND SPECIAL PERMIT REQUIREMENTS, AND THE REQUIREMENTS OF OTHER INVOLVED AND PERMITTING AGENCIES INCLUDING RELATIVE TO SEQRA, GENERAL MUNICIPAL LAW SECTION 239 REVIEW, STATE/COUNTY DOT, DOH AND THE LIKE.

THE FOREGOING NOTWITHSTANDING IT IS ACKNOWLEDGED THAT UPON INITIAL APPLICATION CERTAIN OF THE ABOVE MAY NOT, WITHOUT INITIAL INPUT FROM THE TOWN BOARD OR PLANNING BOARD, BE REASONABLY CAPABLE OF FINAL COMPLETION, AND ACCORDINGLY MAY BE WAIVED OR SUCH REQUIREMENTS RELAXED TEMPORARILY AND UNTIL SUFFICIENT SPECIFIC DIRECTION FROM THE RESPECTIVE BOARDS HAS BEEN GIVEN. AT TIME OF SUBMISSION THE APPLICANT SHALL SPECIFICALLY REFERENCE ANY SUCH REQUEST(S) AND ITS REASON(S) FOR SAME IN A DETAILED ENCLOSURE LETTER DESCRIBING THE SUBMISSION AND EXHIBITS.

RENEWAL APPLICATIONS SHALL REQUIRE ONLY SUCH OF THE FOREGOING INFORMATION AND EXHIBITS AS ARE DEEMED NECESSARY FOR CONSIDERATION OF A RENEWAL PERMIT INVOLVING NO MATERIAL CHANGES FROM OR VIOLATIONS UNDER THE PRIOR ISSUED SPECIAL PERMIT.

APPLICATIONS SHALL BE SUBMITTED IN BOUND TABBED BOOKLET FORM WITH A COVER LETTER, TABLE OF CONTENTS REFERENCING EXHIBITS, AND LEGIBLE 11"by 17" MINIMUM DRAWINGS FOLDED TO LETTER SIZE THEREIN. TWENTY COPIES SHALL BE DELIVERED TOGETHER WITH SEVEN (7) FULL SIZE PRINTS OF ALL DRAWINGS. SUBSEQUENT SUBMISSIONS OF MINOR MODIFICATIONS MAY BE SUBMITTED IN THE SAME MANNER WITH A LETTER REFERENCING THE SPECIFICS OF THE SUBSTITUTION, HOWEVER IF NUMEROUS OR MATERIAL IN NATURE ENTIRE REPLACEMENT SUBMISSIONS MAY BE REQUESTED.

TOWN OF MANLIUS

SPECIAL PERMIT APPLICATION – EXHIBIT “G”

PROFESSIONAL FEES REIMBURSEMENT AGREEMENT

As a condition of the application(s) to the Town of Manlius, its Zoning Board of Appeals, Planning Board, codes administration/planning office, and/or Town Board (the “Town”) for various zoning, land use, construction and related reviews, approvals, certificates, permits and related consideration(s) (including for any local governmental assisted funding) related to the request of the Warner Farm Solar Project : (the “Application”),

Andy Melka, Director Development [name], NYSOLAR07 LLC,
33 Boston Post Rd W - Suite 220, Marlborough MA 01752 [legal address] (“Applicant”) relative to
proposed development at 7865 Peck Rd, Kirkville [project address], Tax Parcel #
042.-01-32.1, Manlius, New York, and related matters (the “Project”) agrees as follows:

The Application and Project may or will likely entail that the Town incur legal, engineering, architectural, administrative and related expense(s) including, without limitation, for both on staff and third party consultants involved in the consideration of the Application and Project, and including, without limitation, attendance at Zoning Board of Appeals, Planning Board, and Town Board meetings, consultation with the Applicant, its or the Town’s engineer, architect, attorney, and/or other Town officers and employees, or consultants or professional service providers, incidental to the Application from the earlier of the filing of the Application for and/or first presentation of the Project to Town, and through final completion and issuance of all Town and other governmental permits, certifications and approvals.

In connection with and consideration of the foregoing, Applicant agrees to bear all cost and expense for such administrative, legal, engineering, architect and other professional and consulting assistance to the Town incidental to the Application and Project, and including that expense incurred by the Town for Town employees and officers performing reasonable and necessary work on behalf of the Town incident to the Application or Project.

In connection with the foregoing, Applicant shall reimburse the Town for time spent by outside consultants and professionals at the usual rate charged by them to private clientele, or if none, then the usual rate charged to municipalities. Reimbursement for the cost of Town employees and officers shall be based upon the cost to Town for the services of such persons, including salary and fringe benefits, reduced to an hourly rate and including overtime where directly attributable to the Application or Project.

Should the Town determine, in its sole discretion, that additional services are required to represent, supervise, inspect, evaluate and/or consult, including in order to protect the rights and/or interests of the Town such as relative to an enforcement or violation proceeding, the Applicant shall likewise bear all costs associated with such services.

This Agreement shall be effective as of November 1st, 2022. The Applicant shall deposit an initial sum of \$1390.00, and such other amounts as from time to time the Town may determine, payable to and deposited with the Town and which sum or sums shall be applied against those sums reimbursable to the Town pursuant to the terms of this Agreement (the “Deposit”). Upon completion or discontinuance of the Application and Project and payment of all fees incurred, any unused Deposit shall be returned to the Applicant.

The Applicant shall receive periodically, one or more statements detailing charges for which reimbursement has been made against the Deposit, detailing unpaid amounts, if any, and setting forth any additional Deposit required by the Town. Failure to pay any amounts due the Town of Manlius within twenty (20) days of the date of statement may result in the termination of work/services by Town relative to the Application, the non-issuance suspension or revocation of any certificates, permits or approvals, and/or denial of applications, the Town’s commencement of collection efforts, and/or the exercise of any other rights or remedies available to Town hereunder or pursuant to applicable law, including under the Town Code. No certificates, approvals or permits, including, without limitation, Certificates of Occupancy/Compliance, may be issued until all fees due hereunder are paid or sufficient Deposit for same made.

Notwithstanding any provision hereof to the contrary or otherwise, the intent of this Agreement is to subject all of those subject matter areas under applicable provisions of Federal, State, and County laws, rules and regulations whatsoever, the Town Code including as any of same may be amended from time to time, and without limitation, those provisions under Chapters 59, 63, 72, 83, 95, 96, 104, 119, 123, 125, 126, 127, 131, 147, and 155 of the Town Code to the provisions hereof; in addition any financing or funding applications incidental to the Application or Project and requiring sponsorship or support of Town, and review under the State Environmental Quality Review Act or other State or Federal environmental, historical or related laws, rules or regulations shall likewise be subject to the provisions hereof.

In addition, and notwithstanding any provisions hereof to the contrary or otherwise, any provisions of the Town Code or other laws, rules or regulations providing rights more favorable to and protective of Town shall be deemed incorporated herein by reference, and shall not be deemed superseded by less protective provisions herein.

In the event of a breach or default by Applicant, Town shall be entitled to pursue any and all legal rights and remedies pursuant to applicable law including, without limitation, the Town Code and shall be entitled to recover, in addition to any sums due, reasonable attorney's fees, costs and disbursements incurred in any such efforts.

If any part of this Agreement or the application thereof to any person or entity or circumstance is adjudged invalid, illegal or unconstitutional by any court of competent jurisdiction, such order or judgment shall be confined in its operation to the part of this law or in its application directly involved in the controversy in which such judgment shall have been rendered and shall not affect or impair the validity of the remainder of this Agreement or the application thereof to other persons, entities or circumstances. Further, in adjudging such invalid, illegal or unconstitutional provision or part thereof, the court shall attempt to modify same to a provision or part which is not illegal, invalid or unconstitutional and which best achieves the intent of such illegal, invalid or unconstitutional provision or part thereof.

The Town Supervisor has executed this agreement pursuant to a blanket Resolution adopted by the Town Board at a meeting thereof held on _____, 20____, and is duly authorized and empowered to execute this instrument and enter into this Agreement on behalf of the Town of Manlius.

In the event Applicant is a closely held corporation, partnership or limited liability company, its three (3) largest principals shall be signatories to this Agreement, as joint and severable parties with Applicant and Town.

This instrument shall be executed in triplicate. At least one original shall be permanently filed, after execution thereof, in the office of the Town Clerk and one in the Code Enforcement Office.

Dated:

11/1/22

NYSOLAR07 LLC

Print Applicant Name

[Signature]
Applicant's Authorized Signature/Title

Applicant Address:

33 Boston Post Rd W - Suite 220

Marlborough MA 01752

Andy Melka
Print Applicant (Principal) Name

[Signature]
Applicant's Principal Signature

Print Applicant (Principal) Name

Applicant's Principal Signature

Print Applicant (Principal) Name

Applicant's Principal Signature

TOWN OF MANLIUS

By: _____

Name: _____

Title: _____

Full Environmental Assessment Form
Part 1 - Project and Setting

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the applicant or project sponsor to verify that the information contained in Part 1 is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: Warner Farm Solar Project		
Project Location (describe, and attach a general location map): Pr~30.5 acres north of Peck Rd, at roughly 7859 Peck Rd		
Brief Description of Proposed Action (include purpose or need): The applicant proposes to build a 4.25 megawatt alternating-current (MWac) community solar energy facility. The solar facility will connect to the existing distribution grid along Peck Rd and deliver power to National Grid.		
Name of Applicant/Sponsor: NYSOLAR07 LLC		Telephone: 312-972-5055
		E-Mail: andy@horizonpow.com
Address: 33 Boston Post Rd W - Suite 220		
City/PO: Marlborough	State: MA	Zip Code: 01752
Project Contact (if not same as sponsor; give name and title/role): Andy Melka, Director of Development		Telephone: same
		E-Mail: same
Address: same		
City/PO:	State:	Zip Code:
Property Owner (if not same as sponsor): Marijane M. Warner		Telephone:
		E-Mail:
Address: 7865 Peck Rd		
City/PO: Kirkville	State: NY	Zip Code: 13082

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, ☐ Yes ☒ No or Village Board of Trustees		
b. City, Town or Village ☒ Yes ☐ No Planning Board or Commission	Town of Manlius Planning Board - Special Use Permit and Site Plan Approval	10/25/2022
c. City, Town or ☐ Yes ☒ No Village Zoning Board of Appeals		
d. Other local agencies ☐ Yes ☒ No		
e. County agencies ☒ Yes ☐ No	Onondaga County Planning Board - Zoning Referral for Criteria 1-type Action	
f. Regional agencies ☐ Yes ☒ No		
g. State agencies ☐ Yes ☒ No		
h. Federal agencies ☐ Yes ☒ No		
i. Coastal Resources.		
i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway?		☐ Yes ☒ No
ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program?		☐ Yes ☒ No
iii. Is the project site within a Coastal Erosion Hazard Area?		☐ Yes ☒ No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐ Yes ☒ No

- If Yes, complete sections C, F and G.
- If No, proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☐ Yes ☒ No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☐ Yes ☐ No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway; Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☐ Yes ☒ No

If Yes, identify the plan(s):

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐ Yes ☒ No

If Yes, identify the plan(s):

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☒ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
Restricted Agriculture

b. Is the use permitted or allowed by a special or conditional use permit? ☒ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☒ No

If Yes,

i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? East Syracuse-Minoa Central School District

b. What police or other public protection forces serve the project site?
Town of Manlius Police Department

c. Which fire protection and emergency medical services serve the project site?
Minoa Fire Department

d. What parks serve the project site?
Town of Manlius Recreation

D. Project Details**D.1. Proposed and Potential Development**

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Utility/Commercial (community solar project)

b. a. Total acreage of the site of the proposed action? 30.75 acres

b. Total acreage to be physically disturbed? _____ acres

c. Total acreage (project site and any contiguous properties) owned
or controlled by the applicant or project sponsor? 30.75 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☒ No

i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☒ No

If Yes,

i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types) _____

ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No

iii. Number of lots proposed? _____

iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☒ No

i. If No, anticipated period of construction: 6 months

ii. If Yes:

- Total number of phases anticipated _____

- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year

- Anticipated completion date of final phase _____ month _____ year

- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? ☐ Yes ☒ No				
If Yes, show numbers of units proposed.				
	<u>One Family</u>	<u>Two Family</u>	<u>Three Family</u>	<u>Multiple Family (four or more)</u>
Initial Phase	_____	_____	_____	_____
At completion	_____	_____	_____	_____
of all phases	_____	_____	_____	_____

g. Does the proposed action include new non-residential construction (including expansions)? ☒ Yes ☐ No	
If Yes,	
i. Total number of structures _____	
ii. Dimensions (in feet) of largest proposed structure: _____ height; _____ width; and _____ length	
iii. Approximate extent of building space to be heated or cooled: _____ square feet	

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐ Yes ☒ No	
If Yes,	
i. Purpose of the impoundment: _____	
ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐ Other specify: _____	
iii. If other than water, identify the type of impounded/contained liquids and their source. _____	
iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres	
v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length	
vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): _____	

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) ☐ Yes ☒ No	
If Yes:	
i. What is the purpose of the excavation or dredging? _____	
ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?	
• Volume (specify tons or cubic yards): _____ • Over what duration of time? _____	
iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them. _____	
iv. Will there be onsite dewatering or processing of excavated materials? ☐ Yes ☐ No	
If yes, describe. _____	
v. What is the total area to be dredged or excavated? _____ acres	
vi. What is the maximum area to be worked at any one time? _____ acres	
vii. What would be the maximum depth of excavation or dredging? _____ feet	
viii. Will the excavation require blasting? ☐ Yes ☐ No	
ix. Summarize site reclamation goals and plan: _____	

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐ Yes ☒ No	
If Yes:	
i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____	

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐ Yes ☐ No
If Yes, describe: _____

iv. Will the proposed action cause or result in the destruction or removal of aquatic vegetation? ☐ Yes ☐ No
If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____
- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

c. Will the proposed action use, or create a new demand for water? ☐ Yes ☒ No
If Yes:

i. Total anticipated water usage/demand per day: _____ gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☐ Yes ☐ No
If Yes:

- Name of district or service area: _____
- Does the existing public water supply have capacity to serve the proposal? ☐ Yes ☐ No
- Is the project site in the existing district? ☐ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No
- Do existing lines serve the project site? ☐ Yes ☐ No

iii. Will line extension within an existing district be necessary to supply the project? ☐ Yes ☐ No
If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____
- Source(s) of supply for the district: _____

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐ Yes ☐ No
If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

v. If a public water supply will not be used, describe plans to provide water supply for the project: _____

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☐ Yes ☒ No
If Yes:

i. Total anticipated liquid waste generation per day: _____ gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): _____

iii. Will the proposed action use any existing public wastewater treatment facilities? ☐ Yes ☐ No
If Yes:

- Name of wastewater treatment plant to be used: _____
- Name of district: _____
- Does the existing wastewater treatment plant have capacity to serve the project? ☐ Yes ☐ No
- Is the project site in the existing district? ☐ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No

• Do existing sewer lines serve the project site? ☐ Yes ☐ No • Will a line extension within an existing district be necessary to serve the project? ☐ Yes ☐ No If Yes: • Describe extensions or capacity expansions proposed to serve this project: _____	
iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐ Yes ☐ No If Yes: • Applicant/sponsor for new district: _____ • Date application submitted or anticipated: _____ • What is the receiving water for the wastewater discharge? _____	
v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge or describe subsurface disposal plans): _____ _____	
vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____ _____ _____	
e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☒ Yes ☐ No If Yes: i. How much impervious surface will the project create in relation to total size of project parcel? _____ Square feet or <u>0.92</u> acres (impervious surface) _____ Square feet or <u>39.2</u> acres (parcel size) ii. Describe types of new point sources. _____ iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)? <u>Onsite surface water and offsite drainage</u> _____ • If to surface waters, identify receiving water bodies or wetlands: _____ _____ • Will stormwater runoff flow to adjacent properties? ☒ Yes ☐ No	
iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☒ Yes ☐ No	
f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☒ Yes ☐ No If Yes, identify: i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles) <u>Backhoes, excavators, pile drivers, and other construction-related equipment</u> ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers) <u>Likely one or more generators to supply construction trailer</u> iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation) <u>None.</u>	
g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐ Yes ☒ No If Yes: i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐ Yes ☐ No ii. In addition to emissions as calculated in the application, the project will generate: • _____ Tons/year (short tons) of Carbon Dioxide (CO₂) • _____ Tons/year (short tons) of Nitrous Oxide (N₂O) • _____ Tons/year (short tons) of Perfluorocarbons (PFCs) • _____ Tons/year (short tons) of Sulfur Hexafluoride (SF₆) • _____ Tons/year (short tons) of Carbon Dioxide equivalent of Hydrofluorocarbons (HFCs) • _____ Tons/year (short tons) of Hazardous Air Pollutants (HAPs)	

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐ Yes ☒ No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐ Yes ☒ No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust): _____

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐ Yes ☒ No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐ Morning ☐ Evening ☐ Weekend
☐ Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐ Yes ☐ No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe: _____

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐ Yes ☐ No

vii. Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐ Yes ☐ No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐ Yes ☐ No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☐ Yes ☒ No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):
Local electrical distribution grid (National Grid) _____

iii. Will the proposed action require a new, or an upgrade, to an existing substation? ☒ Yes ☐ No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: _____ 7am-5pm
- Saturday: _____ 7am-5pm
- Sunday: _____ n/a
- Holidays: _____ n/a

ii. During Operations:

- Monday - Friday: _____ Daylight hours
- Saturday: _____ Daylight hours
- Sunday: _____ Daylight hours
- Holidays: _____ Daylight hours

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☒ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:
Construction activity will include pile driving, vehicle operations, electric tools, etc, during the hours of active construction.

ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐ Yes ☒ No
Describe: _____

n. Will the proposed action have outdoor lighting? ☒ Yes ☐ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:
During construction, downcast lighting may be utilized around sensitive equipment as a security measure.

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☒ No
Describe: _____

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☒ No
If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☒ No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally, describe the proposed storage facilities: _____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☐ No

If Yes:

i. Describe proposed treatment(s):
The ground cover under the solar array will be planted with high-quality native pollinator habitat, including grasses and wildflowers. Herbicide may be required to control invasive and noxious weeds and maintenance of the habitat.

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☒ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☒ Yes ☐ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: _____ 2 tons per _____ 30 days (unit of time)
- Operation : _____ none tons per _____ (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: Wood pallets, wire spools will be shipped to their respective manufactures for reuse. Cardboard, plastic and metal strappings, extra wire and cable, etc, will be shipped to a recycling facility.
- Operation: not applicable.

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: see above
- Operation: _____

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☒ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☒ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility: _____

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☐ Industrial ☐ Commercial ☐ Residential (suburban) ☒ Rural (non-farm)

☒ Forest ☒ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe: _____

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0	0.92	+ 0.92
• Forested	0	0	0
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	36.02	35.10	- 0.92
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0	0	0
• Wetlands (freshwater or tidal)	3.18	3.18	0
• Non-vegetated (bare rock, earth or fill)	0	0	0
• Other Describe: _____	0	0	0

c. Is the project site presently used by members of the community for public recreation? ☐ Yes ☒ No
i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☐ Yes ☒ No
If Yes,
i. Identify Facilities: _____

e. Does the project site contain an existing dam? ☐ Yes ☒ No
If Yes:
i. Dimensions of the dam and impoundment:
• Dam height: _____ feet
• Dam length: _____ feet
• Surface area: _____ acres
• Volume impounded: _____ gallons OR acre-feet
ii. Dam's existing hazard classification: _____
iii. Provide date and summarize results of last inspection: _____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐ Yes ☒ No
If Yes:
i. Has the facility been formally closed? ☐ Yes ☐ No
• If yes, cite sources/documentation: _____
ii. Describe the location of the project site relative to the boundaries of the solid waste management facility: _____

iii. Describe any development constraints due to the prior solid waste activities: _____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐ Yes ☒ No
If Yes:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred: _____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☐ Yes ☒ No
If Yes:
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐ Yes ☒ No
☐ Yes – Spills Incidents database Provide DEC ID number(s): _____
☐ Yes – Environmental Site Remediation database Provide DEC ID number(s): _____
☐ Neither database
ii. If site has been subject of RCRA corrective activities, describe control measures: _____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☐ Yes ☒ No
If yes, provide DEC ID number(s): _____
iv. If yes to (i), (ii) or (iii) above, describe current status of site(s): _____

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☒ No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☐ No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? _____ >6 and 2/3rds feet

b. Are there bedrock outcroppings on the project site? ☐ Yes ☒ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____ %

c. Predominant soil type(s) present on project site:

HIB, Hilton Loam	49.6 %
AOA, Appleton Loam	20.4 %
CHA, Collamer silt loam	13.4 %

d. What is the average depth to the water table on the project site? Average: _____ 2-6 feet

e. Drainage status of project site soils: ☒ Well Drained: _____ 6.2 % of site
☒ Moderately Well Drained: _____ 73.4 % of site
☐ Poorly Drained: _____ 20.4 % of site

f. Approximate proportion of proposed action site with slopes: ☒ 0-10%: _____ 100 % of site
☐ 10-15%: _____ % of site
☐ 15% or greater: _____ % of site

g. Are there any unique geologic features on the project site? ☐ Yes ☒ No
If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☐ Yes ☒ No

ii. Do any wetlands or other waterbodies adjoin the project site? ☒ Yes ☐ No
If Yes to either i or ii, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☒ Yes ☐ No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

• Streams:	Name _____	Classification _____
• Lakes or Ponds:	Name _____	Classification _____
• Wetlands:	Name Wetlands A, B, and C	Approximate Size 0.29 + 2.29 + 0.60 ac.
• Wetland No. (if regulated by DEC)	_____	

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐ Yes ☒ No
If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? ☐ Yes ☒ No

j. Is the project site in the 100-year Floodplain? ☐ Yes ☒ No

k. Is the project site in the 500-year Floodplain? ☐ Yes ☒ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☐ Yes ☒ No
If Yes:

i. Name of aquifer: _____

m. Identify the predominant wildlife species that occupy or use the project site: <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; border-bottom: 1px solid black;">grey squirrel</td> <td style="width: 33%; border-bottom: 1px solid black;">white-tailed deer</td> <td style="width: 33%; border-bottom: 1px solid black;">canada goose</td> </tr> <tr> <td style="border-bottom: 1px solid black;">American robin</td> <td style="border-bottom: 1px solid black;">northern cardinal</td> <td style="border-bottom: 1px solid black;">red fox</td> </tr> <tr> <td style="border-bottom: 1px solid black;">opposum</td> <td></td> <td></td> </tr> </table>			grey squirrel	white-tailed deer	canada goose	American robin	northern cardinal	red fox	opposum		
grey squirrel	white-tailed deer	canada goose									
American robin	northern cardinal	red fox									
opposum											
n. Does the project site contain a designated significant natural community? ☐ Yes ☒ No If Yes: i. Describe the habitat/community (composition, function, and basis for designation): _____ ii. Source(s) of description or evaluation: _____ iii. Extent of community/habitat: • Currently: _____ acres • Following completion of project as proposed: _____ acres • Gain or loss (indicate + or -): _____ acres											
o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☒ Yes ☐ No If Yes: i. Species and listing (endangered or threatened): _____ Bald Eagle _____											
p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐ Yes ☒ No If Yes: i. Species and listing: _____ _____											
q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐ Yes ☒ No If yes, give a brief description of how the proposed action may affect that use: _____ _____											
E.3. Designated Public Resources On or Near Project Site											
a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ Yes ☒ No If Yes, provide county plus district name/number: _____											
b. Are agricultural lands consisting of highly productive soils present? ☒ Yes ☐ No i. If Yes: acreage(s) on project site? <u>approx 24.5</u> ii. Source(s) of soil rating(s): <u>NRCS Web Soil Survey</u>											
c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐ Yes ☒ No If Yes: i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____ _____											
d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐ Yes ☒ No If Yes: i. CEA name: _____ ii. Basis for designation: _____ iii. Designating agency and date: _____											

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? ☐ Yes ☒ No	
If Yes: i. Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District ii. Name: _____ iii. Brief description of attributes on which listing is based: _____	
f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☒ Yes ☐ No	
g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☒ No	
If Yes: i. Describe possible resource(s): _____ ii. Basis for identification: _____	
h. Is the project site within five miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☐ Yes ☒ No	
If Yes: i. Identify resource: _____ ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____ iii. Distance between project and resource: _____ miles.	
i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☒ No	
If Yes: i. Identify the name of the river and its designation: _____ ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No	

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

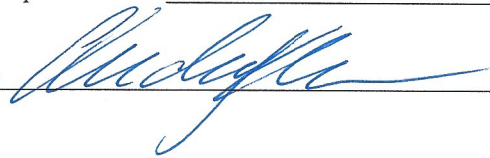
I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name NYSOLAR07 LLC

Date

11/1/2022

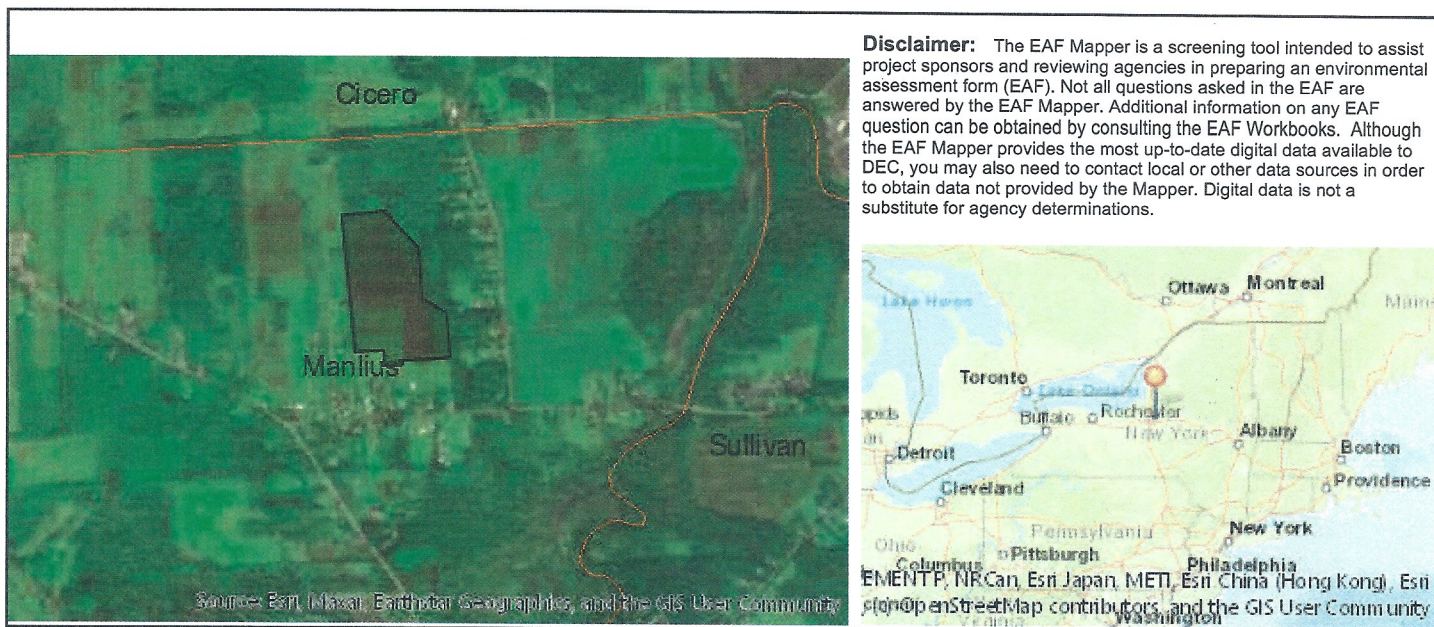
Signature



Title

Director, Development

PRINT FORM



B.1.i [Coastal or Waterfront Area]	No
B.1.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	No
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	No
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes
E.2.o. [Endangered or Threatened Species - Name]	Bald Eagle

E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

Decommissioning and Removal Plan

("DRP")

for

Warner Farm Solar

NYSOLAR07 LLC

7865 Peck Road

Kirkville, NY 13082

Submitted to the Town of Manlius

October 26, 2022

Relevant Town Code – SECTION 155-27.2.D(4)(b)[14] of CHAPTER 155

[14]

[a] The Applicant shall submit a decommissioning and removal plan (DRP) to the Planning Board. The DRP shall include specific plans on how the owner plans to remove the obsolete or unused solar panel arrays and accessory structures and return the property to a state acceptable to the Town within a specific time period after the cessation of operations. This plan shall be approved by the Planning board and prior to the granting of the special use permit. A site restoration plan shall be included as part of any decommission plan, to include, at a minimum, stockpiling of any topsoil removed during construction, for use in site restoration, removal of all foundations, de-compacting and de-rocking all disturbed areas, and removal of any roadways.

Decommissioning and Reclamation:

The decommissioning of the site is essentially “building the site plan in reverse”. Upon the expiration of the site permit, or the end of commercial operations, NYSOLAR07 will be responsible for removing solar facilities at the site as detailed in this plan, and for restoring and reclaiming the site to pre-construction topography and topsoil quality to the extent feasible. NYSOLAR07 reserves the right to extend the Project instead of decommissioning. If NYSOLAR07 seeks to extend the life of the Project, NYSOLAR07 will decide whether to continue operation with existing equipment or to retrofit solar panels and power system with upgrades based on new technologies.

Notice of Decommissioning:

NYSOLAR07 will submit a letter of intent to the Planning Board and Building Inspector within 30 days of the discontinuance of commercial operations. If commercial operations do not occur for a period of six consecutive months or greater, NYSOLAR07 will submit a letter to the Office of Planning and Development indicating whether it plans to resume operations or whether decommissioning of the site, as described in the DRP, will commence. If NYSOLAR07 intends to continue operations, it has an additional six months to resume commercial operations. If commercial operations do not commence within six months, decommissioning of the site will commence, unless other arrangements have been made between NYSOLAR07 and the Town of Manlius.

Summary of Decommissioning Activities:

Decommissioning includes removing the solar panels, solar panel racking, steel foundation piles and beams, inverters, transformers, overhead and underground cables and lines, equipment pads and foundations, equipment cabinets, and ancillary equipment to a depth of thirty-six (36) inches. The civil facilities, access road, security fence, and any drainage structures are included in the decommissioning scope, unless requested by the site landowner to remain and upon approval by the Town of Manlius. Standard decommissioning practices would be utilized, including dismantling and repurposing, salvaging/recycling, or disposing of the solar energy improvements. After the equipment and appurtenant structures are removed, holes or voids created by foundations, poles, concrete pads and other equipment will be filled in with soil to the surrounding grade and seeded with an approved non-invasive seed mix. Minimal topsoil will be excavated during construction, and topsoil will not be stockpiled onsite after construction. Topsoil will be spread around the work areas to achieve proper grading. During decommissioning and reclamation, if necessary, topsoil will be imported to the site to

accommodate the filling and grading activities described above. Access roads will be removed with excavators, bulldozers, or the proper heavy equipment, including the use of rock pickers if necessary. Areas compacted by equipment or other construction traffic will be de-compacted to a depth of eighteen (18) inches from finished grade prior to fine grading and seeding. This may include re-vegetation as native prairie or meadow, returning the site to agricultural use consistent with the landowners' desires, or re-developing the land for other beneficial uses (upon approval of any jurisdiction and in compliance with all relevant laws).

Timeline

Decommissioning is estimated to take six to eight weeks to complete, and the decommissioning crew will ensure that equipment and materials are recycled or disposed of properly at off-site locations. Decommissioning and restoration activities at the site will be completed within 365 days after the date the site ceases to operate, per the Town Code.

Detailed Sequence and Description of Decommissioning Activities:

The steps taken for the removal, recycling, resale and/or disposal of the site components are listed below, in sequential order:

1. **Modules:** Modules will be inspected for physical damage, tested for functionality, disconnected and removed from racking for resale or recycling. Modules will be packed and stored in an offsite facility pending their reuse or resale by NYSOLAR07. Any non-functioning modules will be packed, palletized, and shipped to the manufacturer or a third party for recycling.
2. **Racking:** Racking and racking components will be disassembled and removed from the steel foundation piles, sorted for resale, or processed to appropriate size to be sent to a metal recycling facility.
3. **Steel Foundation Piles:** All structural foundation piles will be pulled out, processed to appropriate size, and shipped to a recycling facility. During decommissioning, the area around the foundation posts may be compacted by equipment and, if compacted, the area will be de-compacted in a manner to adequately restore the topsoil and sub-grade material to a density consistent with native prairie or agricultural uses.
4. **Overhead and Underground Cables and Lines:** The cables and conduits contain no materials known to be harmful to the environment. As part of the decommissioning of the project, these items will be removed up to a depth of 36 inches and shipped to an off-site facility for resale or recycling. Topsoil will be segregated and stockpiled for later use prior to any excavation and the subsurface soils will be staged next to the excavation. Following the removal of the cable and conduits the excavation will be backfilled with the spoils previously removed. The subgrade will be compacted to a density similar to native prairie or previous agricultural uses. Topsoil will be redistributed across the disturbed area. All cable and conduit buried deeper than 36 inches will remain and be abandoned in place.
5. **Inverters, Transformers, and Ancillary Equipment:** All electrical equipment will be disconnected, disassembled and sold or recycled. All parts will removed, reconditioned, reused, sold as scrap, recycled, or disposed of appropriately at NYSOLAR07's discretion.
6. **Equipment Pads and Ancillary Foundations:** Topsoil will be removed from an area surrounding the foundations, equipment pad or ancillary foundation and stockpiled for later use.

Foundations will be excavated to a depth sufficient to remove all conduits, cables, aggregate and concrete to a depth of thirty-six (36) inches below grade. The remaining excavation will be filled with clean subgrade materials of quality comparable to the immediate surrounding area. All unexcavated areas compacted by equipment used in decommissioning will be decompacted in a manner to adequately restore the topsoil and sub-grade material to a density consistent and compatible with native prairie or agricultural uses. All materials will be removed from the site, reconditioned, reused, sold as scrap, recycled, or disposed of appropriately, at NYSOLAR07's discretion.

7. Fence: All fence parts and foundations will be removed from the site, reconditioned, reused, sold as scrap, recycled, or disposed of appropriately, at NYSOLAR07's discretion. The surrounding areas will be restored to pre-construction conditions to extent feasible.
8. Access Roads: Facility access roads will be used for decommissioning purposes. After final clean-up, roads may be left intact through mutual agreement between the Landowner and NYSOLAR07, unless otherwise restricted by Federal, State, or Local Regulations. If a road is to be removed, aggregate will be removed and shipped from the site to be reused, sold, or disposed of appropriately, at NYSOLAR07's discretion, consistent with applicable regulations and industry standards. Ditch crossings connecting access roads to public roads will be removed unless the landowner requests they remain. The subgrade will be de-compacted to a density similar to surrounding sub-grade material. Topsoil will be distributed across the open area. The access roads and adjacent areas that are compacted by equipment will be de-compacted in a manner to adequately restore the topsoil and sub-grade material to a density consistent with native prairie or agricultural uses. If excess rock has accumulated outside of the access road areas, rock pickers will be utilized to collect excess rock.
9. Land Leveling: As part of site decommissioning, to the extent commercially reasonable, NYSOLAR07 will restore the area disturbed by construction to pre-construction elevation and contour to extent feasible. If uneven settling occurs or surface drainage problems develop as a result of Project decommissioning, NYSOLAR07 will provide additional grading services to remedy the situation.

Restoration/Reclamation of Site:

NYSOLAR07 assumes that the site will be utilized for agriculture after decommissioning and will implement appropriate measures to facilitate agricultural use. If no specific use is identified, NYSOLAR07 will vegetate the site with a native grassland seed mix. The goal of restoration will be to restore natural hydrology and plant communities to the greatest extent practicable while minimizing new disturbance and removal of native vegetation. The decommissioning best management practices (BMP's) to minimize erosion and contain sediment that will be employed on the Project to the extent practicable with the intent of meeting this goal include:

1. Minimize new disturbance and removal of native vegetation to the greatest extent practicable.
2. Any topsoil that is removed from the surface for decommissioning will be stockpiled to be reused when restoring plant communities. Once decommissioning activity is complete, topsoil will be restored to assist in establishing and maintaining plant communities.

3. Stabilize soils and re-vegetate with native vegetation and plantings appropriate for the soil conditions and adjacent habitat and use local seed sources where feasible, consistent with landowner objectives. Restoration of native plants will not be performed for site that will be returned to agricultural use or other more intensive beneficial uses.
4. During and after decommissioning activities, install erosion and sediment control measures in all disturbance areas where potential for erosion and sediment transport exists, consistent with storm water management objectives and requirements.

Post-Restoration Monitoring

Decommissioning of the site will not require new permits or approvals except potentially a NPDES/SDS CSW Permit and SWPPP, if grading activities are necessary and exceed applicable permit thresholds. Decommissioning should include post-restoration monitoring as required by the NPDES/SDS CSW Permit and SWPPP or other applicable requirements. In addition, the NYSOLAR07 Field Representative assigned to decommissioning monitoring will stay in contact with landowners, including onsite check-ins until the NPDES/ SDS CSW permit is closed.

Decommissioning Costs

NYSOLAR07 will be responsible for all costs to decommission the project and associated facilities. We will prepare gross and net decommissioning costs as the special use permit and site plan application is finalized and approved. We will revise and resubmit this plan when those values have been calculated.

Decommissioning Financial Surety Plan

NYSOLAR07 will provide financial surety to the Town to ensure the decommissioning is funded. NYSOLAR07 proposes providing either (i) a mutually acceptable escrow agreement (the “Escrow Agreement”) establishing an escrow (the “Escrow”) to secure NYSOLAR07 obligations for decommissioning, (ii) a “Letter of Credit” or equivalent form of security, or (iii) a bond, in either case naming the Town of Manlius as the beneficiary. At this time, NYSOLAR07 requests flexibility in the form of security to allow us to evaluate the options and costs of obtaining the security given market conditions at the time of issuance. The mutually agreed upon form of security will be established prior to the installation of any physical equipment on the site.

The decommissioning security amount and type will be updated every five (5) years by NYSOLAR07 utilizing an independent, third-party engineering firm to evaluate the difference between the estimated decommissioning costs and salvage value. The escrow or security shall be held, administered, and disbursed by a title company, bank or other qualified escrow agent mutually satisfactory to NYSOLAR07 and the Town of Manlius. If NYSOLAR07 does not remove the solar facilities within three hundred sixty-five (365) days after the expiration of the lease or earlier termination of the lease, the Town may draw from the Escrow or security an amount sufficient to complete the decommissioning of the site. The security shall remain in place until such decommissioning is complete.

National Grid	Coordinated Electric System Interconnect Review	Doc. #365697 Page 1 of 12
	Distributed Energy Resources - NYSSIR	Version 1.0 – 5/12/2021

For
Interconnection Customer: Horizon NYSOLAR07
Applicant: Horizon Solar
5,000kW Solar Generator System
(Down sized to 4,250kVA at 99%PF Lagging)
7859 Peck Rd, Kirkville, NY 13082

Interconnection to National Grid
NY Central
Central Region
Syracuse District
Collamer Crossing Substation
13.2 kV Feeder 151156

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1.0 INTRODUCTION

This report presents the analysis results of the Niagara Mohawk Power Corporation, d/b/a National Grid (“National Grid” or the “Company”) interconnection study based on the proposed interconnection and design submittal from the Interconnection Customer in accordance with the Company ESB 750 series. The intent of this report is to assess this project’s feasibility, determine its impact to the existing electric power system (EPS), determine interconnection scope and installation requirements, and determine costs associated with interconnecting the Interconnection Customer’s generation to the Company’s Electric Power System (EPS). This Coordinated Electric System Impact Review (CESIR) study; according to the NYSSIR Section I.C Step 6; identifies the scope, schedule, and costs specific to this Interconnection Customer’s installation requirements.

2.0 EXECUTIVE SUMMARY

The total estimated planning grade cost of the work associated with the interconnection of the Interconnection Customer is [REDACTED]

The interconnection was found to be feasible with the size reduced to 4,250kVA and 99% power factor lagging (absorbing Vars) and modifications to the existing Company EPS and operating conditions, which are described in detail in the body of this Study. The point of common coupling (PCC) will be discussed during the initial construction field visit. The Customer is responsible for extending their facilities to meet the company at the PCC.

The ability to generate is contingent on this facility being served by the interconnecting circuit during normal Utility operating conditions. Therefore, if the interconnecting circuit is out of service, or if abnormal Utility operating conditions of the area EPS are in effect National Grid reserves the right to disengage the facility.

No future increase in generation output beyond that which specified herein for this interconnection has been studied. Any increase in system size and/or design change is subject to a new study and costs associated shall be borne by the Interconnection Customer. An increase in system size may also forfeit the Interconnection Customer’s existing queue position.

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3.0 COMPANY EPS PARAMETERS

Substation	Collamer Crossing	Collamer Crossing
Transformer Name	TB2	TB1
Transformer Peak Load (kW)	4,751	3,445
Contingency Condition Load, N-1 Criteria (kW) (as applicable)	N/A	N/A
Daytime Light Load (kW)	1,796	1,115
Generation: Total ¹ , Connected, Queued Ahead (kW)	13,800, 150, 8,650	79, 79, 0
Contingency Condition Generation: Total ¹ , Connected, Queued Ahead (kW)	N/A	N/A
Supply Voltage (kV)	115	115
Transformer Maximum Nameplate Rating (kVA)	40,000	40,000
Distribution Bus Voltage Regulation	yes	yes
Transmission GFOV Status	not installed	not installed
Bus Tie	N/A	N/A
Number of Feeders Served from this Bus	2	1

Connecting Feeder/Line	151156
Peak Load on feeder (kW)	2,493
Daytime Light Load on Feeder (kW)	1,275
Feeder Primary Voltage at POI (kV)	13.2
Line Phasing at POI	3
Circuit Distance from POI to Substation	5.34 miles
Distance to nearest 13.2 kV 3-phase, (if applicable)	N/A
Line Regulation	N
Line/Source Grounding Configuration at POI	effective
Generation: Total ¹ , Connected, Queued Ahead(kW)	13,721, 71, 8,650

System Fault Characteristics without Interconnection Customer DG at POI	
Interconnection Customer POI Location	Pole 4, Peck Rd
I 3-phase (3LLL)	1,739 Amps
I Line to Ground (3I0)	1,246 Amps
Z1 (100 MVA base)	1.4270 + j 2.1337 PU
Z0 (100 MVA base)	2.1562 + j 5.2386 PU

¹ The total value referenced here includes the subject generator, connected generation and generation that is queued ahead.

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4.0 INTERCONNECTION CUSTOMER SITE

The Interconnection Customer is proposing a new solar photovoltaic primary service connection with Account No. 97638-58009.

This location is presently served via the Company's 13.2kV radial distribution feeder 151156 from Collamer Crossing Substation.

The proposed generating system consists of:

- Two (2) 2,500kVA wye-ground/wye-ground step up transformer.
- One (1) primary zig-zag grounding transformer.
- 3-phase polar PV inverters with a generation total of 5,000kVA.
- Gang operated disconnect switch
- Recloser
- Primary Utility Meter
- 15kV Solid Blade switches

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5.0 SYSTEM IMPACT ANALYSIS

Category	Criteria	Limit	Result
Voltage	Overvoltage	< 105% (ANSI C84.1)	Fail
With the addition of the subject generator the maximum voltage as modeled on the Feeder is 108.4% of nominal.			
Install 333kVA voltage regulators on NYS 298 and set inverters to absorb vars at 99% PF			
Voltage	Undervoltage	> 95% (ANSI C84.1)	Pass
With the addition of the subject generator the minimum voltage as modeled on the Feeder is 100.8% of nominal.			
Voltage	Substation Regulation for Reverse Power	minimum load criteria	Fail
The total generation on Feeders 151155 and 151156 is 13.80 MW. The total minimum load on these Feeders is 1.79 MW. Therefore, the generation to load ratio is 771%.			
Voltage	Feeder Regulation for Reverse Power	Minimum load to generation ratio	N/A
There are no voltage regulators between the site and the substation.			
Voltage	Fluctuation	<3% steady state from proposed generation on feeder	Pass
The greatest voltage fluctuation on the feeder occurs at pole P14 Oxbow Rd. The resulting fluctuation at the feeder location is 2.18% due to the proposed generation.			
Voltage	Flicker	Screen H Flicker	Fail
The Pst for the location with the greatest voltage fluctuation is 0.357 and the emissions limit is 0.35.			
The generators out must be reduced to 4,900kVA to meet the flicker limit.			
Equipment Ratings	Thermal (continuous current)	< 100% thermal limits	Fail
The subject generator's full output current is 219A. The total full output current of all DER downstream of feeder getaway cable is 600A. Feeder getaway cable's thermal capabilities are 514A.			
Taking into account minimum load, the output must be reduced to 4,250kVA to meet thermal limits			
Equipment Ratings	Withstand (fault current)	<90% withstand limits	Pass
The additional fault current contribution from the generation does not contribute to interrupting ratings in excess of existing EPS equipment.			
Protection	Unintentional Islanding	Unintentional Islanding Document & Company Guidelines	Fail

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The subject generator is a 4.25 MVA PV generation system.

The proposed generation system exceeds the Company's criteria for islanding a distributed resource, therefore unintentional islanding is a concern. *Therefore, the following system upgrades are required and acceptable:*

National Grid Protection and Control package (e.g. the PCC Recloser)

Protection	Protective device coordination	Company Guidelines	Fail
------------	--------------------------------	--------------------	------

The DG Interconnection Customer has proposed a 300E Primary Service Protection (PSP). This protective device is shown in the proper location on the submitted line diagrams. ***This fuse is oversized and not suitable with respect to coordination to existing upstream protective devices.***

The DG Interconnection Customer will need ensure that this fuse will coordinate, with 0.1 second margin, to the following device characteristics:

50/51 = P/U – 400 A, Curve – U4, Time Dial/Multiplier = 1

50/51N = P/U – 300 A, Curve – U4, Time Dial/Multiplier = 1

The customer shall submit formal fuse specifications for review and approval by National Grid to ensure proper coordination, correct function types, etc. if the project moves forward.

Protection	Fault Sensitivity	Rated capabilities of EPS equipment	Pass
------------	-------------------	-------------------------------------	------

Of the currently active protectives devices (line reclosers, Station breaker relays) on this portion of the system, existing line recloser R42552 and Collamer Crossing Feeder 56 Phase and Ground Overcurrent settings were impacted negatively by the addition of this Interconnection, with Ground settings experiencing a complete loss of fault visibility in relation to the DG Interconnection. *Therefore, the following system upgrades are required and acceptable:*

Upgrade R42552 (6 IVS w/ Deadline Sensing)

Installation of New Line Recloser (6 IVS w/ Deadline Sensing) at P129h, E. Taft Rd.*

****Note: Placement just downstream of P129h to ensure other DG near P123 are not within its zone of protection.***

Protection	Ground Fault Detection	Reduction of reach > x% (by Utility)	Fail
------------	------------------------	--------------------------------------	------

The DG Interconnection Customer has proposed one (1) 500 kVA (modelled as a Primary-Side Connected – 13.2 kV Yg/Δ) grounding transformers with an equivalent per phase ohmic impedance of 15.68 Ω. ***This impedance is too small.***

A revised unit was used in this analysis. This revised grounding transformer satisfies the requirements for effective grounding and provides current limiting in order to satisfactorily comply with National Grid standards. This transformer has an equivalent per phase ohmic impedance of 32.29 Ω when connected on the 13.2 kV side of the customer GSU as proposed.

With this grounding transformer in service, the DG Interconnection Customer will contribute approximately 124 A of 3I0 current to remote bolted line to ground faults and 353 A to faults at the PCC.

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Protection	Overvoltage - Transmission System Fault	Company 3V0 criteria	Fail
The interconnection of distributed generation facilities to National Grid distribution substations can result in conditions whereby line-to-ground faults on the transmission system could go undetected. This scenario was analyzed for the proposed interconnection to determine if the addition of the subject generator meets the Company's criteria for requiring transmission system line-to-ground fault protection. The existing station protection schemes were reviewed, and analysis performed, and it has been determined that the addition of this DG Interconnection triggers the requirement for transmission system ground fault protection. <i>Therefore, the following system upgrades are required:</i> <i>A 3V₀ protection scheme is required to mitigate the transmission system line-to-ground fault condition.</i>			
Protection	Overvoltage - Distribution System Fault	< 125 % voltage rise	Pass
With subject generator interconnected the maximum modeled voltage rise on the unfaulted phases of the system is 127.3%.			
Protection	Effective Grounding	[individual utility specifications]	Pass
With subject generator interconnected the maximum modeled R0/X1 is 0.9923 PU and the maximum modelled X0/X1 is 2.4671 PU.			
SCADA	Required EMS Visibility for Generation Sources	Monitoring & Control Requirements	Pass
The 4.25 MVA subject generator triggers the requirement for SCADA reporting to the Utility. <i>This requirement is covered by the following:</i> <i>National Grid Protection and Control package (e.g. the PCC Recloser)</i>			
Other	Environmental		
If the facilities are proposed on <u>an existing site with preexisting environmental conditions and/or environmental regulatory obligations</u>, the Customer should be made aware of the following: • The Customer is responsible, at its sole cost and expense, for providing an uncontaminated corridor for National Grid's facilities such that intrusive work performed during installation and long-term maintenance would not result in potential contact with any site contamination and would not interfere with institutional or engineering controls, if applicable. The aerial extent, depth, and location of the uncontaminated corridor required for National Grid's facilities will be determined with the Customer. • The Customer is responsible for providing any and all information regarding site conditions, the nature and extent of any site contamination, and design information for any engineering controls (including plans and drawings), if applicable, immediately upon acceptance of this proposal. • The Customer is responsible for all obligations imposed by governmental authorities, including but not limited to notifications regarding modifications to institutional or engineering controls (if applicable), any required monitoring and/or reporting obligations, disposal of any wastes generated at the site, and the resolution of any violations caused by the work."			

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Other	POI	3-Phase	Fail
Extend 3-phase 760' to POI			

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6.0 MITIGATIONS FOR SYSTEM IMPACT ANALYSIS FAILURES

Detail below is intended to provide sufficient information and clarity to give the Interconnection Customer an understanding to the relationship of costs and scope associated with the DER interconnection and the system modifications due to the DER impact. Where scope items are identified, associated labor, equipment rentals and indirect project support functions (such as engineering and project management) are intended and implied.

Upgrade Required	Option 1 – 4.25MVA	Option 2 – N/A	Failures Addressed
3V0 installation			Overvoltage - Transmission System Fault
LTC Bi-directional control co-generation capability			Substation Regulation for Reverse Power
National Grid Protection and Control Package			Unintentional Islanding
New Recloser P129h Taft			Fault Sensitivity
Upgrade settings to R42552			Fault Sensitivity
Replace 900' of cable			Thermal limits
Extend 3-phase 760'			3-phase
New 333kVA regulator			Overvoltage

* There could be potential cost sharing for 3V0, depending on what other projects ahead in the queue do.

Additional details on the scope of each option can be found below:

Option 1:

The substation upgrades required to facilitate the proposed installation include the following:

- 3V0 protection is required on transformer bank TB1 & TB2.
- LTC Bi-directional control co-generation capability.

The Distribution upgrades required to facilitate the proposed installation include the following:

- National Grid Protection and Control Package (13.2 kV Recloser, Switches, Poles, and associated hardware). Reference ESB-756B Figure 5.
- SCADA Integration (Equipment integrated into PCC Recloser).
- New 333kVA regulator around P54 NYS 298
- New recloser P129h Taft
- Upgrade settings to R42552
- Replace 900' of getaway cable
- Extend 3-phase 760'

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7.0 CONCEPTUAL COST ESTIMATE

The following items are a good faith estimate for the scope and work required to interconnect the project estimated under rates and schedules in effect at the time of this study in accordance with the most recent version of the New York State Standardized Interconnection Requirements ("SIR").

Planning Grade Estimate

Case#: 365697							
National Grid Work Segment	Planning Grade Cost Estimate not including Tax Liability				Capital portion for calculating tax liability	Tax Liability Applied to Capital	Customer Cost Total
Distribution Modifications	Material	Labor	Overheads	Pre-Tax Total \$	Capital Costs	Rate	Total \$
Distribution System Modifications							
National Grid Protection and Control Package (Recloser, Switches, and Poles)							
New Regulator							
Upgrade settings to R42552							
Install new midline recloser							
Extend 3-phase 760'							
Replace 900' of UG cable							
Non-System Costs							
Customer Documentation Review, Field Verification and Witness Testing							
Substation Modifications							
3VO Installation at substation on TB1 & TB2							
Distribution Summary							
Station Summary							
Total							

Notes:

- These estimated costs are based upon the results of this study and are subject to change. All costs anticipated to be incurred by the Company are listed.
- The Company will reconcile actual charges upon project completion and the Interconnection Customer will be responsible for all final charges, which may be higher or lower than estimated according to the SIR I.C step 11.
- This estimate does not include the following:
 - additional interconnection study costs, or study rework
 - additional application fees,
 - applicable surcharges,
 - property taxes,
 - overall project sales tax,
 - future operation and maintenance costs,
 - adverse field conditions such as weather and Interconnection Customer equipment obstructions,
 - extended construction hours to minimize outage time or Company's public duty to serve,
 - the cost of any temporary construction service, or
 - any required permits.
- Cost adders estimated for overtime would be based on 1.5 and 2 times labor rates if

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required for work beyond normal business hours. Per Diems are also extra costs potentially incurred for overtime labor.

5MW AC GROUND MOUNTED SOLAR FARM

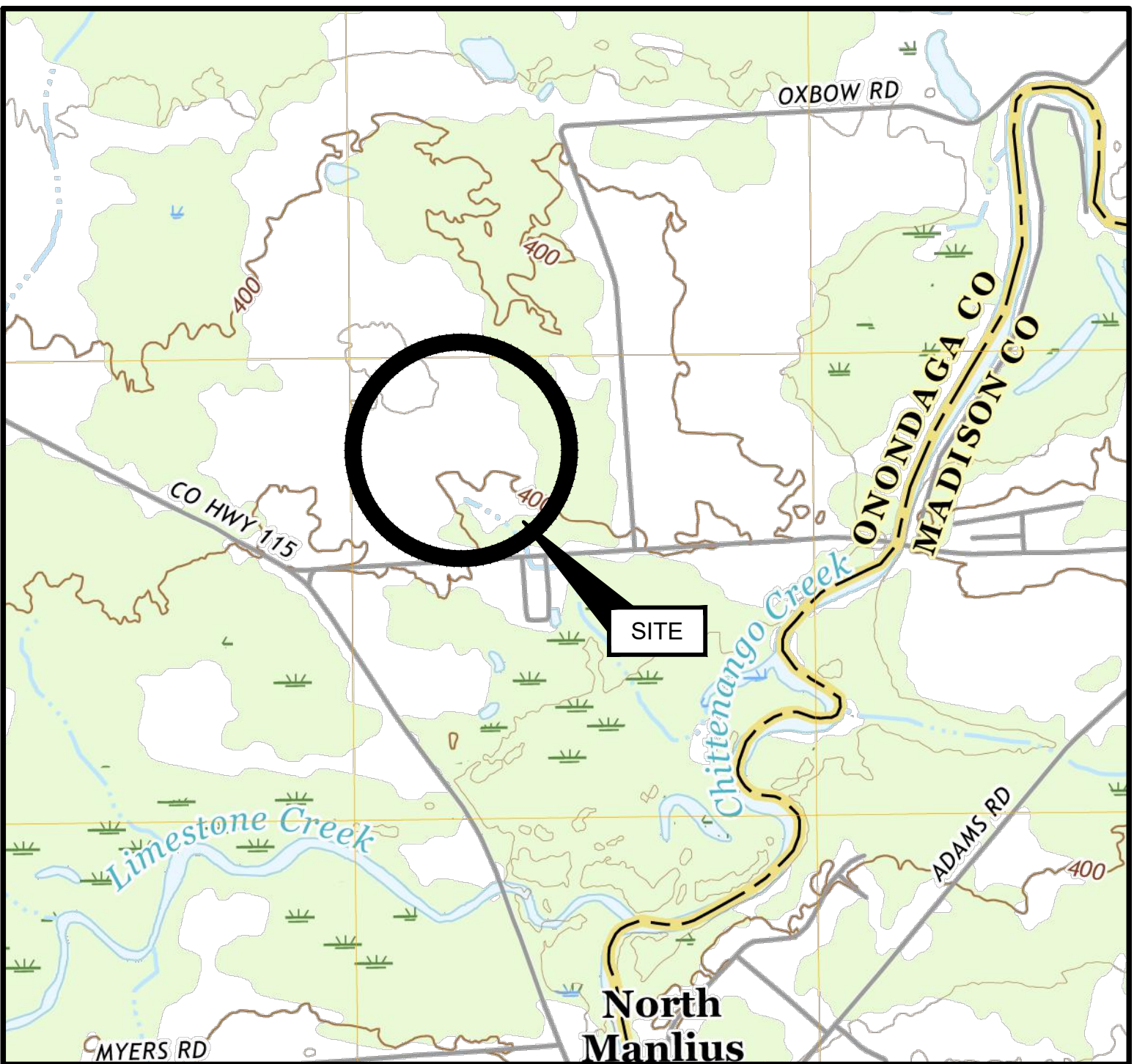
NYSOLAR07 LLC-WARNER SOLAR FACILITY

7859 PECK ROAD
KIRKVILLE, NY 13082



SOURCE:
"NEW YORK COUNTY MAP" BY: GISGEOGRAPHY

NEW YORK COUNTY MAP
(NOT TO SCALE)



SOURCE:
THIS IMAGE IS FROM U.S.G.S. TOPOGRAPHIC 7.5 MINUTE SERIES
MANILUS, NY QUADRANGLE, 2019

SITE LOCATION MAP
1"=1000'

SHEET NO.	TITLE
G-001	COVER SHEET
G-002	GENERAL NOTES
C-101	EXISTING CONDITIONS PLAN
C-102	EROSION AND SEDIMENT CONTROL PLAN AND DETAILS
C-103	SITE PLAN
C-104	GRADING AND UTILITY PLAN
C-105	LANDSCAPING PLAN
C-106	LANDSCAPING NOTES AND DETAILS
C-107	TYPICAL DETAILS 1 OF 2
C-108	TYPICAL DETAILS 2 OF 2

TOWN OF MANLIUS APPROVALS

PLANNING BOARD CHAIRMAN _____ DATE _____

TOWN ENGINEER _____ DATE _____

PLANNING BOARD SECRETARY _____ DATE _____

PREPARED FOR:

NYSOLAR07, LLC
330 W GOETHE ST.
CHICAGO, ILLINOIS 60610

PREPARED BY:

GEI CONSULTANTS, INC., P.C.
1301 TRUMANSBURG ROAD
SUITE N
ITHACA, NY 14850
(607)216-8955



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GEI PROJECT NO. 223192

					DWG. NO. G-001
					SHEET NO. 1 OF 10
A	11/2/2022	SPECIAL USE PERMIT REVIEW	PJS		
NO.	DATE	ISSUE/REVISION	APP		

DICASTELNUOVO, VINNIE B\Working\NYSOLAR07 LLC\2023\192 Warner Solar Development\03_CAD\Sheet Set\SC-101 EXISTING CONDITIONS.dwg - 11/2/2022



- NOTES:
1. BOUNDARY SURVEY AND EXISTING CONDITIONS BASED ON SURVEY PERFORMED BY SPAULDING LAND SURVEY ON OCTOBER 26, 2022.
 2. EXISTING CONTOURS ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO STARTING EARTHWORK.
 3. WETLAND DELINIATED BY GEI CONSULTANTS, INC., P.C. ON SEPTEMBER 1, 2022.

LEGEND:

PROPERTY LINE	
WETLANDS	
EXISTING MINOR CONTOUR	
EXISTING MAJOR CONTOUR	
ADJACENT PROPERTY LINE	
EXISTING OVERHEAD UTILITIES	
EXISTING ROADWAY	
EXISTING DRIVEWAY	
EXISTING TREE LINE	
IRON POLE FOUND	
IRON ROD FOUND	
UTILITY POLE	
TREE DECIDUOUS	
ELECTRICAL TRANSFORMER	

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0100200

SCALE, FEET

SOURCE:
1. PARCEL BOUNDARIES AND TOPOGRAPHY OBTAINED FROM
NYS GIS CLEARING HOUSE, ACCESSED AUGUST 22, 2022.

Attention:

01"

If this scale bar
does not measure
1" then drawing is
not original scale.

STATE OF NEW YORK

PHILIP J. SNYDER

100361

LICENSED PROFESSIONAL ENGINEER

Designed: V. DICASTELNUOVO

Drawn: V. DICASTELNUOVO

Checked: B. MCDEVITT

Approved: P. SNYDER

P.E. No: 100361

GEI Project 223192

GEI Consultants

GEI CONSULTANTS, INC., P.C.

1301 TRUMANSBURG ROAD

SUITE N

ITHACA, NY 14850

(607)216-9955

NYSOLAR 07, LLC

300 W GOETHE ST

CHICAGO, ILLINOIS 60610

NYSOLAR07 LLC

WARNER SOLAR FACILITY

7859 PECK ROAD

KIRKVILLE, NY 13082

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SHEET NAME

EXISTING CONDITIONS
PLAN

SHEET NO.

C-101

- LEGEND:

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A scale bar labeled "SCALE, FEET" with markings at 0, 100, and 200 feet. The bar is divided into segments of 25 feet each, with alternating black and white segments.

Attention:



If this scale bar does not measure 1 cm, then drawing is not original scale.

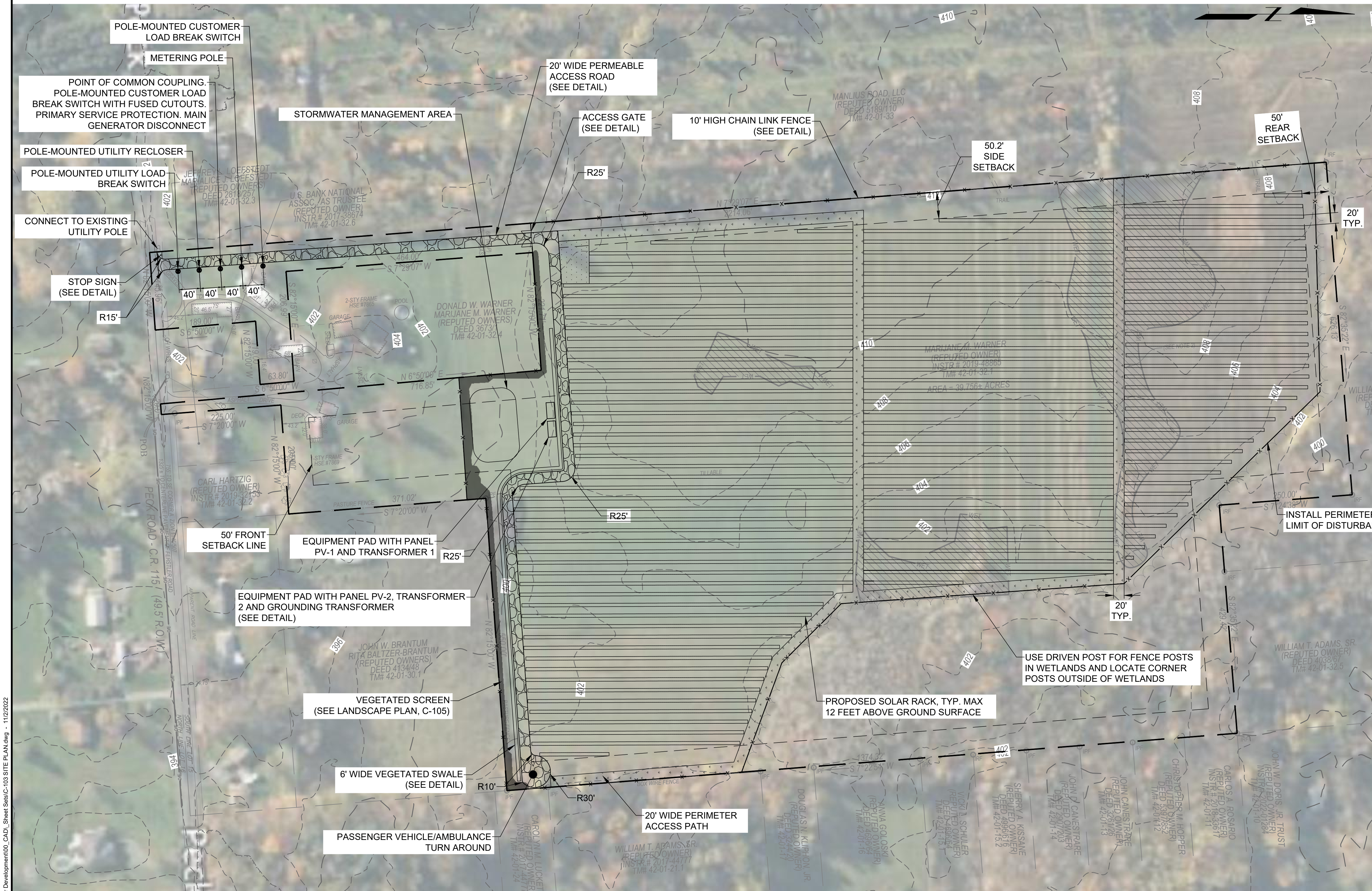


GEI Consultants
GEI CONSULTANTS, INC., P.C.
1301 TRUMANSBURG ROAD
SUITE N
ITHACA, NY 14850
(607)216-8955

NYSOLAR07 LLC
WARNER SOLAR FACILITY
7859 PECK ROAD
KIRKVILLE, NY 13082

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ZONING COMPLIANCE (§155-12)

PROPERTY ADDRESS	7859 PECK ROAD, KIRKVILLE, NY 13082	
TAX PARCEL ID	BLOCK 1, LOT 32.1	
ZONING DISTRICT	RESTRICTED AGRICULTURE (R-A)	
PROPOSED USE	LARGE SCALE SOLAR ENERGY SYSTEM	
ITEM	REQUIRED	PROPOSED
MINIMUM LOT AREA		1,717,327 SF
PUBLIC SEWER	40,000 SF	1,717,327 SF
SEPTIC SYSTEM	100,000 SF	1,717,327 SF
MINIMUM LOT FRONTAGE		
PUBLIC SEWER	150 FT	N/A
SEPTIC SYSTEM	200 FT	N/A
MIN. FRONT YARD SETBACK	50 FT	50 FT
MIN SIDE YARD SETBACK	50 FT	50 FT
MIN REAR YARD SETBACK	50 FT	50 FT

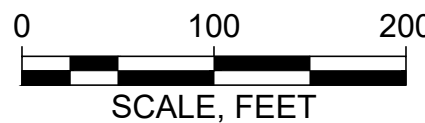
(1) REQUIRED ZONING INFORMATION IN THIS TABLE IS TAKEN FROM SECTION 155-12 OF THE TOWN OF MANILUS ZONING CODE.
(2) GROUND-MOUNTED SOLAR ENERGY SYSTEMS ARE A PERMITTED USE WITHIN THE RESTRICTED AGRICULTURE (R-A) DISTRICT.
(3) SETBACKS FOR SOLAR INSTALLATIONS ARE DEFINED IN SECTION 155-27.2 D.(4).[2] OF THE TOWN OF MANILUS ZONING CODE

- NOTES:
1. INSTALL PERMANENT CHAIN LINK FENCE AT OR INSIDE LIMIT OF DISTURBANCE.
 2. LIMIT OF DISTURBANCE LINE NOT SHOWN ON THIS PLAN FOR CLARITY.

LEGEND:

PARCEL BOUNDARY LINE	---
WETLANDS	---WET---
SETBACK LINE	----
PROPOSED CHAIN LINK FENCE	---x---

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Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.



Designed:	V. DICASTELNUOVO
Drawn:	V. DICASTELNUOVO
Checked:	B. MCDEVITT
Approved:	P. SNYDER
P.E. No:	100361
GEI Project	223192



NYSOLAR 07, LLC
300 W GOETH ST
CHICAGO, ILLINOIS 60610

**NYSOLAR07 LLC
WARNER SOLAR FACILITY**
7859 PECK ROAD
KIRKVILLE, NY 13082

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SHEET NAME
SITE PLAN
SHEET NO.
C-103

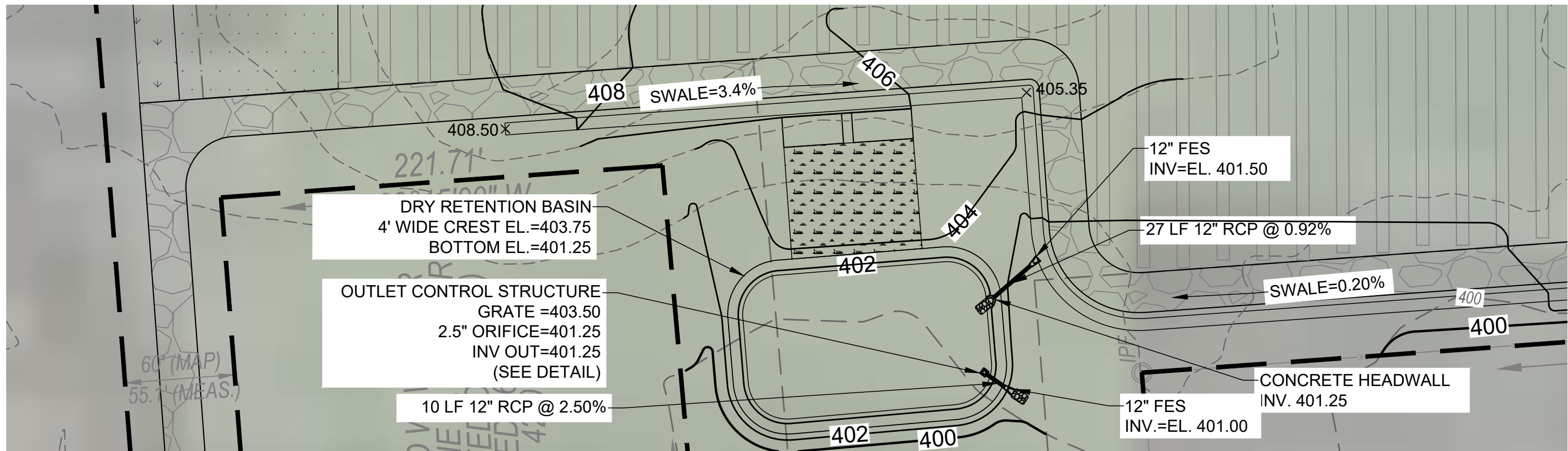
DICASTELNUOVO, VINNIE B\Working\NYSOLAR07 LLC\2203192 Warner Solar Development\03_CAD\Sheet Set\G-104 GRADING AND UTILITY PLAN.dwg - 1/12/2022



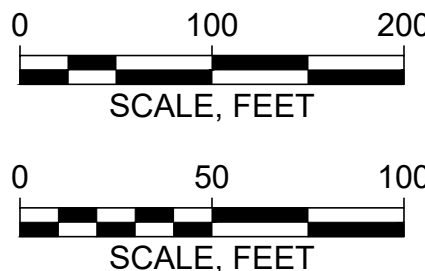
ABBREVIATIONS:
T.O.C. = TOP OF CONCRETE
FES = FLARED END SECTION
EL. = ELEVATION
RCP = REINFORCED CONCRETE
INV. - INVERT ELEVATION

LEGEND:

PROPERTY LINE	---
WETLANDS	---WET---
SETBACK LINE	---
PROPOSED UNDERGROUND ELECTRIC	---U/E---
LIMIT OF DISTURBANCE	--- -- --
EXISTING MINOR CONTOUR	---401---
EXISTING MAJOR CONTOUR	---400---
PROPOSED MINOR CONTOUR	---401---
PROPOSED MAJOR CONTOUR	---400---
PROPOSED VEGETATED FILTER STRIP	---

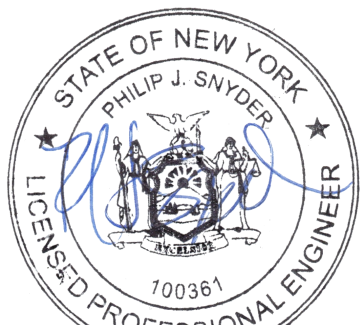


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Attention:
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Designed: V. DICASTELNUOVO
Drawn: V. DICASTELNUOVO
Checked: B. MCDEVITT
Approved: P. SNYDER
P.E. No: 100361
GEI Project 223192



NYSOLAR 07, LLC
300 W GOETH ST
CHICAGO, ILLINOIS 60610

NYSOLAR07 LLC
WARNER SOLAR FACILITY
7859 PECK ROAD
KIRKVILLE, NY 13082

A	11/2/2022	SPECIAL USE PERMIT REVIEW	PJS
NO	DATE	ISSUE/REVISION	APP

SHEET NAME
GRADING AND UTILITIES PLAN

SHEET NO.

C-104

DICASTELNUOVO, VINNIE B\Working\NYSOLAR07 LLC\2023\102 Warner Solar Development\03_CAD\Sheet Sub-C-105-108 LANDSCAPING PLAN, DETAIL AND NOTES.dwg - 11/2/2022

0 40 80
SCALE, FEET

Warning:
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Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.



Designed: L. SCHWANOF
Drawn: D. CHECHURIN
Checked: V. DICASTELNUOVO
Approved: P. SNYDER
P.E. No: 100361
GEI Project 223192

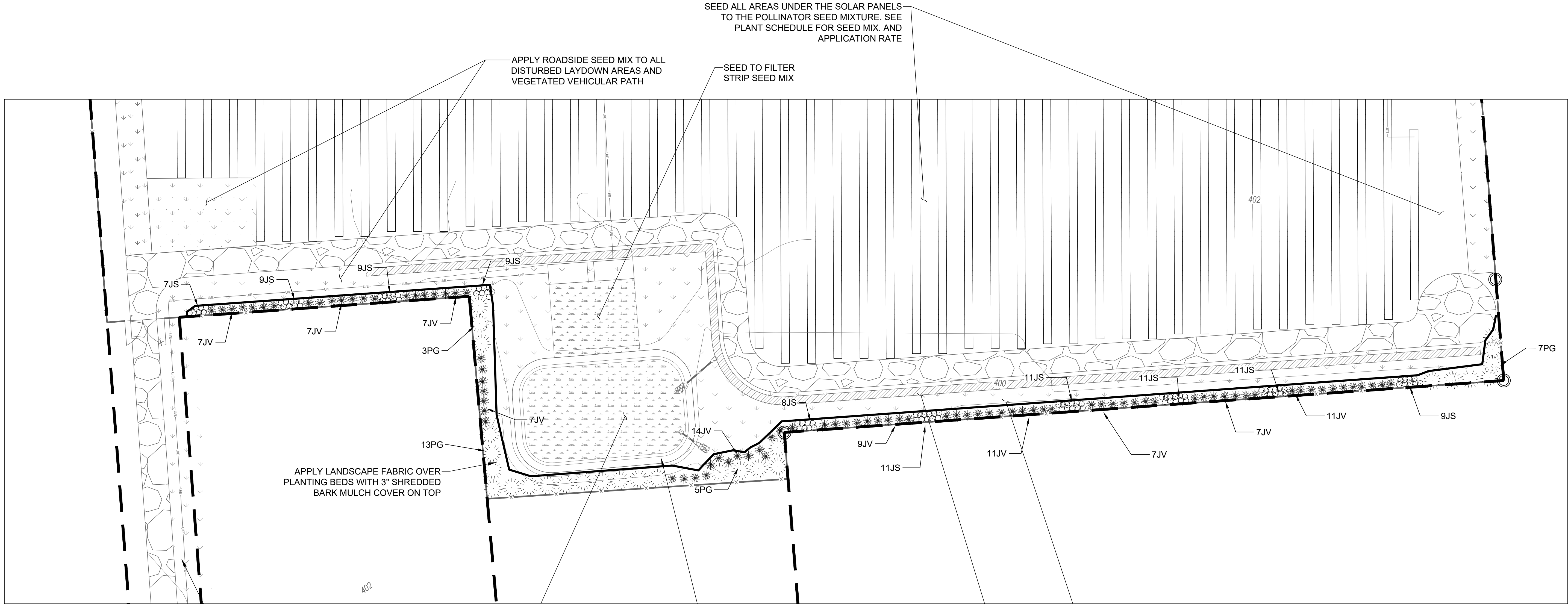


NYSOLAR 07, LLC
300 W GOETHE ST
CHICAGO, ILLINOIS 60610

**NYSOLAR07 LLC
WARNER SOLAR FACILITY**
7859 PECK ROAD
KIRKVILLE, NY 13082

A	12/2/2022	SPECIAL USE PERMIT REVIEW	PJS
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SHEET NAME	SHEET NO.
LANDSCAPING PLAN	C-105



PLANTING LIST									
SYMBOL	QUANTITY	ABV	BOTANICAL NAME	COMMON NAME	SIZE	CONT	SPACING	MATURE HEIGHT	MATURE RADIUS
✱	87	JV	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	4'-5' HT.	#7 CONT.	8' O.C.	50'	20'
○	95	JS	JUNIPERUS SXOPLURRUM 'SKYROCKET'	SKYROCKET JUNIPER	4'-5' HT.	#7 CONT.	4' O.C.	20'	3'
⊙	28	PG	PICEA GLAUCA	WHITE SPRUCE	4'-5' HT.	#7 CONT.	12' O.C.	60'	20'

LEGEND:	
PROPERTY LINE	---
WETLANDS	---WET---
SETBACK LINE	---
PROPOSED UNDERGROUND ELECTRIC	---U/E---
PROPOSED CHAIN LINK FENCE	---X---
EXISTING MINOR CONTOUR	---401---
EXISTING MAJOR CONTOUR	---400---
FILTER STRIP SEED MIXTURE	[Symbol]
PERMEABLE ACCESS ROAD	[Symbol]
MAINTENANCE ACCESS PATH	[Symbol]
VEGETATED SWALE	[Symbol]

**ISSUED FOR PERMIT
NOT FOR CONSTRUCTION**

% BY WEIGHT	BOTANICAL NAME	COMMON NAME	MATURE HEIGHT (FT)
5.0	<i>Agrostis perennans</i>	Autumn Bentgrass	3.5
2.0	<i>Eragrostis spectabilis</i>	Purple Lovegrass	1.5
20.0	<i>Schizachyrium scoparium</i>	Little Bluestem	3.9
23.7	<i>Bouteloua curtipendula</i>	Sideoats Grama	3.2
0.5	<i>Pestimone hirsutus</i>	Hairy Beardtongue	2.9
2.6	<i>Chamaecrista fasciculata</i>	Partridge Pea	2.9
2.0	<i>Coreopsis lanceolata</i>	Lanceleaf Coreopsis	3.3
15.0	<i>Gaillardia aristata</i>	Perennial Gaillardia (Blanket Flower)	2.3
0.2	<i>Oenothera speciosa</i>	Showy Evening Primrose	2.0
3.0	<i>Rudbeckia hirta</i>	Blackeyed Susan	3.3
2.5	<i>Aster prenanthoides</i>	Zig Zag Aster	3.3
5.0	<i>Monarda punctata</i>	Spotted Beebalm	3.3
3.0	<i>Anemone canadensis</i>	Canadian Anemone	2.3
2.0	<i>Aquilegia canadensis</i>	Eastern Columbine	2.6
3.0	<i>Asclepias tuberosa</i>	Butterfly Milkweed	2.9
3.0	<i>Aster laevis</i>	Smooth Blue Aster	3.3
3.0	<i>Aster oblongifolius</i>	Aromatic Aster	3.3
0.2	<i>Lupinus perennis</i>	Perennial Blue Lupine	2.0
2.0	<i>Coreopsis grandiflora</i>	Large Leaf Tickseed	2.6
0.3	<i>Pycnanthemum virginianum</i>	Virginia Mountainmint	3.3
2.0	<i>Conoclinium coelestinum</i>	Blue Mistflower	3.3
100 %			

1. CONTRACTOR SHALL PERFORM WORK IN COMPLIANCE WITH ALL ENVIRONMENTAL PERMITS.
2. CONTRACTOR SHALL REQUEST UTILITY MARK-OUTS BEFORE BEGINNING WORK. CONTRACTOR IS ADVISED THAT HAND DIGGING AND SHALLOW RAKING WILL BE REQUIRED IN PROXIMITY TO BURIED UTILITIES AND HEAVY MACHINERY MAY BE PROHIBITED ON SITE DURING PLANTING OPERATIONS.
3. ACCESS TO THE SITE SHALL BE THROUGH THE EXISTING DRIVEWAY AND VEHICULAR PATHS, AND LOCATION OF TEMPORARY STAGING AREAS WILL BE DIRECTED BY THE OWNER.
4. SITE PREPARATION SHALL INCLUDE REMOVAL OF ALL WEEDS AND INVASIVE SPECIES, SURFACE DEBRIS, RUBBLE, STONES, AND COBBLES GREATER THAN 1 INCH IN SIZE, AND ANY MATERIALS DELETERIOUS TO PLANT GROWTH. PLANTING BED SHALL BE GRADED TO EXISTING SURROUNDING GRADES.

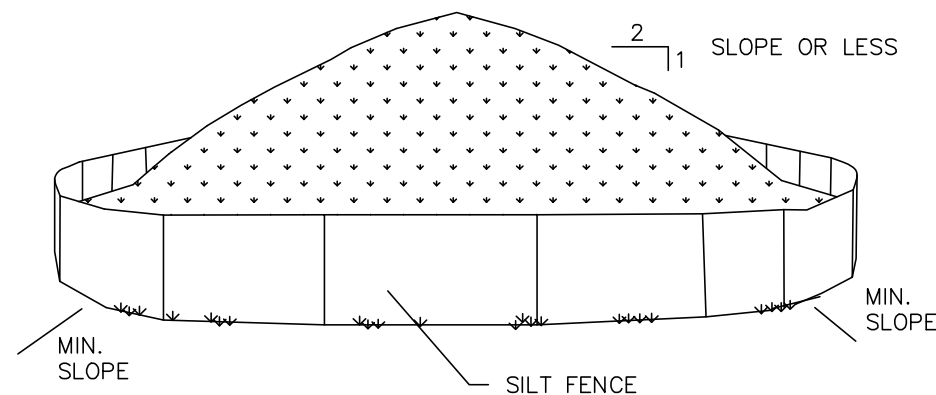
LBS/ACRE	BOTANICAL NAME	COMMON NAME	MATURE HEIGHT (FT)
20	<i>Festuca rubra</i>	Creeping Red Fescue	1 to 2
8	<i>Trifolium repens</i>	Common White Clover	0.5 to 1
5	<i>Lolium perenne</i>	Perennial Ryegrass	2.0
33	<i>Total</i>	MOWED HEIGHT - 3 FT	

LBS/ACRE	BOTANICAL NAME	COMMON NAME	MATURE HEIGHT (FT)
10	<i>Elymus riparius</i>	Riparian Wildrye	2 to 5
6	<i>Dichanthelium clandestinum</i>	Deertongue	1 to 3
6	<i>Panicum virgatum</i>	Switchgrass	3 to 5
2	<i>Sporobolus michauxianus</i>	Prairie Cordgrass	3 to 8
2	<i>Poa palustris</i>	Fowl Bluegrass	3 to 6
26	Total	NO MOWING	

LBS/ACRE	BOTANICAL NAME	COMMON NAME	MATURE HEIGHT (FT)
15	<i>Festuca rubra</i>	Creeping Red Fescue	1 to 2
15	<i>Festuca arundinacea</i>	Tall Fescue	2 to 4
8	<i>Lotus corniculatus</i>	Birdsfoot Trefoil	1 to 2.5
2	<i>Agrostis gigantea</i>	Redtop	2 to 3
40	Total	MOWED HEIGHT - 3 FT	



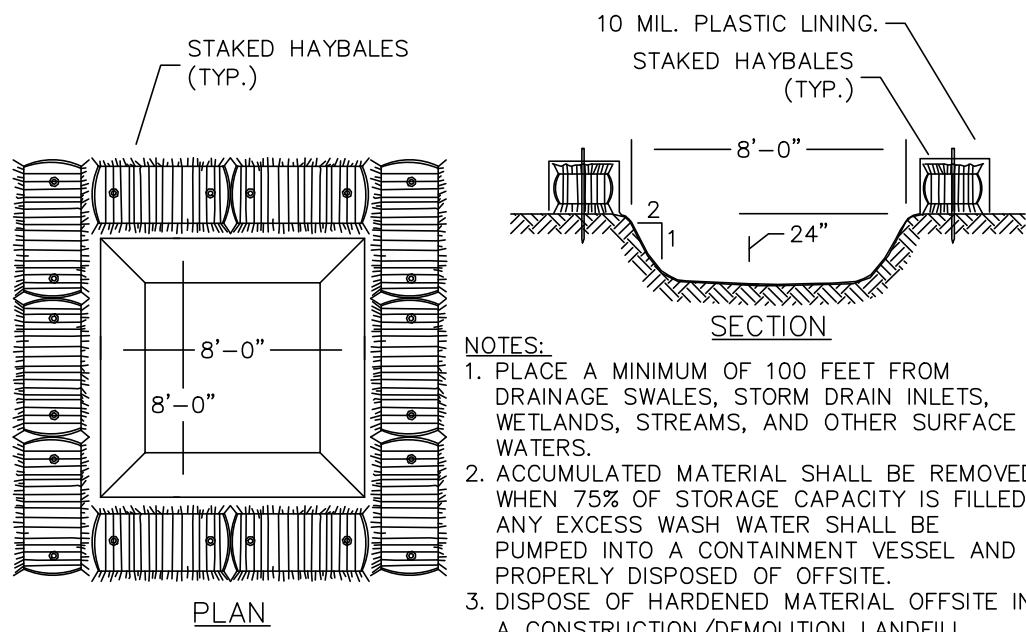
DICASTELNUOVO, VINNIE B\Working\NYSOLAR07 LLC\2023\102 Warner Solar Development\03_CADD_Sheet Set\03-108-107 CONSTRUCTION DETAILS.dwg - 11/2/2022



- NOTES:
1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
 2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1V:2H.
 3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH SILT FENCING, THEN STABILIZED WITH VEGETATION OR COVERED.
 4. SEE SPECIFICATIONS FOR INSTALLATION OF SILT FENCE.
 5. HAY BALES TO BE USED WHERE STOCKPILES ARE LOCATED ON PAVED AREAS.

TEMPORARY STOCKPILE

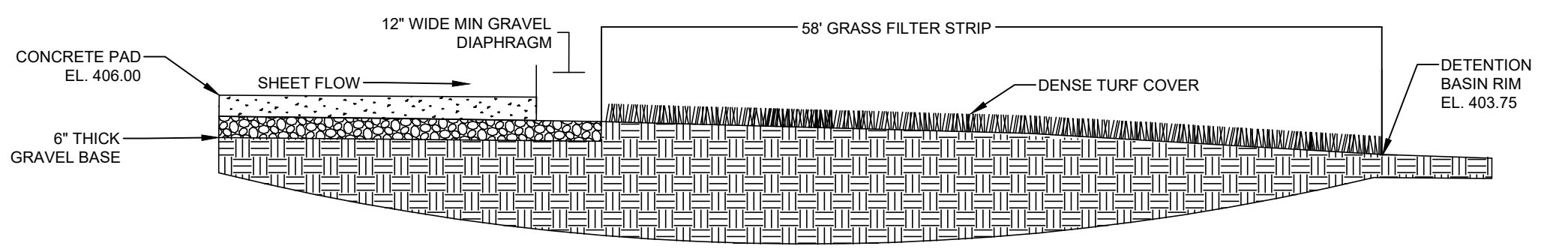
NO SCALE



- NOTES:
1. PLACE A MINIMUM OF 100 FEET FROM DRAINAGE SWALES, STORM DRAIN INLETS, WETLANDS, STREAMS, AND OTHER SURFACE WATERS.
 2. ACCUMULATED MATERIAL SHALL BE REMOVED WHEN 75% OF STORAGE CAPACITY IS FILLED. ANY EXCESS WASH WATER SHALL BE PUMPED INTO A CONTAINMENT VESSEL AND PROPERLY DISPOSED OF OFFSITE.
 3. DISPOSE OF HARDENED MATERIAL OFFSITE IN A CONSTRUCTION/DEMOLITION LANDFILL.

TEMPORARY CONCRETE WASHOUT AREA

NO SCALE



1. VEGETATED FILTER STRIP SHALL BE PLANTED OR SEEDDED WITH A MIX OF GRASSES, WILDFLOWERS AND GROUND COVERS WELL-SUITED TO MOST-TO-DRY SOIL CONDITIONS.
2. ALL VEGETATION SHOULD BE SELF-SUSTAINING AND DROUGHT TOLERANT.
3. SEED MIX: ERNMX-113 "COMMERCIAL CONSERVATION MIX" OR EQUAL

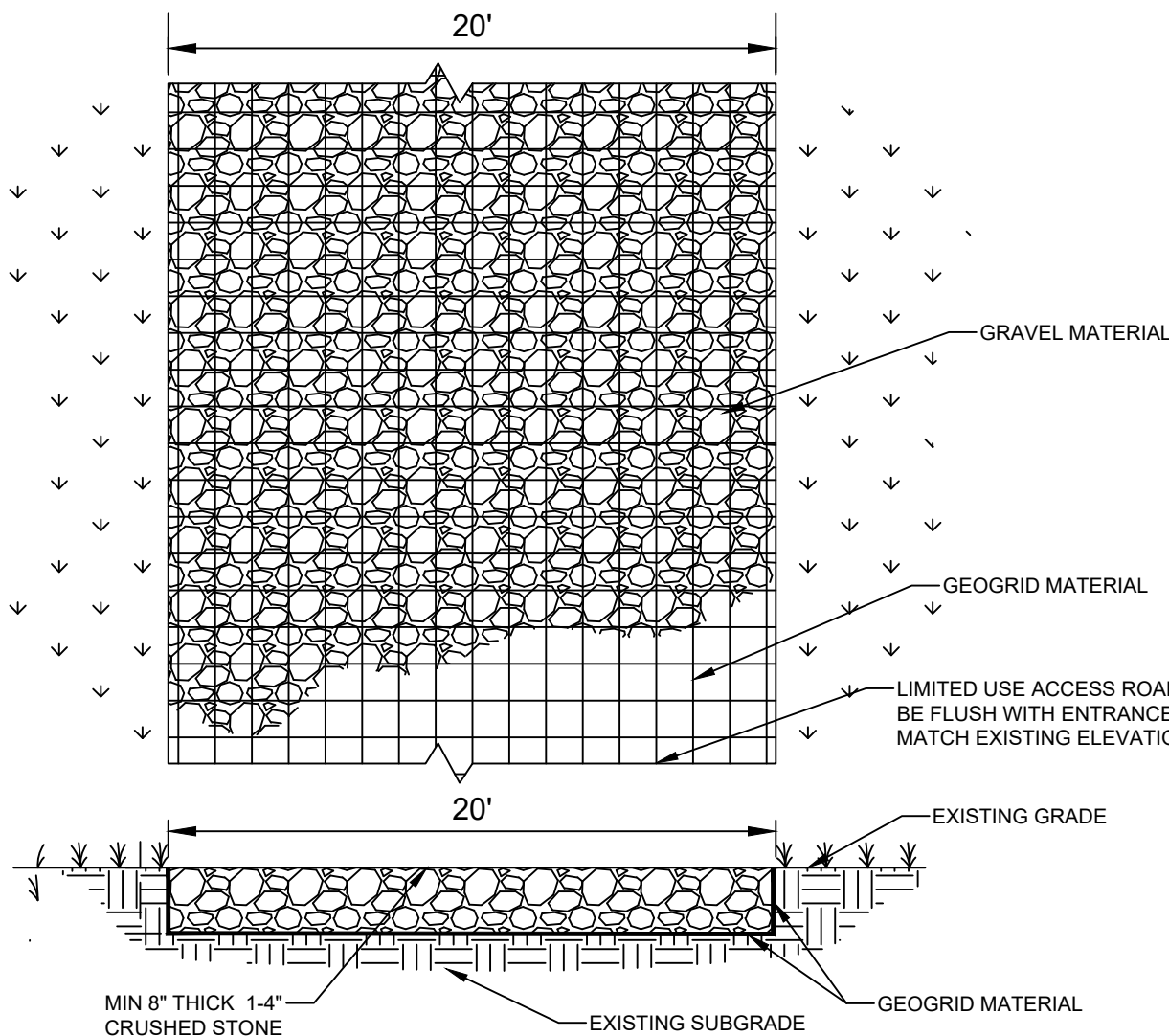
25% FESTUCA RUBRA
25% LOLIUM MULTIFORUM
25% LOLIUM PERENNE, "BLACKSTONE"
25% LOLIUM PERENNE, "BLACK PEARL"

CREeping RED FESCUE
ANNUAL RYEGRASS
PERENNIAL RYEGRASS, "BLACKSTONE"
PERENNIAL RYEGRASS, "BLACK PEARL"

- SEEDING RATE: 75-150 POUNDS
- THE FIRST TEN FEET OF THE GRASS FILTER STRIP SHALL BE 2.0% MAX.

VEGETATED FILTER STRIP

NO SCALE



GENERAL NOTES:

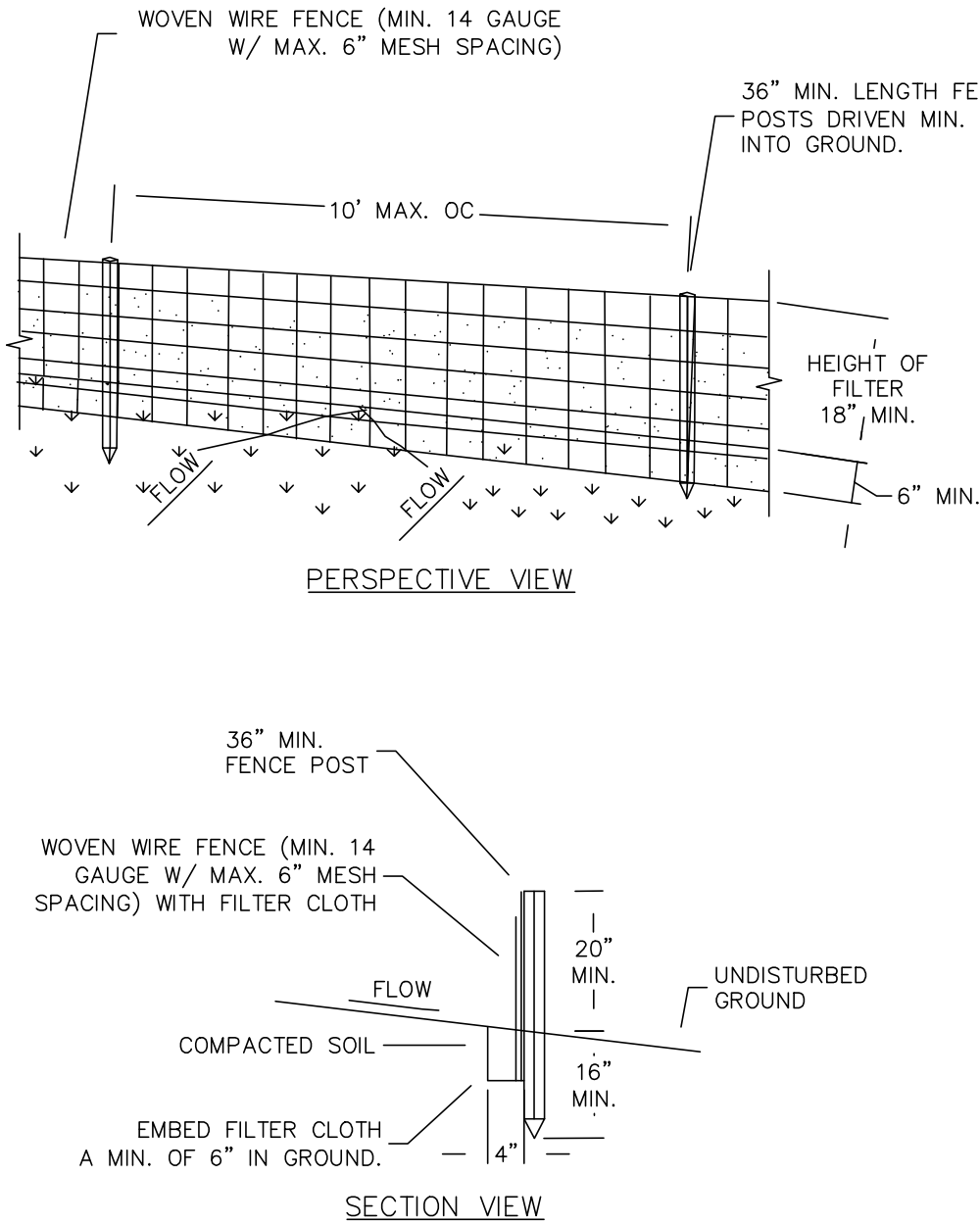
1. LIMITED TO MINIMAL USE ONLY SUCH AS MAINTENANCE AND EMERGENCY RESPONSE.
2. LIMITED TO LOW TRAFFIC LOW IMPACT MAINTENANCE ACCESS ASSOCIATED WITH RENEWABLE ENERGY PROJECTS IN NEW YORK STATE.
3. WHERE NECESSARY, GRADE ROADWAY TO DESIRED ELEVATION, MINOR GRADING FOR CROSS SLOPE MAY BE REQUIRED.
4. REMOVE REFUSE SOILS AS DIRECTED BY PROJECT ENGINEER. DO NOT PLACE IN AN AREA THAT IMPEDE STORMWATER DRAINAGE.
5. CROSS SLOPE SHALL BE 2% IN MOST CASES AND SHOULD NOT EXCEED 6%. THE LONGITUDINAL SLOPE OF THE ACCESS ROAD SHOULD NOT EXCEED 13%.
6. ROAD IS NOT INTENDED TO BE UTILIZED FOR CONSTRUCTION WHICH MAY SUBJECT THE ACCESS ROAD TO SEDIMENT TRACKING. ROAD IS TO BE DEVELOPED FOR POST-CONSTRUCTION USE ONLY. SOIL RESTORATION PRACTICES MAY BE APPLICABLE TO RESTORE CONSTRUCTION RELATED COMPACTION TO PRE-EXISTING CONDITIONS AND SHOULD BE VERIFIED BY SOIL PENETROMETER READINGS. COMPARE PENETROMETER READINGS TO THE RESPECTIVE RECORDED READINGS TAKEN PRIOR TO CONSTRUCTION, EVERY 100 LINEAR FEET ALONG THE PROPOSED ROADWAY.
7. DO NOT USE CONSTRUCTION VEHICLES TRANSPORTING SOIL, FILL MATERIAL, ETC. ON ACCESS ROAD TO PREVENT SOIL FROM BEING TRACKED ONTO ACCESS ROAD. IF THE LIMITED USE PERVIOUS ACCESS ROAD IS COMPLETED DURING THE INITIAL PHASES OF CONSTRUCTION, CONSTRUCT AND UTILIZE A STANDARD NEW YOUR STATE STABILIZED CONSTRUCTION ACCESS TO REMOVE SEDIMENT FROM CONSTRUCTION VEHICLES AND EQUIPMENT PRIOR TO ENTERING THE LIMITED USE PERVIOUS ACCESS ROAD FROM ANY LOCATION ON OR OFF SITE. MAINTAIN ACCESS ROAD IF SEDIMENT IS OBSERVED WITHIN THE CLEAN STONE.

GEOGRID MATERIAL NOTES:

1. THE GEOGRID OR COMPARABLE PRODUCT, IS INTENDED FOR USE IN ALL CONDITIONS. IN ORDER TO ASSIT IN MATERIAL SEPARATION FROM NATIVE SOILS AND PRESERVE ACCESS LOADS.
2. GRAVEL FILL MATERIAL SHALL CONSIST OF 1-4" CLEAN, CURABLE SHARP-ANGLES CRUSHED STONE OF UNIFORM QUALITY, MEETING THE SPECIFICATIONS OF NYS DOT ITEM 703-02, SIZE DESIGNATION 3-5 OF TABLE 7804-4. STONE MAY BE PLACED IN FRONT OF, AND SPREAD WITH A TRACKED VEHICLE. GRAVE SHALL NOT BE COMPACTED.
3. THE GEOGRID SHALL BE MIRAFI BXG110 OR APPROVED EQUAL. GEOGRID SHALL BE DESIGNED BASED ON EXISTING SOIL CONDITIONS AND PROPOSED HAUL ROAD SLOPE.
4. IF MORE THAN ONE ROLL WIDTH IS REQUIRED, ROLLS SHOULD OVERLAP A MINIMUM OF 6".
5. REFER TO MANUFACTURER'S SPECIFICATION FOR PROPER TYING AND CONNECTIONS.
6. LIMITED USE PERVIOUS ACCESS ROAD SHALL BE TOP DRESSED AS REQUIRED WITH ONLY 1-4" CRUSHED STONE MEETING NYS DOT ITEM 703-02 SPECIFICATIONS.

PERMEABLE HAUL ACCESS ROAD

NO SCALE



CONSTRUCTION SPECIFICATIONS:

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL, EITHER "I" OR "U" TYPE, OR HARDWOOD.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 14 GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED.
4. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
5. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIOFENCE, OR APPROVED EQUIVALENT THAT MEETS THE MINIMUM REQUIREMENTS SHOWN.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

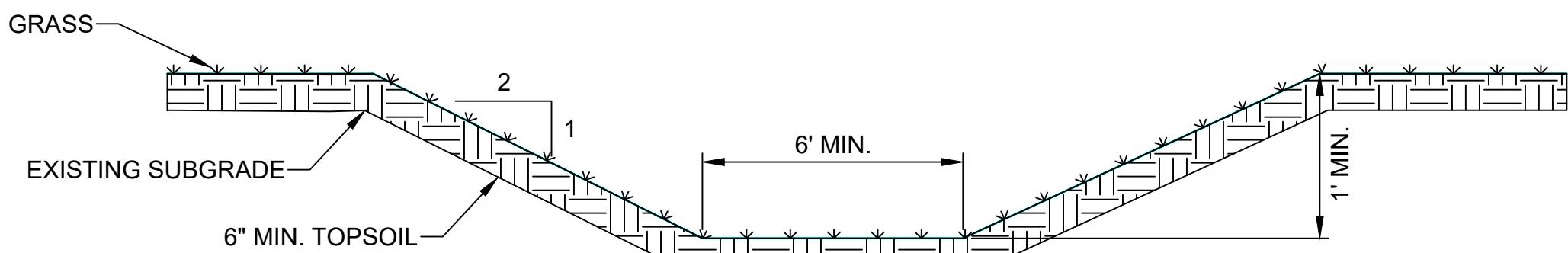
DETAIL NOTES:

1. INSTALLATION SHALL BE DONE IN ACCORDANCE WITH THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL ("THE BLUE BOOK").
2. ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE DISTURBED AREA AS POSSIBLE, BUT AT LEAST 10 FEET FROM THE TOE OF A SLOPE STEEPER THAN 3H:1V, TO ALLOW FOR MAINTENANCE AND ROLL DOWN. THE AREA BEYOND THE FENCE MUST BE UNDISTURBED OR STABILIZED.
3. THE TYPE OF SILT FENCE SPECIFIED FOR EACH LOCATION ON THE PLAN SHALL NOT EXCEED THE MAXIMUM SLOPE LENGTH AND MAXIMUM FENCE LENGTH REQUIREMENTS SHOWN IN THE TABLE BELOW. IF A TYPE SILT FENCE IS NOT SPECIFIED ON THE PLANS, THE CRITERIA FOR STANDARD SILT FENCE CAN BE APPLIED.
4. SILT FENCE SHALL BE REMOVED AS SOON AS THE DISTURBED AREA HAS ACHIEVED FINAL STABILIZATION.

SLOPE	STEEPNESS	SLOPE LENGTH/FENCE LENGTH (FT.)		
		STANDARD	REINFORCED	SUPER
<2%	<50:1	300/1500	N/A	N/A
2-10%	50:1 TO 10:1	125/1000	250/2000	300/2500
10-20%	10:1 TO 5:1	100/750	150/1000	200/1000
20-33%	5:1 TO 3:1	60/500	80/750	100/1000
33-50%	3:1 TO 2:1	40/250	70/350	100/500
>50%	>2:1	20/125	30/175	50/250

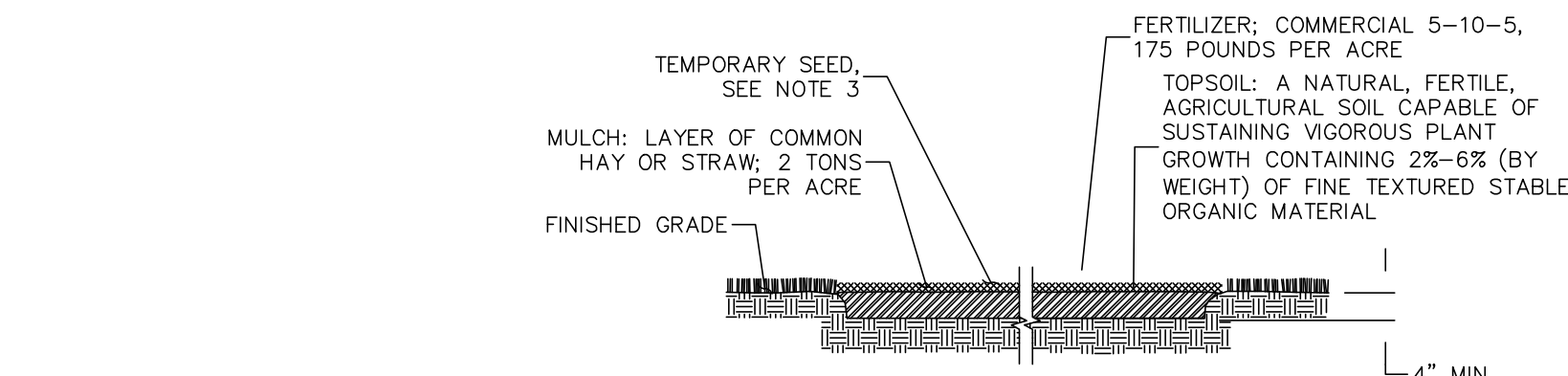
SILT FENCE

NO SCALE



TYPICAL VEGETATED SWALE SECTION

NO SCALE



- NOTES:
1. TO BE USED ON DISTURBED SOIL AREAS THAT WILL BE LEFT EXPOSED FOR 7 DAYS OR MORE AND WILL BE RE-DISTURBED DURING CONSTRUCTION.
 2. FERTILIZER OR LIME ARE NOT TYPICALLY USED FOR TEMPORARY SEEDINGS.
 3. SEED MIX:
 - A. IF SPRING, SUMMER OR EARLY FALL: SEED WITH ANNUAL OR PERENNIAL RYEGRASS AT A RATE OF 1 LB PER 1000 SF.
 - B. IF LATE FALL OR WINTER: SEED WITH CERTIFIED "AROOSTOOK" WINTER (CEREAL RYE) AT A RATE OF 2.5 LBS PER 1000 SF.

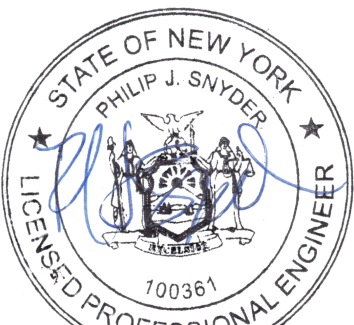
TEMPORARY VEGETATIVE COVER

NO SCALE

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Designed: V. DICASTELNUOVO
Drawn: V. DICASTELNUOVO
Checked: B. MCDEVITT
Approved: P. SNYDER
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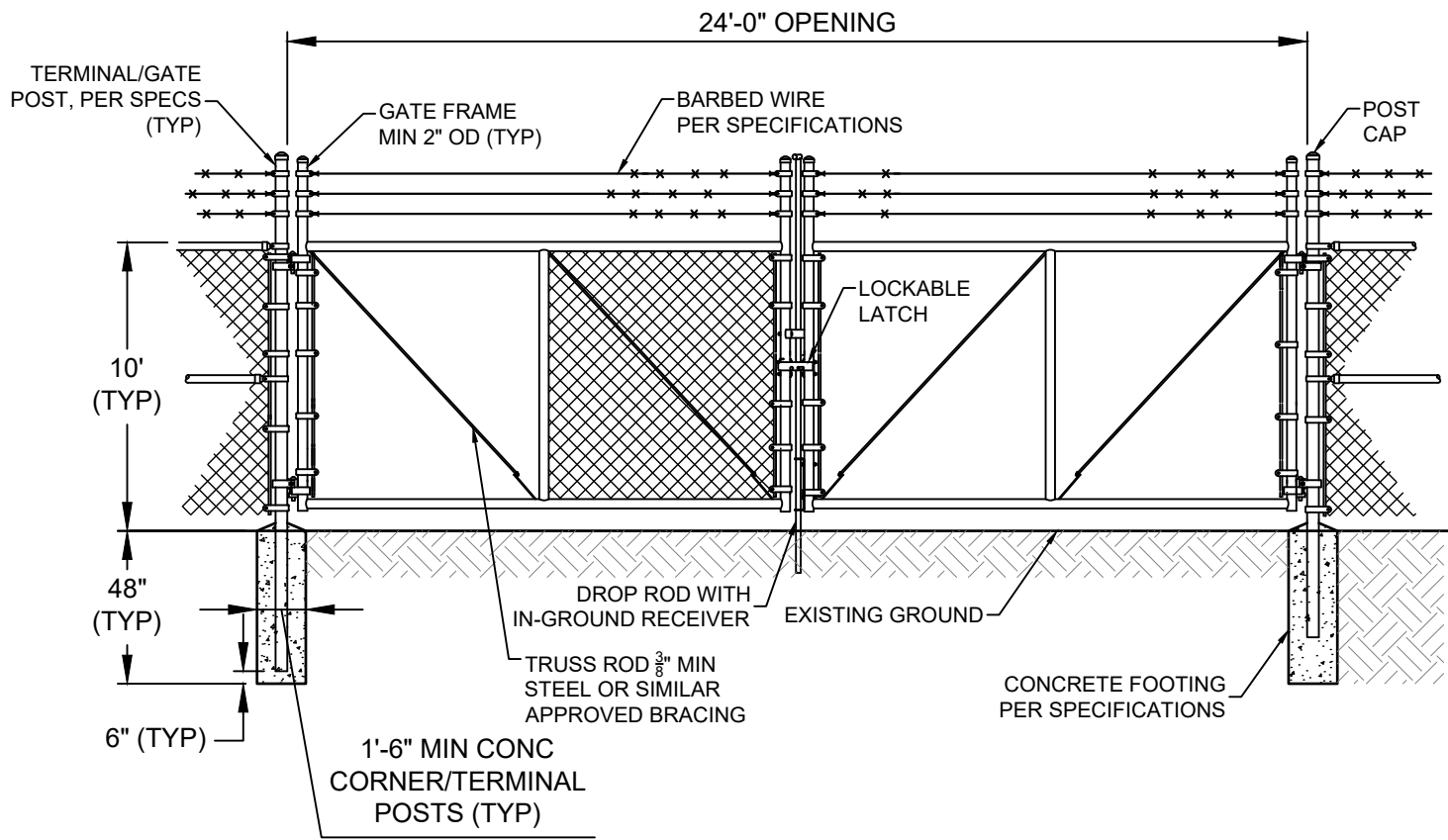
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SHEET NAME
TYPICAL DETAILS
DETAILS 1 OF 2

SHEET NO.

C-107

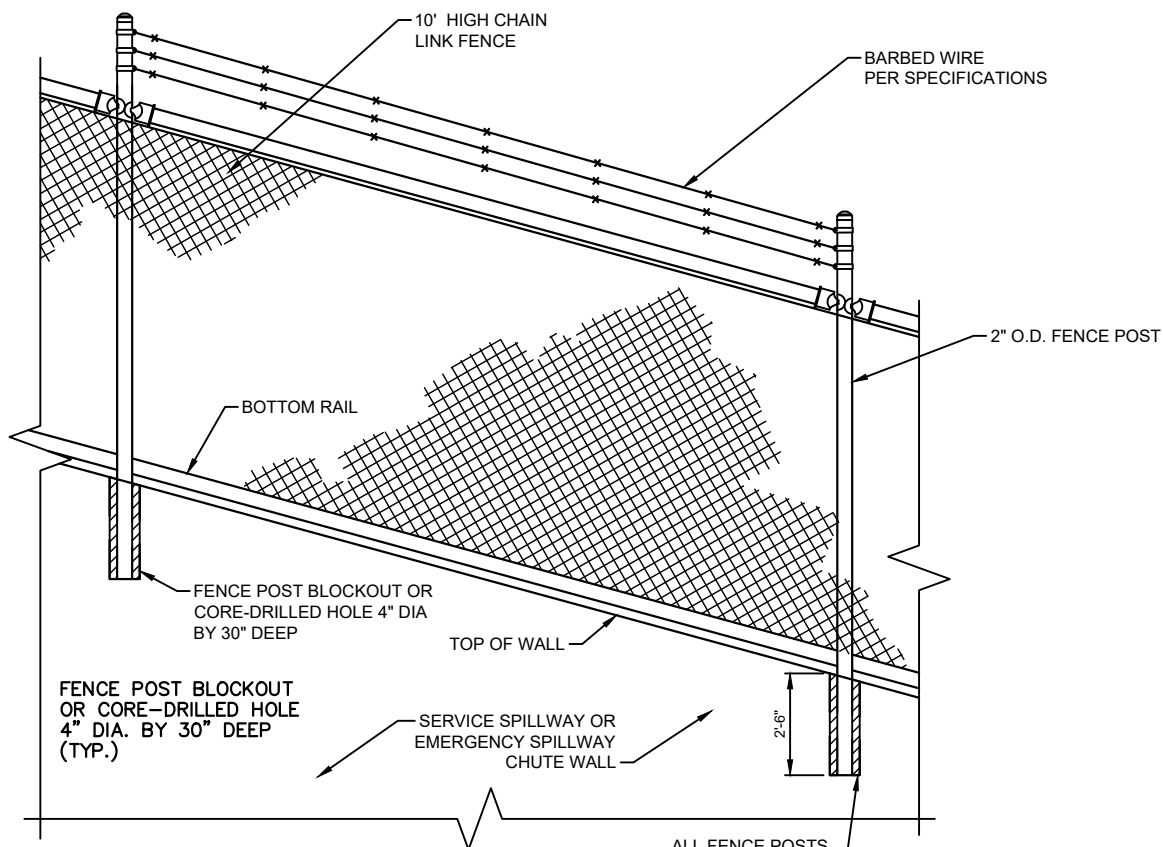
DICASTELNUOVO, VINNIE B\Working\NYSOLAR07 LLC\2023\102 Warner Solar Development\00_CADD_Sheet Set\102 Warner Solar Development\DETAILS.dwg - 11/2/2022



- NOTE:
1. CHAIN LINK FENCE FABRIC FOR GATE: 9 GA. 2" MESH (TYP) TOP SELVAGE TWISTED, BOTTOM SELVAGE KNUCKLED
 2. SEE SPECIFICATION SECTION 02821 CHAIN LINK FENCES AND GATES FOR ADDITIONAL REQUIREMENTS

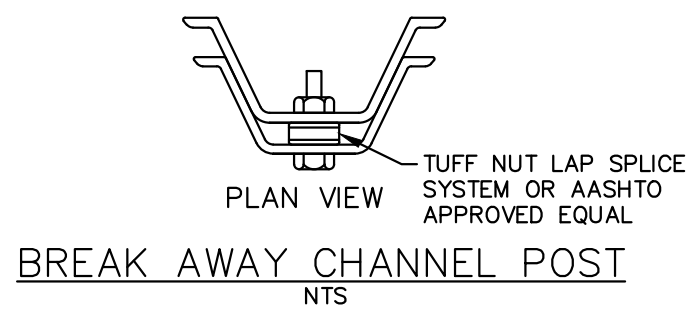
DOUBLE SWING GATE

SCALE: NTS



CHAIN LINK FENCE

SCALE: NTS

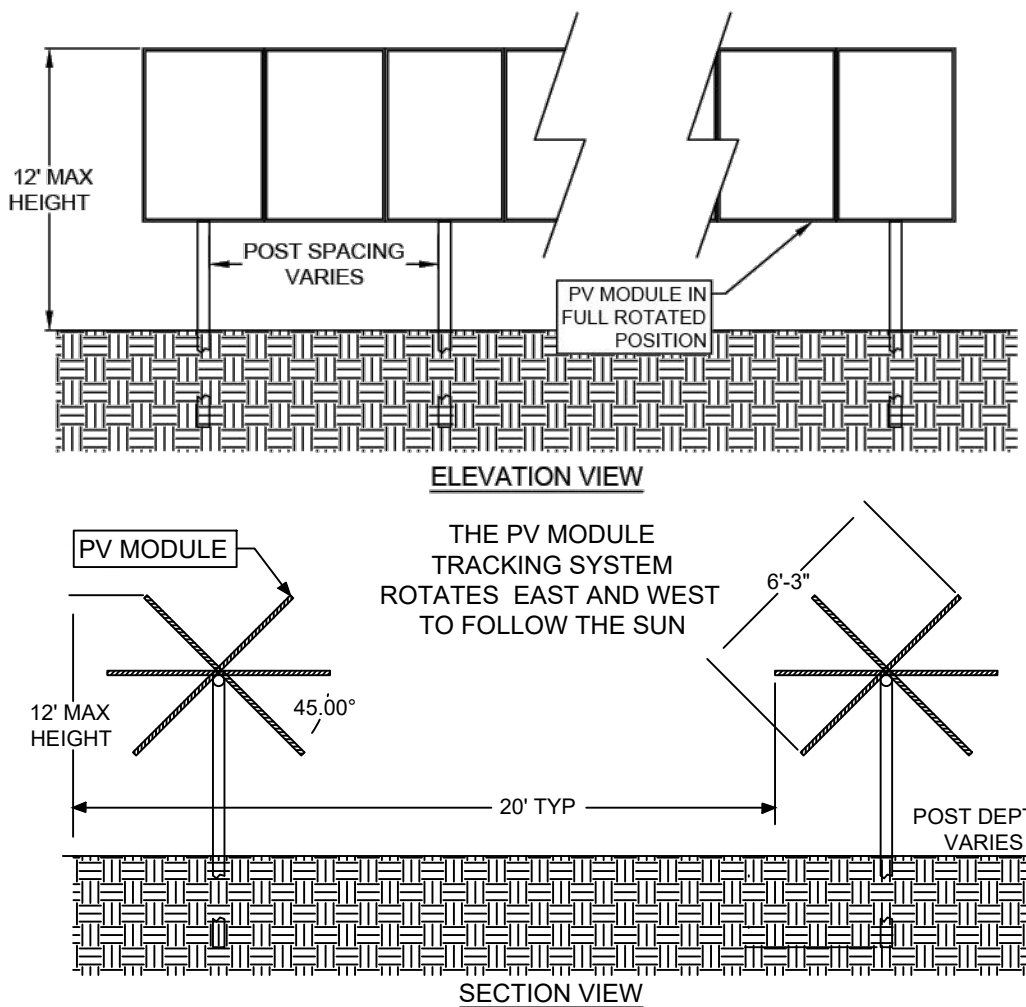
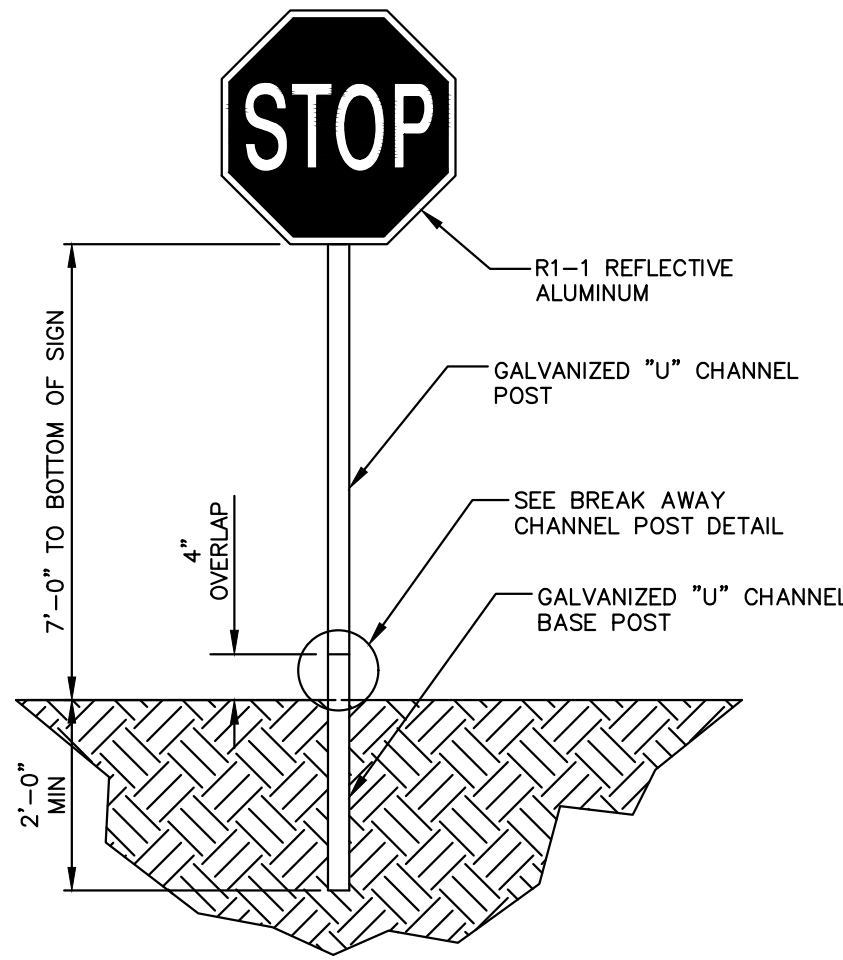


GENERAL NOTES:

1. DIMENSIONS, COLORS, AND DETAILS OF VARIOUS SIZE SIGNS, SHIELDS AND ACCESSORY PANELS TO FOLLOW STANDARDS IN THE CURRENT "STANDARD HIGHWAY SIGNS PUBLICATION" AND THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS".
2. ALL SIGNS SHALL BE OF THE ENCAPSULATED LENS TYPE.
3. ALL SIGN MATERIALS SHALL BE MADE OF REFLECTIVE SHEETING ON ALUMINUM BLANKS MOUNTED ON GALVANIZED STEEL POSTS, ALL CONFORMING TO NJDOT STANDARD SPECIFICATIONS.
4. ALL CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI.

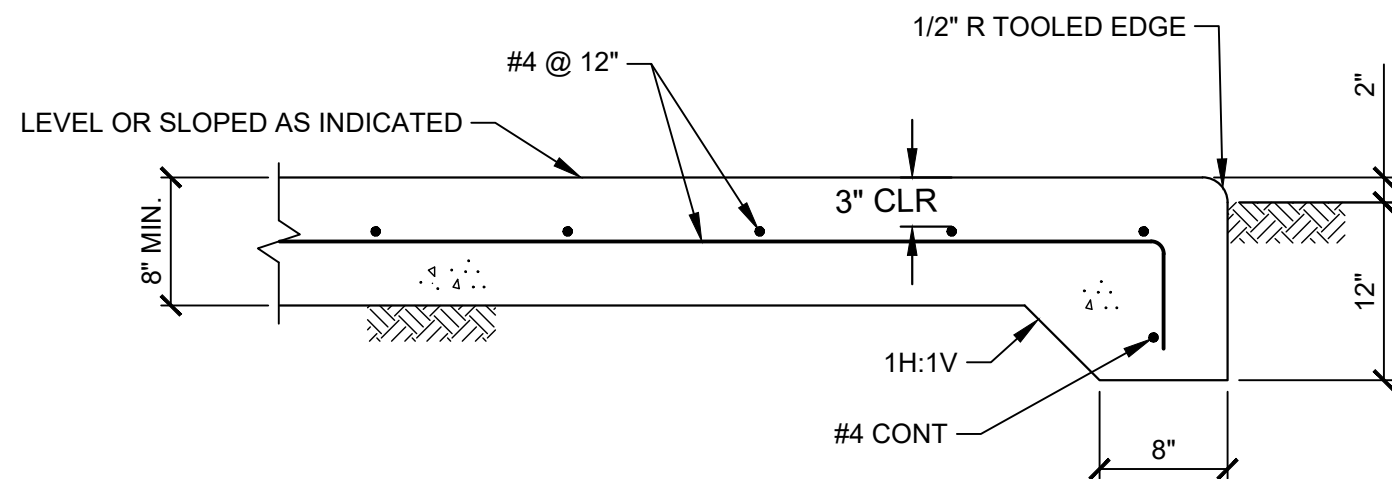
STOP SIGN DETAIL

NO SCALE



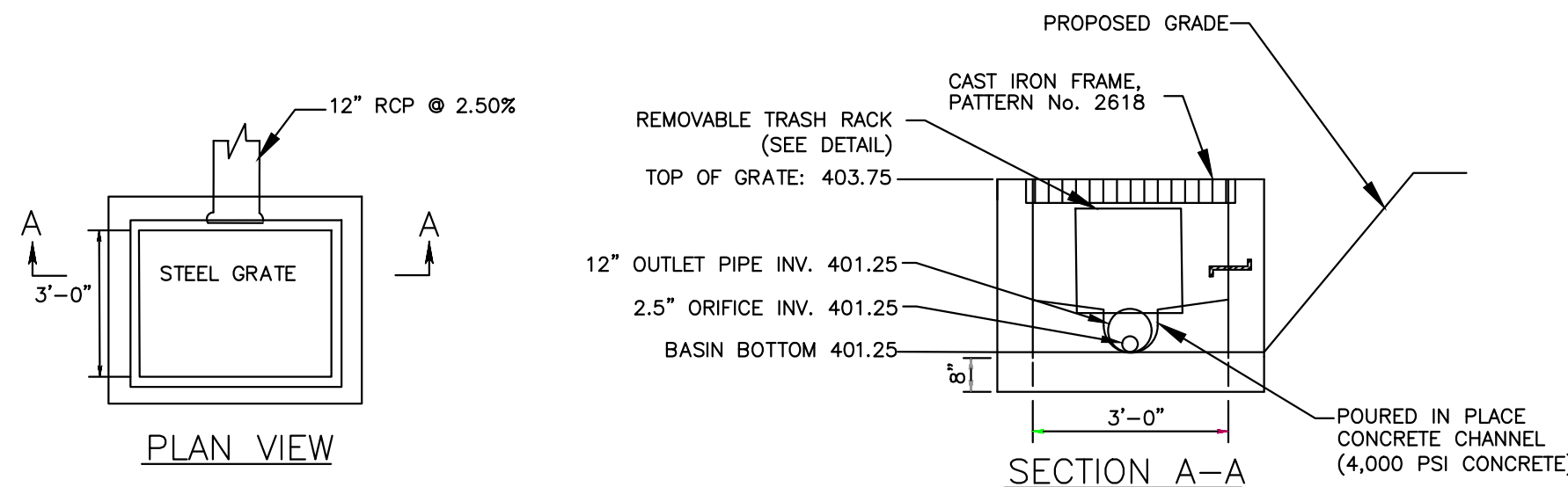
TRACKER RACK DETAIL

NO SCALE



SLAB ON GRADE EQUIPMENT PAD

NO SCALE

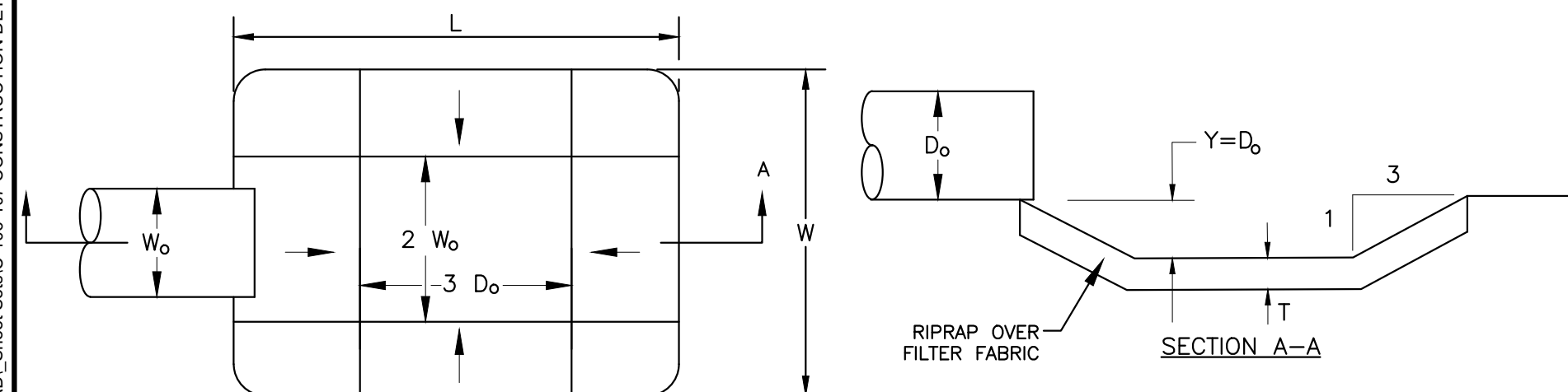


NOTES:

1. OUTLET STRUCTURE IS A MODIFIED TYPE A INLET.
2. DETAIL IS ONLY TO BE USED TO PROVIDE INVERT ELEVATIONS. TYPE A INLET TO BE BUILD IN ACCORDANCE WITH NYS STANDARDS FOR DRAINAGE STRUCTURES

OUTLET CONTROL STRUCTURE

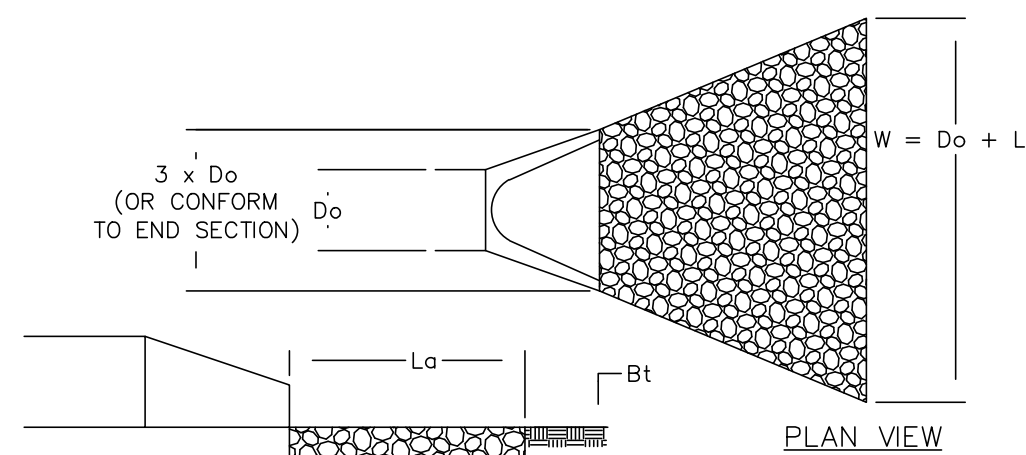
NO SCALE



PREFORMED SCOUR HOLE DETAIL

NO SCALE

STRUCTURE	L	W	DEPTH (Y)	Do	Wo	d50	RIPRAP THICKNESS (T)
CONCRETE HEADWALL	6'	5'	6"	12"	12"	9"	18"

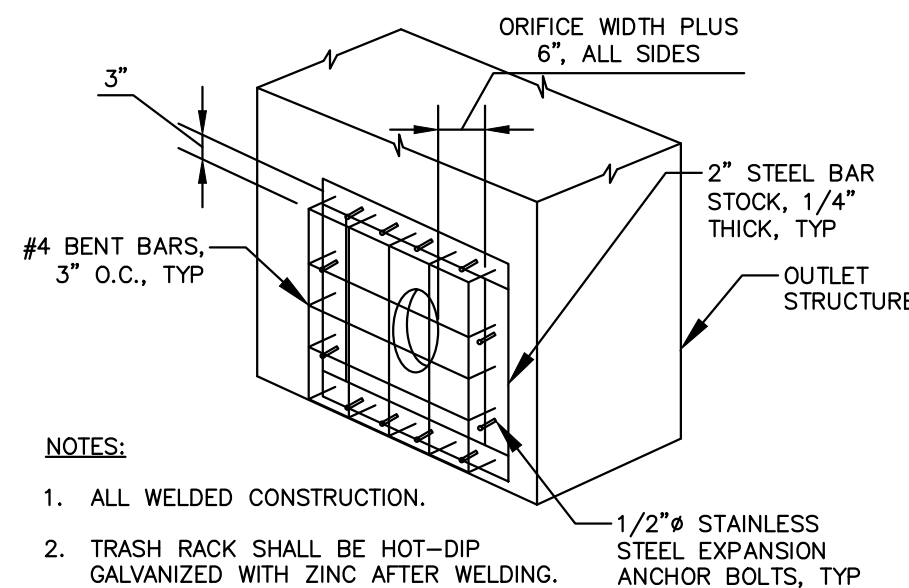


PIPE OUTLET TO FLAT AREA WITH NO DEFINED CHANNEL

STRUCTURE	La	W	Bt	Do	STONE SIZE
CONCRETE HEADWALL	10'	13'	12"	12"	6"

RIPRAP OUTLET PROTECTION

NO SCALE



NOTES:

1. ALL WELDED CONSTRUCTION.
2. TRASH RACK SHALL BE HOT-DIP GALVANIZED WITH ZINC AFTER WELDING.

TRASH RACK DETAIL

NO SCALE

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SHEET NAME
TYPICAL DETAILS
DETAILS 1 OF 2

SHEET NO.
C-108



**Application for Special Use Permit
and Site Plan Approval
for
Warner Farm Solar**

Submitted to the Town of Manlius, NY

by

Marijane M. Warner (Landowner)
&
Horizon Solar Power, LLC (Developer)
&
NYSOLAR07 LLC (Project Owner)

November 1st, 2022



Town of Manlius
c/o Lisa Beeman, Planning Board Secretary
301 Brooklea Dr
Fayetteville NY 13066

(with an email copy to: lbeeman@TownofManlius.org)

To the Town of Manlius,

On behalf of the landowner, Marijane M. Warner, please find attached our complete application for Site Plan Review and a Special Use Permit for a 4.25 megawatt, alternating current (MWac) community solar project, known as "Castignetti Farm Solar". The project is located on a 30.5 site within a 39.42 acre parcel, with parcel ID number 042.-01-32.1. This community distributed generation solar project has been developed to meet the directives of the New York renewable energy targets.

The solar project is being developed pursuant to Section 155-27.2. of the Manlius Town Code, as revised by Local Law 2022-(2) and will meet any and all applicable requirements of the Town's land use ordinances, as well as state and federal regulations. All required application material is included here in hard copy format. The complete application package begins with a Project Narrative summary of the proposed project and how it complies with the Town Code, followed by a series of appendices with more detailed and technical information.

Building permits and any other additional required approvals will be obtained before starting construction, and will include detailed design as well as any other additional application material as required by the above-mentioned Code.

We appreciate the consideration and look forward to a successful project.

Sincerely,

A handwritten signature in blue ink, appearing to read "Andy Melka", is written over a light blue circular background.

Andy Melka
Director, Development
312-972-5055
andy@horizonpow.com

Buffalo, NY | Chicago, IL | Denver, CO

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List of Appendices:

- Appendix A – Site Plan (including Landscaping Plan)
- Appendix B – Example Equipment Technical Data Sheets (including noise information on the inverters)
- Appendix C – Glare Study
- Appendix D – National Resource Conservation Services Soils Report
- Appendix E – National Grid CESIR Study Results
- Appendix F – O&M Plan
- Appendix G – Decommissioning Plan
- Appendix H – Full Environmental Assessment Form, Part 1
- Appendix I – Memorandum of Lease

Project Narrative:

Overall Parcel Detail:

- **Print Key:** 042.-01-32.1
- **Owner:** Marijane M. Warner, 7865 Peck Rd, Kirkville NY 13082
- Site Access will be via a new driveway entrance from Peck Rd.

Purpose:

This project is being developed as a community solar project, under the New York State NY-Sun initiative. Community solar projects allow utility customers to subscribe to a solar project and get bill credits for the amount of electricity their portion of the solar project produces. In addition, this community-sized, distributed-generation project will add reliability to the local grid and can help neighboring electrical customers by reducing the likelihood of brown-outs or black-outs.

Setting:

The site for the proposed solar project is currently farmland, pasture, and vacant land. The parcel is zoned Restricted Agriculture (RA), and is surrounded by other RA zoning. The landowner's house is the nearest residence to the site, just to the south of the array. The site is ideal for a solar project because it is relatively flat, well-exposed to sunlight, and is naturally screened on multiple sides.

Site Plan, Major Equipment:

A preliminary site plan for the proposed community solar project, including civil drawings, is attached hereto as **Appendix A**. A survey for the property is included at the end of the civil plans. The solar project will be comprised of three types of major equipment: solar modules (panels), support racking for the panels, and electrical inverters:

Solar photovoltaic (PV) modules (also known as solar panels) are made of thin silicon cells, aluminum conductors and frames, glass surface, and plastic back sheet. The silicon cells convert the rays of the sun into an electric current, which runs through the electrical conductors into the larger system. The glass serves to protect the panels from weather, while the plastic back sheet holds together the cells, conductors, and string wiring.

The racking system supports the modules above the ground. The solar modules will be mounted on horizontal supports, attached to vertical steel posts driven or screwed into the ground at regular intervals. This method minimizes excavation and concrete foundations.

Electrical inverters will be attached to support structures at the end of the rows of the solar array. Inverters convert direct-current (DC) electricity created at each module to alternating-current (AC) grid power. The inverters have cooling fans, which make minimal noise, audible only within a few dozen feet



of the inverters themselves. Specific sound ratings are included in the equipment data sheets, discussed below.

Example equipment data sheets for representative major equipment have been attached hereto as **Appendix B**. Final selection of equipment will be done prior to applying for a building permit. Revisions to the site plan to accommodate final equipment selection may be necessary but will remain within the site boundary. Any revisions will maintain similar physical characteristics, will not change the land included in the project, and will fully comply with all setbacks and height restrictions and any other City, County, or other legal requirements.

Interconnection and Other Equipment:

The solar project will have small transformers, which will increase the voltage to the National Grid distribution system voltage. A separate meter and various other electrical equipment will be located near the transformers. An electrical feeder extension (cables) will extend from the front of the project site along the access road to the edge of the parcel, where the solar project will interconnect with the existing National Grid distribution system. The interconnection facilities will be made up of poles, control boxes, meters, switches, and other related equipment. Final design and location of the National Grid interconnect facilities will be dictated by National Grid, and will be specified by National Grid prior to application for building permits.

Access:

The project will be accessed via a new gravel driveway along the west side of the overall parcel as shown on the site plan (Appendix A). The project area will be fenced and gated with a self-locking gate to prevent unauthorized access. Fencing will be chain link, woven-wire fencing (also known as “deer fencing” or “agricultural fencing”) or similar. No regular visitation of the site other than the landowner and operations and maintenance team is proposed.

Hours of Operation, Employees, Site Traffic, Parking:

The facility will passively convert sunlight to electricity during daytime hours. No permanent employees will be on site on a regular basis. Operations & Maintenance personnel are anticipated to be at the site every few months to perform scheduled maintenance, vegetation control, and to respond to any unscheduled maintenance or outage issues (see below and Appendix F). One permanent parking space will be built, per the Town Code’s requirements.

Screening, Landscaping, and Ground Cover:

Given the location of this project, the topography and existing vegetation will provide significant screening of the project from view from the roadway and nearby properties. In order to achieve the screening goals of the Town Code, the project will install additional landscaping vegetation, to enhance the current natural screening on the site. New six-foot Siberian spruce (or equivalent) trees will be planted as screening on the south side of the project (to screen from view from Peck Rd and the other



residences to the south). The full landscaping plan is attached as part of the CUP Plan Set in **Appendix A**.

The land under the panels will be planted with low-growth, native vegetation that will allow water infiltration and reduce run-off rates relative to open farmland. The vegetation mix will be pollinator friendly, and will enhance the biodiversity of the area and provide additional habitat for a number of native fauna, including bees, butterflies and other important pollinating species. Growth of the vegetation will initially be controlled by regular mowing, as needed. Mowing will be needed less often as the native habitat establishes itself. Herbicide and other weed control measures will only be used as necessary to keep the site in well-kempt condition, and to support the establishment of the native pollinator habitat.

Glare:

No glare is expected to result from the project. This project was modeled using ForgeSolar's Glare Analysis Tool. Observation points were modeled at the residences near to the project at a height of 5 feet above ground level. The analysis tool reported that no glare was predicted to occur at any of the modeled Observation Points. The glare study is attached as **Appendix C**.

No Public Services Required:

Solar projects do not require sewer, septic, city water, waste management, or any additional local services.

Grading:

No grading is planned to be performed other than minor grading as necessary to build the access road and equipment pads and to construct the retention basin. Should additional grading be required upon final equipment selection and final engineering, the project will utilize engineered drainage controls and obtain all necessary permits prior to such activity.

Upon final engineering, a Stormwater Pollution Prevention Plan (SWPPP)/National Pollutant Discharge Elimination System Permit will be developed in accordance with local, state, and federal regulations and guidance, and will be submitted for review and approval prior to issuance of a building permit.

Soils:

The soils in the Project area were identified via the Natural Resources Conservation Service Web Soil Survey mapping tool, and is attached as **Appendix D**. These soils are suitable for the proposed project. Final foundation and pile engineering will be completed prior to application for a building permit.

Wetlands:



No impact to wetlands will occur due to this project. Some minor, isolated mapped wetlands exist on the property, but none are DEC-regulated wetlands. Driven posts are the only infrastructure planned, and the Army Corps does not consider driven posts to be impacts.

Interconnection Status:

The project has applied for interconnection with National Grid, under the New York State Standardized Interconnection Requirements. National Grid completed their technical review of the project in March, and delivered the Coordinated Electric System Interconnection Review (CESIR) study, attached hereto as **Appendix E**.

Life of Project – Operations and Maintenance

Upon approval of the Special Use Permit, several steps remain prior to the commercial operation of the community solar project, including final design and production modeling, final investment decision, hiring of the project's construction firm, and applying for a local building permit, among many others. We expect that construction will commence within six (6) to eight (8) months of the SUP approval. Once operational, the life of the community solar gardens is expected to be at least 25 years, and may be extended at that time, depending on a variety of factors.

An O&M Plan has been prepared for the project, and is attached as **Appendix F**.

Decommissioning Plan:

A Decommissioning Plan has been prepared for the project, and is attached as **Appendix G**. The Decommissioning Plan will be updated once the project design is finalized, based on the final site plan, selected equipment, salvage value and engineering. The Applicant will provide a cost estimate along with any required financial security prior to applying for a building permit, as described in more detail in Appendix G.

SEQRA Process – Full Environmental Assessment Form

A Full Environmental Assessment Form – Part 1, has been completed for the Town's SEQR process. It is attached as **Appendix H**.

Response to Town Code Criteria for Site Plan Review:

(a) The harmonious relationship between proposed uses and existing adjacent uses.

The project is compatible with the surrounding neighborhood, even absent the included additional landscape screening. The project is made up of low-lying structures, similar to barns or greenhouses, surrounded by a fence, plus electrical equipment very similar to the existing power lines surrounding the site.



- (b) The maximum safety of vehicular circulation between the site and the street network.

Very little traffic will be created by this project, much less than a new residence. No additional safety concerns exist.

- (c) The maximum adequacy of interior circulation, parking and loading facilities, with particular attention to vehicular and pedestrian safety, as provided in §155-31

No ongoing circulation of traffic or unloading will occur onsite. The access road has been designed to adequately accommodate two vehicles passing each other.

- (d) Adequacy of landscaping, buffering and setbacks in regard to achieving maximum compatibility and protection to adjacent residential districts.

The site is naturally well-screened by topography and existing vegetation. Although solar projects are not inherently unsightly, the additional landscaping will be installed by the project to sufficiently screen the site from view from the adjacent roadways and nearby residences.

- (e) The minimization of adverse environmental impact.

Solar projects are inherently environmentally friendly. The installation of pollinator-friendly native undergrowth will result in additional, new habitat for many kinds of wildlife within the site. As will be demonstrated by the Town's SEQR process, the project will not have none or minimal adverse impact on the environment.

- (f) The minimization of adverse effects on the welfare of the residents of the Town of Manlius.

No adverse impacts on the welfare of the residents of the Town will result from this project. Solar projects are natural complements to a rural environment, and with the planned screening this project will fit right in to the surroundings.

Response to Town Code Criteria for Special Use Permit for MSES and LSES:

- [1] *Noninterference. These solar systems shall not be installed in any location along the major axis of an existing microwave communications operation where the solar system operation or similar solar system operations have been demonstrated to produce an electromagnetic interference in the existing microwave communications operation, unless such interference can be mitigated.*

No existing microwave axes exist in the area, according to a database search of the Homeland Infrastructure Foundation-Level Data (HIFLD). Further, no evidence exists that ground-mounted PV array have any impact on microwave communication towers.

- [2] *Proximity to radio, television and telephone systems. These solar systems shall not be installed in any location where the solar system operation or similar solar systems operations have been demonstrated to interfere with existing fixed broadcast, retransmission, or reception antennae for radio, television or wireless phone, unless such interference can be mitigated.*

According to the National Renewable Energy Laboratory, ground-mounted PV solar systems have “very low” risk of impacts to electro-magnetic systems: “PV systems equipment such as step-up transformers and electrical cables are not sources of electromagnetic interference because of their low-frequency (60 Hz) of operation and PV panels themselves do not emit EMI. The only component of a PV array that may be capable of emitting EMI is the inverter. Inverters, however, produce extremely low frequency EMI similar to electrical appliances and at a distance of 150 feet from the inverters the EM field is at or below background levels.”

(<https://www.nrel.gov/docs/fy17osti/67440.pdf>)

- [3] *View sheds and screening. MSES and LSES shall be installed in a location and position that would minimize visibility from neighboring properties. A screening plan, to be reviewed and accepted by the Planning Board, shall be required as part of the site plan review or special use permit review, which screening plan shall include a glare analysis. For purposes of this section, consideration shall be given to any relevant portions of the current, amended and/or future officially recognized Town Code. In addition, adequate measures shall be taken to screen through landscaping, grading or other means to reasonably mitigate the view of the solar panels and other equipment of the solar systems from roadways and neighboring residential properties.*

The site is already well-screened from view on the west, north, and east sides. Additional trees will be planted along the south side of the project to add additional screening from the road and residences to the south. A glare study was performed and is attached as Appendix C.

- [4] *Security. Proper security of the site for large and medium GMSs is required. This can be accomplished by means proposed by the applicant as part of an overall security plan to be accepted by the Planning Board*

The proposed fencing will adequately secure the solar facility. Standard insurance policies for solar projects typically require at least 6’ fencing, of a type to be determined by the project owner. We have proposed ten foot (10’) high chain link, but would be open to other suggested if the Town desires.

- [5] *FAA requirements. If the proposed site is near an airport, seaplane base, or established flight zone, such solar system must meet all Federal Aviation Administration requirements.*

Not applicable. The project is not near any FAA-regulated facilities.



- [6] *Ground clearance. The minimum distance between the ground and any part of the solar panel must be at least two feet. If the array can rotate and/or change pitch, this is the minimum with the array extended at its maximum pitch.*

The racking systems for the project will allow a minimum of two feet ground clearance, and in most cases will be above three or four feet.

- [7] *Emergency shutdown/safety. The applicant shall post an emergency telephone number so that the appropriate entities may be contacted should any portion of the solar system need immediate repair or attention. This telephone number should be clearly visible on signs located the site entrance or as determined by the Planning Board.*

The project will have contact signage as required.

- [8] *Lightning protection. All solar systems shall have adequate lightning protection via internal lightning arrestors, surge protectors or adequate grounding.*

The solar project will be fully protected by lightning, and will comply with all applicable electrical and building codes. Solar projects are thoroughly grounded.

- [9] *Ownership. Ownership of the property shall be clearly established by the applicant, and if the applicant is not the owner, the applicant shall provide proof that the owner agrees to the regulations set forth herein.*

NYSOLAR07 LLC is a Lessee of the property, as established by the Memorandum of Lease attached hereto as Appendix I.

- [10] *Utility notification and approval. No solar system shall be constructed until evidence has been given to the Planning Board that the utility company that operates the electrical grid where the installation is to be located has been informed of the construction of the solar system and has agreed to an interconnection.*

The project is fully approved by National Grid, as evidenced by the CESIR Study attached hereto as Appendix E.

- [11] *Lighting. No solar system under this provision shall be continually artificially lighted. Lighting shall be limited to lights as needed by solar array personnel while present at the site. Lighting to be arranged and angled to not spill onto adjacent properties.*

No permanent lighting will be onsite.

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- [12] *Access road. To the greatest extent possible, existing roadways shall be used for access to the site and its improvements. In the case of constructing any roadways necessary to access the solar energy systems, they shall be constructed in a way that allows reasonable access to all parts of the PVS and for the passage of emergency vehicles in the event of an emergency. Roadways to and within the site shall be constructed of gravel or other permeable surfacing and shall be flush with the surrounding land contours.*

The access road proposed for the project has been designed at twenty feet in width, with a turn-around adequate for a standard ambulance. The road will be built at the grade of the existing topography, from permeable material that will not impact the drainage of the surrounding land.

- [13] *Property operation and maintenance plan. The applicant shall submit a property operation and maintenance plan to the Planning Board as part of the Special Use Permit application.*

An O&M Plan has been prepared and is attached hereto as Appendix F.



Appendix A – Site Plan, Civil Drawings, and Landscape Plan

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Appendix B – Example Equipment Technical Data Sheets

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Appendix C – Glare Study

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Appendix D – National Resource Conservation Service Soils Report

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Appendix E – National Grid CESIR Study Results

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Appendix F – Operations & Maintenance Plan

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Appendix G – Decommissioning Plan

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Appendix H – Full Environmental Assessment Form, Part 1

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Appendix I – Memorandum of Lease

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THREE-PHASE STRING INVERTER 125 KW CSI-125KTL-GI-E

Canadian Solar's grid-tied, transformer-less string inverters help accelerate the use of three-phase string architecture for commercial rooftop and small ground-mount applications. An NRTL approved, cost-effective alternative to central inverters, these inverters are modular design building blocks that provide high yield and enable significant BoS cost savings. They provide up to 98.8 % conversion efficiency, and a wide operating range for maximum energy harvest.



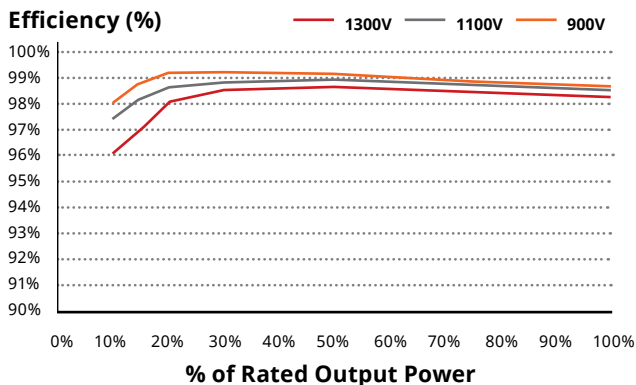
Standard warranty, extension up to 20 years

KEY FEATURES

- Maximum efficiency of 99.1%, CEC efficiency of 98.6%
- Single MPPT for higher conversion efficiency
- Transformerless design
- PID mitigation capability

EFFICIENCY CURVE

CSI-125KTL-GI-E @ 900 V



HIGH RELIABILITY

- Advanced thermal design with variable speed fans
- Ground-fault detection and interruption circuit

BROAD ADAPTIBILITY

- NEMA 4X (IP65), outdoor application
- Utility interactive controls: active power derating, reactive power control and over frequency derating
- Integrated wiring box design
- Integrated DC and AC load rated disconnects
- Wide MPPT range for flexible string sizing
- AC terminals compatible with copper and aluminum conductors
- Supports up to 20 DC string inputs

CANADIAN SOLAR INC. is committed to providing high quality solar products, solar system solutions and services to customers around the world. As a leading PV project developer and manufacturer of solar modules with over 33 GW deployed around the world since 2001, Canadian Solar Inc. is one of the most bankable solar companies worldwide.

*For detailed information, please refer to the Installation Manual.

CANADIAN SOLAR INC.

545 Speedvale Avenue West, Guelph, Ontario N1K 1E6, Canada | www.canadiansolar.com

SYSTEM/TECHNICAL DATA	
MODEL NAME	CSI-125KTL-GI-E
DC INPUT	
Max. PV Power	187.5kW
Max. DC Input Voltage	1500 V _{DC}
Operating DC Input Voltage Range	860-1450 V _{DC}
Start-up DC Input Voltage	900 V _{DC}
Number of MPP Trackers	1
MPPT Full Power Voltage Range	860-1450 V _{DC}
Operating Current (Imp)	150 A
Max. Input Current (Isc)	300 A
Number of DC Inputs	20
DC Disconnection Type	Load rated DC switch
AC OUTPUT	
Rated AC Output Power	125 kW
Max. AC Output Power	125 kW
Rated Output Voltage	600 V _{AC}
Output Voltage Range*	528-660 V _{AC}
Grid Connection Type	3/N/PE
Nominal AC Output Current	120 A
Rated Output Frequency	50/60 Hz
Output Frequency Range*	47-62 Hz
Power Factor	1 default (±0.8 adjustable)
Current THD	< 3 %
AC Disconnection Type	Load rated AC switch
SYSTEM	
Topology	Transformerless
Max. Efficiency	99.1 %
EU Efficiency	98.6 %
Night Consumption	< 2 W
ENVIRONMENT	
Protection Degree	NEMA 4X (IP65)
Cooling	Intelligent Redundant Cooling
Operating Temperature Range	-25 ° C to +60 ° C
Storage Temperature Range	-40 ° C to +70 ° C
Operating Humidity	0 - 100 %
Operating Altitude	4000 m
Audible Noise	<55 dBA @ 1 m
DISPLAY AND COMMUNICATION	
Display	LED
Communication	Standard: RS485 (Modbus RTU), AND either MODBUS or ETHERNET
MECHANICAL DATA	
Dimensions (W / H / D)	1176 x 713.5 x 315 mm
Weight	84 kg
Installation Angle	Back title up to 15 degrees
DC Inputs	MC4/ T4
DC Fuse Rating	20A
SAFETY	
Safety and EMC Standard	IEC62109-1/-2, IEC/EN 61000-2/-4
Grid Standard	VDE0126-1-1, IEC61683 or EN50530
Smart-Grid Features	Voltage-Ride Thru, Frequency-Ride Thru, Soft-Start, Volt-Var, Frequency-Watt, Volt-Watt

*The “Output Voltage Range” and “Output Frequency Range” may differ according to specific grid standard.

* The specifications and key features contained in this datasheet may deviate slightly from our actual products due to the on-going innovation and product enhancement. Canadian Solar Inc. reserves the right to make necessary adjustment to the information described herein at any time without further notice.

Caution: For professional use only. The installation and handling of PV equipment requires professional skills and should only be performed by qualified professionals. Please read the safety and installation instructions before using the product.

100/125kW, 1500Vdc String Inverters for North America



CPS SCH100/125KTL-DO/US-600

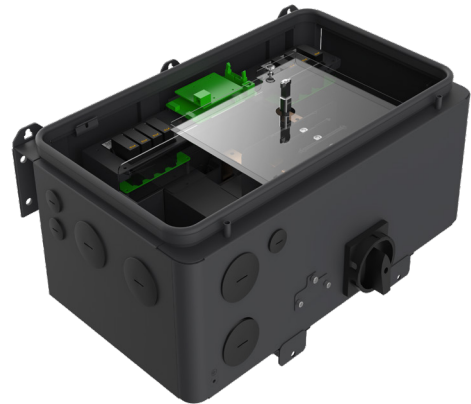
The 100 & 125kW high power CPS three phase string inverters are designed for ground mount applications. The units are high performance, advanced and reliable inverters designed specifically for the North American environment and grid. High efficiency at 99.1% peak and 98.5% CEC, wide operating voltages, broad temperature ranges and a NEMA Type 4X enclosure enable this inverter platform to operate at high performance across many applications. The CPS 100/125kW products ship with the Standard or Centralized Wire-box, each fully integrated and separable with AC and DC disconnect switches. The Standard Wire-box includes touch safe fusing for up to 20 strings. The CPS Flex Gateway enables communication, controls and remote product upgrades.

Key Features

- NFPA 70, NEC 2014 and 2017 compliant
- Touch safe DC Fuse holders adds convenience and safety
- CPS Flex Gateway enables remote FW upgrades
- Integrated AC & DC disconnect switches
- 1 MPPT with 20 fused inputs for maximum flexibility
- Copper and Aluminum compatible AC connections
- NEMA Type 4X outdoor rated, tough tested enclosure
- Advanced Smart-Grid features (CA Rule 21 certified)
- kVA Headroom yields 100kW @ 0.9PF and 125kW @ 0.95PF
- Generous 1.87 and 1.5 DC/AC Inverter Load Ratios
- Separable wire-box design for fast service
- Standard 5 year warranty with extensions to 20 years



100/125KTL Standard Wire-box



100/125KTL Centralized Wire-box

Model Name	CPS SCH100KTL-DO/US-600	CPS SCH125KTL-DO/US-600
DC Input		
Max. PV Power	187.5kW	
Max. DC Input Voltage	1500V	
Operating DC Input Voltage Range	860-1450Vdc	
Start-up DC Input Voltage / Power	900V / 250W	
Number of MPP Trackers	1	
MPPT Voltage Range ¹	870-1300Vdc	
Max. PV Input Current (Isc x1.25)	275A	
Number of DC Inputs	20 PV source circuits, pos. & neg. fused (Standard Wire-box) 1 PV output circuit, 1-2 terminations per pole, non-fused (Centralized Wire-box)	
DC Disconnection Type	Load-rated DC switch	
DC Surge Protection	Type II MOV (with indicator/remote signaling), Up=2.5kV, In=20kA (8/20uS)	
AC Output		
Rated AC Output Power	100kW	125kW
Max. AC Output Power ²	100kVA (111KVA @ PF>0.9)	125kVA (132KVA @ PF>0.95)
Rated Output Voltage	600Vac	
Output Voltage Range ³	528-660Vac	
Grid Connection Type ⁴	3Φ / PE / N (Neutral optional)	
Max. AC Output Current @600Vac	96.2/106.8A	120.3/127.2A
Rated Output Frequency	60Hz	
Output Frequency Range ³	57-63Hz	
Power Factor	>0.99 (±0.8 adjustable)	>0.99 (±0.8 adjustable)
Current THD	<3%	
Max. Fault Current Contribution (1-cycle RMS)	41.47A	
Max. OCPD Rating	150A	175A
AC Disconnection Type	Load-rated AC switch	
AC Surge Protection	Type II MOV (with indicator/remote signaling), Up=2.5kV, In=20kA (8/20uS)	
System		
Topology	Transformerless	
Max. Efficiency	99.1%	
CEC Efficiency	98.5%	
Stand-by / Night Consumption	<4W	
Environment		
Enclosure Protection Degree	NEMA Type 4X	
Cooling Method	Variable speed cooling fans	
Operating Temperature Range	-22°F to +140°F / -30°C to +60°C (derating from +113°F / +45°C)	
Non-Operating Temperature Range ⁵	-40°F to +158°F / -40°C to +70°C maximum	
Operating Humidity	0-100%	
Operating Altitude	8202ft / 2500m (no derating)	
Audible Noise	<65dBA@1m and 25°C	
Display and Communication		
User Interface and Display	LED Indicators, WiFi + APP	
Inverter Monitoring	Modbus RS485	
Site Level Monitoring	CPS Flex Gateway (1 per 32 inverters)	
Modbus Data Mapping	SunSpec/CPS	
Remote Diagnostics / FW Upgrade Functions	Standard / (with Flex Gateway)	
Mechanical		
Dimensions (WxHxD)	45.28x24.25x9.84in (1150x616x250mm) with Standard Wire-box 39.37x24.25x9.84in (1000x616x250mm) with Centralized Wire-box	
Weight	Inverter: 121lbs / 55kg; Wire-box: 55lbs / 25kg (Standard Wire-box); 33lbs / 15kg (Centralized Wire-box)	
Mounting / Installation Angle	15 - 90 degrees from horizontal (vertical or angled)	
AC Termination	M10 Stud Type Terminal Block [3Φ] (Wire range: 1/0AWG - 500kcmil CU/AL, Lugs not supplied) Screw Clamp Terminal Block [N] (#12 - 1/0AWG CU/AL)	
DC Termination	Screw Clamp Fuse Holder (Wire range: #12 - #6AWG CU) - Standard Wire-box Busbar, M8 PEMserts (Wire range: #1AWG - 250kcmil CU/AL, Lugs not supplied) - Centralized Wire-box	
Fused String Inputs	15A or 20A fuses provided (Determined by product SKU)	
Safety		
Safety and EMC Standard	UL1741-SA-2016, CSA-C22.2 NO.107.1-01, IEEE1547a-2014; FCC PART15	
Selectable Grid Standard	IEEE 1547a-2014, CA Rule 21, ISO-NE	
Smart-Grid Features	Volt-RideThru, Freq-RideThru, Ramp-Rate, Specified-PF, Volt-VAr, Freq-Watt, Volt-Watt	
Warranty		
Standard ⁶	5 years	
Extended Terms	10, 15 and 20 years	

1) See user manual for further information regarding MPPT Voltage Range when operating at non-unity PF

2) *Max. AC Apparent Power* rating valid within MPPT voltage range and temperature range of -30°C to +40°C (-22°F to +104°F) for 100KW PF ≥0.9 and 125KW PF ≥0.95

3) The "Output Voltage Range" and "Output Frequency Range" may differ according to the specific grid standard.

4) Wye neutral-grounded, Delta may not be corner-grounded.

5) See user manual for further requirements regarding non-operating conditions.

6) 5 year warranty effective for units purchased after October 1st, 2019.



SUNNY HIGHPOWER PEAK3 125-US / 150-US

SHP 125-US-20 / SHP 150-US-20



Cost effective

- Modular architecture reduces BOS and maximizes system uptime
- Compact design and high power density maximize transportation and logistical efficiency

Maximum flexibility

- Scalable 1,500 VDC building block with best-in-class performance
- Flexible architecture creates scalability while maximizing land usage

Simple install, commissioning

- Ergonomic handling and simple connections enable quick installation
- Centralized commissioning and control with SMA Data Manager

Highly innovative

- SMA Smart Connected reduces O&M costs and simplifies field-service
- Powered by award winning ennexOS cross sector energy management platform

SUNNY HIGHPOWER PEAK3 125-US / 150-US

A superior modular solution for large-scale power plants

The PEAK3 1,500 VDC inverter offers high power density in a modular architecture that achieves a cost-optimized solution for large-scale PV integrators. With fast, simple installation and commissioning, the Sunny Highpower PEAK3 is accelerating the path to energization. SMA has also brought its field-proven Smart Connected technology to the PEAK3, which simplifies O&M and contributes to lower lifetime service costs. The PEAK3 power plant solution is powered by the ennexOS cross sector energy management platform, 2018 winner of the Intersolar smarter E AWARD.

Technical Data	Sunny Highpower PEAK3 125-US	Sunny Highpower PEAK3 150-US
Input (DC)		
Maximum array power	187500 Wp STC	225000 Wp STC
Maximum system voltage	1500 VDC	
Rated MPP voltage range	705 V ... 1450 V	880 V ... 1450 V
MPPT operating voltage range	684 V ... 1500 V	855 V ... 1500 V
MPP trackers	1	
Maximum operating input current	180 A	
Maximum input short-circuit current	325 A	
Output (AC)		
Nominal AC power	125000 W	150000 W
Maximum apparent power	125000 VA	150000 VA
Output phases / line connections	3 / 3-PE	
Nominal AC voltage	480 V	600 V
Compatible transformer winding configuration	Wye-grounded	
Maximum output current	151 A	
Rated grid frequency	60 Hz	
Grid frequency / range	50 Hz, 60 Hz / -6 Hz ... +6 Hz	
Power factor at rated power / adjustable displacement	1 / 0.0 leading ... 0.0 lagging	
Harmonics (THD)	<3%	
Efficiency		
CEC efficiency	98.5 %	99.0 %
Protection and safety features		
Ground fault monitoring: Riso / Differential current	● / ●	
DC reverse polarity protection	●	
AC short circuit protection	●	
Monitored surge protection (Type 2): DC / AC	● / ●	
Protection class / overvoltage category (as per UL 840)	I / IV	
General data		
Device dimensions (W / H / D)	770 / 830 / 444 mm (30.3 / 32.7 / 17.5 in.)	
Device weight	98 kg (216 lbs)	
Operating temperature range	-25°C ... +60°C (-13°F ... +140°F)	
Storage temperature range	-40°C ... +70°C (-40°F ... +158°F)	
Audible noise emission (full power @ 1m and 25°C)	< 69 dB(A)	
Internal consumption at night	< 5 W	
Topology	Transformerless	
Cooling concept	OptiCool (forced convection, variable speed fans)	
Enclosure protection rating	Type 4X (as per UL 50E)	
Maximum permissible relative humidity (non-condensing)	100%	
Additional information		
Mounting	Rack mount	
DC connection	Terminal lugs - up to 600 kcmil CU/AL	
AC connection	Screw terminals - up to 300 kcmil CU/AL	
LED indicators (Status/Fault/Communication)	●	
SMA Speedwire (Ethernet network interface)	● (2 x RJ45 ports)	
Data protocols: SMA Modbus / SunSpec Modbus	● / ●	
Integrated Plant Control / Q on Demand 24/7	● / ●	
Off-grid capable / SMA Hybrid Controller compatible	– / ●	
SMA Smart Connected (proactive monitoring and service)	●	
Certifications		
Certifications and approvals	UL 62109, UL 1998, CAN/CSA-C22.2 No.62109	
FCC compliance	FCC Part 15, Class A	
Grid interconnection standards	IEEE 1547, UL 1741 SA - CA Rule 21, HECO Rule 14H	
Advanced grid support capabilities	L/HFRT, L/HVRT, Volt-VAR, Volt-Watt, Frequency-Watt, Ramp Rate Control, Fixed Power Factor	
Warranty		
Standard	5 years	
Optional extensions	10 / 15 / 20 years	

Technical data as of May 2020 ● Standard features ○ Optional features – Not available

SHP150-US-17 Changes to products and services, including those resulting from country-specific requirements, as well as deviations from technical data are subject to change at any time without notice. SMA assumes no liability for typographical or other errors. Please visit www.SMA-Solar.com for the latest information.

Cheetah HC 72M 390-410 Watt

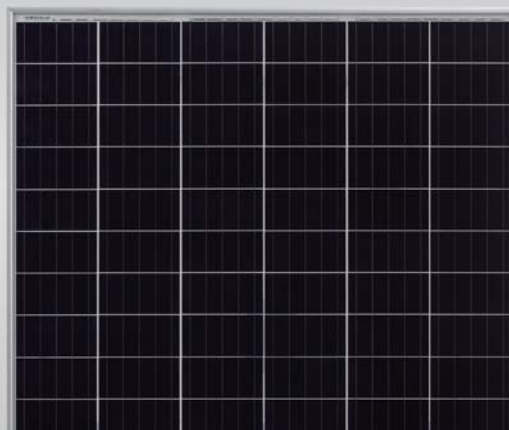
MONO PERC HALF CELL MODULE

Positive power tolerance of 0~+3%

- Half Cell
- Mono PERC 72 Cell



PERC



KEY FEATURES



5 Busbar Solar Cell

5 busbar solar cell adopts new technology to improve the efficiency of modules, offers a better aesthetic appearance, making it perfect for rooftop installation.



High Efficiency

Higher module conversion efficiency (up to 20.38%) benefit from half cell structure (low resistance characteristic).



PID Resistance

Excellent Anti-PID performance guarantee limited power degradation for mass production.



Low-light Performance

Advanced glass and cell surface textured design ensure excellent performance in low-light environment.



Severe Weather Resilience

Certified to withstand: wind load (2400 Pascal) and snow load (5400 Pascal).



Durability Against Extreme Environmental Conditions

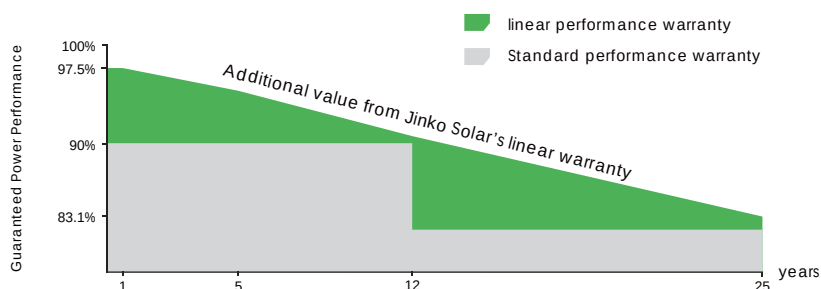
High salt mist and ammonia resistance certified by TUV NORD.

LINEAR PERFORMANCE WARRANTY

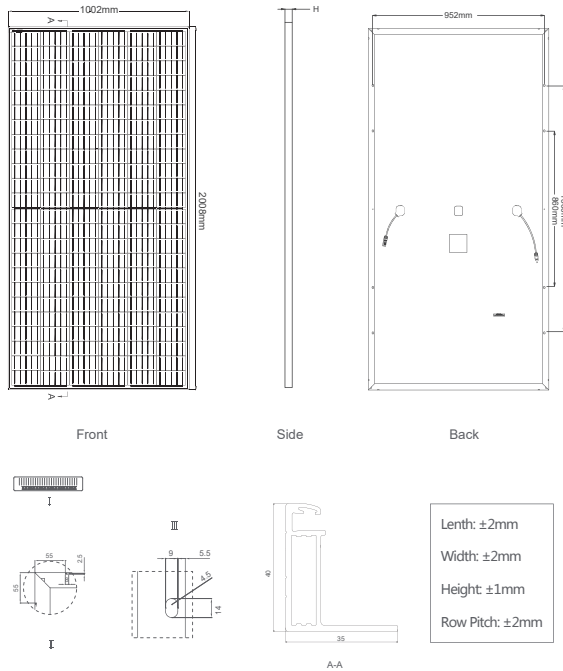
12 Year Product Warranty • 25 Year Linear Power Warranty



- ISO9001:2015, ISO14001:2015, OHSAS18001 certified factory
- IEC61215, IEC61730, UL1703 certified product



Engineering Drawings

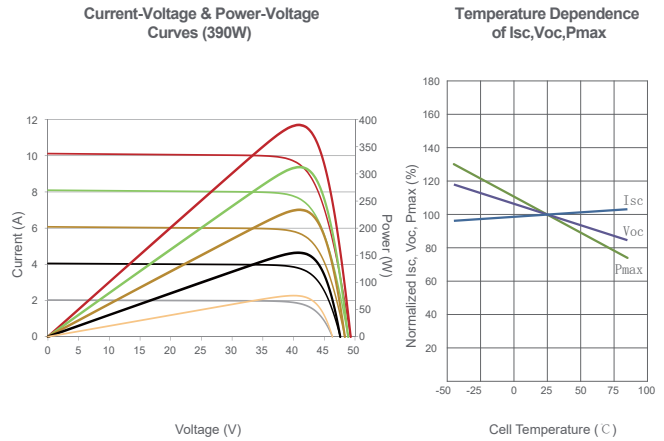


Packaging Configuration

(Two pallets = One stack)

27pcs/pallet, 54pcs/stack, 594pcs/40'HQ Container

Electrical Performance & Temperature Dependence



Mechanical Characteristics

Cell Type	Mono PERC 158.75×158.75mm
No. of Half-cells	144 (6×24)
Dimensions	2008×1002×40mm (79.06×39.45×1.57 inch)
Weight	22.5 kg (49.6 lbs)
Front Glass	3.2mm, Anti-Reflection Coating, High Transmission, Low Iron, Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP67 Rated
Output Cables	TÜV 1x4.0mm², (+) 290mm, (-) 145mm or Customized Length

SPECIFICATIONS

Module Type	JKM390M-72H		JKM395M-72H		JKM400M-72H		JKM405M-72H		JKM410M-72H	
	JKM390M-72H-V		JKM395M-72H-V		JKM400M-72H-V		JKM405M-72H-V		JKM410M-72H-V	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	390Wp	294Wp	395Wp	298Wp	400Wp	302Wp	405Wp	306Wp	410Wp	310Wp
Maximum Power Voltage (Vmp)	41.1V	39.1V	41.4V	39.3V	41.7V	39.6V	42.0V	39.8V	42.3V	40.0V
Maximum Power Current (Imp)	9.49A	7.54A	9.55A	7.60A	9.60A	7.66A	9.65A	7.72A	9.69A	7.76A
Open-circuit Voltage (Voc)	49.3V	48.0V	49.5V	48.2V	49.8V	48.5V	50.1V	48.7V	50.4V	48.9V
Short-circuit Current (Isc)	10.12A	8.02A	10.23A	8.09A	10.36A	8.16A	10.48A	8.22A	10.60A	8.26A
Module Efficiency STC (%)	19.38%		19.63%		19.88%		20.13%		20.38%	
Operating Temperature (°C)	-40°C~-+85°C									
Maximum System Voltage	1000/1500VDC (IEC)									
Maximum Series Fuse Rating	20A									
Power Tolerance	0~+3%									
Temperature Coefficients of Pmax	-0.35%/°C									
Temperature Coefficients of Voc	-0.29%/°C									
Temperature Coefficients of Isc	0.048%/°C									
Nominal Operating Cell Temperature (NOCT)	45±2°C									

STC: ☀ Irradiance 1000W/m²

🌡 Cell Temperature 25°C

☁ AM=1.5

NOCT: ☀ Irradiance 800W/m²

🌡 Ambient Temperature 20°C

☁ AM=1.5

🌀 Wind Speed 1m/s

* Power measurement tolerance: ± 3%

DUOMAX^{twin}

TSM-DEG15MC.20(II)

144 HALF-CUT
MONOCRYSTALLINE CELLS

385-410W
POWER OUTPUT RANGE

20.0%
MAXIMUM EFFICIENCY

0/+5W
POSITIVE POWER TOLERANCE

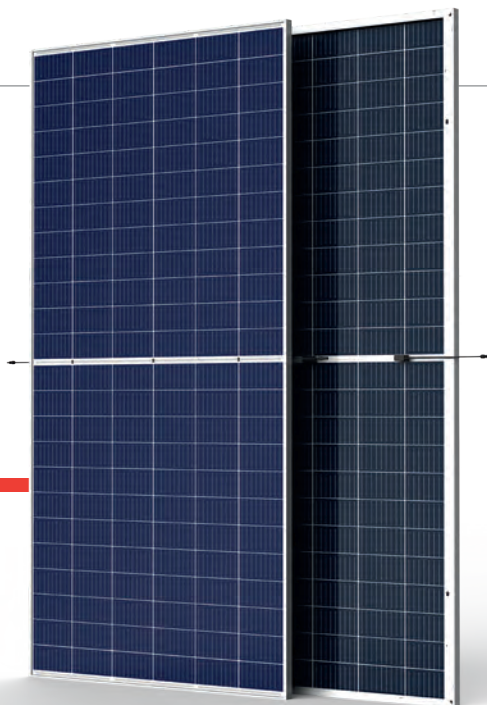
Founded in 1997, Trina Solar is the world's leading comprehensive solutions provider for solar energy. We believe close cooperation with our partners is critical to success. Trina Solar now distributes its PV products to over 60 countries all over the world. Trina Solar is able to provide exceptional service to each customer in each market and supplement our innovative, reliable products with the backing of Trina Solar as a strong, bankable partner. We are committed to building strategic, mutually beneficial collaboration with installers, developers, distributors and other partners.

Comprehensive Product And System Certificates

IEC61215/IEC61730/UL1703
IEC61701 Salt Mist Corrosion
IEC62716 Ammonia Corrosion
IEC60068 Blowing Sand
ISO9001; ISO14001; OHSAS18001



Trinasolar



High power output

- Bifacial mono PERC cells combined with multi busbar technology
- Half-cut cells with lower thermal coefficients and reduced interconnection losses
- Power gain up to 25% when mounted on tracker, depending on albedo



Optimized LCOE

- Maximum yield per space
- Savings in labour cost
- Best suited for tracking systems



Highly reliable due to stringent quality control

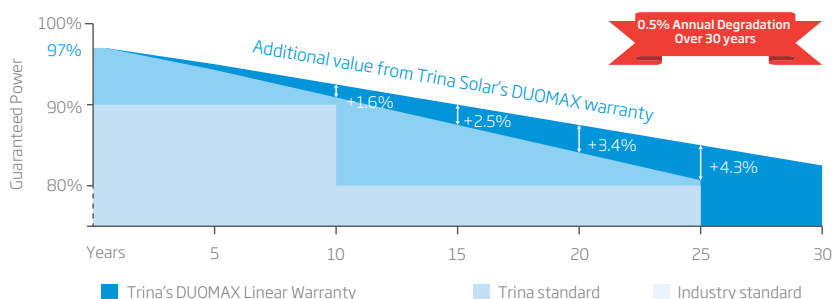
- Over 30 in-house tests (UV, TC, HF, and many more)
- In-house testing goes well beyond certification requirements
- PID resistant
- 2x 100% inline EL inspection



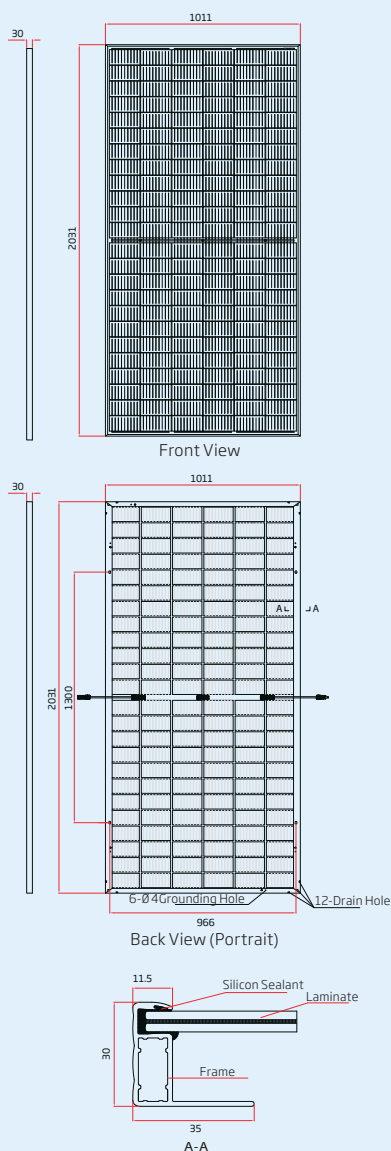
Certified to withstand challenging environmental conditions

- Salt Mist Corrosion
- Ammonia Corrosion
- Blowing Sand

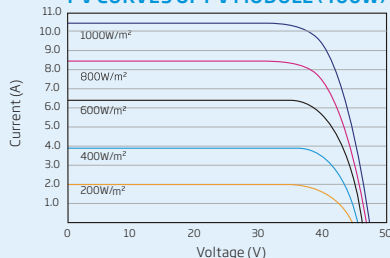
Trina Solar's DUOMAX Linear Performance Warranty



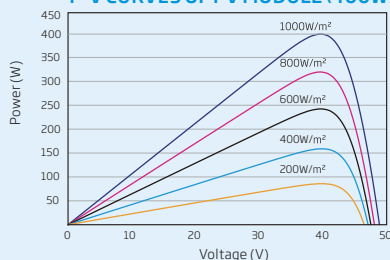
DIMENSIONS OF PV MODULE TSM-DEG15MC.20(II) (unit: mm)



I-V CURVES OF PV MODULE (400W)



P-V CURVES OF PV MODULE (400W)



ELECTRICAL DATA @ STC	TSM-385	TSM-390	TSM-395	TSM-400	TSM-405	TSM-410
Peak Power Watts-P _{MAX} (Wp)*	385	390	395	400	405	410
Power Output Tolerance-P _{MAX} (W)	0/+5	0/+5	0/+5	0/+5	0/+5	0/+5
Maximum Power Voltage-U _{MPP} (V)	41.1	41.4	41.7	42.0	42.3	42.6
Maximum Power Current-I _{MPP} (A)	9.37	9.43	9.48	9.53	9.58	9.63
Open Circuit Voltage-U _{OC} (V)	49.0	49.2	49.4	49.6	49.8	50.0
Short Circuit Current-I _{SC} (A)	10.03	10.08	10.12	10.16	10.21	10.25
Module Efficiency η _m (%)	18.7	19.0	19.2	19.5	19.7	20.0

STC: Irradiance 1000 W/m², Cell Temperature 25 °C, Air Mass AM1.5
* Measuring tolerance: ±3%

BI-FACIAL OUTPUT - BACK SIDE POWER GAIN

10%	Power Output (W) Module Efficiency (%)	424 20.6	429 20.9	435 21.2	440 21.4	446 21.7	451 22.0
15%	Power Output (W) Module Efficiency (%)	443 21.6	429 20.9	454 22.1	460 22.4	466 22.7	472 23.0
25%	Power Output (W) Module Efficiency (%)	481 23.4	488 23.7	494 24.1	500 24.4	506 24.6	513 25.0

ELECTRICAL DATA @ NMOT	TSM-385	TSM-390	TSM-395	TSM-400	TSM-405	TSM-410
Maximum Power-P _{MAX} (Wp)	290	294	298	302	305	309
Maximum Power Voltage-U _{MPP} (V)	38.8	39.1	39.3	39.6	39.9	40.2
Maximum Power Current-I _{MPP} (A)	7.48	7.53	7.57	7.61	7.65	7.69
Open Circuit Voltage-U _{OC} (V)	46.7	46.9	47.1	47.3	47.5	47.7
Short Circuit Current-I _{SC} (A)	8.09	8.13	8.16	8.19	8.23	8.27

NMOT: Irradiance 800 W/m², Ambient Temperature 20 °C, Wind Speed 1 m/s.

MECHANICAL DATA

Solar Cells	Monocrystalline
Cell Orientation	144 cells (6 x 24)
Module Dimensions	2031 x 1011 x 25mm
Weight	26.3 kg
Glass	2 mm, High Transmission, AR Coated Heat Strengthened Glass
Encapsulant Material	POE/EVA
Back Glass	2 mm, Heat Strengthened Glass (White Grid Glass)
Frame	25 mm Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Cable 4.0mm², Portrait: N 280 mm/P 280 mm, Landscape: N 1900 mm /P 1900 mm
Connector	TS4

TEMPERATURE RATINGS

NMOT (Nominal Module Operating Temperature)	41°C (±3K)
Temperature Coefficient of P _{MAX}	-0.37%/K
Temperature Coefficient of U _{OC}	-0.29%/K
Temperature Coefficient of I _{SC}	0.05%/K

WARRANTY

10 year Product Workmanship Warranty
30 year Linear Performance Warranty

(Please refer to product warranty for details)

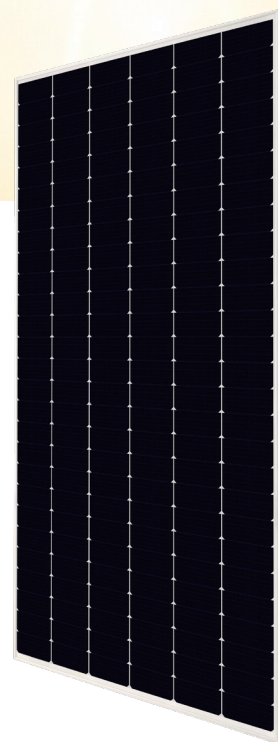
MAXIMUM RATINGS

Operational Temperature	-40 to +85°C
Maximum System Voltage	1500V DC (IEC) 1500V DC (UL)
Max Series Fuse Rating	20A
Snow Load	2400 Pa (1600 Pa*)
Wind Load	2400 Pa (1600 Pa*)

* design load with safety factor 1.5
(DO NOT connect Fuse in Combiner Box with two or more strings in parallel connection)

PACKAGING CONFIGURATION

Modules per box:	32 pieces
Modules per 40' container:	704 pieces



HiDM

High density MONO PERC module

400W~420W

CS1U-400 | 405 | 410 | 415 | 420MS

MORE POWER



Maximize the light absorption area,
module efficiency up to 20.4 %



Low temperature coefficient (Pmax):
-0.37 % / °C



Better shading tolerance

MORE RELIABLE



Lower internal current,
lower hot spot temperature



Cell crack risk limited in small region,
enhance the module reliability



Heavy snow load up to 5400 Pa,
wind load up to 2400 Pa*



enhanced product warranty on materials
and workmanship*



linear power output warranty*

*According to the applicable Canadian Solar Limited Warranty Statement.

MANAGEMENT SYSTEM CERTIFICATES*

ISO 9001:2015 / Quality management system

ISO 14001:2015 / Standards for environmental management system

OHSAS 18001:2007 / International standards for occupational health & safety

PRODUCT CERTIFICATES*

IEC 61215 / IEC 61730: VDE / CE / MCS / KS / INMETRO

IEC 61701 ED2: VDE / IEC 62716: VDE

UNI 9177 Reaction to Fire: Class 1 / Take-e-way



As there are different certification requirements in different markets, please contact your local Canadian Solar sales representative for the specific certificates applicable to the products in the region in which the products are to be used.

CANADIAN SOLAR INC. is committed to providing high quality solar products, solar system solutions and services to customers around the world. No. 1 module supplier for quality and performance/price ratio in IHS Module Customer Insight Survey. As a leading PV project developer and manufacturer of solar modules with over 40 GW deployed around the world since 2001.

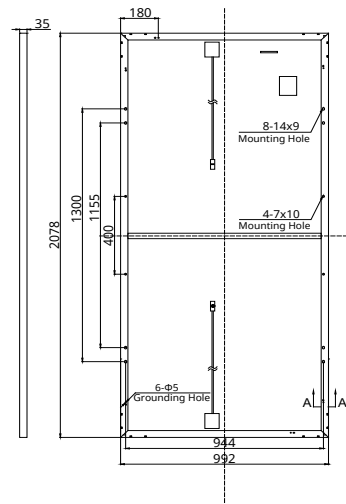
* For detail information, please refer to Installation Manual.

CANADIAN SOLAR INC.

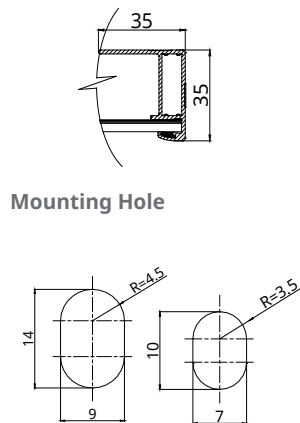
545 Speedvale Avenue West, Guelph, Ontario N1K 1E6, Canada, www.canadiansolar.com, support@canadiansolar.com

ENGINEERING DRAWING (mm)

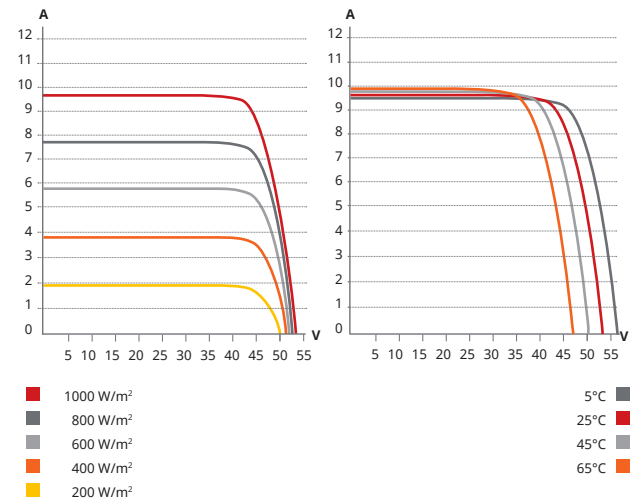
Rear View



Frame Cross Section A-A



CS1U-405MS / I-V CURVES



ELECTRICAL DATA | STC*

CS1U	400MS	405MS	410MS	415MS	420MS
Nominal Max. Power (Pmax)	400 W	405 W	410 W	415 W	420 W
Opt. Operating Voltage (Vmp)	44.1 V	44.3 V	44.5 V	44.7 V	44.9 V
Opt. Operating Current (Imp)	9.08 A	9.16 A	9.23 A	9.30 A	9.37 A
Open Circuit Voltage (Voc)	53.4 V	53.5 V	53.6 V	53.7 V	53.8 V
Short Circuit Current (Isc)	9.60 A	9.65 A	9.70 A	9.75 A	9.80 A
Module Efficiency	19.4%	19.6%	19.9%	20.1%	20.4%
Operating Temperature	-40°C ~ +85°C				
Max. System Voltage	1500V (IEC) or 1000V (IEC)				
Module Fire Performance	CLASS C (IEC 61730)				
Max. Series Fuse Rating	15 A				
Application Classification	Class A				
Power Tolerance	0 ~ + 10 W				

* Under Standard Test Conditions (STC) of irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C.

MECHANICAL DATA

Specification	Data
Cell Type	Mono-crystalline
Dimensions	2078 × 992 × 35 mm (81.8 × 39.1 × 1.38 in)
Weight	23.4 kg (51.6 lbs)
Front Cover	3.2 mm tempered glass
Frame	Anodized aluminium alloy
J-Box	IP68, 4 bypass diodes
Cable	4.0 mm² (IEC)
Cable length (Including connector)	1000 mm (39.4 in) (+) and 640 mm (25.2 in) (-) *; leap-frog connection: 1780 mm (70.1 in)**
Connector	T4 series or H4 UTX or MC4-EVO2
Per Pallet	30 pieces
Per Container (40' HQ)	660 pieces

* Adjacent two modules (portrait: left and right modules, landscape: up and down modules) need to be rotated 180 degrees.

** Need to confirm with the tracker suppliers there are no mounting or operation risks when cables go across the torque tube and bearing house.

ELECTRICAL DATA | NMOT*

CS1U	400MS	405MS	410MS	415MS	420MS
Nominal Max. Power (Pmax)	296 W	300 W	304 W	307 W	311 W
Opt. Operating Voltage (Vmp)	40.8 V	41.0 V	41.2 V	41.4 V	41.5 V
Opt. Operating Current (Imp)	7.26 A	7.32 A	7.37 A	7.43 A	7.48 A
Open Circuit Voltage (Voc)	49.9 V	50.0 V	50.1 V	50.2 V	50.3 V
Short Circuit Current (Isc)	7.75 A	7.79 A	7.83 A	7.87 A	7.91 A

* Under Nominal Module Operating Temperature (NMOT), irradiance of 800 W/m² spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

TEMPERATURE CHARACTERISTICS

Specification	Data
Temperature Coefficient (Pmax)	-0.37 % / °C
Temperature Coefficient (Voc)	-0.29 % / °C
Temperature Coefficient (Isc)	0.05 % / °C
Nominal Module Operating Temperature	43±3 °C

PARTNER SECTION



The specifications and key features contained in this datasheet may deviate slightly from our actual products due to the on-going innovation and product enhancement. Canadian Solar Inc. reserves the right to make necessary adjustment to the information described herein at any time without further notice.

Please be kindly advised that PV modules should be handled and installed by qualified people who have professional skills and please carefully read the safety and installation instructions before using our PV modules.

CANADIAN SOLAR INC.

545 Speedvale Avenue West, Guelph, Ontario N1K 1E6, Canada, www.canadiansolar.com, support@canadiansolar.com

**99.996%
UPTIME.
ENGINEERED
SIMPLICITY.**

**7%
LOWER
LCOE**

**31%
LOWER
LIFETIME
O&M**

DuraTrack® HZ v3

Three decades of field-tested design improvements have resulted in the DuraTrack® HZ v3 — the most durable, reliable tracking system under the sun. While our single-bolt module clamp and forgiving tolerances streamline installation, and our flexibly linked architecture maximizes power density, it's our innovative use of fewer components and a failure-free wind management system that makes Array Technologies the best choice for solar trackers. **Better. Stronger. Smarter.**



HIGHEST POWER DENSITY.

Higher density means more power and more profit. DuraTrack HZ v3 offers the unique ability to maximize the power density of each site, boasting 100 modules per row and higher density than our closest competition.



LEADING TERRAIN ADAPTABILITY.

Our flexibly linked architecture, with articulating driveline joints and forgiving tolerances, creates the most adaptable system on the market for following natural land contours while creating the greatest power generation potential from every site.



FEWER COMPONENTS. GREATER RELIABILITY.

Array was founded on a philosophy of engineered simplicity. Minimizing potential failure points (167 times fewer components than competitors), DuraTrack HZ v3 consistently delivers higher reliability and superior uptime.



FAILURE-FREE WIND DESIGN.

DuraTrack HZ v3 was designed and field tested to withstand some of the harshest conditions on the planet. It is the only tracker on the market that reliably handles wind events with a fully integrated, fully mechanical, passive wind-load mitigation system without the need for complex communication systems, batteries, or power.



ZERO SCHEDULED MAINTENANCE.

Maintenance-free motors and gears, fewer moving parts, and industrial-grade components—what does this mean for our customers? No scheduled maintenance required. While our competitors average two unscheduled maintenance events per day, we average only one per year.

COST VERSUS VALUE

We believe value is more than the cost of a tracking system. It's about building with forgiving tolerances and fewer parts so construction crews can work efficiently. It means protecting your investment with a failure-free wind management system. It also includes increasing power density. But most of all, value is measured in operational uptime, or reliability.

THE GLOBAL LEADER IN RELIABILITY

Array has spent decades designing and perfecting the most reliable tracker on the planet. Fewer moving parts, stronger components and intelligent design that protects your investment in the harshest weather are but a few of the innovative differences that keep your system running flawlessly all day and you resting easy at night.

ARRAY TECHNOLOGIES, INC.

3901 Midway Place NE
Albuquerque, NM 87109 USA
+1 505.881.7567
+1 855.TRACKPV (872.2578)
+1.505.881.7572
sales@arraytechinc.com
arraytechinc.com

30 GW YEARS OF
OPERATION

167x FEWER COMPONENTS THAN
COMPETITIVE TRACKERS

STRUCTURAL & MECHANICAL FEATURES/SPECIFICATIONS

Tracking Type	Horizontal single axis
Less than 1 drive motor /MW	Up to 1.152 MW DC
String Voltage	Up to 1,500V DC
Maximum Linked Rows	32
Maximum Row Size	100 modules crystalline, and bifacial; 240 modules First Solar 4; 78 modules First Solar 6
Drive Type	Rotating gear drive
Motor Type	2 HP, 3 PH, 480V AC
East-West/North-South Dimensions	Site / module specific
Array Height	54" standard, adjustable (48" min height above grade)
Ground Coverage Ratio (GCR)	Flexible, 28–45% typical, others supported on request
Terrain Flexibility	N-S tolerance: 0-15% standard, 26% optional; Driveline: 40° in all directions
Modules Supported	Most commercially available, including frameless crystalline, thin film, and bifacial
Tracking Range of Motion	± 52° standard, ± 62° optional
Operating Temperature Range	-30°F to 140°F (-34°C to 60°C)
Module Configuration available.	Single-in-portrait standard, including bifacial. Four-in-landscape (thin film)
Module Attachment	Single fastener, high-speed mounting clamps with integrated grounding. Traditional rails for crystalline in landscape, custom racking for thin film and frameless crystalline and bifacial per manufacturer specs.
Materials	Pre-galv steel, HDG steel and aluminum structural members, as required
Allowable Wind Load (ASCE 7-10)	140 mph, 3-second gust exposure C
Wind Protection	Failure free passive mechanical system protects against wind damage without the use of complex communications systems, batteries — no power required

ELECTRONIC CONTROLLER FEATURES/SPECIFICATIONS

Solar Tracking Method	Algorithm with GPS input
Control Electronics	MCU plus Central Controller
Data Feed	MODBUS over Ethernet to SCADA system
Night-time Stow	Yes
Tracking Accuracy	± 2° standard, field adjustable
Backtracking	Yes

INSTALLATION, OPERATION & MAINTENANCE

Software	SmartTrack optimization available
PE Stamped Structural Calculations & Drawings	Yes
On-site Training and System Commissioning	Yes
Connection Type	Fully bolted connections, no welding
In-field Fabrication Required	No
Dry Slide Bearings and Articulating Driveline Connections	No lubrication required
Scheduled Maintenance	None required
Module Cleaning Compatibility	Robotic, Tractor, Manual

GENERAL

Annual Power Consumption (kWh per 1 MW)	400 kWh per MW per year, estimate
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TECHNICAL DATASHEET

GENIUS TRACKER™ 1P

WORLD'S HIGHEST POWER PRODUCING
& FASTEST INSTALLING SOLAR TRACKER

ACTUATOR

Rugged design for harsh
environmental climate:
IP66 rated

SADDLE BRACKET

Allows efficient alignment
with row tube

DRIVE POST

Available as either 8 in. [20.3 cm] wide SuperPost™
or Wide Flange

PRE-ASSEMBLED DRIVE SYSTEM



50% FASTER

than typical competitor drive systems.
No machines or driveline for industry's
fastest install.

CONTROLLER

24V battery charged by small solar module drives
24V actuator motor, ZigBee wireless communication

SELF-LUBRICATING DRIVE BEARING

Self lubricating open form polymer bearing
that improves damping

OWNER BENEFITS

UP
TO

6.75%

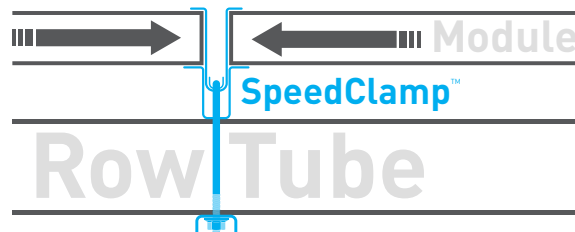
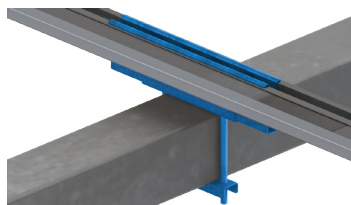
MORE POWER PRODUCTION

RESULTS IN **HIGHER KWH OUTPUT** AND **UP TO 40% HIGHER ROE**
based on project specifics

INSTALLER BENEFITS

200%

FASTER INSTALL SPEED WITH **SPEEDCLAMP™** THAN ANY OTHER TRACKER



OWNER BENEFITS

UP TO 40% HIGHER ROE

Combine to increase owner cash flow

HIGHER MODULE DENSITY

Increased row spacing means more time facing the sun and less time running from the shade, adds up to 5% more power production than competitors

WEATHERSMART™

Proprietary algorithm optimizes tilt angle based on weather data to maximize power production, adds up to 1.25% additional power production

LOWEST O&M COST

Lowest grass cutting & module washing cost

Zero maintenance drive system

INSTALLER BENEFITS

FASTEST INSTALLING SYSTEM

Advanced design innovations & pre-assembled components

SPEEDCLAMP™

Mounts modules with no mounting hardware, speeds module installation up to 200%

PRE-ASSEMBLED DRIVE ARM

Can be lifted by one worker, no machine required. 50% faster than typical competitors

PE STAMPED DRAWINGS

Design loads according to local building codes: ASCE 7, NBC, Eurocode, AS1170, GB 50009

PROPRIETARY INTEGRATED HARDWARE™

For faster structure assembly, module mounting and reduced O&M cost. Oversized Serrated Flange Nyloc Nut and Oversized Flange Star Bolt with integrated star washer eliminates the need for washers and star washers

GameChange Solar

HEADQUARTERS

152 W 57th Street 44th Fl.
New York, NY 10019, USA
Phone: +1 (212) 388-5160
Fax: +1 (646) 607-2223
media@gamechangesolar.com
gamechangesolar.com

EUROPE OFFICES

Dublin, Ireland
Zug, Switzerland
Madrid, Spain

ASIA OFFICES

Wuxi, China
Mumbai, India

DISCLAIMER: GameChange Solar provides this documentation without warranty in any form either expressed or implied. GameChange Solar may revise this document at any time without notice.

Modules	Modules Supported	Most commercially available modules, including frameless crystalline and thin film
Civil	Slope Tolerance (N-S)	7% standard, can go to 15% special order
	Slope Tolerance (E-W)	15%
	Tracker follows slope (Y/N)	Yes
Structural	Drive Type	Robust linear actuator stainless steel & aluminum
	Posts per MW	350-400/MW for 1 up portrait / 2 up landscape or 250-300/MW for 2 up portrait
	Design Wind Load	105 mph [46.9 m/s](Std) / 130 mph [58.1 m/s](Premium 1) / 150 mph [67 m/s](Premium 2)
	Snow Load	5 psf [.24 kPa](Std) / 20 psf [.96 kPa](Premium 1) / 40 psf [1.92 kPa](Premium 2) / 60 psf [2.87 kPa](Premium 3)
	Tracking Range (Std)	45°, 52°
	Tracking Range (Premium)	60°
	Post Sections	G235 [55 µm] galvanized steel (or HDG option) roll formed standard posts, HDG wide flange option also available
	Post Size (Interior) & (Exterior)	6 x 6 in. [15.24 x 15.24 cm] roll form shape or W6x7, W6x9, W6x12 or W6x15 wide flange
	Motor Foundation	6.5 x 8 in. [16.51 x 20.32 cm] roll form hat or W6x15 or larger wide flange
	Standard Embedment	5 - 7 ft. [1.52 - 2.13 m]
	Flood Plain Allowance	Up to 6 ft. [1.83 m]
Design	Module Configuration	1 or 2 up in portrait for crystalline & First Solar Series 6", 2 up landscape or 1 or 2 up in portrait for Bifacial, 3 to 4 up landscape for First Solar Series 4"
	Length per Table	Up to 320 ft. [97.53 m] (for example 78 First Solar Series 6" modules)
	Module Attachment	SpeedClamp™ or bolts available for bottom mount frame modules or clamps for glass on glass modules
	Ground Coverage Ratio	0.25 to 0.65
	Rows per Drive	1 drive per tracker(table), distributed drive system
	Powering System	Onboard solar module with battery
	Ground Clearance To Module	18 - 48 in. [45.7 - 121.9 cm] typical
	Min / Max Ground to Top of Post	56 in. [1.42 m] typical + 9 in. [22.86 cm] min. adjustment range
	Backtracking / Anti-shading	Yes, although can be turned off as requested (i.e. for FSLR modules)
	Temperature Range	-20° C [-40° C also available] + 48° C
	Electromagnetic Interference	Compliant with FCC guidelines/ Applicable sections EN 61000
Install	Specialty Tools Required	No
	Max Offload for Deliveries	As per customer requirement
Electrical	Tracking Method	Time and location based algorithm
	String Design	Compatible with any string size
	Cable Supports	Hole punching as per customer requirement for nominal cost
	Linear Actuator Motor	24V DC UL Listed
	Parasitic Loss	0 amps
	Controller Box	ZigBee® wireless communications, 24V solar module and battery
	Control System	Master to Node: ZigBee® wireless communications Master to SCADA/DAS: Modbus TCP communications
	# of Motors	20 to 52 / MW depending on module wattage and loading conditions (35 for typical conditions)
	1000V System or 1500V System	Both
	Grounding Method	Tracker structure is part of grounding path per UL 2703
	UL Compliance	UL 2703 / UL 3703
	Ingress Protection	IP66 stroke end / IP67 motor end (NEMA 4/4x equivalent)
	# Weather Station	1 per 6 MW - 10 MW typical
	Monitoring System	Web portal interface available Compatible with all standard third party monitoring vendors
	Snow & Flood Sensors	Move modules to optimum location for weather events
	Backup Power	Solar module and battery providing integrated backup - 3 days
O&M	Warranty	5 year drive & control, 10 year structural standard, 10 / 20 also available
Shipping	Max load	International - 18.5 to 22.5 metric tons per container USA - 45,000 lbs. [20,411 kg] per truckload, 5,000 lbs. [2,267 kg] maximum bundle size, 2,900 lbs. [1315.4 kg] or other maximum as requested by customers
	Shipping Containers or Flatbeds	Flat beds for structure, dry vans for hardware
	# Trucks or Containers per MWdc	4 typical for trucks, 5 typical for containers
Commissioning	Backfeed required?	No, Generator for power as alternative

A large-scale photograph of the NX Horizon Self-Powered Tracker solar panel system. The image shows two rows of blue solar panels mounted on a horizontal tracking mechanism. The panels are tilted at an angle, and the tracking system is visible in the center, showing a motorized joint and support structure. The background is a clear blue sky and green grass.

NX Horizon Self-Powered Tracker

Our most amazing tracker yet.

In our mission to make solar a mainstream energy source, NEXTracker has engineered the most intelligent and flexible tracking technology yet. Using sustainable design methods with outcomes that benefit people and the planet, we bring you: NX Horizon™.

NX Horizon (formerly referred to as the Self-Powered Tracker or SPT), brings self-contained motor power to each row, eliminating power wiring and trenching. Our advanced horizontal tracker has the widest rotational range available, lowest O&M costs, and requires far less power to operate than other trackers. By offering more powerful systems at a greater value, NEXTracker enables greater deployment of renewable energy worldwide.

NX Horizon key features and benefits include:

- Self-powered system with smart performance communications: Self-contained units on each row include a dedicated PV panel to provide power to the controller which drives the motor and hosts intelligent control electronics to position each tracker. With smart communications built in, NX Horizon systems can be accessed remotely, providing customers with a granular view to optimize tracker performance, operations and maintenance.
- Independent balanced rows with 120 degree rotational range: Each NX Horizon row has its own controlled motor with rotational range that delivers up to 2% more energy than typical linked row trackers. These agile, independent rows stop in less than 90 seconds to reduce wind forces

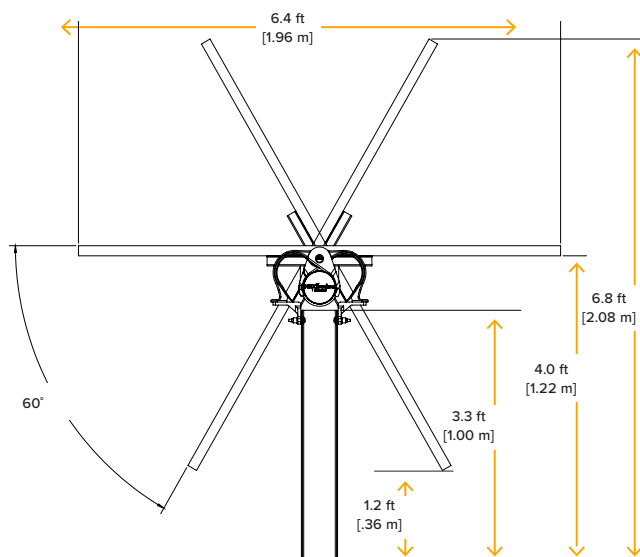
on the array, protecting the PV modules in harsh environments. NX Horizon solar trackers also have a mechanically balanced row design that aligns PV panels with the tracker's axis of rotation – which greatly reduces row torque, using less energy from the motor to track throughout the day.

- Self-grounded system with theft-proof fasteners: NX Horizon is the world's first horizontal tracker with an entirely self-grounded design. This means no separate bonding hardware is required. You save on material and associated costs by eliminating grounding washers, braided straps, bare copper wire, and grounding rods. What's more, we've designed our own fasteners that can only be removed with special tools – deterring PV theft.

NX Horizon Specifications

Tracking Technology	Horizontal single-axis balanced-mass tracker with independently-driven rows
Tracking Range	Up to 120° ($\pm 60^\circ$)
Control System	1 Self-Powered Controller (SPC) per tracker; 1 Network Control Unit (NCU) per 100 SPCs
Communications	Wireless ZigBee® mesh network/SCADA; no communication wiring required
Drive System	One slew gear, 24 VDC motor and self-powered controller w/dedicated solar panel per row
DC Capacity	23-35kWp per tracker row, depending on panel type. Row length up to 90 panels.
System Voltage	1,500 volt or 1,500 volt
Power Consumption	No grid power required
Ground Coverage Ratio	Fully configurable by customer; typical range 33%-50%
Installation Method	Rapid field assembly, no welding required
Foundation Types	Compatible with all major foundation types (driven pier, concrete foundation, ground screw)
Standard Wind Design	100 mph/161 kph, 3 second gust per ASCE7-10; configurable for higher wind speeds
Safety Stowing	Automated wind and snow stowing with self-contained backup power; no external power required
Torsional Limiter	Included at each foundation/bearing for additional wind and snow load protection
Principal Materials	Galvanized and stainless steel
Grounding Method	Self-grounding structure; separate materials and labor not required
Compliance	Grounding/bonding: UL2703; structural design: ASCE7-10
Other Available Options	Snow and flood sensors
Warranty	10 years on structural components; 5 years on drive and control systems
Typical Dimensions	Height 2.1 m/6.8 ft (@ 60°), Width 2.0 m/6.4 ft, Length 85 m/283 ft

Typical 72-cell c-Si configuration: 85 m row with 80 panels mounted in portrait:



NEXTracker

6200 Paseo Padre Parkway
Fremont, CA 94555 USA
+1 510 270 2500
nextracker.com



MEMORANDUM OF SOLAR ENERGY LEASE AND EASEMENT AGREEMENT

THIS MEMORANDUM OF SOLAR ENERGY LEASE AND EASEMENT AGREEMENT (this "Memorandum"), is made, dated and effective as of July 23RD, 2021 (the "Effective Date"), between Marijane M. Warner, ("Owner"), and NYSOLAR07 LLC, a New York limited liability company ("Grantee"), with regards to the following:

1. Solar Agreement. Owner and Grantee did enter into that certain Solar Energy Lease and Easement Agreement of even date herewith (the "Agreement"), which affects a portion of the real property located in Onondaga County, State of New York, as more particularly described in Exhibit A attached hereto (the "Overall Property"). Capitalized terms used and not defined herein have the meaning given the same in the Agreement.

2. Grant of Rights. The Agreement grants Grantee an exclusive leasehold interest in a portion of the Property, and grants (or shall grant) to Grantee the easements specified; such leasehold and easement rights include, without limitation, (a) the exclusive right to access, relocate and maintain Project Facilities located on the Property; (b) the exclusive right to use the Property for converting solar energy into electrical energy and collecting and transmitting the electrical energy so converted; (c) an exclusive easement to capture, use and convert the unobstructed solar resources over and across the Property; (e) an easement and right to prevent measurable diminishment in output due to obstruction of the sunlight across the Property; (f) the right to subjacent and lateral support for the Project Facilities; (g) a solar easement; and (h) the right to undertake any other activities necessary to accomplish the purposes of the Agreement. The Agreement also prohibits Owner from engaging in any activity on the Leased Property that might cause a decrease in the output or efficiency of any of the Project Facilities. Grantee shall have the right to remove any obstructions to the light that materially and adversely affect its operations if this covenant is violated. Owner further agrees to undertake reasonable efforts to prevent, or failing that, to minimize, the introduction of continuous dust onto the Project Facilities. The Agreement also provides a right of first refusal to purchase the Property from Owner. The Agreement grants the aforementioned rights on a portion of the Overall Property, more specifically described in Exhibit A-1 ("Leased Property"). The Agreement also grants a Road Use Easement to Grantee to the area depicted (and described) on Exhibit A-2 attached hereto.

{the space below is reserved for recording information; this Memorandum continues on the following page}

3. Term. The Agreement shall be for an initial Development Term of up to sixty (60) months, a subsequent Construction Term of up to **twelve (12) months** (with a right to extend), and a subsequent Operations Term of up to **twenty-five (25) years**. The easements granted pursuant to the Agreement are for a term coterminous with the Agreement.

4. Rights of Mortgagees. Pursuant to the Agreement, any Mortgagee of Grantee or Grantee's assignees has certain rights regarding notice and right to cure any default of Grantee under the Agreement, and the right to take possession of the Property, and to acquire the leasehold estate by foreclosure, as well as other rights as set forth in the Agreement.

5. Assignment. Grantee's rights and obligations under the Agreement shall be assignable without Owner's prior written consent provided that such assignment is in furtherance of the provisions of the development of the Solar Energy Project contemplated by the Agreement.

6. Non-Interference and Setbacks. To the extent permitted by law Owner has waived any and all setbacks and setback requirements, whether imposed by applicable law or by any person or entity, including any setback requirements described in the zoning ordinance of the County or in any governmental entitlement or permit heretofore or hereafter issued to Grantee, such Sublessee or such Affiliate. Owner has agreed not to engage in any activity that might cause a decrease in the output or efficiency of any Project Facilities without the prior written consent of Grantee.

7. Subordination. The Agreement provides that from and after its effective date, any right, title or interest created by Owner in favor of or granted to any third party shall be subject to (i) the Agreement and all of Grantee's rights, title and interests created thereby, (ii) any lien of any lender of Grantee's then in existence on the leasehold estate created by the Agreement, and (iii) Grantee's right to create a lien in favor of any lender of Grantee's.

8. Agreement Controls. This Memorandum does not supersede, modify, amend or otherwise change the terms, conditions or covenants of the Agreement, and Owner and Grantee executed and are recording this Memorandum solely for the purpose of providing constructive notice of the Agreement and Grantee's rights thereunder. The terms, conditions and covenants of the Agreement are incorporated in this Memorandum by reference as though fully set forth herein.

9. No Ownership. Owner shall have no ownership, lien, security or other interest in any Project Facilities installed on the Property, or except for as otherwise provided in the Agreement, any profits derived therefrom, and Grantee may remove any or all Project Facilities at any time.

10. Counterparts. This Memorandum may be executed in counterparts, each of which shall be deemed an original and all of which when taken together shall constitute one and the same document.

IN WITNESS WHEREOF, the parties have executed this Memorandum to be effective as of the date first written above.

[signatures appear on following pages]

Owner:
Marijane M. Warner

By: Marijane M. Warner
Name: Marijane M. Warner

STATE OF New York
COUNTY OF Onondaga

§
§
§

On the 28 day of May, in the year 2021, before me, the undersigned, personally appeared Marijane M. Warner, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

[SEAL]

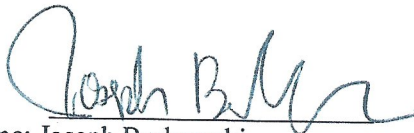
Brian McKnight
Notary Public
State of New York

My commission expires: 10/9/2022

BRIAN MCKNIGHT
Lic# 01MC6077104
Notary Public, State of New York
Qualified in Onondaga County
Commission Expires October 9, 2022

GRANTEE:

By: Horizon Solar Power LLC, Manager

By: 
Name: Joseph Borkowski
Title: Managing Director

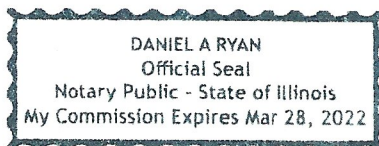
STATE OF ILLINOIS

§
§
§

COUNTY OF COOK

On the 23rd day of JULY, in the year 2021, before me, the undersigned, personally appeared Joseph Borkowski, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

[SEAL]




Notary Public
State of ILLINOIS

My commission expires: 3/28/22

Prepared by and after recording return to:
Horizon Solar Power
330 W Goethe St
Chicago IL 60610

Exhibit "A" to

MEMORANDUM OF SOLAR ENERGY LEASE AND EASEMENT AGREEMENT

Description of the Property

ALL THAT TRACT OR PARCEL OF LAND, SITUATE IN THE Town of Manlius, County of Onondaga and State of New York, being part of Lot Number Fifteen (15) in the Town of Manlius, beginning in the center of the road at the southwest corner of Daniel Kincade Junior's land; running from thence north 45 chains and 60 links along the west line of said Daniel Kincade Junior's land to the north line of the said Lot No. 15; thence west 16 chains and 6 links along the north line of said Lot No. 15 to the corner of William Willsey's land; thence south 45 chains and 60 links along the east line of said William Willsey's land to the south line of said lot; thence east 16 chains and 6 links along the south line of said lot to the place of beginning, containing 73 and 23/100 +/- acres of land.

EXCEPTING FROM THIS CONVEYANCE THE FOLLOWING PARCELS:

1. 7913 Peck Road, Manlius NY Tax ID# 042-01-28.0 Being lastly conveyed to Richard Palmer by deed recorded July 19, 2005, in the Onondaga County Clerk Office at Book 4894, Page 287. Reference is made to the recorded document for a complete description of this parcel.
2. 7901 Peck Road, Manlius NY Tax ID# 042-01-29.0 Being lastly conveyed to John C. & Kathryn A. Bachman by deed recorded July 16, 1971, in the Onondaga County Clerk Office at Book 2455, Page 546. Reference is made to the recorded document for a complete description of this parcel.
3. 7897 Peck Road, Manlius NY Tax ID# 042-01-30.1 Being lastly conveyed to Rita Baltzer by deed recorded October 3, 2017, in the Onondaga County Clerk Office as instrument # 2017-00035126. Reference is made to the recorded document for a complete description of this parcel.
4. 7893 Peck Road, Manlius NY Tax ID# 042-01-31.0 Being lastly conveyed to William T Adams, Sr. & Charlotte A. Adams by deed recorded November 6, 2008 in the Onondaga County Clerk Office at Book 5066, Page 601. Reference is made to the recorded document for a complete description of this parcel.
5. 7891 Peck Road, Manlius NY Tax ID# 042-01-32.2 Being lastly conveyed to Carl & Lorinda Hartzig by deed recorded September 3, 2019, in the Onondaga County Clerk Office at as instrument #2019-00032153. Reference is made to the recorded document for a complete description of this parcel.
6. 7879 Peck Road, Manlius NY Tax ID# 042-01-32.3 Being lastly conveyed to Jeffrey L & Marialice J Loefstedt by deed recorded August 28, 1980 in the Onondaga County Clerk Office at Book 2818, Page 257. Reference is made to the recorded document for a complete description of this parcel.
7. 7865 Peck Road, Manlius NY Tax ID# 042-01-32.4 Being lastly conveyed to Donald W. & Marijane M. Warner by deed recorded January 15, 1991 in the Onondaga County Clerk Office at Book 3673, Page 1. Reference is made to the recorded document for a complete description of this parcel.

8. 7863 Peck Road, Manlius NY Tax ID# 042-01-32.6 Being lastly conveyed to U.S. National Bank Association by deed recorded October 26, 2017 in the Onondaga County Clerk Office at as instrument # 2017-00038674. Reference is made to the recorded document for a complete description of this parcel.
9. Peck Road, Manlius NY Tax ID# 042-01-32.5 Being lastly conveyed to William T. Adams, Sr. by deed dated recorded October 30, 1995 in the Onondaga County Clerk Office at Book 4038, Page 68. Reference is made to the recorded document for a complete description of this parcel.
10. Peck Road, Manlius NY Tax ID# 042-01-32.8 Being lastly conveyed to William T. Adams, Sr. by deed recorded July 1, 1999 in the Onondaga County Clerk Office at Book 4334, Page 102. Reference is made to the recorded document for a complete description of this parcel.

BEING A PART OF THE PREMISES conveyed by Otto A. Klaben and Carminella Klaben to Arthur H. Zion and Alice Zion dated and recorded May 4, 1945 and recorded in the Onondaga County Clerk Office at Book 1146, Page 507.

Exhibit "A-1" to

MEMORANDUM OF SOLAR ENERGY LEASE AND EASEMENT AGREEMENT

Description of the Leased Property

Approximately 29.5 acres in the Town of Manlius, Onondaga County, New York, described as follows:

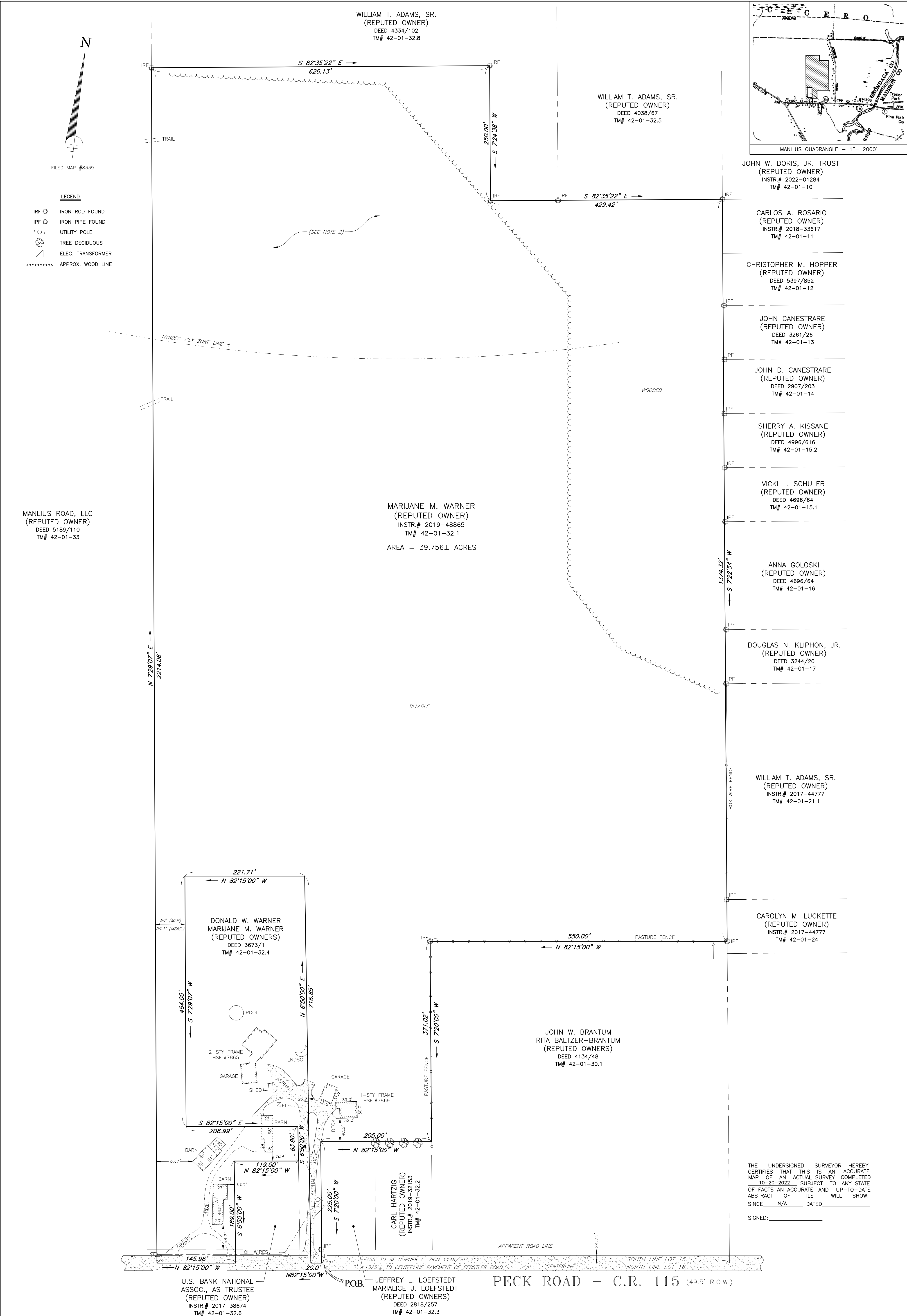
Beginning at the Southwestern-most corner of the Tract described above as Exhibit "A" to the MEMORANDUM OF SOLAR ENERGY LEASE AND EASEMENT AGREEMENT, thence Northerly on and along the western boundary line of said tract a distance of 692 feet to the place of beginning; thence continuing northerly on and along the western boundary line a distance of approximately 1,459 feet to the northwest corner of said tract, thence Easterly along the North line of said tract a distance of approximately 457 feet; thence East 48.88 degrees South a distance of approximately 503 feet to a point; thence South 1.7 degrees East a distance of approximately 514 feet; thence East 29.6 degrees South a distance of approximately 338.5 feet to the East Line of said tract; thence Southerly along the East Line of said tract a distance of approximately 494.6 feet to a property corner; thence westerly on and along the property boundary a distance of approximately 508.5 feet to a property corner; thence southerly on and along the property line a distance of approximately 31.5 feet; thence West 2.86 degrees south a distance of approximately 214.3 feet to a property line; thence northerly on and along said property line a distance of approximately 166.6 feet to a property corner; thence westerly along the property line a distance of approximately 210 feet to a property corner; thence continuing on the same heading a distance of approximately 67.7 feet to the place of beginning; CONTAINING IN ALL 29.5 acres, more or less.

Exhibit "A-2" to

MEMORANDUM OF SOLAR ENERGY LEASE AND EASEMENT AGREEMENT

Description of the Road Easement Property:

Beginning at the Southwestern-most corner of the Tract described above as Exhibit "A" to the MEMORANDUM OF SOLAR ENERGY LEASE AND EASEMENT AGREEMENT, thence Northerly on and along the western boundary line of said tract a distance of approximately 692 feet; thence East 6 degrees north a distance of approximately 69.5 feet to a property corner; thence Southerly along the property line a distance of 692 feet to a property corner; thence westerly along the property line a distance of approximately 66.6 feet to the place of beginning.





United States
Department of
Agriculture

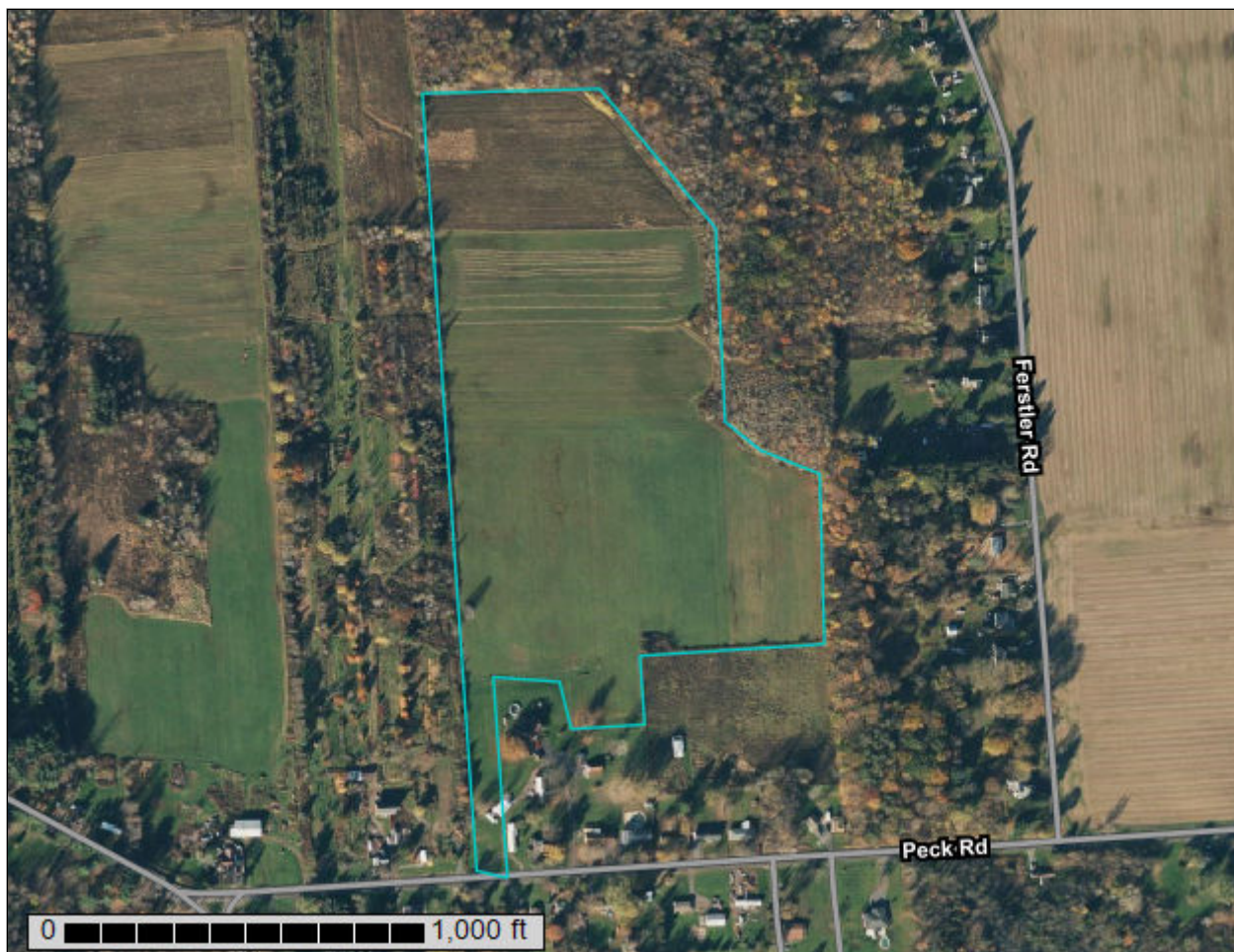
NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Onondaga County, New York

NYSOLAR07 - Warner Farm Solar



June 6, 2022

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



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MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Onondaga County, New York

Survey Area Data: Version 16, Sep 1, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 3, 2021—Nov 7, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AoA	Appleton loam, 0 to 3 percent slopes	6.6	20.4%
ChA	Collamer silt loam, 0 to 2 percent slopes	4.3	13.4%
CIB	Colonie loamy fine sand, 0 to 6 percent slopes	2.0	6.2%
HIB	Hilton loam, 3 to 8 percent slopes	16.0	49.6%
WwA	Williamson silt loam, 0 to 2 percent slopes	3.4	10.4%
Totals for Area of Interest		32.4	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Onondaga County, New York

AoA—Appleton loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2w5hs
Elevation: 250 to 1,670 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Appleton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Appleton

Setting

Landform: Till plains, ridges, drumlins
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 8 inches: loam
E - 8 to 16 inches: loam
Bt - 16 to 30 inches: gravelly silt loam
C1 - 30 to 54 inches: gravelly loam
C2 - 54 to 79 inches: gravelly loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Available water supply, 0 to 60 inches: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Ecological site: F101XY013NY - Moist Till
Hydric soil rating: No

Minor Components

Hilton

Percent of map unit: 5 percent
Landform: Till plains, drumlins
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Lyons

Percent of map unit: 4 percent
Landform: Drainageways, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Churchville

Percent of map unit: 3 percent
Landform: Till plains, lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope, rise, tal
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Darien

Percent of map unit: 3 percent
Landform: Till plains, drainageways
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

ChA—Collamer silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 9vg9
Elevation: 360 to 1,280 feet
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Collamer and similar soils: 85 percent

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Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Collamer

Setting

Landform: Lake plains

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Across-slope shape: Convex

Parent material: Silty and clayey glaciolacustrine deposits

Typical profile

H1 - 0 to 10 inches: silt loam

H2 - 10 to 16 inches: silt loam

H3 - 16 to 42 inches: silt loam

H4 - 42 to 60 inches: stratified silt loam to very fine sand

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)

Depth to water table: About 18 to 24 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Available water supply, 0 to 60 inches: High (about 10.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C/D

Ecological site: F101XY009NY - Moist Lake Plain

Hydric soil rating: No

Minor Components

Dunkirk

Percent of map unit: 5 percent

Hydric soil rating: No

Unnamed soils

Percent of map unit: 5 percent

Hydric soil rating: No

Niagara

Percent of map unit: 5 percent

Hydric soil rating: No

CIB—Colonie loamy fine sand, 0 to 6 percent slopes

Map Unit Setting

National map unit symbol: 9vgc
Elevation: 150 to 1,000 feet
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Colonie and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Colonie

Setting

Landform: Deltas, beach ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy glaciofluvial or eolian deposits

Typical profile

H1 - 0 to 6 inches: loamy fine sand
H2 - 6 to 65 inches: fine sand
H3 - 65 to 72 inches: fine sand

Properties and qualities

Slope: 0 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (1.98 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Ecological site: F101XY005NY - Dry Outwash
Hydric soil rating: No

Minor Components

Arkport

Percent of map unit: 5 percent
Hydric soil rating: No

Otisville

Percent of map unit: 5 percent
Hydric soil rating: No

Galen

Percent of map unit: 5 percent
Hydric soil rating: No

Alton

Percent of map unit: 5 percent
Hydric soil rating: No

Croghan

Percent of map unit: 5 percent
Hydric soil rating: No

HIB—Hilton loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w3ld
Elevation: 260 to 1,310 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Hilton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hilton

Setting

Landform: Till plains, ridges, drumlins
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Linear
Across-slope shape: Convex, concave
Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 9 inches: loam
E - 9 to 17 inches: loam

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Bt/E - 17 to 24 inches: gravelly loam
Bt - 24 to 36 inches: gravelly loam
C1 - 36 to 54 inches: gravelly loam
C2 - 54 to 79 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B/D
Hydric soil rating: No

Minor Components

Appleton

Percent of map unit: 5 percent
Landform: Till plains, ridges, drumlins
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Ontario

Percent of map unit: 5 percent
Landform: Till plains, ridges, drumlins
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Bombay

Percent of map unit: 3 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Cayuga

Percent of map unit: 2 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Summit, shoulder

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Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

WwA—Williamson silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 9vld
Elevation: 360 to 460 feet
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Williamson and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Williamson

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Glaciolacustrine or eolian deposits with a high content of silt and very fine sand

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 22 inches: silt loam
H3 - 22 to 45 inches: very fine sandy loam
H4 - 45 to 60 inches: very fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 15 to 24 inches to fragipan
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 13 to 22 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w

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Hydrologic Soil Group: D

Hydric soil rating: No

Minor Components

Colonie

Percent of map unit: 4 percent

Hydric soil rating: No

Collamer

Percent of map unit: 4 percent

Hydric soil rating: No

Niagara

Percent of map unit: 4 percent

Hydric soil rating: No

Arkport

Percent of map unit: 4 percent

Hydric soil rating: No

Galen

Percent of map unit: 4 percent

Hydric soil rating: No

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I Accept



ForgeSolar

Warner Farm Solar

Array1-temp-0

Client: NYSOLAR07
Created Nov. 1, 2022
Updated Nov. 1, 2022
Time-step 1 minute
Timezone offset UTC-5
Site ID 78620.13938

Project type Advanced
Project status: active
Category 1 MW to 5 MW



Misc. Analysis Settings

DNI: **varies (1,000.0 W/m^2 peak)**
Ocular transmission coefficient: **0.5**
Pupil diameter: **0.002 m**
Eye focal length: **0.017 m**
Sun subtended angle: **9.3 mrad**

Analysis Methodology: **Version 2**
Enhanced subtended angle calculation: **On**

Summary of Results No glare predicted!

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced
	deg	deg	min	min	kWh
PV array 1	SA tracking	SA tracking	0	0	-

Component Data

PV Array(s)

Total PV footprint area: 24.1 acres

Name: PV array 1
Footprint area: 24.1 acres
Axis tracking: Single-axis rotation
Backtracking: None
Tracking axis orientation: 180.0 deg
Tracking axis tilt: 0.0 deg
Tracking axis panel offset: 0.0 deg
Maximum tracking angle: 60.0 deg

Rated power: -
Panel material: Smooth glass without AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 6.55 mrad

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	43.116475	-75.982186	406.12	0.00	406.12
2	43.116475	-75.980942	402.01	0.00	402.01
3	43.115504	-75.979697	401.87	0.00	401.87
4	43.114063	-75.979740	403.55	0.00	403.55
5	43.113530	-75.978538	401.33	0.00	401.33
6	43.112214	-75.978281	401.18	0.00	401.18
7	43.112214	-75.981628	399.79	0.00	399.79



Google, ©2022 CNES / Airbus, Maxar Technologies, New York GIS, USDA/FPAC/GEO

Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	ft	ft	ft
OP 1	43.110864	-75.979450	396.57	5.00	401.57
OP 2	43.110878	-75.980555	399.77	5.00	404.77
OP 3	43.110964	-75.978281	396.53	5.00	401.53
OP 4	43.111137	-75.982701	399.77	5.00	404.77
OP 5	43.111555	-75.976427	403.06	5.00	408.06
OP 6	43.110247	-75.977656	396.62	5.00	401.62

Summary of PV Glare Analysis

PV configuration and total predicted glare

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced	Data File
	deg	deg	min	min	kWh	
PV array 1	SA tracking	SA tracking	0	0	-	

PV & Receptor Analysis Results

Results for each PV array and receptor

PV array 1 no glare found

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	0

No glare found

Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not automatically account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- 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.
- 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.
- 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.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. 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** for detailed assumptions and limitations not listed here.

O&M Plan for Warner Farm Solar
NYSOLAR07 LLC
Submitted to the Town of Manlius,
as part of the Application for Site Plan Review and Special Use
November 1st, 2022

Overview:

Applicant commits to operating the project in full accordance with manufacturer's requirements, as well as maintaining the site in a workmanlike manner.

Solar projects are relatively very low-maintenance systems. Most of the components, including racking, modules, conduit, cables, weather station, etc., will outlast the 25-year expected lifetime of the project. Although they could last longer, the electrical inverters are typically replaced after 12-15 years to keep the facility operating at peak efficiency. Equipment replacement reserves are included in the long-term budget for the site.

A thorough preventative maintenance visit is scheduled once per year. Most potential issues are caught during this period, which dramatically reduces the likelihood of the project being down for extended periods due to unforeseen maintenance issues. Other maintenance, including ground cover mowing, occurs four to six times per year.

This project site will include a comprehensive data acquisition system ("DAS"), which monitors and reports the full system performance on a real-time basis. This system is set up with various alerts that are triggered if production is below expectations, if the tracker system reports a malfunction (i.e. stuck table), or other emergency situations such as loss of communication to inverters, system ground fault, and other high-priority occurrences. Technicians and/or electricians will be deployed to the site to respond to these issues as needed.

There are no unique, site-specific maintenance tasks for this project. All solar projects are operated under a similar regime of inspection, operations, and maintenance. A detailed summary of The routine annual preventative maintenance is below:

Routine Annual Preventative Maintenance:

Each of the below tasks will be completed on an annual visit in May of each year, with additional visits added as needed:

- **General Site Conditions - Visual inspection of physical system:**
 - Fencing and signage
 - Excessive erosion
 - Inspection of temporary or permanent stormwater devices and any other erosion and sediment control measures
 - Loose wiring and conduit issues
 - Open or malfunctioning controlled access points
 - Cracking or unexpected wear or settling of equipment pads
 - Solar module (panel) inspection for cracks, fogging, glazing, or excessive dirt
- **Electrical System Inspection:**
 - Check torque marks of connections/terminations

- Inspect components for corrosion or damage
- Check weatherproof seals on equipment boxes
- Inspect and clean or replace inverter air filters
- Randomized check of module string wiring connections
- Visual inspection of transformers
- Check continuity, voltage, and resistance, and grounds at inverters, combiner boxes and disconnects
- **Racking System Inspection**
 - Visually inspect racking system for rust, corrosion, wear and tear, and any signs of physical interference
 - Perform stow/tracker tests and confirm angle settings of a representative sample of tables
 - Inspect plates and bearings
 - Randomized check of module mounting hardware and racking system hardware, including torque values
 - Lubrication as required by manufacturer specs
- **Data Acquisition System Inspection:**
 - Visually inspect pyranometers and other weather instruments
 - Verification and testing of electric meter outputs
 - Test emergency shut-down protocol
- **Landscape and ground cover:**
 - Management of the pollinator habitat will be done at the discretion of the chosen ground cover maintenance vendor. This will include visual inspection for excess/noxious weeds, which will be controlled by mowing or herbicide, as needed, in addition to reseeding as needed.
 - Landscape screening will be examined for evidence of disease, pests, drought, and other conditions that could affect the plants' lifespans. Remediation will be conducted on a case-by-case basis.
 - Applicant is responsible for maintaining landscape screening, and will replace any trees or other plants that die off for any reason (reserving the right to force action from or seek damages from others who may maliciously harm any component of the system, including landscaping).

Winter Considerations:

Our design for this site allows very low-maintenance operations, with remote monitoring and minimal onsite visits needed. No maintenance is expected to occur during or after heavy snow or ice events. Should emergency maintenance be required, Applicant will have all necessary access roads plowed in advance of any such maintenance. This will also maintain access for emergency response vehicles, in case of a safety incident during any such maintenance.

Emergency Response:

Emergency response will be handled on a case-by-case basis. Site personnel will be trained in first aid for any minor injuries that do not require immediate medical attention. Any injuries that require attention by trained emergency medical personnel will be immediately reported to local EMS via 911. All personnel are required to comply with OSHA reporting requirements.

Equipment failures or other emergencies will be immediately reported to our remote O&M team, via the onsite data acquisition system (DAS). O&M staff will analyze the data and determine the proper response. If a need for emergency responders arises, the team will immediately contact local EMS via 911. Fire responses is seldom needed at solar sites.

The site will be secured via a security fence and locking gate. Trespassing or vandalism will be immediately reported to the local authorities for investigation.

A Knox Box will be installed at both main gates in order to allow local EMS to access the site at any time.

TOWN OF MANLIUS
Special Permit Renewal Application

DATE: 9/27/22

Tax Map # 055.-01-10.2

I Dennis Flynn as applicant relative to property located

Applicant's Name

at 7418 Kirkville Rd. E Syracuse NY 13057
hereby request renewal of a Special Permit from the Town of Manlius, Town Board as required by the Town of Manlius Code, submit the following application and information. I further acknowledge that should any information be later determined as false or not credible in any material respect, any special permit renewed based thereon may be determined by the Town Board as void from the start or revocable.

There are no changes of information or exhibits to the existing special permit originally issued on 9/27/22 Yes ☐ No ☒

Date

If you answered yes to above question, please state in detail the changes you are requesting. Please attach a letter if more space is needed.

Update Contact Information (Please Print):

Name Dennis Flynn

Address 7418 Kirkville Rd. E. Syr. NY 13057

Phone (315) 399-0193

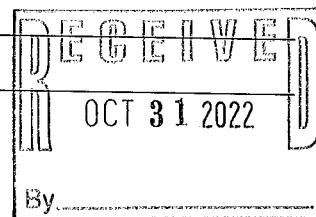
E-mail juliem@dogslifecny.com

Dennis Flynn
Applicant's Signature

10/31/22
Date

Applicant Print Name

Town Code Officers Comments:



SPECIAL PERMIT

Pursuant to a Resolution of the Planning Board of the Town of Manlius on the Application of Dennis Flynn (the "Applicant") which Resolution was passed at a regular meeting of the Planning Board of the Town of Manlius, held on September 14, 2020, permission is hereby granted to Applicant, effective upon the mutual execution of this Permit, to construct a kennel on the 1.44 acre parcel located at 7418 Kirkville Road, East Syracuse, New York 13057.

This Permit will continue in full force until terminated by the Planning Board for breach of one or more of the conditions pursuant to which it is granted, and the implementation thereof will be in accordance with the following conditions:

1. The Special Permit and the uses allowed pursuant thereto shall be for a term of two (2) years, through November 1, 2022, and, to be renewed at the discretion of the Planning Board.
2. Dogs shall be dropped off/picked up at the Project between the hours of 8 AM – 9 AM and the hours of 6 PM - 7 PM.
3. Dogs shall be allowed in the outdoor portions of the Project between the hours of 7 AM and 9 PM.
4. Applicant agrees that dogs will be inside the buildings at any time the Project is not attended by a person living on the Premises.
5. This Special Permit limits the maximum dogs on the site at any given time to ten (10).
6. The Applicant shall not have any employees.

7. The conditions set forth herein supersede any previous agreement between the Applicant and the Town.
8. The Applicant must contact the Onondaga County Department of Transportation to coordinate requirements for the existing driveway on Kirkville Road, in order to satisfy commercial driveway standards. The Applicant must comply with those requirements.
9. The Onondaga County Health Department's Bureau of Public Health Engineering must formally accept or approve, respectively, any existing or proposed septic system to service this property prior to, or as a condition of this Special Permit.
10. The Applicant shall not board and/or take in any dogs until the Project has been completed.
11. If any condition contained herein is determined to be in violation of any law, such condition shall be automatically removed from this Special Permit but shall not affect the effectiveness of any other condition contained herein.
12. Each of the conditions contained herein have been carefully considered as a means of addressing concerns raised by the Town and residents and if the Applicant is in violation of any one condition, or multiple conditions, the Planning Board reserves the right to withdraw this Special Use Permit, at its discretion.

The Applicant, by the acceptance of this Special Permit, agrees to all of the above terms and conditions, and in the event that he shall fail for any reason to perform any of the said terms and conditions on his part to be performed, this Special Permit can be revoked.



Lisa Beeman, Clerk
Office of Planning and Development
Town of Manlius, Onondaga County, New York

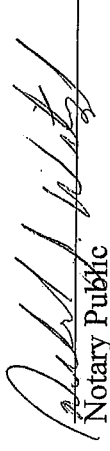
The undersigned does hereby accept the foregoing Special Permit and agrees to perform all of the terms and conditions thereof.



Dennis Flynn

STATE OF NEW YORK)
COUNTY OF ONONDAGA) ss:

On the 1/47 day of September in the year 2020 before me, the undersigned, personally appeared **DENNIS FLYNN**, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.



Notary Public

DEBORAH J WITZEL
Notary Public, State of New York
No. 01W16162236
Qualified in Onondaga County
Commission Expires March 5, 2023

I, LISA BEEMAN, Town Clerk of the Town of Manlius, **DO HEREBY CERTIFY** that the preceding Resolution was duly adopted by the Planning Board of the Town of Manlius at a regular meeting of the Board duly called and held on the 14th day of September, 2020; that said Resolution was entered in the minutes of said meeting; that I have compared the foregoing copy with the original thereof now on file in my office; and that the same is a true and correct transcript of said Resolution and of the whole thereof.

I HEREBY CERTIFY that all members of said Board had due notice of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the Town of Manlius, this 14th day of September, 2020.

DATED: September 14, 2020
Fayetteville, New York



LISA BEEMAN
Planning Board Clerk of the Town
of Manlius

TOWN OF MANLIUS

Special Permit Renewal Approval Document

Pursuant to a Resolution of the Planning Board of the Town of Manlius on the Application of Dennis Flynn, Dog Boarding, which Resolution was passed at a regular meeting of the Planning Board of the Town of Manlius, held on September 14, 2020, permission is hereby granted to Dennis Flynn, effective upon the mutual execution of this Permit, as set forth on that certain Site Plan/Survey that is attached to the application of the Applicant, which is hereby incorporated into this Special Permit.

This Permit will continue in full force until terminated by the Planning Board for breach of one or more of the conditions pursuant to which it is granted, and the implementation thereof will be in accordance with the following conditions:

1. The Special Permit and the uses allowed pursuant thereto shall expire in two (2) years, on November 1, 2022 and any renewal may not be unreasonable withheld.
2. This Special Permit shall be transferable as set forth in Section 155-27(G) of the Town of Manlius Code.
3. That Applicant agrees to the terms and conditions set forth in the original Special permit attached as "Exhibit A".
4. The Applicant covenants to comply with all the rules and regulations of the United States, the State of New York and the County of Onondaga with regard to land use.
5. The applicant acknowledges and confirms there have been no changes to the applicant's operations.

The applicant, by the acceptance of this special permit, agrees to all of the above terms and conditions, and in the event that he/she shall fail for any reason to perform any of the said terms and conditions on her part to be performed, this special permit shall be automatically revoked.

Date: 9-14-2020

Lisa Beeman
Lisa Beeman, Planning Board Clerk
Town of Manlius
Onondaga County, New York

The undersigned does hereby accept the foregoing Special Permit and agrees to perform all of the terms and conditions thereof.

Date: 9-14-20

By: Dennis Flynn
Name:

STATE OF NEW YORK)
COUNTY OF ONONDAGA) ss:

On the 14th day of October in the year 2020 before me, the undersigned, personally appeared Dennis Flynn personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

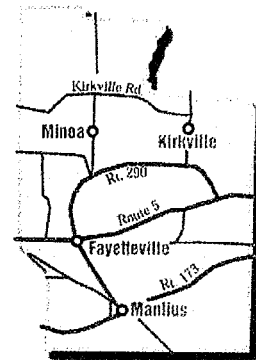
DEBORAH J WITZEL
Notary Public, State of New York
No. 01W16162236
Qualified in Onondaga County
Commission Expires March 5, 2023

Deborah J. Witzel
Notary:

Seal:

Town of Manlius

Planning and Development



DATE: November 1, 2022
TO: Town of Manlius Planning Board
FROM: Tom Poitras, Director of Code Enforcement
RE: Special Use Permit Renewal Application

A handwritten signature in black ink, appearing to read "Tom Poitras".

1. Dennis Flynn, 7418 Kirkville Road – Dog Grooming - Tax Map # 055.-01-10.2

I have reviewed the attached application and find it to be in order.

There have not been any complaints or violations from the neighboring property owners. There have also been no changes from the original Special Use Permit approvals, and I recommend that each renewal be approved for a period of seven years (7) to expire November 1, 2029.

John Deer, Supervisor

Town Board – Sara Bollinger, Elaine Denton, Heather Waters, Kaitlyn Kriesel, Alissa Italiano and William Nicholson