

TOWN OF CONKLIN
PLANNING BOARD REVIEW INSTRUCTIONS

- 1) ZONING RULES/CHECKLIST
- 2) APPLICATION
- 3) APPLICATION FEE
- 4) STATE ENVIRONMENTAL QUALITY REVIEW
SEQR (IF REQUIRED)
- 5) BROOME COUNTY PLANNING DEPT 239.
(COMPLETED BY OUR OFFICE IF REQUIRED)

TOWN OF CONKLIN
PLANNING BOARD

SITE PLAN REVIEW APPLICATION

DATE: 2024-09-27

SITE LOCATION 327 Hardie Rd, Conklin, NY, 13748

TAX MAP# 178.01-1-29.11, .12, .02 ZONING R-15

APPLICANTS NAME: ABUNDANT SOLAR POWER (US NY-327 Hardie Rd-001) LLC

ADDRESS: 700 West Metro Park Rochester, NY 14623-2678

PHONE: +1 647-544-5734

PROPERTY OWNERS NAME: Sustainable Investments LLC.

ADDRESS: 700 West Metro Park Rochester, NY 14623-2678

PHONE: +1 647-896-4588

FOR TOWN USE ONLY

DATE RECEIVED _____ FEE _____

239 REQUIRED YES _____ NO _____ DATE SENT _____

VARIANCE REQUIRED YES _____ NO _____ APPROVED _____

SITE PLAN REVIEW DATE: _____

FINAL APPROVAL DATE: _____

CONDITIONS/RESTRICTIONS: _____

§ 140-147. Relationship of this article to other laws and regulations.

This article in no way affects the provisions or requirements of any other federal, state or local law or regulations. Where this article is in conflict with any other such law or regulation, the more restrictive shall apply.

§ 140-148. Word usage.

Any term used in this article which is not defined hereinabove¹⁶ shall carry its customary meaning unless the context otherwise dictates.

§ 140-149. Procedures. [Amended 8-13-2003 by L.L. No. 2-2003]

Prior to undertaking any new land use activity except for a one-family or two-family dwelling and other uses specifically excepted in § 140-145 of this article, a site plan approval by the Planning Board is required. Applicants for site plan approval should follow the recommended procedures related to the sketch plan conference as hereinafter set forth. Applicants must comply with all other procedures and requirements of this article. No site plan shall be undertaken by the Planning Board without verification from the Town's Code Enforcement Officer that the property, as currently utilized, is in complete compliance with the Code of the Town of Conklin, unless such requirement is waived by a majority vote of the Planning Board members.

§ 140-150. Sketch plan.

A sketch plan conference shall be held between the Planning Board and the applicant prior to the preparation and submission of a formal site plan. The intent of such a conference is to enable the applicant to inform the Planning Board of his proposal prior to the preparation of a detailed site plan and for the Planning Board to review the basic site design concept, to advise the applicant as to potential problems and concerns and to generally determine the information to be required on the site plan. In order to accomplish these objectives, the applicant shall provide the following:

- A. A statement and rough sketch showing the locations and dimensions of principal and accessory structures, parking areas, access signs (with descriptions), existing and proposed vegetation and other planned features; anticipated changes in the existing topography and natural features to comply with flood hazard and flood insurance regulations; and such other information as may be recommended by the Code Enforcement Officer.
- B. An area map showing the parcel under consideration for site plan review and all properties, subdivisions, streets, right-of-way easements and other pertinent features within 1,000 feet of the boundaries of the parcel.
- C. An informational topographical map or contour sketch to show site topography.

¹⁶ Editor's Note: See § 140-4.

§ 140-151. Application requirements.

A. An application for site plan approval shall be made in writing to the Chairman of the Planning Board and filed with the Code Enforcement Officer and shall be accompanied by information contained on the following checklist and such other information as determined necessary by the Planning Board at the sketch plan conference.

B. Site plan checklist. Initial each line (N/A if not applicable)

- _____ (1) Title of drawing, including name and address of applicant and person responsible for preparation of such drawing.
- _____ (2) North arrow, scale and date.
- _____ (3) Boundaries of the property plotted to an acceptable scale, including listing of land uses within 1,000 feet of each boundary.
- _____ (4) Existing buildings.
- _____ (5) Grading drainage plan, pertinent soil characteristics and watercourses, or, if applicable, a stormwater pollution prevention plan consistent with the requirements of Articles I and II of the Town of Conklin Stormwater Management and Erosion and Sediment Control Local Law (Local Law No. 4 of 2007).¹⁷ The approved site plan shall be consistent with the requirements of Articles I and II of the Town of Conklin Stormwater Management and Erosion and Sediment Control Local Law (Local Law No. 4 of 2007). [Amended 6-26-2007 by L.L. No. 5-2007]
- _____ (6) Location, design, type of construction, proposed use and exterior dimensions of all buildings existing and proposed.
- N/A (7) Location, design and type of construction of all existing and proposed parking and truck loading areas, showing access and egress.
- N/A (8) Provision for pedestrian access.
- N/A (9) Location of outdoor storage, when permitted.
- _____ (10) Location, design and construction materials of all existing or proposed site improvements, including drains, culverts, retaining walls and fences.
- N/A (11) Description of the method of sewage disposal and location, including approval of the final design by the Town of Conklin Sewer Superintendent.
- N/A (12) Description of the method of securing water and location, including approval of final design by the Town of Conklin Water Superintendent.
- _____ (13) Location of fire and other emergency zones, including the location of fire hydrants.
- _____ (14) Location of all energy distribution facilities, including electrical, gas and solar energy.

17. Editor's Note: See Ch. 111, Stormwater Management and Erosion and Sediment Control.

- N/A (15) Location and size of all proposed signs.
- _____ (16) Location and proposed development of all buffer areas, including existing vegetative cover.
- N/A (17) Location of outdoor lighting facilities.
- _____ (18) Identification of the location and amount of building area for each proposed activity.
- N/A (19) General landscaping plan and planting schedule.
- _____ (20) An estimated project construction schedule.
- _____ (21) Record of application for and status of all necessary permits from other governmental bodies.
- _____ (22) Identification of any permits from other governmental bodies required for the project's execution.
- _____ (23) Other elements integral to the proposed development as may be considered necessary in the particular case by the Planning Board.

Signature _____

§ 140-152. Required fees. [Amended 11-9-1999 by L.L. No. 2-1999]

An application for site plan review shall be accompanied by a fee as provided by resolution of the Town Board. In the event that the site plan contains provisions for a new structure with a square footage of 7,500 feet or more, the fee shall be as provided by resolution of the Town Board.

§ 140-153. Reimbursable costs.

Costs incurred by the Planning Board for consultation fees or extraordinary expenses in connection with the review of a proposed site plan shall be charged to the applicant.

§ 140-154. Review standards.

The Planning Board's review of the site plan shall include, as appropriate, but is not limited to the following general considerations:

- A. Location, arrangement, size, design and general site compatibility of buildings, lighting and signs.
- B. Adequacy and arrangement of vehicular traffic access and circulation, including intersections, road widths, pavement surfaces, dividers and traffic controls.
- C. Location, arrangement, appearance and sufficiency of off-street parking and loading.



ABUNDANT
Solar Power Inc.

ABUNDANT Solar Power Inc.
A Solar Bank Company
700 West Metro Park
Rochester, NY 14623
www.solarbankcorp.com

ABUNDANT SOLAR POWER INC.

Landowner Special Use Permit Application & Building Permit Consent

Name of Property 327 Hardie Road, Conklin, NY 13748 TaxID: 178.01-1-29.11, 178.01-1-29.12, and 178.01-1-29.2

Landowner Name and Details: Sustainable Investment LTD.

700 West Metro Park, Rochester NY 14623

Jennchan39@gmail.com

I, Jennifer Chan (Director of Sustainable Investment LTD.) hereby give consent to ABUNDANT SOLAR POWER (US NY-327 Hardie Rd-001) LLC to apply for a special use permit and building permit within the bounds of the above-named property. For the development of a solar project in the Town of Conklin.

Signed  _____

Date 2019/2024 _____

Abundant Solar Power Inc.

Signed  _____

Date 20/09/2024 _____

Sustainable Investment LTD.



ABUNDANT Solar Power Inc.
A Solar Bank Company
700 West Metro Park
Rochester, NY 14623
www.solarbankcorp.com

Project Owner:

ABUNDANT SOLAR POWER (US NY-327 Hardie Rd-001) LLC

Andrew van Doorn

(647) 354-5425

700 West Metro Park, Rochester, NY 14623

Project Developer:

Abundant Solar Power Inc.

Andrew van Doorn

(647) 354-5425

700 West Metro Park, Rochester, NY 14623

Project Operator:

ABUNDANT SOLAR POWER (US NY-327 Hardie Rd-001) LLC

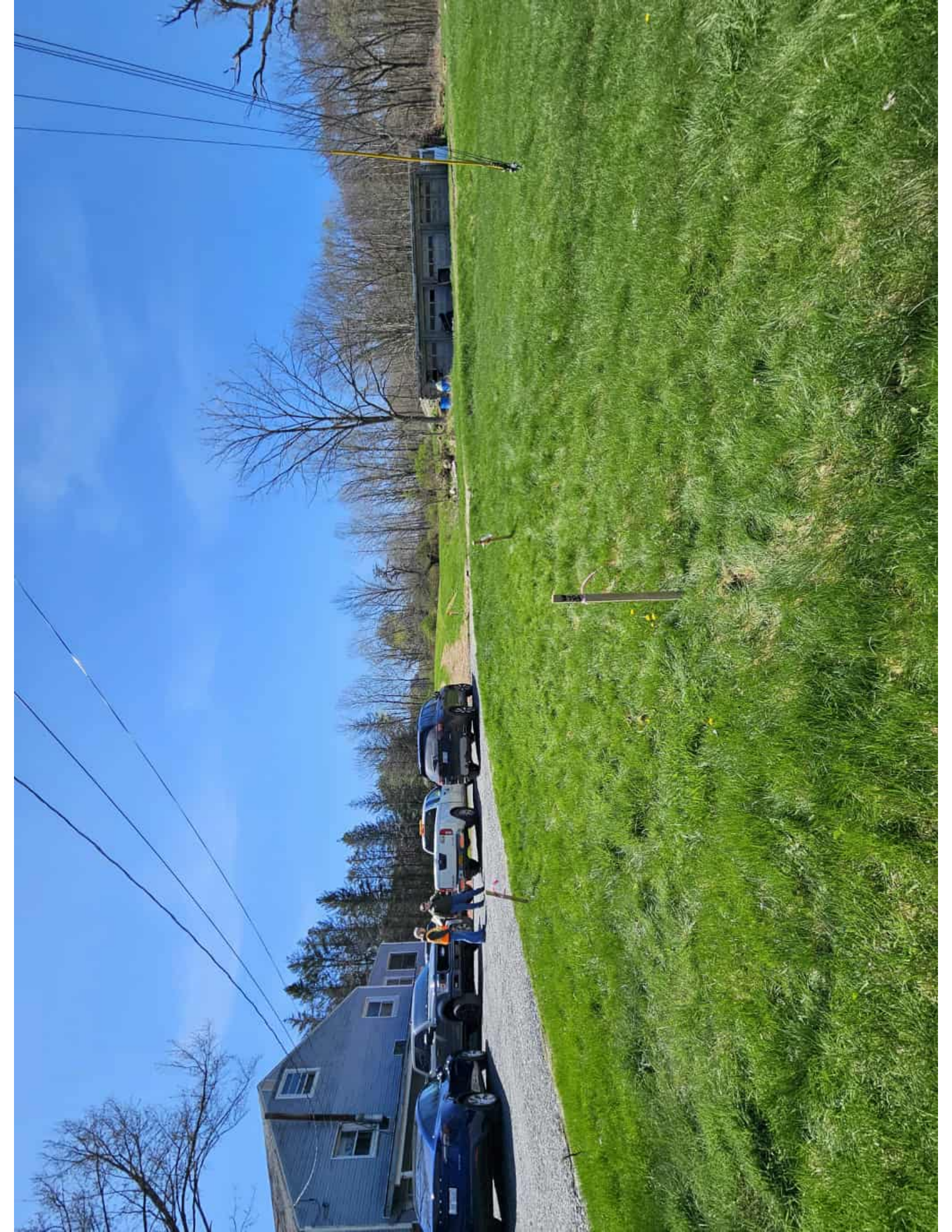
Andrew van Doorn

(647) 354-5425

700 West Metro Park, Rochester, NY 14623

Site Plans

Site Photographs









Map Requirements

- (a) Location and distance of the solar energy system and associated solar accessory facilities/structures to the nearest non-participating residential property line. [Site Plan Drawings \(Sheets G002, C101 & C102\)](#)
- (b) Location and distance of the solar energy system and associated solar accessory facilities/structures to the nearest non-participating residential structure. [Site Plan Drawings \(Sheets G002, C101 & C102\)](#)
- (c) Location and distance of the solar energy system and associated solar accessory facilities/structures to the nearest non-participating, non-residential property line. [Site Plan Drawings \(Sheets G002, C101 & C102\)](#)
- (d) Location and distance of the solar energy system and associated solar accessory facilities/structures to any school, church, public park/parkland, playground, public library or any place of public assembly designed for the simultaneous use of one hundred (100) persons or more. [Site Plan Drawings \(Sheet G002\)](#)
- (e) Location of nearest habitable structure. [Site Plan Drawings \(Sheets G002, C101 & C102\)](#)
- (f) Location, size and height of all existing structures on the property or properties that are the subject of the application. [N/A](#)
- (g) Location, size, and height of all proposed solar collection and accessory structures. [Site Plan Drawings \(Sheet G002\)](#)
- (h) The names, addresses and Tax Map parcel numbers of all owners of record of abutting parcels and those within fifteen hundred (1,500) feet of the property lines of the parcel(s) where development is proposed. Each such owner shall be designated as "participating" or "non-participating" as those terms are defined in this Chapter. The location of all structures located on such properties shall be identified and labeled as "residential" or "nonresidential". [Site Plan Drawings \(Sheet C001\)](#)
- (i) Water access in case of fire. [N/A](#)
- (j) Areas of environmental sensitivity as set forth in § 138-14.A.3 and § 138- 15.C.12 herein. [Site Plan Drawings \(Sheets C001 & C002\)](#)
- (k) Areas of Prime Farmland and Farmland of Statewide importance as defined in § 138-10 clearly showing the area of disturbance. [Site Plan Drawings \(Sheet C001\)](#)
- (l) Detailed information on tree removal areas. [Site Plan Drawings \(Sheet C001\)](#)
- (m) Detailed information on slope degrees specifying areas with varying slopes. [Figure 1 attached to the SWPPP](#)

Operations and Maintenance Plan

Abundant Solar Power (US NY-327 Hardie Rd-001) LLC
Hardie Solar Farm (5 MWac)
Operations and Maintenance Plan

Abundant Solar Power (ASP) shall perform the services described below. Should a transfer of ownership of the System occur, the Town shall be notified and new contact information for site operations and maintenance provided.

System O&M Contact

Faiq Khan
Director – Asset Management and O&M
(657) 581-5866
Faiq.khan@solarbankcorp.com

Monitoring System

The System will be installed with an internet-based Data Acquisition System (DAS) and System Monitoring System. This system will have the capability to send production data and general system performance in addition to alarms identifying problems, failures, and underperformance of the System to remote locations.

Maintenance Items

Description of Work	Frequency
Remote System Monitoring maintenance and operation	As necessary.
On-Call System Service Technician	As necessary.
Preventive Maintenance as per planned maintenance activities schedule	One time per year or as required.
Corrective Maintenance	As necessary.
Grass cutting and Vegetation control	Grass cutting 2-3 times annually or as required to ensure no vegetation exceeds ten (10) inches in height within the interior of the agricultural fencing (Per § 138-15C.6 of the Town of Conklin Town Code); additional vegetation control as
Snow Removal	As necessary for site maintenance activities.
Annual Report	

1. Remote System Monitoring
 - a. ASP will be actively monitoring the System operations via the System Monitoring System and will dispatch a Subcontractor to respond to any problems within two (2) Business Days.

2. On-Call System Service Technician
 - a. In order to respond to System alarms, power outages, System failures, or other production shortcomings a service technician will be required to visit the Site to troubleshoot, and resolve, any System issue within two (2) Business Days of the notification of such problem.

3. Preventive Maintenance
 - a. ASP will annually visit the Site to inspect and ensure the System is operated within manufacturer's guidelines and consistent with best industry practices, the annual visit scope of work is as follows:

Planned Maintenance Activities

Maintenance frequency

1. Modules

1.1	High level of inspection (debris, crack, holes, damages, ...)	Annually
1.2	No cracks and other defects/damage on PV modules	Annually
1.3	No shading issues from surrounding objects	Annually
1.4	No signs of components abnormal wear or excessive corrosion/rust	Annually
1.5	Frames and clamps are in place and appropriate	Annually
1.6	PV wiring is not pinched, damaged or otherwise interfering with module installation	Annually
1.7	There are no unsecured or loose conductors hanging down or touching the ground	Annually
1.8	Inspection of PV cabling for insulation issues, mechanical protection, stress, strain, connector issues, etc.	Annually
1.9	Inspect array bonding/grounding	Annually

2. Racking

2.1	Visual Inspection for signs of surface rust	Annually
2.2	Posts - Visual inspection of post settling (10%)	Annually
2.3	Purlin - Visual inspection on bent purlins, attachment to pivot arm (10%)	Annually
2.4	Modules - Visual check of bolt/nut, torque check (10%)	Annually
2.5	Fasteners - Inspected annually - retorqued if necessary	Annually
2.6	Modules - Inspect for cracked or broken modules, properly secured, replace modules and missing fasteners	Annually
2.7	Wiring - Inspect for loose or damaged wiring	Annually
2.8	Racking - Inspect for bent or deformed structural members	Annually

3. Panel Washing

3.1	Panels Washed	Annually
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4. Conduits, Cable Trays and Homeruns

4.1	Visual inspection of home-run cables to inverters, CB's, RCB's & disconnects	Annually
4.2	Visual inspections of conduit & cable trays	Annually
4.3	Wire insulation in good conditions (not scuffed or broken)	Annually

5. Combiner & Recombiner boxes:

5.1	Visual internal and external inspection for labelling, moisture entry, rodents & overall cleanliness	Annually
5.2	Verify Fuses, breakers and Surge suppression are in good conditions	Annually
5.3	Inspection of disconnect sealing, Lubrification Hinges	Annually

6. DG Disconnects at Equipment Pad

6.1	Verify Breakers/Fuses and Surge suppression are in good conditions	Annually
6.2	Inspection of disconnect sealing, Lubrification Hinges	Annually

7. Inverters

7.1	Visual internal and external inspection of labelling, heat sinks, moisture entry, rodents & overall cleanliness	Annually
7.2	Check for Alerts/Alarms on inverter screens	Annually
7.3	Enclosure is free from damage, all weather seals are intact, doors and latches operate properly	Annually
7.4	Inverter AFCI (Arc Fault Circuit Interrupter) Status	Annually
7.5	Inspection of internal switch cabinet-cleaning as required & insulation measurements	Annually
7.6	Inspect and if necessary clean heating elements & heat exchangers	Annually
7.7	Check all electrical terminals and fuses	Annually
7.8	Verify all communications and electrical connections	Annually
7.9	IVCT (I-V Curve Tracing) 33% of strings	Remotely /Annually

8. SCADA

8.1	Inspection of SCADA & Monitoring System Equipment	Annually
8.2	Inspect Weather Station	Annually
8.3	Ensure sensors are oriented correctly & cleaned	Annually
8.4	Ensure monitoring data is calibrated with portal and communicating effectively (Smart logger, ECO Portal etc..)	Annually

9. Switchboard

9.1	Cleaning - Remove dust/debris from busbars, connections, supports & enclosure surfaces	Annually
9.2	Bus & Cable Connections - Inspect for visible damage, broken wire strands, damaged insulation on cable connections	Annually
9.3	Insulation - Busbars, Bus Supports, Bus Shields, Insulating Barriers visually checked for damage	Annually
9.4	Circuit Breakers - Inspect for signs of discoloration, overheating, damage. Exercise operating mechanism.	Annually
9.5	Fusible Overcurrent Devices - Visually inspect switching mechanism and fuse connections	Annually
9.6	Meters & Controllers - Remove dust & dirt from exterior	Annually
9.7	Secondary Wiring - check wiring connections for damaged insulation, and for proper connection	Annually
9.8	Ventilation - Check grills/ventilation ports for obstructions/dirt accumulation and clean	Annually
9.9	Physical Damage - Inspect exterior enclosure plus interior components for damage	Annually

10. Transformer

10.1	General - Inspect area for stored tools/materials/debris. Listen for steady hum and no abnormal noises.	Annually
10.2	Exterior Surfaces - Inspect for tampering, battered metal, gouges, damages	Annually
10.3	Paint/Protective Coatings - Inspect for scratches or weathering, touch ups required	Annually
10.4	Tank Leaks - Inspect exterior/base for signs of leakage	Annually
10.5	Pad - Verify pad is not damaged and has not tilted	Annually
10.6	Nameplates - Inspect for proper nameplates and abnormal/unexpected fading	Annually
10.7	Unusual Odors - Inspect for smell of fluid or burning	Annually
10.8	Gauges & Controls - Check for proper operation	1 Year After Installation, subsequently every three years
10.9	Equipment Leaks - Inspect drain cocks, plugs, fuse mounting, and switches for insulating liquid leakage.	1 Year After Installation, subsequently every three years
10.10	Dialectic Fluid Level - Check Dielectric fluid level gauge	
10.11	Fusing - Inspect fuses	
10.12	Bushings - Check condition of HV & LV bushings for dirt, breakage	
10.13	Pressure Relief Valve - Check for dirt, debris, operation	
10.14	Lightning Arrestors - Check for damage/breakage and tight ground connections	
10.15	Dissolved Gas Analysis - Take Oil Sample to check dissolved gas levels (third party testing)	
10.16	Insulation Resistance Test	

10.17	Turns Ration Test (TRT)	
10.18	Power Factor Test (Overall, Arrestors, Bushing, Windings)	
10.19	Excitation-Current Tests	
10.20	Winding Resistance Test	

11. Thermal Imaging

11.1	Thermal Images of Transformer	Annually
11.2	Thermal Images of Inverters	Annually
11.3	Thermal Images of AC Panelboard	Annually
11.4	Thermal Images of main breakers, disconnects, bus & Cable connections	Annually
11.5	Provide a report outlining Thermal and torquing Anomalies detected thanks to thermal imaging & corrective action taken	Annually

12. Medium Voltage

12.1	Inspect medium voltage overhead lines	Annually
12.2	Check the integrity of guy-wires	Annually
12.3	Inspect integrity of the poles	Annually
12.4	Inspect overhead lines for tree clearance	Annually

13. General Site Maintenance

13.1	Grass Cutting and vegetation control as required, to maintain a maximum height of 10 inches – the use of herbicides is strictly prohibited	As Required
13.2	Access road clear of debris & in good condition	Annually
13.3	Snow Removal will be performed on an as needed basis. Plowing snow to the side of the access roads is permitted	As Required
13.4	Confirm proper system signage and labelling on equipment	Annually
13.5	Shading management, visual screening maintenance & fence integrity assessment - maintenance if needed	Annually
13.6	Check the integrity of access gate pad-lock	Annually
13.7	Prepare Site photos in Maintenance Report	Annually
13.8	Prepare annual preventive maintenance & operational report	Annually

14. Special Use Permit

14.1	Perform site sampling and analytical analysis per site sampling plan	Every 3 years
14.2	Submit Special Use Permit recertification request	Every 3 years

Reports Checklist

- (a) The proposed design level for solar energy production capacity for the facility and the basis for the calculations of the solar energy system's capacity. **Attached**
- (b) The make, model and manufacturer of the solar production component parts and schematic drawings of same. **Attached**
- (c) A description of the proposed commercial solar energy system and all related fixtures, structures, appurtenances and apparatus, including height above preexisting grade, materials, color and lighting. **Attached**
- (d) Applicant's proposed commercial solar energy system maintenance and inspection procedures and related system of records. This report shall further include a list of contacts for the property, notification procedures for the transfer of ownership and plans for continuing photovoltaic maintenance and property upkeep, such as mowing and trimming. **Included in Operations and Maintenance Plan**
- (e) Certification from all relevant County, State and/or Federal authorities that the proposed commercial solar energy system will not cause interference with air traffic. **Attached**
- (f) Certification that a topographic and geomorphologic study/analysis has been conducted, taking into account subsurface features and a proposed drainage plan pursuant to a Storm Water Pollution Prevention Plan (SWPPP), such that the proposed site is deemed adequate to assure the stability of the proposed commercial ground-mounted solar energy system. **Attached SWPPP**
- (g) Plans to prevent the erosion of soil both during and after construction, excessive runoff, and flooding of other properties, as applicable. There should be pre-construction and post-construction drainage calculations for the site completed by a licensed engineer. From this the engineer must show how there will be no increase in runoff from site. A SWPPP will be required if disturbance of the land exceeds one acre. **Attached SWPPP**
- (h) A decommissioning plan completed in conformance with § 138-26 of this Article. **Attached**
- (i) A true and complete copy of the interconnection agreement between the owner of the commercial solar energy system and the utility company. **Attached**
- (j) The Applicant shall furnish a visual impact assessment, in a manner approved by the Board, to demonstrate and provide in writing and/or by drawing how it shall effectively screen from view the proposed commercial solar energy system and all related structures. **Attached**
- (k) The Applicant shall furnish a visual impacts minimization and mitigation plan that responds to any concerns raised as a result of the visual impact assessment. **N/A**
- (l) A water quality report and a soil testing report, both prepared by a professional environmental engineer or environmental scientist licensed to practice in the State of New York that shows the presence or absence of any preexisting, subsurface, hazardous materials that may be present at the project site to establish the original condition to which the project site soil and water quality must be protected and/or restored upon Special Use Permit recertification as set forth in § 138-24 herein, and decommissioning

as set forth in § 138-26 herein. For purposes of this section, hazardous materials are those listed in 6 NYCRR 597.3, as may be amended from time-to-time. **Attached**

- (m) A technical or professionally prepared noise analysis detailing potential noise impacts of the system including ambient noise levels to ensure that they do not exceed the maximum permissible continuous sound levels as set forth in Town Code Chapter 94 and/or any other applicable Town local law or ordinance. **Attached**
- (n) A certification that the solar panels consist of non-toxic components and that the equipment is certified to applicable performance and safety standards including those established by the International Electrotechnical Commission (IEC) and Underwriters Laboratory (UL). **Attached**
- (o) A Completed State Environmental Quality Review Act ("SEQRA") Full Environmental Assessment Form ("FEAF") **Attached**

Design Level for Energy Production

PVsyst - Simulation report

Grid-Connected System

Project: NY-327 Hardie Rd

Variant: NY-327 Hardie R_580w MOD_5MWac_P=30ft

Sheds on ground

System power: 6876 kWp

Fivemile Point - United States

Author

Abundant Solar Energy Inc. (Canada)



Project: NY-327 Hardie Rd

Variant: NY-327 Hardie R_580w MOD_5MWac_P=30ft

PVsyst V7.4.8

VC0, Simulation date:
09/22/24 22:19
with V7.4.8

Abundant Solar Energy Inc. (Canada)

Project summary

Geographical Site	Situation	Project settings
Fivemile Point	Latitude 42.08 ° N	Albedo 0.20
United States	Longitude -75.83 ° W	
	Altitude 268 m	
	Time zone UTC-5	
Weather data		
Fivemile Point		
Meteonorm 8.1 (1991-2005), Sat=6% - Synthetic		

System summary

Grid-Connected System	Sheds on ground	User's needs
PV Field Orientation	Near Shadings	Unlimited load (grid)
Fixed plane	According to strings : Fast (table)	
Tilt/Azimuth 30 / 0 °	Electrical effect 100 %	
System information	Inverters	
PV Array	Nb. of units 25 units	
Nb. of modules 11856 units	Pnom total 5000 kWac	
Pnom total 6876 kWp	Pnom ratio 1.375	

Results summary

Produced Energy 8534303 kWh/year	Specific production 1241 kWh/kWp/year	Perf. Ratio PR 80.28 %
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Project: NY-327 Hardie Rd

Variant: NY-327 Hardie R_580w MOD_5MWac_P=30ft

PVsyst V7.4.8

VCO, Simulation date:
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Abundant Solar Energy Inc. (Canada)

General parameters

Grid-Connected System		Sheds on ground			
PV Field Orientation		Sheds configuration		Models used	
Orientation		Nb. of sheds	456 units	Transposition	Perez
Fixed plane		Identical arrays		Diffuse	Perez, Meteonom
Tilt/Azimuth	30 / 0 °	Sizes		Circumsolar	separate
		Sheds spacing	9.14 m		
		Collector width	4.58 m		
		Ground Cov. Ratio (GCR)	50.1 %		
		Top inactive band	0.02 m		
		Bottom inactive band	0.02 m		
		Shading limit angle			
		Limit profile angle	24.0 °		
Horizon		Near Shadings		User's needs	
Free Horizon		According to strings : Fast (table)		Unlimited load (grid)	
		Electrical effect	100 %		
Bifacial system					
Model	2D Calculation				
	unlimited sheds				
Bifacial model geometry		Bifacial model definitions			
Sheds spacing	9.14 m	Ground albedo	0.20		
Sheds width	4.62 m	Bifaciality factor	80 %		
Limit profile angle	24.0 °	Rear shading factor	5.0 %		
GCR	50.5 %	Rear mismatch loss	10.0 %		
Height above ground	1.50 m	Shed transparent fraction	0.0 %		

PV Array Characteristics

PV module		Inverter	
Manufacturer	ZNshine solar	Manufacturer	Sungrow
Model	ZXM7-UHLDD144-580/N(2278× 1134× 30)	Model	SG200HX-US
	(Custom parameters definition)		(Custom parameters definition)
Unit Nom. Power	580 Wp	Unit Nom. Power	200 kWac
Number of PV modules	11856 units	Number of inverters	25 units
Nominal (STC)	6876 kWp	Total power	5000 kWac
Array #1 - Sub Array #1			
Number of PV modules	2964 units	Number of inverters	6 units
Nominal (STC)	1719 kWp	Total power	1200 kWac
Modules	114 string x 26 In series		
At operating cond. (50° C)		Operating voltage	500-1500 V
Pmpp	1591 kWp	Pnom ratio (DC:AC)	1.43
U mpp	1024 V	Power sharing within this inverter	
I mpp	1553 A		
Array #2 - Sub-array #2			
Number of PV modules	8892 units	Number of inverters	19 units
Nominal (STC)	5157 kWp	Total power	3800 kWac
Modules	342 string x 26 In series		
At operating cond. (50° C)		Operating voltage	500-1500 V
Pmpp	4772 kWp	Pnom ratio (DC:AC)	1.36
U mpp	1024 V	Power sharing within this inverter	
I mpp	4660 A		



Project: NY-327 Hardie Rd

Variant: NY-327 Hardie R_580w MOD_5MWac_P=30ft

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Abundant Solar Energy Inc. (Canada)

PV Array Characteristics

Total PV power		Total inverter power	
Nominal (STC)	6876 kWp	Total power	5000 kWac
Total	11856 modules	Number of inverters	25 units
Module area	30627 m ²	Pnom ratio	1.38

Array losses

Array Soiling Losses		Thermal Loss factor		LID - Light Induced Degradation				
Loss Fraction	6.5 %	Module temperature according to irradiance		Loss Fraction	1.5 %			
		Uc (const)	25.0 W/m ² K					
		Uv (wind)	0.0 W/m ² K/m/s					
Module Quality Loss								
Loss Fraction	-0.8 %							
Module mismatch losses								
Array #1 - Sub Array #1								
Loss Fraction	2.0 % at MPP							
Array #2 - Sub-array #2								
Loss Fraction	2.0 % at MPP							
IAM loss factor								
Incidence effect (IAM): User defined profile								
0°	30°	50°	60°	70°	75°	80°	85°	90°
1.000	1.000	1.000	1.000	0.986	0.964	0.925	0.837	0.000
Spectral correction								
FirstSolar model								
Precipitable water estimated from relative humidity								
Coefficient Set	C0	C1	C2	C3	C4	C5		
Monocrystalline Si	0.85914	-0.02088	-0.0058853	0.12029	0.026814	-0.001781		

DC wiring losses

Global wiring resistance	2.7 mΩ		
Loss Fraction	1.5 % at STC		
Array #1 - Sub Array #1		Array #2 - Sub-array #2	
Global array res.	11 mΩ	Global array res.	3.6 mΩ
Loss Fraction	1.5 % at STC	Loss Fraction	1.5 % at STC

System losses

Unavailability of the system		Auxiliaries loss	
Time fraction	1.0 %		
	3.7 days,		
	3 periods		



Project: NY-327 Hardie Rd

Variant: NY-327 Hardie R_580w MOD_5MWac_P=30ft

PVsyst V7.4.8

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09/22/24 22:19
with V7.4.8

Abundant Solar Energy Inc. (Canada)

AC wiring losses

Inv. output line up to MV transfo

Inverter voltage 600 Vac tri
Loss Fraction 1.31 % at STC

Global System

Wire section Alu 3 x 10000 mm²
Wires length 221 m

MV line up to Injection

MV Voltage 12.5 kV
Average each inverter
Wires Alu 3 x 95 mm²
Length 260 m
Loss Fraction 0.19 % at STC

AC losses in transformers

MV transfo

Medium voltage 12.5 kV

One transfo parameters

Nominal power at STC 3.38 MVA
Iron Loss (24/24 Connexion) 0.34 kVA
Iron loss fraction 0.01 % at STC
Copper loss 34.10 kVA
Copper loss fraction 1.01 % at STC
Coils equivalent resistance 3 x 1.08 mΩ

Operating losses at STC (full system)

Nb. identical MV transfos 2
Nominal power at STC 6.75 MVA
Iron loss (24/24 Connexion) 0.68 kVA
Copper loss 68.19 kVA



PVsyst V7.4.8

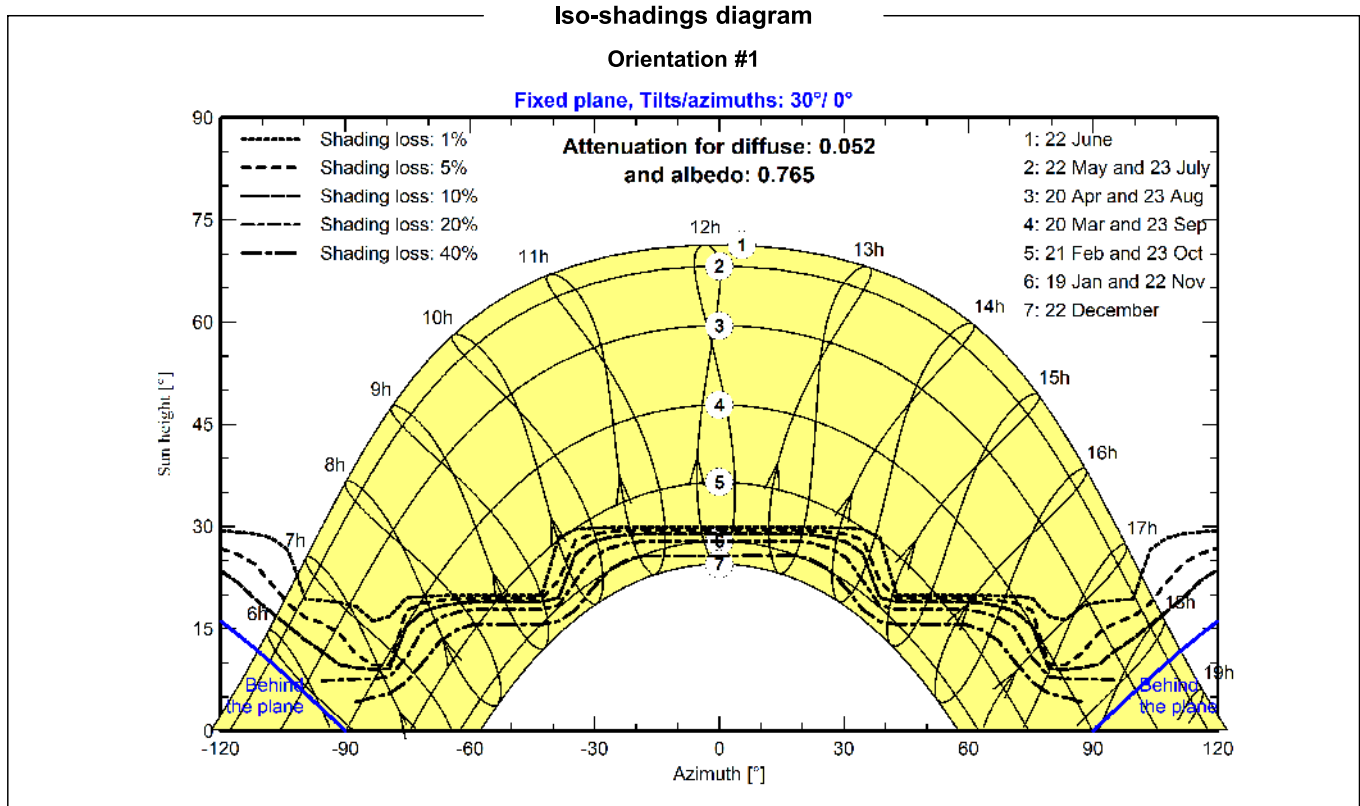
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with V7.4.8

Abundant Solar Energy Inc. (Canada)

Near shadings parameter

Perspective of the PV-field and surrounding shading scene







Project: NY-327 Hardie Rd

Variant: NY-327 Hardie R_580w MOD_5MWac_P=30ft

PVsyst V7.4.8

VCO, Simulation date:
09/22/24 22:19
with V7.4.8

Abundant Solar Energy Inc. (Canada)

Main results

System Production

Produced Energy 8534303 kWh/year

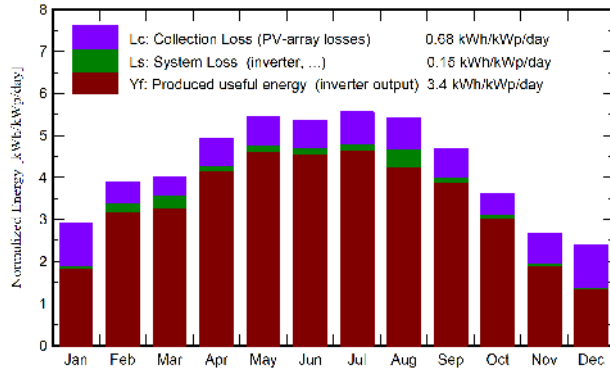
Specific production

1241 kWh/kWp/year

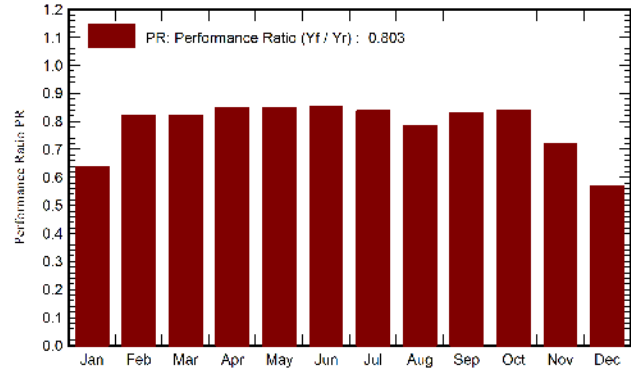
Perf. Ratio PR

80.28 %

Normalized productions (per installed kWp)



Performance Ratio PR



Balances and main results

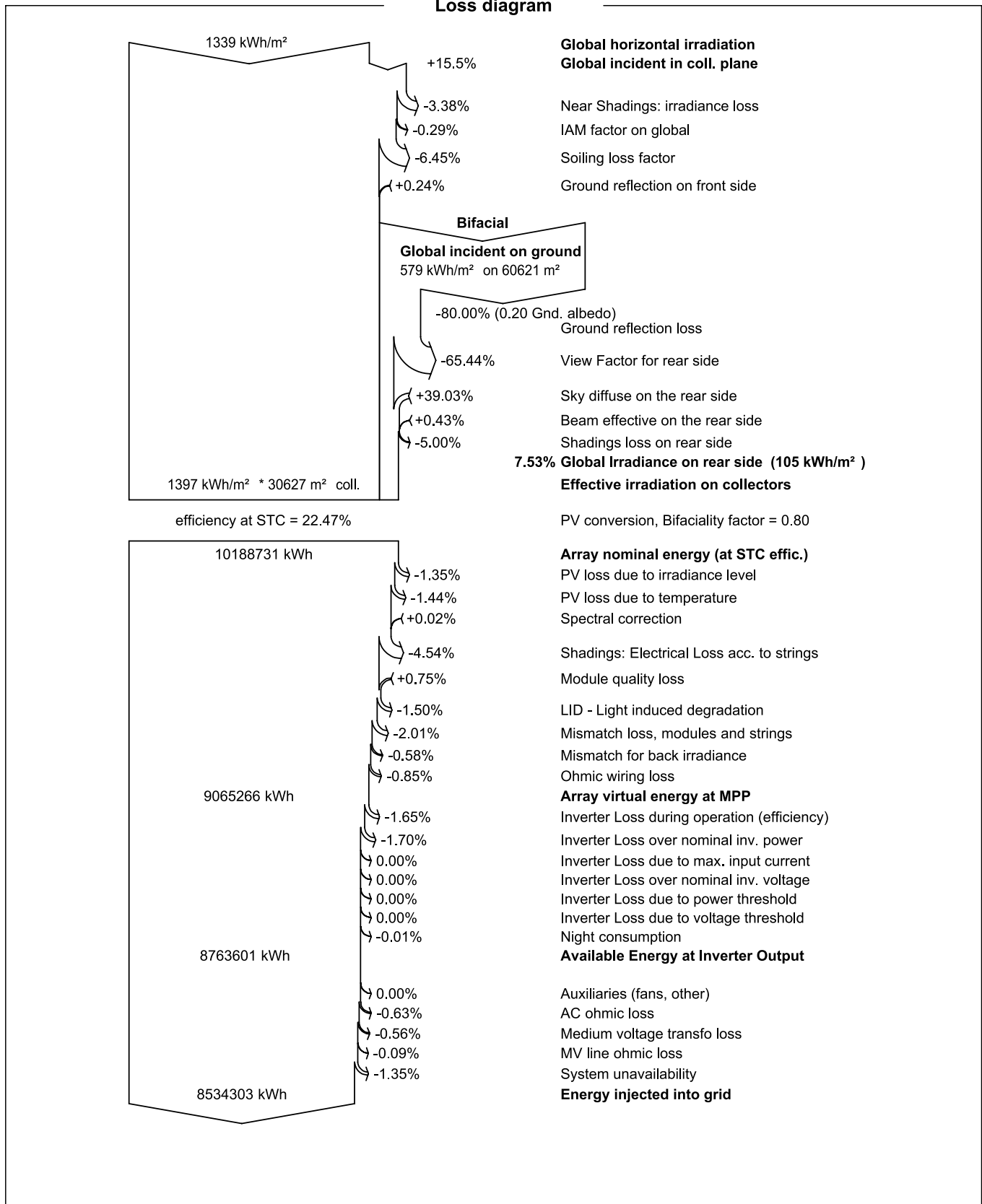
	GlobHor kWh/m ²	DiffHor kWh/m ²	T_Amb ° C	GlobInc kWh/m ²	GlobEff kWh/m ²	EArray kWh	E_Grid kWh	PR ratio
January	53.9	24.53	-4.62	89.9	77.8	406544	395382	0.639
February	74.1	31.94	-3.60	108.9	98.9	652530	613408	0.819
March	102.3	51.37	0.93	123.9	113.0	763296	700160	0.822
April	135.1	68.77	7.98	147.3	134.1	886292	859837	0.849
May	169.4	87.23	14.60	168.9	153.7	1018578	988061	0.851
June	168.2	87.81	18.59	160.7	146.1	971247	942811	0.853
July	176.3	87.26	21.33	172.2	156.8	1022363	992124	0.838
August	159.1	77.23	20.43	168.3	153.4	996397	909840	0.786
September	119.5	52.38	16.43	140.2	128.0	827226	802286	0.832
October	83.0	40.88	10.31	111.8	101.6	665813	645688	0.840
November	52.6	27.90	4.30	80.0	70.5	406312	394921	0.718
December	45.1	23.70	-1.15	73.8	62.7	297437	289785	0.571
Year	1338.6	660.99	8.86	1546.0	1396.7	8914036	8534303	0.803

Legends

GlobHor	Global horizontal irradiation	EArray	Effective energy at the output of the array
DiffHor	Horizontal diffuse irradiation	E_Grid	Energy injected into grid
T_Amb	Ambient Temperature	PR	Performance Ratio
GlobInc	Global incident in coll. plane		
GlobEff	Effective Global, corr. for IAM and shadings		



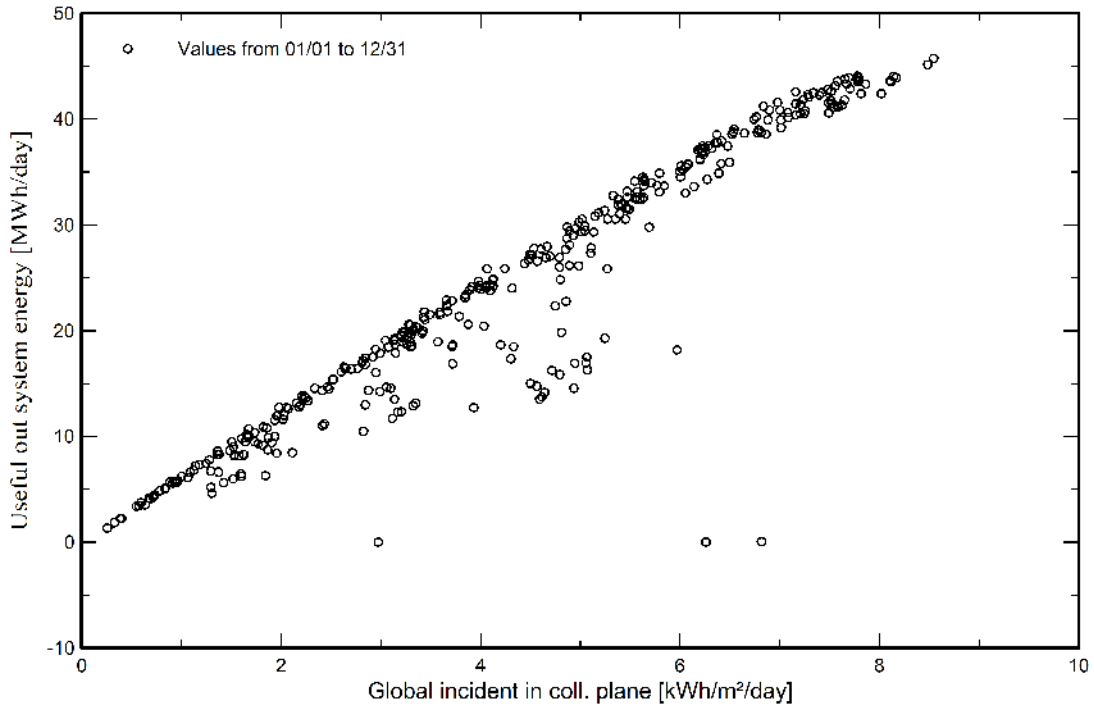
Loss diagram



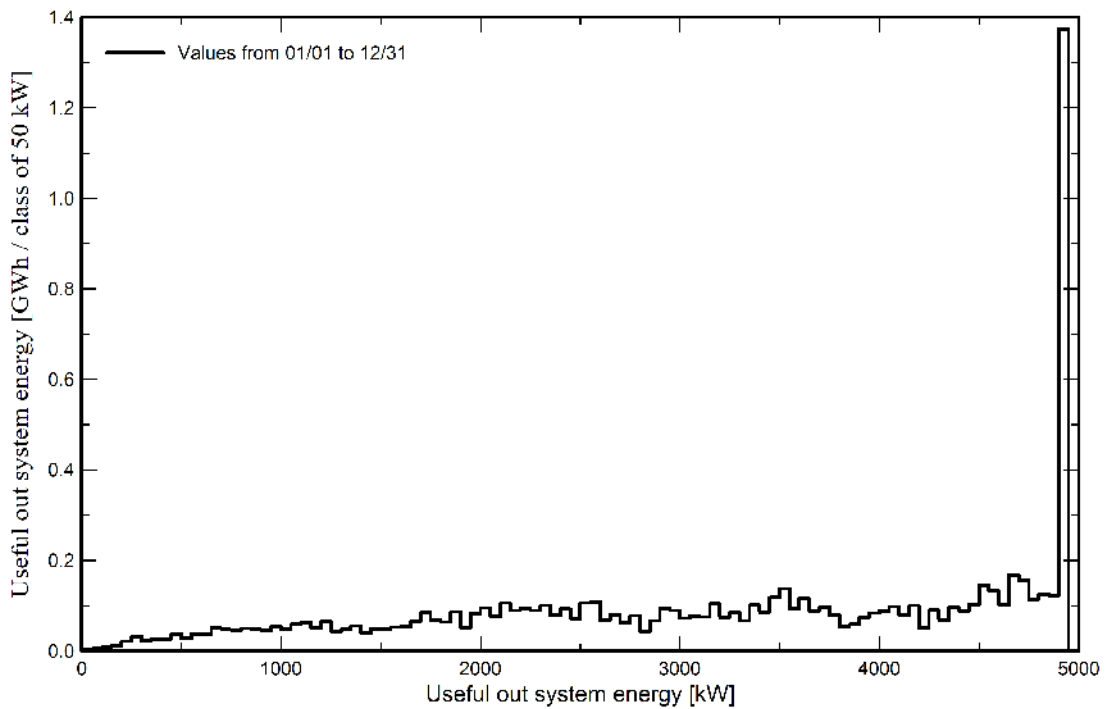


Predef. graphs

Daily Input/Output diagram



System Output Power Distribution





Project: NY-327 Hardie Rd

Variant: NY-327 Hardie R_580w MOD_5MWac_P=30ft

PVsyst V7.4.8

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with V7.4.8

Abundant Solar Energy Inc. (Canada)

P50 - P90 evaluation

Weather data

Source	Meteonorm 8.1 (1991-2005), Sat=6%
Kind	Monthly averages
Synthetic - Multi-year average	
Year-to-year variability(Variance)	5.8 %

Specified Deviation

Climate change	0.0 %
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Global variability (weather data + system)

Variability (Quadratic sum)	6.1 %
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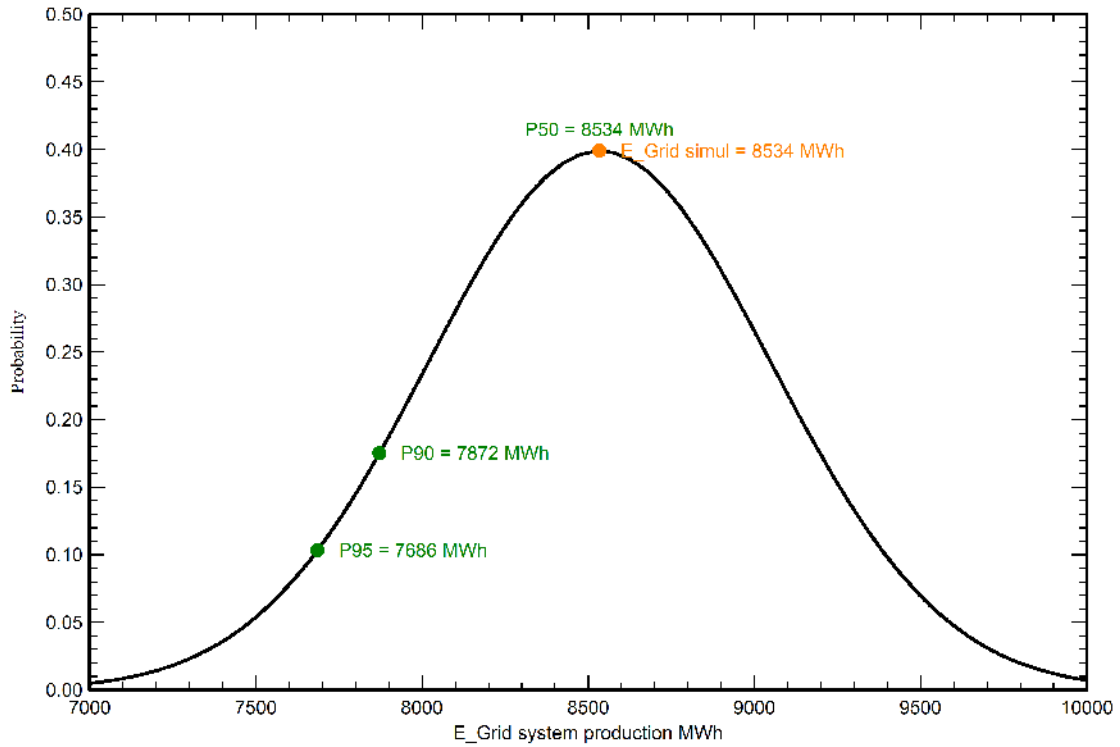
Simulation and parameters uncertainties

PV module modelling/parameters	1.0 %
Inverter efficiency uncertainty	0.5 %
Soiling and mismatch uncertainties	1.0 %
Degradation uncertainty	1.0 %

Annual production probability

Variability	516 MWh
P50	8534 MWh
P90	7872 MWh
P95	7686 MWh

Probability distribution

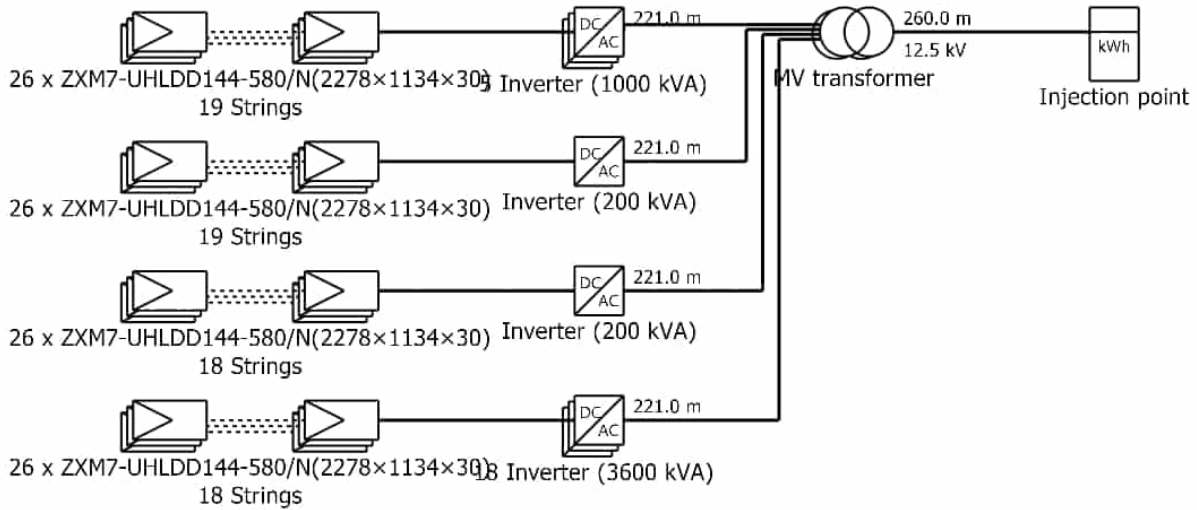




Single-line diagram

PVsyst V7.4.8

VCO, Simulation date:
09/22/24 22:19
with V7.4.8



PV module	ZXM7-UHLDD144-580/N(2278×1134×30)
Inverter	SG200HX-US
String	26 x ZXM7-UHLDD144-580/N(2278×1134×30)

NY-327 Hardie Rd

Abundant Solar En
ergy Inc. (Canada)

VCO : NY-327 Hardie R_580w MOD_5M
Wac_P=30ft

09/22/24

Equipment Cut Sheets



ZXM7-UHLDD144 Series

16BB HALF-CELL N-Type TOPCon Bifacial Double Glass Monocrystalline PV Module

555-580W

POWER RANGE

22.45%

MAXIMUM EFFICIENCY

0.40%

YEARLY DEGRADATION



12 YEARS PRODUCT WARRANTY



30 YEARS OUTPUT GUARANTEE



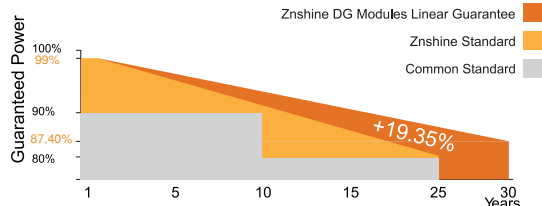
IEC 61215/IEC 61730

ISO 14001: Environmental Management System

ISO 9001: Quality Management System

ISO45001: Occupational Health and Safety Management System

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



*Please check the valid version of Limited Product Warranty which is officially released by ZNSHINE PV-TECH Co.,Ltd.

Key Features



Excellent Cells Efficiency

SMBB technology reduce the distance between busbars and finger grid line which is benefit to power increase.



Better Weak Illumination Response

More power output in weak light condition, such as haze, cloudy, and early morning.



Anti PID

Ensured PID resistance through the quality control of cell manufacturing process and raw materials.



Adapt To Harsh Outdoor Environment

Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity environment.



TIER 1

Global, Tier 1 bankable brand, with independently certified advanced automated manufacturing.



Excellent Quality Management System

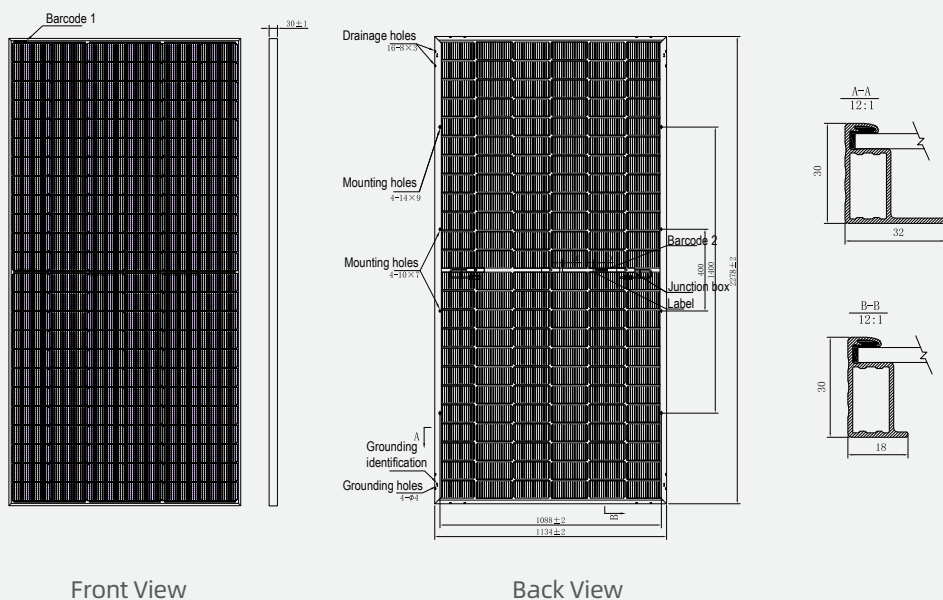
Warranted reliability and stringent quality assurances well beyond certified requirements.



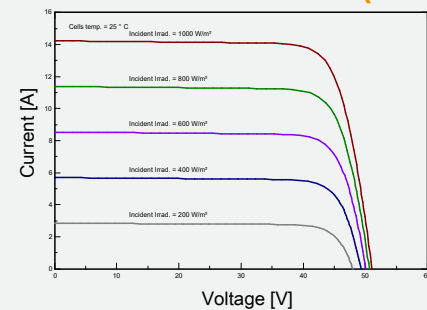
Bifacial Technology

Up to 25% additional power gain from back side depending on albedo.

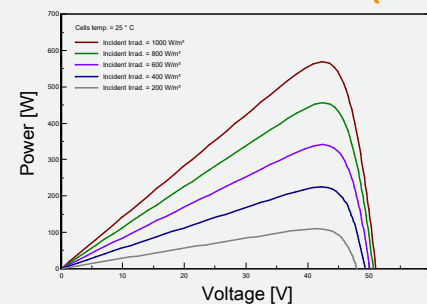
DIMENSIONS OF PV MODULE(mm)



I-V CURVES OF PV MODULE(570W)



P-V CURVES OF PV MODULE(570W)



*Remark: customized frame color and cable length available upon request

ELECTRICAL CHARACTERISTICS | STC*

Nominal Power Watt Pmax(W)*	555	560	565	570	575	580
Maximum Power Voltage Vmp(V)	41.80	42.00	42.20	42.40	42.60	42.80
Maximum Power Current Imp(A)	13.28	13.34	13.39	13.45	13.50	13.56
Open Circuit Voltage Voc(V)	50.50	50.70	50.90	51.10	51.30	51.50
Short Circuit Current Isc(A)	14.05	14.11	14.17	14.23	14.29	14.35
Module Efficiency (%)	21.48	21.68	21.87	22.07	22.26	22.45

*The data above is for reference only and the actual data is in accordance with the practical testing
 *STC (Standard Test Condition): Irradiance 1000W/m², Module Temperature 25±2°C, AM 1.5
 *Measuring uncertainty: ±3%, all the electrical characteristics such as Power, Im, Vm and FF are within ±3% tolerance.

MECHANICAL DATA

Solar cells	N-type Monocrystalline
Cells orientation	144 (6×24)
Module dimension	2278×1134×30 mm (With Frame)
Weight	31.5±1.0 kg
Glass	2.0 mm+2.0mm, High Transmission, AR Coated Heat Strengthened Glass
Junction box	IP 68, 3 diodes
Cables	4 mm ² , 350 mm (With Connectors)
Connectors*	MC4-compatible

*Please refer to regional datasheet for specified connector

ELECTRICAL CHARACTERISTICS | NMOT*

Maximum Power Pmax(Wp)	419.00	422.80	426.40	430.30	433.90	437.80
Maximum Power Voltage Vmp(V)	39.30	39.50	39.70	39.90	40.00	40.20
Maximum Power Current Imp(A)	10.65	10.70	10.74	10.79	10.83	10.88
Open Circuit Voltage Voc(V)	47.70	47.80	48.00	48.20	48.40	48.60
Short Circuit Current Isc(A)	11.34	11.39	11.44	11.48	11.53	11.58

*NMOT: Irradiance 800W/m², Ambient Temperature 20°C, AM 1.5, Wind Speed 1 m/s

TEMPERATURE RATINGS

NMOT	44°C ±2°C
Temperature coefficient of Pmax	(-0.30±0.03)%/°C
Temperature coefficient of Voc	-0.25%/°C
Temperature coefficient of Isc	0.046%/°C
Refer. Bifacial Factor	(80±10)%

WORKING CONDITIONS

Maximum system voltage	1500 V DC
Operating temperature	-40°C~+85°C
Maximum series fuse	30 A
Front Side Maximum Static Loading	Up to 5400Pa
Rear Side Maximum Static Loading	Up to 2400Pa

*Remark: Do not connect Fuse in Combiner Box with two or more strings in parallel connection

ELECTRICAL CHARACTERISTICS WITH 25% REAR SIDE POWER GAIN*

Front power Pmax/W	555	560	565	570	575	580
Total power Pmax/W	694	700	706	713	719	725
Vmp/V(Total)	41.90	42.10	42.30	42.50	42.70	42.90
Imp/A(Total)	16.56	16.63	16.70	16.76	16.83	16.90
Voc/V(Total)	50.60	50.80	51.00	51.20	51.40	51.60
Isc/A(Total)	17.52	17.59	17.67	17.74	17.82	17.88

*Bifacial Gain: The additional gain from the back side compared to the power of the front side at the standard test condition. It depends on mounting (structure, height, tilt angle etc.) and albedo of the ground.

PACKAGING CONFIGURATION*

Piece/Box	36
Piece/Container(40'HQ)	720

*Customized packaging is available upon request.
 *Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types.
 *Caution: 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.

SG200HX-US

Multi-MPPT String Inverter for 1500 Vdc System



HIGH YIELD

- Up to 12 MPPTs with max. efficiency 98.8%
- 20A per string, compatible with 500Wp+ module
- Data exchange with tracker system, improving yield



GRID SUPPORT

- SCR ≥ 1.15 stable operation in extremely weak grid
- Reactive power response time < 30 ms



LOW COST

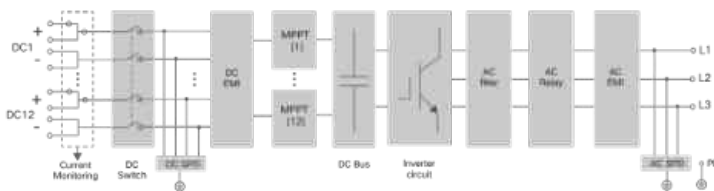
- Q at night function, save investment
- Power line communication (PLC)
- Smart IV Curve diagnosis, active O&M



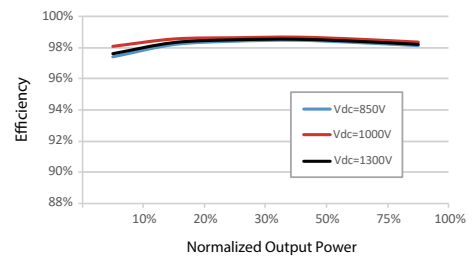
PROVEN SAFETY

- 2 strings per MPPT, no fear of string reverse connection
- 24h real-time AC and DC insulation monitoring

CIRCUIT DIAGRAM



EFFICIENCY CURVE



Type designation	SG200HX-US
Input (DC)	
Max. PV input voltage	1500 V
Min. PV input voltage / Startup input voltage	500 V / 550 V
Nominal PV input voltage	1000 V
MPP voltage range	500 V – 1500 V
Full Power MPP Voltage Range @ 40 °C	850 V – 1300 V*
No. of independent MPP inputs	12
Max. number of input connector per MPPT	2
Max. PV input current	12 * 40 A
Max. DC short-circuit current per MPPT	60 A
Output (AC)	
AC output power	200 KVA @ 40 °C
Max. AC output current	193 A
Nominal AC voltage	3 / PE, 600 V
AC voltage range	528 V – 660 V
Nominal grid frequency / Grid frequency range	60 Hz / 55 Hz – 65 Hz
THD	< 3 % (at nominal power)
DC current injection	< 0.5 % I _n
Power factor at nominal power / Adjustable power factor	> 0.99 / 0.8 leading – 0.8 lagging
Feed-in phases / connection phases	3 / 3
Efficiency	
Max. efficiency / CEC efficiency	98.8 % / 98.5 %
Protection	
DC reverse connection protection	Yes
AC short circuit protection	Yes
Leakage current protection	Yes
Grid monitoring	Yes
Ground fault monitoring	Yes
DC switch / AC switch	Yes / No
PV String current monitoring	Yes
Q at night function	Yes
Anti-PID and PID recovery function	Optional (EMU200A)
Surge protection	DC Type II / AC Type II
General data	
Dimensions (W*H*D)	1166 mm * 870 mm * 361 mm (45.9" * 34.3" * 14.2")
Weight	≤ 120 kg (≤ 265 lbs)
Isolation method	Transformerless
Degree of protection	IP66 (NEMA 4X)
Power consumption at night	< 6 W
Operating ambient temperature range	- 30 °C to 60 °C (- 22 °F to 140 °F)
Allowable relative humidity range	0 % – 100 %
Cooling method	Smart forced air cooling
Max. operating altitude	4000 m (> 3000 m derating) / 13123 ft (> 9843 ft derating)
Display	LED, Bluetooth+APP
Communication	RS485, SunSpec, Modbus
DC connection type	MC4 (Max. 10AWG, Optional 8AWG)
AC connection type	Support OT / DT terminal (Max. 750Kcmil)
Compliance	UL 1741, UL 62109-1, CSA C22.2 No.107.1-16, IEEE 1547-2018, IEEE 1547.1-2020, UL 1741 SA/SB, California Rule21,and FCC Part 15 Class A Limit
Grid Support	Q at night function, LVRT, HVRT,active & reactive power control and power ramp rate control, Q-U control, P-f control

* Full power MPP range is temperature dependent, check the characteristic curve of the inverter for more information.

THREE PHASE PADMOUNT TRANSFORMERS

Maddox padmount transformers are constructed of the highest quality materials and built in the US to heavy duty industrial standards. Our padmounts are built and tested in accordance with industry standards (NEMA, ANSI, DOE, and IEEE as applicable). Maddox padmounts are ideal for commercial and industrial applications such as data centers, solar step-up, utility projects, manufacturing facilities, shopping centers, etc.

Maddox has the manufacturing ability to produce almost any custom design, we also stock all standard configurations. With thousands of new and reconditioned units in stock and ready-to-ship, Maddox is ready to meet your transformer needs.



DESIGN

HV Bushing Config:

1. Dead front or live front
2. Loop feed or radial feed

Fluid Options:

1. Type II Mineral Oil
2. Envirotemp™ FR3™

Standard Gauge/Accessory Package:

1. Pressure relief valve
2. Pressure vacuum gauge
3. Liquid temp & level gauges
4. Drain & sample valve
5. Adjustment taps

Switch Options:

1. 2 Position LBOR Switch
2. 4 Position LBOR Switch (V-blade or T-blade)
3. (3) 2 Position LBOR Switches

Fusing Options:

Bayonets w/ isolation links or CLFs

Construction:

1. 5-legged core
2. Rectangular wound copper or aluminum windings
3. Carbon reinforced or stainless steel tank
4. Steel divider between HV and LV cabinets
5. Penta-head captive bolt

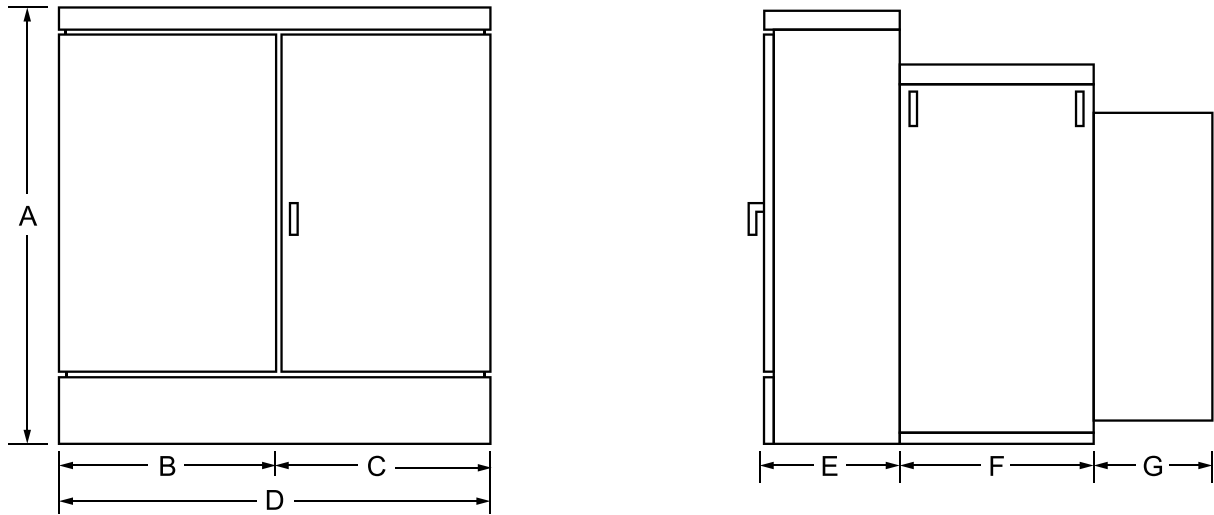
Optional Design Features & Accessories:

1. Gauges w/ Contacts
2. External drain and sample valve
3. Electrostatic Shielding
4. K-Factor Design
5. Step-up Design
6. Surge-Arresters

AVAILABLE RATINGS

Sizes (kVA)	45, 75, 112.5, 150, 225, 300, 500, 750, 1000, 1250, 1500, 1750, 2000, 2250, 2500, 2750, 3000, 3750, 5000
Frequency	60 Hz or 50 Hz
Cooling Class	ONAN or KNAN
Temp Rise	55°C, 65°C, 55/65°C
Voltages	Available in Δ or Y configuration
600V	208 240 416 480 600
2.5kv – 5kv	2400 4160 4800
15kV	12000 12470 13200 13800 14400
25kV	20780 21600 22900 24940 26400
35kV	33000 34500

PADMOUNT TRANSFORMER OUTLINE



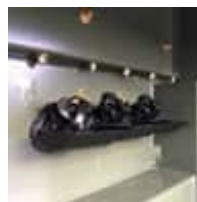
APPROXIMATE TRANSFORMER DIMENSIONS

kVA	A	B	C	D	E	F	G	Gallons	Weight (Lbs)
300	59"	29.5"	22"	51.5"	20.5"	24"	10"	196	4,056
500	59"	33"	26.5"	59.5"	24"	26.5"	10"	210	5,023
750	73"	36"	29"	65"	24"	26.5"	10"	358	7,664
1000	73"	36"	29"	65"	24"	27"	10"	354	8,530
1500	73"	36"	35.5"	71.5"	24"	33.5"	10"	410	10,782
2000	75"	39.5"	28"	67.5"	24"	35"	27"	433	12,490
2500	78"	39.5"	35.5"	75.5"	24"	37.5"	22.5"	545	14,246
3000	84"	30.5"	32"	62.5"	24"	37.5"	38"	550	14,014
3750	75"	50.5"	30"	80.5"	25.5"	42"	38"	730	17,785

THREE PHASE MADDOX PADMOUNT TRANSFORMER



COMMON ACCESSORIES



1. Bayonet Fuses



2. Loadbreak Switch



3. Tap-changer



4. Bushings



5. Parking Stand



6. Gauges

Project Description

Project Description

Hardie Road Solar Farm 5MW PV Project

Town of Conklin, Broome County, New York

I. Project Background, Purpose, and Site Description

Barton & Loguidice, D.P.C. (B&L) was retained by Abundant Solar Power LLC (ASP) for design assistance and consulting services for the proposed Hardie Road Solar Farm 5 MW(AC) PV project in the Town of Conklin, Broome County, New York. ASP is proposing to install a ground-mounted solar photovoltaic (PV) array on a Site along Hardie Road in the Town of Conklin. The Project Site is located along Hardie Road, approximately .2 miles southwest of the Route 189 & 40 intersection, and will generate clean renewable energy for the local community and surrounding areas and will allow for subscription energy cost savings for local residents through the New York State Community Solar program. The proposed plan consists of 12,194 solar panels mounted on 469 tables. The total acreage of the project parcel is 29 acres; the proposed solar panels will cover approximately 20 acres of the parcel. A new underground utility line (approximately 300 linear feet) will be installed along the site access easement from the end of the access drive to the proposed transformer and switchgear equipment. Three new utility poles will be installed along the northern edge of the access drive to support the new overhead electrical line which will connect the underground utility line to the existing Utility-owned pole at Hardie Road.

II. Installation Methods and Erosion and Sediment Control

Prior to commencing construction, erosion and sediment control measures such as silt fence or fiber logs will be installed downgradient of all locations of ground disturbance. All erosion control devices installed will be maintained throughout the duration of the project.

III. Planned Sequence of Activities

- Install erosion and sediment controls including silt fence and temporary construction entrance
- Construct site access road
- Cut and grub vegetation outside of wetland boundaries
- Cut existing site vegetation to ground level within wetland
- Install access mats across wetlands at primary access points (mats to remain for duration of project construction)
- Install perimeter site fencing for access control
- Prepare equipment pad sites and pour concrete pads
- Erect panel racks and photovoltaic panels sequentially, placing access mats within wetland boundaries as needed and removing select stumps within wetland boundaries as noted in the project documents
- Install wiring and electrical equipment
- Restore disturbed areas with topsoil and seed
- Remove erosion and sediment controls

FAA Information

**Obstruction Evaluation
Version 2023-SEP.10**

- Home
- FAA OE/AAA Offices
- View Determined Cases
- View Interim Cases
- View Proposed Cases
- View Supplemental Notices (Form 7460-2)
- View Circularized Cases
- Search Archives
- Download Archives
- Download Correspondence
- Circle Search for Cases
- Circle Search for Airports
- General FAQs
- 5G FAQs
- Wind Turbine FAQs
- Discretionary Review FAQs
- Notice Criteria Tool
- Distance Calculation Tool

OE/AAA Account

- Login
- New User Registration
- Instructions

Information Resources

- FAA Acronyms
- Forms

Notice Criteria Tool

Notice Criteria Tool - Desk Reference Guide V_2018.2.0

The requirements for filing with the Federal Aviation Administration for proposed structures vary based on a number of factors: height, proximity to an airport, location, and frequencies emitted from the structure, etc. For more details, please reference CFR Title 14 Part 77.9.

- You must file with the FAA at least 45 days prior to construction if:
- your structure will exceed 200ft above ground level
 - your structure will be in proximity to an airport and will exceed the slope ratio
 - your structure involves construction of a traverseway (i.e. highway, railroad, waterway etc...) and once adjusted upward with the appropriate vertical distance would exceed a standard of 77.9(a) or (b)
 - your structure will emit frequencies, and does not meet the conditions of the FAA Co-location Policy
 - your structure will be in an instrument approach area and might exceed part 77 Subpart C
 - your proposed structure will be in proximity to a navigation facility and may impact the assurance of navigation signal reception
 - your structure will be on an airport or heliport
 - filing has been requested by the FAA

If you require additional information regarding the filing requirements for your structure, please identify and contact the appropriate FAA representative using the [Air Traffic Areas of Responsibility map](#) for Off Airport construction, or contact the [FAA Airports Region / District Office](#) for On Airport construction.

The tool below will assist in applying Part 77 Notice Criteria.

* Structure Type:	SOLAR Solar Panel ▼
Please select structure type and complete location point information.	
Latitude:	42 <input type="text"/> Deg 04 <input type="text"/> M 51.8 <input type="text"/> S N ▼
Longitude:	75 <input type="text"/> Deg 49 <input type="text"/> M 54.55 <input type="text"/> S W ▼
Horizontal Datum:	NAD83 ▼
Site Elevation (SE):	889 <input type="text"/> (nearest foot)
Structure Height :	15 <input type="text"/> (nearest foot)
Is structure on airport:	<input checked="" type="radio"/> No <input type="radio"/> Yes
Submit	

Results

You do not exceed Notice Criteria.



Obstruction Evaluation
Version 2023-SEP.10

- Home
 - FAA OE/AAA Offices
 - View Determined Cases
 - View Interim Cases
 - View Proposed Cases
 - View Supplemental Notices (Form 7460-2)
 - View Circularized Cases
 - Search Archives
 - Download Archives
 - Download Correspondence
 - Circle Search for Cases
 - Circle Search for Airports
 - General FAQs
 - 5G FAQs
 - Wind Turbine FAQs
 - Discretionary Review FAQs
 - Notice Criteria Tool
 - Distance Calculation Tool
-
- OE/AAA Account
 - Login
 - New User Registration
 - Instructions
-
- Information Resources
 - FAA Acronyms
 - Forms

Notice Criteria Tool

Notice Criteria Tool - Desk Reference Guide V_2018.2.0

The requirements for filing with the Federal Aviation Administration for proposed structures vary based on a number of factors: height, proximity to an airport, location, and frequencies emitted from the structure, etc. For more details, please reference CFR Title 14 Part 77.9.

You must file with the FAA at least 45 days prior to construction if:

- your structure will exceed 200ft above ground level
- your structure will be in proximity to an airport and will exceed the slope ratio
- your structure involves construction of a traverseway (i.e. highway, railroad, waterway etc...) and once adjusted upward with the appropriate vertical distance would exceed a standard of 77.9(a) or (b)
- your structure will emit frequencies, and does not meet the conditions of the FAA Co-location Policy
- your structure will be in an instrument approach area and might exceed part 77 Subpart C
- your proposed structure will be in proximity to a navigation facility and may impact the assurance of navigation signal reception
- your structure will be on an airport or heliport
- filing has been requested by the FAA

If you require additional information regarding the filing requirements for your structure, please identify and contact the appropriate FAA representative using the [Air Traffic Areas of Responsibility map](#) for Off Airport construction, or contact the [FAA Airports Region / District Office](#) for On Airport construction.

The tool below will assist in applying Part 77 Notice Criteria.

* Structure Type: ▼
 Please select structure type and complete location point information.

Latitude: Deg M S ▼

Longitude: Deg M S ▼

Horizontal Datum: ▼

Site Elevation (SE): (nearest foot)

Structure Height : (nearest foot)

Is structure on airport: No Yes

Results

You do not exceed Notice Criteria.

Stormwater Pollution Prevention Plan

Stormwater Pollution Prevention Plan

Hardie Solar Farm

Prepared for
ABUNDANT SOLAR POWER (USNY-327 Hardie Rd-001) LLC
700 West Metro Park
Rochester, NY 14623

September 2024

Hardie Solar Farm
Town of Conklin, Broome County, New York

Stormwater Pollution Prevention Plan

September 2024

Prepared for

ABUNDANT SOLAR POWER
(USNY-327 Hardie Rd-001) LLC
700 West Metro Park
Rochester, NY 14623

Prepared by

Barton & Loguidice, D.P.C.
443 Electronics Parkway
Liverpool, New York 13088

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Appendix B	Notice of Intent
Appendix C	Soil Data
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Appendix G	Weekly Construction Inspection Form
Appendix H	Corrective Action Log
Appendix I	Log of Changes and Updates to SWPPP
Appendix J	Notice of Termination
Appendix K	Contract Drawings (Bound Separately)

1.0 SITE EVALUATION, ASSESSMENT AND PLANNING

1.1. Project/Site Information

Project/Site Name: Hardie Solar Farm

Project Street/Location: 327 Hardie Road

City/State/Zip: Conklin, New York 13748

County: Broome

Tax Parcel ID: 178.01-1-29.11
178.01-1-29.12
178.01-1-29.02

Latitude/Longitude Latitude: 42° 4' 35" N
Longitude: 75° 50' 6" W

Method for determining latitude/longitude:

USGS topographic map (specify scale: _____)

NYSDEC Web Site

GPS

Other (please specify): Google Earth

Is the project located within Native American Tribal Lands? Yes No

If yes, name of Reservation, or if not part of a Reservation, indicate "not applicable."

N/A

Is this project considered a federal facility? Yes No

SPDES permit number: _____ (fill in number upon receipt of
NYSDEC Acknowledgement letter)

1.2. Contact Information/Responsible Parties

Owner: *ABUNDANT SOLAR POWER (USNY-327 Hardie Rd-001) LLC*
Andrew van Doorn
700 West Metro Park
Rochester, New York 14623
Phone: (647) 354-5425
Email: Andrew.vandoorn@solarbankcorp.com

Project Manager: *ABUNDANT SOLAR POWER (USNY-327 Hardie Rd-001) LLC*
Andrew van Doorn
700 West Metro Park
Rochester, New York 14623
Phone: (647) 354-5425
Email: Andrew.vandoorn@solarbankcorp.com

Stormwater Manager
and SWPPP Contact: Charles A. White, P.E.
Barton & Loguidice, D.P.C.
443 Electronics Parkway
Liverpool, New York 13088
Phone: (315) 457-5200
Email: Cwhite@bartonandloguidice.com

Emergency
24-Hour Contact: *ABUNDANT SOLAR POWER (USNY-327 Hardie Rd-001) LLC*
Andrew van Doorn
700 West Metro Park
Rochester, New York 14623
Phone: (647) 354-5425
Email: Andrew.vandoorn@solarbankcorp.com

The project is subject to the New York State Department of Environmental Conservation (NYSDEC) Stormwater Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001). All provisions of the permit (attached as Appendix A) must be followed for duration of the construction activities until the permit is terminated. The Notice of Intent (NOI), attached as Appendix B, should be posted in a publicly accessible location along with the NYSDEC's acknowledgement letter.

1.3. Nature and Sequence of Construction Activity

ABUNDANT SOLAR POWER (USNY-327 Hardie Rd-001) LLC, a 100% subsidiary of Abundant Solar Power, Inc., will provide a new solar farm in the Town of Conklin, Broome County, New York. The project is located on 28.95 acres of land comprised of three contiguous parcels (tax parcel ID numbers 178.01-1-29.11, 178.01-1-29.12, and 178.01-1-29.02). This site proposes the installation of a 5.0 MWac ground-mounted solar array system installed within a fenced 18.4 acre area. The solar panels will be pole mounted on a fixed structure (i.e., not a single axis tracker).

The solar facility is proposed to connect into a 12.5 kV distribution line at the proposed connection point of latitude 42° 4' 37" N and longitude 75° 49' 52" W.

The project also includes additional improvements to the site, including construction of a pervious access drive and pervious pads for electrical equipment. No traditional impervious areas are proposed.

The proposed solar array system has been designed in accordance with NYSDEC guidelines to meet the classification of a "Land clearing and grading for the purposes of creating vegetative open space" project; therefore, post-construction stormwater management practices (SMPs) are not required in accordance with Table 1 of Appendix B of the GP-0-20-001. The Contractor's construction sequence for the Project is to be submitted for review prior to the pre-construction meeting. The following list is the anticipated sequence of construction operations, for which the pace is dependent upon multiple factors (weather, material deliveries, etc.).

Suggested Sequence of Construction:

1. Obtain plan approval and other applicable permits.
2. Hold a preconstruction meeting at least one (1) week prior to starting construction.
3. Mobilize to site and layout established limits of work and buffer areas prior to starting construction. Install orange construction fencing around sensitive areas (i.e., wetlands) per the plans and as directed by the Engineer.
4. Placement of stabilized construction entrance.
5. Install erosion and sediment control measures in preparation for construction. All erosion and sediment control structures shall be in place prior to up-gradient land disturbance.
6. Install diversion swales and check dams.
7. Complete site clearing within the limits of disturbance. Access matting must be used in sensitive areas (i.e., wetlands) for clearing and limited stump removal.
8. Construction of access road. Grading, as needed, for access road and equipment pads.
9. Installation of ground mounted system for solar panels and installing PV panels. Access matting must be used in sensitive areas (i.e., wetlands).

10. Installation of overhead electrical cabling.
11. Installation of power inverters.
12. Installation of underground conductors and connection to the existing electrical grid.
13. Restoration of vegetation on the entire site.
14. Complete restoration of all disturbed areas including paving, landscape planting, and turf establishment.
15. Install limited use pervious access road.
16. Remove collected sediment from perimeter diversion swales. Convert swale adjacent to access drive to vegetated conveyance swale (Sheet C-102).
17. Once turf establishment is complete, remove temporary erosion and sediment control measures.

Notes:

- All erosion and sediment control practices will be installed and maintained in accordance with the latest version of the New York State Standards and Specifications for Erosion and Sediment Control. If full implementation of the approved plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source. This shall be the responsibility of the Contractor.
- All erosion and sediment control practices will be enforced daily through the utilization of full-time construction inspection and administration. Needed repairs will be addressed immediately and repaired before daily work shutdown.
- The contractor and any subcontractors shall have, onsite at all times during any disturbance activity, a NYSDEC 4-hour trained contractor representative to oversee disturbance activities and coordinate erosion and sediment control activities.
- Permanent vegetation will be established on all disturbed areas. Site stabilization will be defined as 80% vegetative cover over the entire site. Following site stabilization, all temporary erosion and sediment control practices will be removed.
- No more than five (5) acres of soil will be disturbed at a given time without prior written approval from the NYSDEC.

What is the function of the construction activity?

- Residential Commercial Industrial Road Construction
- Linear Utility
- Other (please specify): Solar Farm Installation

Estimated Project Start Date: May 2025

Estimated Project Completion Date: March 2026

1.4. Soils, Slopes, Vegetation and Current Drainage Patterns

The attached Figure 1 illustrates the existing site. The following provides a description of soils, slopes, vegetation, and current drainage patterns on the site.

1.4.1. Soil Type(s)

The proposed solar farm, located at 327 Hardie Road in the Town of Conklin, is located within an area that has the following soil characteristics. According to USDA Web Soil Survey (<http://websoilsurvey.nrcs.usda.gov/app/>) the following soils groups are present onsite. A complete soils report can be found in Appendix C.

Table 1-1: Mapped Soil Units

Map Unit Symbol	Map Unit Name	Hydrologic Soil Group	Drainage Class	Acres in AOI	Percent of AOI
CaB	Canaseraga silt loam, 3 to 8 percent slopes	D	Moderately well drained	3.6	12.5%
CaC	Canaseraga silt loam, 3 to 15 percent slopes	D	Moderately well drained	1.1	82.4%
MhC	Mardin channery silt loam, 8 to 15 percent slopes	D	Moderately well drained	0.2	0.7%
Sc	Scio silt loam	B/D	Moderately well drained	0.2	3.8%
UnC	Unadilla silt loam, 5 to 15 percent slopes	B	Well drained	23.9	0.6%
TOTAL				29.0	100%

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

1.4.2. Slopes

Land slopes vary significantly across the site. Refer to Appendix K, Sheet C001 for Existing Slopes. The northern and southern portions of the project site are located at the top of knolls, sloping downward in each direction. Slopes range from 0% to 5% in most of the eastern and western regions of the project area. Steeper slopes ranging up to 30% are seen near the center of the project site. No panels are proposed on slopes greater than 10%. The proposed access at the eastern-most portion of the site contains the steepest slopes ranging from 0% to greater than 30%. See Figure 1 for the Existing Slopes Analysis Map.

1.4.3. Drainage Patterns

Existing Conditions:

The approximately 18.4 acre fenced solar array area generally slopes to the center of the site to wetlands that ultimately discharge to the south of the site. In general, the western extents of the site drain to an onsite wetland that drains south to an offsite pond. The eastern portion of the site, including where the limited use pervious access road construction will occur, generally drains downslope to the east to an existing roadside ditch along Hardie Road which conveys runoff northeast away from the site. The entirety of the project site is located within the Susquehanna River Watershed. See Figure 2 for the Pre-Development Site Drainage Map.

Future Conditions:

Following construction, drainage patterns will be similar to existing drainage patterns. Only minimal grading is proposed within the site to construct the access roadway. Proposed grading will not significantly alter site drainage patterns.

The installation of level spreaders spaced at maximum 100' intervals will maintain sheet flow conditions for runoff received from the proposed solar arrays. See Figure 3 for the Post-Development Site Drainage Map.

1.4.4. Vegetation

The pre-developed cover type at the proposed solar facility consists mostly of woods, a portion of open brush/grassland, and wetlands in good condition. The installation of solar arrays will convert approximately 13.0 acres of the contributing drainage area to well established vegetative cover of short grass pasture. The installation of solar arrays within wetlands will not change the vegetative cover apart from grubbing and selective stump removal. Instructions for installation within wetlands can be found in Section 1.7. Clearing of trees solely for staging of equipment is not acceptable unless replaced in-kind as ordered by the Engineer or Owner. The limits of disturbance are clearly defined. Disturbance should be limited to only what is necessary for the passage of equipment and the construction (including materials staging) of permanent infrastructure. Excessive staging areas should be avoided.

1.5. Estimated Disturbance and Impervious Area

The following are estimates of disturbance and impervious area for the solar facility:

Total Project Area:	29.0 acre
Total Proposed Area to be disturbed:	20.9 acre
Percentage impervious area before construction:	0.2%
Percentage impervious area after construction:	0.2%
Composite Curve number before construction:	60
Composite Curve number after construction:	61

1.6. Receiving Waters

Runoff originating from the western portion of the site where the solar arrays will be installed primarily discharges to an onsite wetland that ultimately discharges to an offsite pond to the south of the project site. Runoff originating from the eastern extents of the parcel drains as overland flow to an open ditch adjacent to Hardie Road where it is conveyed away from the site to the northeast as open drainage. Drainage conveyed to the offsite pond and the Hardie Road open drainage system ultimately discharge to the Susquehanna River approximately 0.66 miles northeast of the parcel.

The portion of the Susquehanna River ultimately receiving drainage from the site is a class A stream, indicating the best usage is for drinking water. The Susquehanna River drains to the Chesapeake Bay approximately 175 miles south of the project site near the City of Havre de Grace, Maryland.

No surface water resources within the project site directly discharge to any 303(d) impaired segments (as shown in Appendix E of GP-0-20-001), nor do they discharge to any watersheds identified in Appendix C of GP-0-20-001. The project is not located within a regulated Multiple Separate Storm Sewer System (MS4).

1.7. Site Features and Sensitive Areas to be Protected

- Surface Waters: No stream resources mapped by the NYSDEC are present onsite. Additionally, no unmapped stream resources were identified during an on-site assessment completed on December 7th and December 21st, 2023. During construction, appropriate stormwater management controls will be installed to prevent sediment laden runoff from leaving the project site.
- Vegetation: The majority of the project site is vegetated. Disturbance of existing vegetation should be limited only to what is necessary for construction as documented on the approved site plans.
- Critical Ecological Habitats: A review of designated critical habitat areas identified by the US Fish and Wildlife Service (USFWS) within New York State was completed. No critical habitat areas are reported near the project site.
- Slopes: Solar Panels are proposed on slopes greater than 5%. Therefore, level spreaders are included outside of wetlands on areas with slopes of greater than 5%, spaced in accordance with the National Engineering Handbook (May 2010) Chapter 15 to maintain sheet flow.
- Wetlands: A review of publicly available information was performed to determine if any regulated wetlands were anticipated to be present within the project site limits. NYSDEC wetland mapping shows there are no State-regulated wetlands present within 100 feet of the project limits.

National Wetland Inventory (NWI) wetlands often correspond to federally-regulated wetlands. There are two (2) NWI-mapped wetland polygons within, or within 200 feet of the project site. One 0.34-acre wetland (PSS1/EM1E) is located in the south central extent of the project site. This wetland extends south of the project site towards the offsite pond. An additional 2.90-acre wetland (PEM1/SS1E) is mapped approximately 85 feet east of the project site.

A wetland field delineation effort was conducted on December 7th and December 21st, 2023 to confirm the desktop findings. One freshwater wetland (Wetland A) was identified within the project site. Wetland A is a scrub shrub/emergent wetland (PSS/PEM) located throughout the extent of the project site. Wetland A is assumed to meet the criteria for

federal jurisdiction by the USACE under Section 404 of the Clean Water Act due to its surface water connection to other wetland resources that eventually reach the Susquehanna River (a Traditional Navigable Waterway (TNW)). A wetland memo prepared by B&L can be found in Appendix D. A USACE Section 404 Permit has been requested for disturbance or discharges of fill into the delineated wetland. Based on project impacts, a NYSDEC Section 401 Water Quality Certification is also required. Measures to be taken during construction are as follows:

- No temporary or permanent disturbances to wetlands shall commence without appropriate permits from the USACE and NYSDEC, and the appropriate mitigation measures are in place, as necessary;
 - The Contractor shall field identify wetlands by installing orange construction fencing around the perimeter of each known wetland;
 - All woody vegetation within the wetland limits will be removed by cutting by hand with the use of chainsaws at the ground surface and removing with heavy equipment using access mats. Once the woody vegetation is removed, all access to the wetland areas by heavy equipment will be accomplished via access mats to limit disturbance. These areas will be utilized to access upland areas. No grading will be performed before or after placing the matting. The existing surface will remain as is, without any leveling or adjustments. This means the matting will be installed directly over the current surface conditions;
 - Appropriate measures shall be taken to prevent the transport of sediment into identified wetlands;
 - Materials shall not be stockpiled within or adjacent to a wetland.
- Soils: The project is comprised of a variety of soils, every effort shall be made to avoid unnecessary compaction of soils during construction. Soil restoration is required based on Section 5.1.6 of Chapter 5 in the NYSSMDM. The Contractor is responsible for ensuring these methodologies are followed for disturbed areas based on the table below (From Table 5.3 of the NYSSMDM, 2015):

Table 1-2: Soil Restoration Requirements

Type of Soil Disturbance	Soil Restoration Requirement
No soil disturbance	Restoration not permitted.
Minimal soil disturbance	Restoration not required.
Areas where topsoil is stripped only - no change in grade	HSG A & B: Apply 6 inches of topsoil HSG C & D: Aerate* and apply 6 inches of topsoil
Areas of cut or fill	HSG A & B: Aerate* and apply 6 inches of topsoil HSG C & D: Apply full soil restoration**

*Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which function like a mini-subsoiler.

**Per "Deep Ripping and De-compaction, DEC 2008".

1.8. Endangered Species Certification

Are endangered or threatened species and critical habitats on or near the project site?

Yes No

The USFWS' Information for Planning and Consultation (IPaC) System (USFWS, 2024) was reviewed to determine whether any federally listed endangered, threatened, or candidate species records are reported for the project site. The USFWS' IPaC System reported one listed endangered species, the northern long-eared bat (*Myotis septentrionalis*), one proposed-threatened species, the green floater (*Lasmigona subviridis*), and one candidate species, the monarch butterfly (*Danaus plexippus*), within the vicinity of the project site. Candidate species are not afforded federal protection under the Endangered Species Act. The official species list from the IPaC query is in Appendix D.

The USFWS' IPaC database for migratory birds reports observations of migratory birds within 10 km² blocks based on data obtained by the Avian Knowledge Network from field surveys and citizen science databases. Although not a component of the consultation process with the USFWS under the Endangered Species Act, this database provides some additional information regarding the presence of protected avian species in the vicinity of the site. This database reported the bald eagle (*Haliaeetus leucocephalus*), the black-billed cuckoo (*Coccyzus erythrophthalmus*), black-capped chickadee (*Poecile atricapillus praticus*), the bobolink (*Dolichonyx oryzivorus*), the Canada warbler (*Cardellina canadensis*), the chimney swift (*Chaetura pelagica*), the prairie warbler (*Setophaga discolor*), the rusty blackbird (*Euphagus carolinus*) and the wood thrush (*Hylocichla mustelina*) in survey blocks that include the project site. None of these nine reported migratory bird species as afforded federal protection under the Endangered Species Act. The IPaC migratory bird output is in Appendix D.

The NYSDEC Environmental Resource Mapper (ERM) was reviewed for information regarding the presence of any state-listed endangered species, threatened species, species of special concern, or significant natural communities within or adjacent to the project site. The ERM mapping indicated that a portion of the site is within the vicinity of animals listed as endangered or threatened. The ERM query results are provided in Appendix D. Additional correspondence with the NYSDEC identified that the site is located within or near records of bald eagle, a state threatened species. The NYSDEC determined that no adverse impacts to the bald eagle are anticipated to result from the project. Based on guidance from the NYSDEC, an Article 11 Permit is not required.

A query of the NYSDEC's Nature Explorer database was also completed to review additional state-protected species or significant natural communities reported for the vicinity of the project site. The NYSDEC Nature Explorer mapping showed a small portion of the project site is within the vicinity of rare plants or animals, but no specific records were reported. The Nature Explorer results are provided in Appendix D.

The northern long-eared bat (NLEB) selects roosting trees based on the tree’s location, position within the landscape, bark characteristics, and presence of cavities or crevices. Most trees greater than or equal to 3 inches in diameter at breast height (DBH) are considered potential roosting habitat for this species. The disturbance area of the project site contains trees that are suitable for bat roosting. Approximately 18.3 acres of woody vegetation are proposed to be removed to allow for solar panel installation. Based on the ERM, there are no known bat hibernacula within 0.5 miles of the project site and no documented roost trees or other summer records within 1.5 miles. The proposed tree removals will be completed between November 1 and March 31, during the bat inactive season, to mitigate potential direct impacts to the NLEB. The IPaC NLEB Rangewide Determination Key was completed and resulted in a “may affect, but not likely to adversely affect” recommendation for the NLEB. The USACE is the lead federal agency for the project and has completed Section 7 consultation with the USFWS. The Determination Key output is provided in Appendix D.

The project will not have impacts on any waterways and no open stream channels were observed at the project site. No suitable green floater habitat was present; therefore, the project will have no effect on the proposed threatened species.

No observations of protected species, unique plant assemblages, or significant natural communities were noted within or adjacent to the project limits during the field assessment conducted in December 2023.

1.9. Historic Preservation

Are there any historic sites on or near the construction site?

Yes No

The Cultural Resource Information System (CRIS) on the State Historic Preservation Office’s (SHPO) website was consulted to evaluate the presence of archeological sensitive areas and cultural and historic resources on the project site. The project site is not within an archaeological sensitive area and no mapped resources were identified within the project limits.

In May 2024, a request for comments from the Offices of Parks, Recreation and Historic Preservation (OPRHP) was sent regarding potential effects to historic and cultural resources. A response was received from the SHPO on April 4, 2024, indicating that no properties, including archeological and/or historic resources, listed in or eligible for the NYS and National Registers of Historic Places will be impacted by the project. Correspondence with the OPRHP is included in Appendix D.

2.0 EROSION AND SEDIMENT CONTROL PRACTICES

The following Best Management Practices (BMPs) are to be installed in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, November 2016, and the NYSSMDM. All temporary erosion and sediment control practices are to be removed following site stabilization.

2.1. Stabilized Construction Entrance

A stabilized construction entrance will be installed at the point of ingress and egress to the site access road, and at the point of ingress and egress from the construction staging area. The entrance will consist of stabilized pads of aggregate underlain by filter cloth.

2.2. Fiber Roll

Fiber roll will be installed where the solar facility meets the access road site and throughout the jobsite where sensitive areas are downslope of construction. The fiber roll will reduce runoff velocity and enable the localized deposition of sediment.

2.3. Silt Fence

Silt fence will be installed throughout the jobsite where sensitive areas are downslope of construction. The silt fence will reduce runoff velocity and enable the deposition of sediment, yet will not be placed in areas of concentrated flow.

2.4. Land Grading and Surface Roughening

All disturbed areas shall be stabilized structurally or vegetatively in compliance with the SPDES permit requirements. All graded areas shall be permanently stabilized immediately following finished grading. Surface roughening shall be conducted on all slopes steeper than 3:1. Approved methods include tracking, grooving and stair-stepping.

2.5. Topsoil

Topsoil from excavated areas will be reapplied to graded areas to provide acceptable plant growing conditions, reducing erosion, irrigation needs, and the need for nitrogen fertilizer. Subsoil is to be scarified, and all compacted areas de-compacted to a minimum depth of 12-inches prior to top soiling. Debris, woody plant parts, and stones over 3 inches in diameter are to be removed prior to application. Topsoil shall be distributed to a uniform depth and shall not be placed when frozen or saturated or on top of ice, snow, frozen subsoil, or standing water. Topsoil placed on slopes greater than five percent (5%) shall be promptly stabilized by "tracking" and seeded and mulched.

2.6. Seeding

All areas that are left bare or in which work has suspended for more than two weeks (14 days) will receive temporary or permanent seeding as follows:

- Site preparation will include:
 - Scarify, if compacted
 - Maintain a pH of 6.0 to 7.0
 - Fertilize with phosphorus-free fertilizer per manufacturer's recommended application rates
- For temporary seeding, use Ryegrass (annual or perennial) at 30 lbs. per acre or Winter Rye at 100 lbs. per acre (October/November)
- For permanent seeding the above site preparation will be conducted and the site will be seeded in accordance with the project specifications. If no specifications are provided, seed with a mixture of 45.5% by weight *Festuca rubra*, 15% *Festuca ovina* var. *duriuscula*, 'Jetty', 15% *Festuca ovina* var. *duriuscula*, *Gladiator*, 10% *Festuca rubra* ssp. *Commutate*, 5% *Poa pratensis*, 'Selway', 5% *Poa pratensis*, *Appalachian*, 4.5% *Trifolium repens*, Dutch at 6lbs per 1,000sqft.
- Irrigation of temporary and permanent seeding shall be conducted as necessary to encourage the required vegetative stand.
- Final site stabilization will be defined as permanent cover of at least 80% of the entire project site.

2.7. Mulching

Mulching will be used on soils subject to erosion and on areas of new seeding. Mulch is to be applied after site preparation, soil amendments and planting is accomplished. Cereal grain straw mulch is to be applied at 90 lbs. per 1,000 sq. ft. (two (2) tons per acre) and anchored with wood fiber hydromulch at 11 to 17 lbs. per sq. ft. (500-750 lbs. per acre).

2.8. Soil Restoration

Soil restoration shall be conducted on all areas of the site where soils have been disturbed, including equipment and stockpile areas. Soil restoration is applied in the cleanup, restoration, and landscaping phase of construction and is followed by permanent establishment of vegetation. After the disturbed soils are rough graded, the subsoils must be tilled, layered with topsoil, and vegetated in accordance with the NYSSWDM and the contract drawings.

2.9. Dust Control (as needed)

Dust control will be conducted via spraying water on an as-needed basis, as determined by the Engineer, Inspector, and Trained Contractor.

2.10. Equipment and Laydown Areas

Designated staging areas shall be utilized for storage of all equipment on-site throughout the course of construction. These areas shall be located away from waterways and sensitive areas. Foam berms will be utilized around the equipment lay down areas. These berms will be adhered to impervious surfaces or pinned into pervious surfaces to create a containment area for spills.

Berms will be resistant to oils, coolants, and most chemicals. Upon discovery, all contained spills or leaks from the equipment lay down area must be cleaned up and reported to both the Owner and the NYSDEC, if required, in accordance with applicable State and Federal regulations.

2.11. Temporary Stockpile Areas

Temporary stockpile areas shall be surrounded with a layer of fiber roll as necessary to prevent sedimentation of material onto adjacent property. Stockpiles shall not be located adjacent to a waterway, and shall not remain exposed for greater than 14 days unless they are to be utilized or moved within 21 days of last exposure or use. Side slopes of 1:4 shall be constructed.

2.12. Check Dams

Check dams shall be used in existing swales or constructed swales until upgradient land is stabilized. These may be rock check dams or prefabricated logs. Following stabilization, check dams shall be cleaned of sediment and/or replaced during conversion to permanent swales.

2.13. Concrete Washout

Concrete washouts shall be used to wash any concrete, asphalt, or other pollutant off of vehicles and equipment. This area shall be designed per EPA standards and should not be placed within 50 feet of storm drains, open ditches, or waterbodies. The washout shall be constructed in a location that allows convenient access for concrete trucks, preferably near where the concrete is to be poured.

2.14. Turf Reinforcement Mat (TRM)

All high flow channels and critical slopes will receive protection with permanent TRMs. This corresponds to disturbed slopes of 25%.

2.15. Rolled Erosion Control Product (RECP)

A biodegradable erosion control product that is designed for short term to intermediate term erosion protection and vegetation establishment on steep slopes and medium- to high-flow channels will be utilized. Areas within 50 feet of a surface water feature, areas corresponding to constructed stormwater channels, and areas corresponding to a slope of 15% or greater, must receive RECP. After the blankets degrade, soil erosion is controlled by the mature vegetation's root, stem, and leaf structures.

3.0 EROSION AND SEDIMENT CONTROL MAINTENANCE

The following table provides a summary of erosion and sediment control implementation:

Table 3-1: Erosion and Sediment Control Implementation Plan

Practice	Duration	Time of Implementation	Time of Removal
Stabilized Construction Entrance	Temporary	Prior to construction.	Upon completion of construction and after final site stabilization.
Fiber Roll/Silt Fence	Temporary	After installing construction entrance; prior to earth disturbing activities.	Upon upgradient site stabilization.
Temporary Seeding	Temporary	Prior to any exposed earth being left for a period of 14 days or more.	Upon reconvening site work in location of temporary seeding.
Dust Control	Temporary	As needed.	Upon construction completion.
Equipment Laydown Areas	Temporary	Prior to commencement of construction.	Upon completion of construction and just before final stabilization.
Temporary Stockpiles	Temporary	Upon commencement of earthmoving activity.	Upon completion of final grading.
Concrete Washout	Temporary	Prior to commencement of construction.	Upon completion of construction and just before final stabilization.
Check Dams	Permanent	Prior to construction upgradient of existing or proposed swales.	To be cleaned of sediment and/or replaced upon final stabilization.
Land Grading and Surface Roughening	Permanent	Following grading.	To remain after construction is complete.
Topsoiling	Permanent	Prior to any exposed earth being left for a period of 7 days or more.	Upon reconvening site work in location of temporary seeding.
Mulching	Permanent	After soil amendments and planting.	To remain after construction is complete.
Soil Restoration	Permanent	Following rough grading in areas requiring soil restoration.	To remain after construction is complete.
Turf Reinforcement Mats	Permanent	Immediately upon final grading of areas to be stabilized in accordance with Section 2.14.	Not to be removed
Rolled Erosion Control Product	Permanent	Immediately upon final grading of areas to be stabilized in accordance with Section 2.15.	Not to be removed
Permanent Seeding	Permanent	Immediately upon final grading of areas to be vegetated.	Not to be removed

The following table provides a summary of erosion and sediment control maintenance:

Table 3-2: Erosion and Sediment Control Maintenance Plan – Maintenance Measures

Practice	Duration	Maintenance Required	Maintenance Frequency	Responsible Party
Stabilized Construction Entrance	Temporary	Replacement of gravel when voids are full.	As sediment fills the voids of the aggregate or every two weeks (whichever is first).	Contractor
Fiber Roll/Silt Fence	Temporary	Replace upon identification of damaged materials and when sediment reaches half the height of the fiber roll.	Inspect daily and after each runoff event.	Contractor
Temporary Seeding	Temporary	Reseed bare spots, water to establish growth, keep free of vehicular travel.	Weekly until stabilization occurs.	Contractor
Dust Control	Temporary	N/A	Throughout dry weather periods until site is stabilized.	Contractor
Equipment Laydown Areas	Temporary	Repair or replacement of barrier.	Inspect daily and after each runoff event. If torn or leaking, replace immediately.	Contractor
Temporary Stockpiles	Temporary	Ensure appropriate side slopes and functioning perimeter barriers.	Weekly	Contractor
Concrete Washout	Temporary	Remove hardened concrete and clean area when 75% capacity is reached.	Weekly	Contractor
Check Dams	Permanent	Removal of sediment or replacement of check dam when 50% capacity is reached or voids are full.	Weekly during construction/yearly or when 50% capacity is reached (whichever occurs first)	Contractor/ Owner
Topsoiling	Permanent	Replacement of topsoil.	Weekly until stabilization occurs.	Contractor(s)
Mulching	Permanent	Application of additional mulch.	As weather conditions and germination success dictates.	Contractor(s)
Soil Restoration	Permanent	Keep site free of vehicular and foot traffic or other weight loads.	Daily	Contractor(s)
Turf Reinforcement Mats	Permanent	Damaged or displaced blankets shall be restored or replaced within 2 calendar days.	Weekly and after each runoff event until perennial vegetation is established to a minimum uniform 80% coverage throughout the blanketed area.	Contractor/ Owner
Rolled Erosion Control Product	Permanent	Replace or re-seed; re-stake if necessary.	Weekly	Contractor(s)

Practice	Duration	Maintenance Required	Maintenance Frequency	Responsible Party
Permanent Seeding	Permanent	Reseed bare spots, water to establish growth, keep free of vehicular travel.	Weekly until growth is established.	Contractor/ Owner
Notes: 1) All erosion and sediment control practices will be installed and operation prior to start of work upgradient of the practice. 2) Temporary practices will remain in place and operational until vegetative site stabilization, as directed by the Engineer. 3) Practices will be inspected weekly in accordance with GP-0-20-001. 4) The Contractor is responsible for installation and maintenance until submittal of Notice of Termination.				

4.0 POST-CONSTRUCTION STORMWATER MANAGEMENT

The proposed project has been designed in accordance with the NYSDEC's Guidance Memorandum for the Construction of Solar Facilities, dated 02/21/2020, which includes the Maryland Department of the Environment's Stormwater Design Guidance for Stormwater Installations. Solar panels at the facility will be pole mounted and elevated off the ground surface and will be spaced apart to allow stormwater runoff to flow off the panels.

Due to the clearing of existing forested cover for the installation of solar arrays, site hydrology will be altered from the pre-development conditions. Level spreaders will be installed parallel to site contours to reduce runoff velocities associated with the proposed cover-type changes and to maintain sheet flow. Level spreaders will be spaced in accordance with the National Engineering Handbook (May 2010) with a maximum spacing of 100 linear feet to allow for adequate treatment and non-erosive conveyance of stormwater runoff. A HydroCAD analysis was completed for pre- and post-development conditions to confirm there will be no negative impacts to site hydrology, as presented in Section 4.1.

The project meets the design criteria outlined above and does not include the construction of traditional impervious areas; therefore, the project meets the classification of a "Land clearing and grading for the purposes of creating vegetative open space" project. In accordance with Table 1 of Appendix B of GP-0-20-001, post-construction SMPs are not required for project components meeting this classification.

4.1. Peak Flow Runoff Rates

The pre-and post-development peak discharges for the site were calculated using HydroCAD software. This method calculates runoff volumes, peak rates of stormwater discharge and storage volumes as related to watershed area, rainfall frequency, runoff coefficients, land uses, time of concentration and watershed slopes. The following table presents peak flows for the 1-, 10-, and 100-year, 24-hour storm event based upon the Type II rainfall distribution.

Table 4-1: Peak Runoff Flow Rates

Drainage Area	Storm Frequency (24-Hour)	Peak Runoff Flow Rate (cfs)		
		Pre-Development	Post-Development – Without Mitigation	Post-Development – With Mitigation
1	10-year	1.03	1.41	0.54
	100-year	5.95	6.80	2.68
2	10-year	4.93	6.20	4.30
	100-year	24.76	27.62	18.67
3	10-year	2.45	3.42	0.99
	100-year	15.81	18.45	4.95
4	10-year	1.25	1.25	1.25
	100-year	4.36	4.36	4.36

The HydroCAD analysis identified an increase in peak runoff rates (greater than 5% difference in pre- and post- hydrology) at the design points for Drainage Area 1, Drainage Area 2, and Drainage Area 3 for the 10-year and the 100-year design storms; therefore, mitigation will be required in order to attenuate runoff rates to pre-development conditions. Post-development peak flow rates in Drainage Area 1, Drainage Area 2, Drainage Area 3 will be attenuated through the use of level spreaders, which will maintain sheet flow down slopes and result in an increased time of concentration as compared to predevelopment conditions. Solar panel configuration and mounting will be constructed so as not to interfere with the proposed level spreader footprints. The HydroCAD model was conservative in modelling the limited use pervious access drive and pervious equipment pads were modelled as impervious cover.

The pre- and post-development peak discharge rates detailed in Table 4-1 confirm that Qp and Qf requirements have been satisfied for the project. A summary of the pre- and post-development HydroCAD® output for the project site are provided in Appendix E.

5.0 GOOD HOUSEKEEPING

5.1. Potential Sources of Pollution

The Contractor shall adequately address measures to address the following potential sources of sediment to stormwater runoff:

- Construction of the widened access road, grading, and installation of SMPs (excavation, soil disturbance, dust, equipment tracking)
- Soil decompaction activities (equipment tracking and dust)
- Equipment staging (tracking of sediment)
- Soil stockpiles (dust, sediment)

The Contractor shall adequately address measures to address the following potential pollutants, other than sediment, to stormwater runoff:

- The introduction of fluids from equipment and construction vehicles to the site.
- Tools and equipment requiring washing shall be washed in a designated washout location that is appropriately constructed to prevent pollutants from exiting the site or entering the stormwater system. All debris resulting from washouts shall be removed and properly disposed.
- Potential wastes and products that may be stored on-site include grubbing wastes, packaging materials, building materials, paints and thinners, cleaning solvents, pesticides, petroleum products, and fertilizers. Fluids shall be stored within a lined, bermed location per prevailing Federal, State, and Local regulations.
- The introduction of concrete and asphalt, to the site. Proper precautions (installation of designated concrete wash-out areas) will be taken to prevent transfer of these pollutants offsite.
- Fertilizers utilized in planting medium may introduce other pollutant sources. Only non-phosphorus fertilizers shall be used at suggested manufacturer's application rates.

5.2. Best Management Practices

The following best management practices should be implemented to ensure the proper storage and disposal of construction site wastes:

- Designate waste collection areas that do not receive significant runoff from upland areas and that are not adjacent to water bodies.
- Waste containers should be covered.
- Waste collection should be scheduled at appropriate intervals to prevent overfilling of containers.
- All maintenance and washing of vehicles shall be conducted off-site.
- Any spills should be cleaned up immediately and disposed of in accordance with applicable state and local laws.
- Contractor should have adequate spill prevention materials (i.e., absorbent pads, booms, etc.) on-site.

- Any petroleum products stored on-site should be placed in curbed/diked areas.
- In the event of a spill occurrence, the actions outlined in the NYSDEC's May 1, 1996 Technical Field Guidance for Spill Reporting and Initial Notification Requirements shall be adhered to (see Appendix F).
- Disposal of hazardous waste (non-petroleum) should be conducted as follows:
 - In accordance with local hazardous waste management authorities, and State and Federal regulations.
 - Containers should be emptied prior to disposal.
 - Product labels from containers should not be removed.
 - All hazardous waste containers should be stored in a dry, curbed/diked area per environmental regulations.
- All sanitary waste generated on-site should be disposed of in accordance with local and State regulations.
- Pesticides and fertilizers should be stored in a dry, curbed/diked area.
- Manufacturer's application rates should be adhered to, and pesticides shall be applied by licensed or certified personnel where applicable.
- All storage areas and waste containers should be included in the regular inspection program of the site.

6.0 CONSTRUCTION INSPECTIONS AND MAINTENANCE

6.1 Site Inspections

Inspections are required to be performed by a Qualified Inspector, which is a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), licensed Landscape Architect, or other Department-endorsed individual(s). The qualified inspector must also be working under the direct supervision of the licensed Professional Engineer or licensed Landscape Architect, provided that person has received at least four (4) hours of Department-endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department-endorsed entity as outlined in the General Permit in Appendix A.

Unless otherwise notified by the NYSDEC, the qualified inspector shall conduct site inspections in accordance with the following schedule:

- At least once every seven (7) calendar days.
- For construction sites where soil disturbance activities are ongoing and have NYSDEC approval to disturb greater than five (5) acres of soil at any one (1) time, the qualified inspector shall conduct at least two (2) site inspections every seven (7) calendar days. When performing just two (2) inspections every seven (7) calendar days, the inspections shall be separated by a minimum of two (2) full calendar days.
- For construction sites where soil disturbance activities have been temporarily suspended (e.g., winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the qualified inspector shall conduct a site inspection at least once every thirty (30) calendar days.

For construction sites where soil disturbance activities have been shut down with partial project completion, the qualified inspector can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved final stabilization and all post-construction SMPs required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

At a minimum, the qualified inspector shall inspect all erosion and sediment control practices to ensure integrity and effectiveness (refer to Section 3.0), all post-construction SMPs under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved final stabilization, all points of discharge to natural surface water bodies located within or adjacent to the construction site, and all points of discharge from the construction site.

The qualified inspector shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include the following:

- a. Date and time of inspection;
- b. Name and title of person(s) performing inspection;
- c. A description of the weather and soil conditions (e.g., dry, wet, saturated) at the time of the inspection;
- d. A description of the condition of the runoff at all points of discharge from the construction site. This shall include identification of any discharges of sediment from the construction site. Include discharges from conveyance systems (i.e., pipes, culverts, ditches, etc.) and overland flow;
- e. A description of the condition of all natural surface water bodies located within or immediately adjacent to the construction site which receive runoff from disturbed areas, including identification of any discharges of sediment to the surface water body;
- f. Identification of all erosion and sediment control practices that need repair or maintenance;
- g. Identification of all erosion and sediment control practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
- h. Description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection;
- i. Current phase of construction of all post-construction SMPs and identification of all construction that is not in conformance with the SWPPP and technical standards;
- j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s); and
- k. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective action. Color copies of the digital photographs shall be attached to the inspection report maintained on-site within seven (7) calendar days of the date of inspection. The qualified inspector shall also take digital photographs, with date stamp, that clearly show the condition of the practices after the corrective action has been completed, and color copies of the photos shall be attached to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of the date of that inspection.

Within one (1) business day of the completion of an inspection, the qualified inspector shall notify the Owner, appropriate Contractor (or Subcontractor) of any corrective actions that need to be taken. The Contractor (or subcontractor) shall begin implementing the corrective actions within one (1) business day of this notification and shall complete the corrective actions within seven (7) calendar days from initial notification.

All inspection reports shall be signed by the qualified inspector. Sample construction site inspection reports are included as Appendix G.

During construction, both the onsite Trained Contractor and the SWPPP Inspector will be responsible for regular inspections of erosion and sediment control practices. Regular inspections shall be performed in accordance with Section 5.1. The reports should be sent to the Owner and Contractor and must be kept onsite. The inspection report is attached as Appendix G of the SWPPP.

6.2. Corrective Action Log

The corrective action log is attached in Appendix H of the SWPPP.

7.0 MAINTENANCE OF POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

Following termination of the SPDES permit, ABUNDANT SOLAR POWER (USNY-327 Hardie Rd-001) LLC will be responsible for the maintenance of the permanent post-construction practices associated with the solar facility (i.e., diversion swale and level spreaders).

The table below presents the anticipated maintenance activities and recurrence intervals for the post-construction SMPs.

Table 7-1: Post-Construction Stormwater Management Practice Maintenance

Routine Maintenance- Functional Visual inspections Maintaining plant density/replanting Weeding and removal diseased/dead vegetation Litter/organics/debris removal Mowing Remove blockages at inlet/outlet	3 monthly
Renewal – Drainage Sediment removal and disposal	5 yrs.
Renewal – Damage Vandalism and miscellaneous (e.g., dumping, traffic, etc.) Repair profile from scour/erosion Releveling and earthworks Repair filter media / restore hydraulic profile	As required
Renewal – Horticultural Resetting – replanting/turfing Soil additives and amendment Pest control Slash Vegetation	As required

8.0 RECORDKEEPING AND TRAINING

8.1. Recordkeeping

The following is a list of records to keep onsite, available for inspectors to review:

- Dates of grading, construction activity, and stabilization.
- A copy of the construction general permit (attached).
- The signed and certified NOI form or permit application form (attached).
- A copy of the letter from the NYSDEC notifying you of their receipt of your complete NOI/application (to be attached upon receipt).
- Inspection reports (attached – keep all completed reports onsite).
- Records relating to endangered species and historic preservation (attached).
- Owner Certification (attached)
- Contractor/Subcontractor Certification (including NYSDEC trained Contractor Certification – to be attached upon receipt)
- Verification of 4-hr Contractor Training for on-site Contractor stormwater pollution control representative (to be attached upon receipt)

8.2. Log of Changes to the SWPPP

The SWPPP change/update log is attached as Appendix I of the SWPPP.

9.0 NOTICE OF TERMINATION

Following the final inspection, a Notice of Termination (NOT) shall be filed with the NYSDEC in accordance with the SPDES Permit GP-0-20-001. The NOT will include a certification that the permanent stormwater management facilities have been constructed in accordance with the SWPPP. The NOT form is included as Appendix J.

10.0 PRIME CONTRACTOR CERTIFICATION

Each contractor and subcontractor responsible for implementing the SWPPP, as presented herein, must sign the following:

"I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings. "

Contractor is responsible for installing additional control measures as needed to prevent water quality violations and to maintain compliance with all applicable permits. Contractor is responsible for any penalties and violations associated with water quality violations or non-compliance with SPDES Permits.

_____	_____
Name	
_____	_____
Title*	Address
_____	_____
Date	Telephone Number

Specific Elements of the SWPPP that Contractor is Responsible for:

Name and Title of Contractor's *Trained Individual(s)* Responsible for SWPPP Implementation:

11.0 SUBCONTRACTOR CERTIFICATION

Each contractor and subcontractor responsible for implementing the SWPPP, as presented herein, must sign the following:

"I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings. "

Contractor is responsible for installing additional control measures as needed to prevent water quality violations and to maintain compliance with all applicable permits. Contractor is responsible for any penalties and violations associated with water quality violations or non-compliance with SPDES Permits.

_____	_____
Name	
_____	_____
Title*	Address
_____	_____
Date	Telephone Number

Specific Elements of the SWPPP that Contractor is Responsible for:

Name and Title of Contractor's *Trained Individual(s)* Responsible for SWPPP Implementation:

12.0 OWNER CERTIFICATION

Refer to Appendix B for the Owner Certification within the NOI form.

REFERENCES

Maintenance Guidance Manual: Stormwater Management Practices, NYSDEC, March 2017

National Engineering Handbook Chapter 15: Time of Concentration, USDA, May 2010

New York Standards and Specifications for Erosion and Sediment Control, NYSDEC, November 2016

New York State Stormwater Management Design Manual, Center for Watershed Protection, January 2015.

NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity (Permit No. GP-0-20-001), NYSDEC, January 2020.

Developing Your Stormwater Pollution Prevention Plan, USEPA, January 2007

Solar Panel Construction Stormwater Permitting/SWPPP Guidance, NYSDEC, February 2020

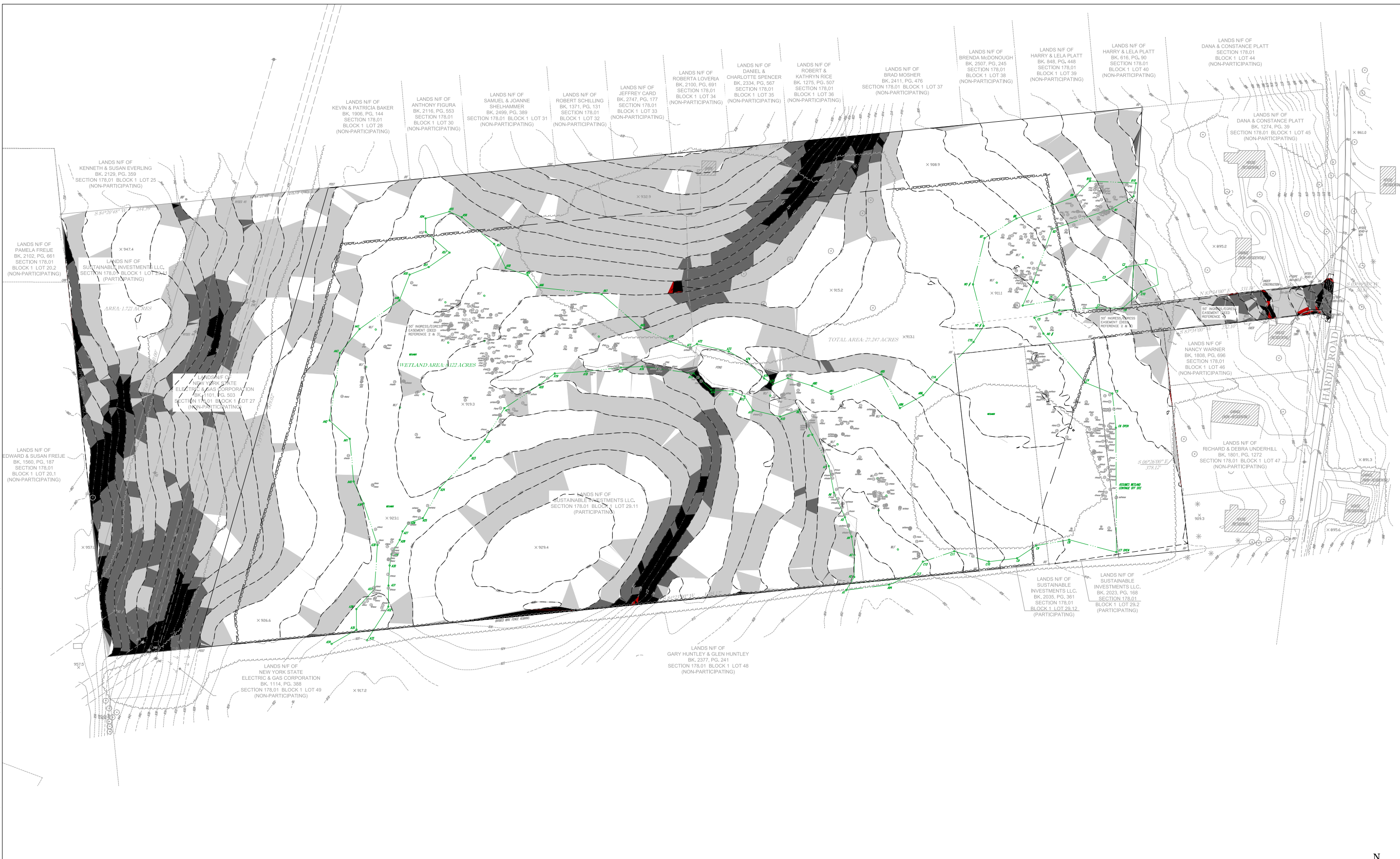
Stormwater Design Guidance – Solar Panel Installations, Maryland Department of the Environment, January 2013

Stormwater Menu of BMPs, USEPA, June 1, 2006

Technical Field Guidance for Spill Reporting and Initial Notification Requirements, NYSDEC, May 1996

Web Soil Survey, USDA NRCS

Figures

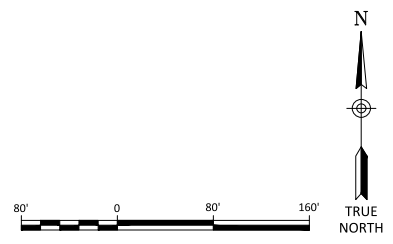


SLOPES ANALYSIS LEGEND

[Light Gray Box]	SLOPES 0%-5%
[Medium Gray Box]	SLOPES 5%-10%
[Dark Gray Box]	SLOPES 10%-15%
[Black Box]	SLOPES 15%-30%
[Red Box]	SLOPES >30%

ENVIRONMENTAL RESOURCES/PROPOSED LEGEND

[Dashed Line]	BRUSH CLEARING LINE
[Dotted Line]	LIMITS OF CONSTRUCTION
[Green Outline Box]	DELINEATED WETLAND BOUNDARY



IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145 §7209 SPECIAL PROVISIONS, FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING PROFESSIONAL SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

REVISIONS

NO.	DATE	DESCRIPTION

ABUNDANT SOLAR POWER (USNY-327 HARDIE RD-001) LLC
HARDIE SOLAR FARM

EXISTING SLOPES ANALYSIS MAP

BROOME COUNTY, NEW YORK

TOWN OF CONKLIN

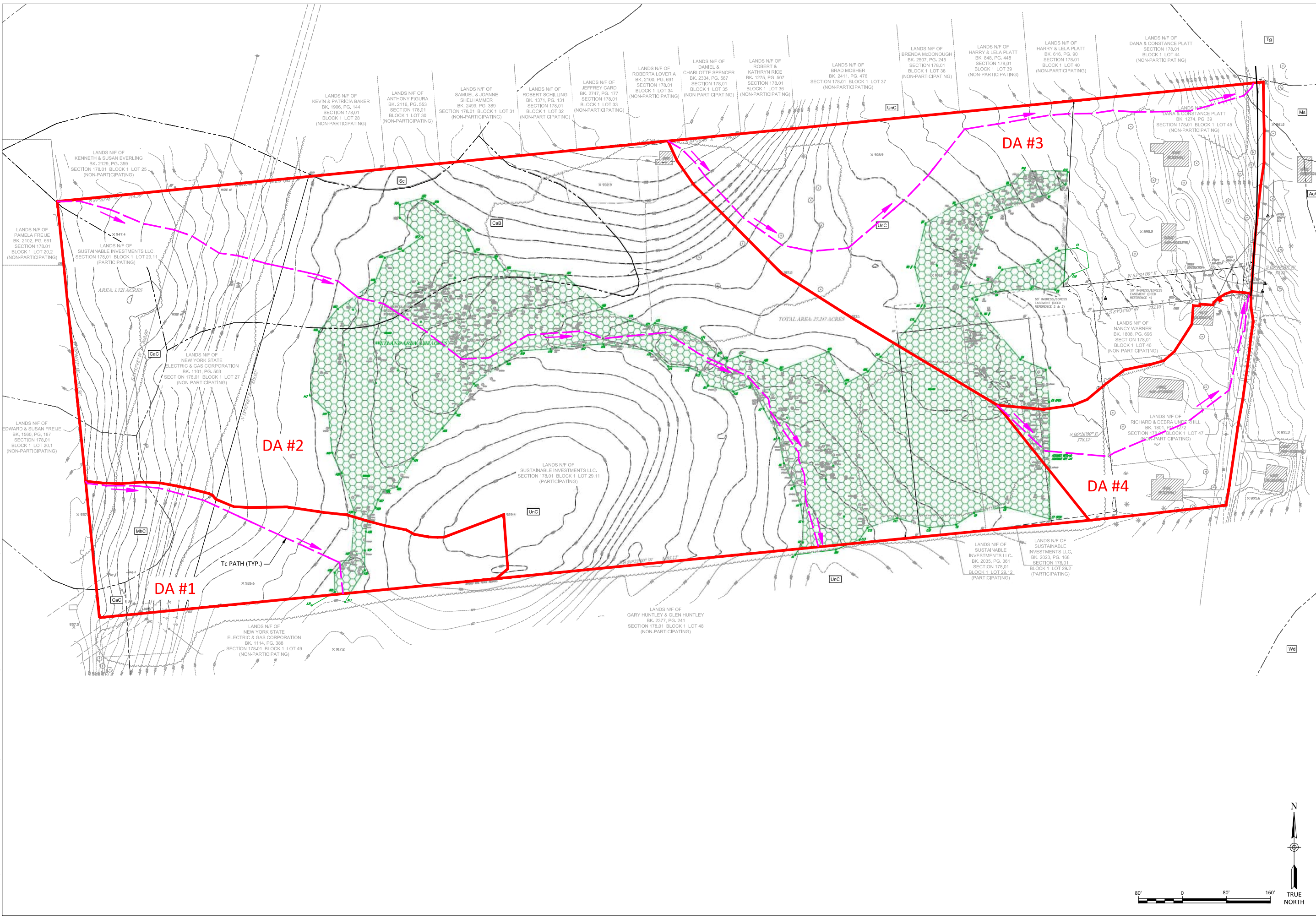
443 Electronics Parkway
Liverpool, NY
13088

B&L

Barton & Loguidice, D.P.C.

REVIEW ONLY
NOT FOR
CONSTRUCTION

Date	SEPTEMBER 2024
Scale	AS SHOWN
Sheet Number	FIGURE 1
Project Number	2271.005.001



IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145 §7209 SPECIAL PROVISIONS, FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING PROFESSIONAL SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

REVISIONS

ABUNDANT SOLAR POWER (USNY-327 HARDIE RD-001) LLC
 HARDIE SOLAR FARM

PRE-DEVELOPMENT DRAINAGE AREA MAP

BROOME COUNTY, NEW YORK

TOWN OF CONKLIN

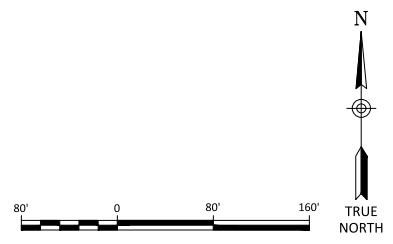
B&L

443 Electronics Parkway
 Liverpool, NY
 13088

Barton & Loguidice, D.P.C.

REVIEW ONLY
 NOT FOR
 CONSTRUCTION

Date: SEPTEMBER 2024
 Scale: AS SHOWN
 Sheet Number: **FIGURE 2**
 Project Number: 2271.005.001



Appendices

Appendix A
SPDES General Permit GP-0-20-001



Department of
Environmental
Conservation

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

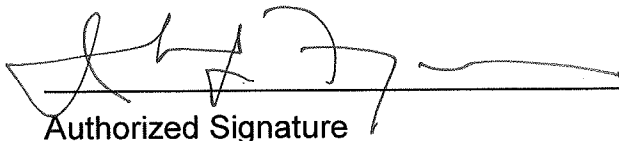
Issued Pursuant to Article 17, Titles 7, 8 and Article 70
of the Environmental Conservation Law

Effective Date: January 29, 2020

Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator



Authorized Signature

1-23-20

Date

Address: NYS DEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act (“CWA”), stormwater *discharges* from certain *construction activities* are unlawful unless they are authorized by a *National Pollutant Discharge Elimination System (“NPDES”)* permit or by a state permit program. New York administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7, 8 and Article 70.

An *owner or operator* of a *construction activity* that is eligible for coverage under this permit must obtain coverage prior to the *commencement of construction activity*. Activities that fit the definition of “*construction activity*”, as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a *point source* and therefore, pursuant to ECL section 17-0505 and 17-0701, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM
CONSTRUCTION ACTIVITIES**

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Part 1. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

This permit authorizes stormwater *discharges to surface waters of the State* from the following *construction activities* identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

1. *Construction activities* involving soil disturbances of one (1) or more acres; including disturbances of less than one acre that are part of a *larger common plan of development or sale* that will ultimately disturb one or more acres of land; excluding *routine maintenance activity* that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility;
2. *Construction activities* involving soil disturbances of less than one (1) acre where the Department has determined that a *SPDES* permit is required for stormwater *discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of *pollutants to surface waters of the State*.
3. *Construction activities* located in the watershed(s) identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

B. Effluent Limitations Applicable to Discharges from Construction Activities

Discharges authorized by this permit must achieve, at a minimum, the effluent limitations in Part I.B.1. (a) – (f) of this permit. These limitations represent the degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement and maintain control measures to *minimize the discharge of pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part I.B.1.(a) – (f) of this permit and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in the *Stormwater Pollution Prevention Plan* (“SWPPP”) the reason(s) for the

deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

- a. **Erosion and Sediment Controls.** Design, install and maintain effective erosion and sediment controls to *minimize* the *discharge of pollutants* and prevent a violation of the *water quality standards*. At a minimum, such controls must be designed, installed and maintained to:
- (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharges*;
 - (ii) Control stormwater *discharges*, including both peak flowrates and total stormwater volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points;
 - (iii) *Minimize* the amount of soil exposed during *construction activity*;
 - (iv) *Minimize* the disturbance of *steep slopes*;
 - (v) *Minimize* sediment *discharges* from the site;
 - (vi) Provide and maintain *natural buffers* around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharges*, unless *infeasible*;
 - (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted;
 - (viii) Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and
 - (ix) *Minimize* dust. On areas of exposed soil, *minimize* dust through the appropriate application of water or other dust suppression techniques to control the generation of pollutants that could be discharged from the site.
- b. **Soil Stabilization.** In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased. For construction sites that *directly discharge* to one of the 303(d) segments

listed in Appendix E or is located in one of the watersheds listed in Appendix C, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. See Appendix A for definition of *Temporarily Ceased*.

- c. **Dewatering.** *Discharges* from *dewatering* activities, including *discharges* from *dewatering* of trenches and excavations, must be managed by appropriate control measures.

- d. **Pollution Prevention Measures.** Design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be designed, installed, implemented and maintained to:
 - (i) *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. This applies to washing operations that use clean water only. Soaps, detergents and solvents cannot be used;

 - (ii) *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use) ; and

 - (iii) Prevent the *discharge* of *pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

- e. **Prohibited Discharges.** The following *discharges* are prohibited:
 - (i) Wastewater from washout of concrete;

 - (ii) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

- (iii) Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance;
 - (iv) Soaps or solvents used in vehicle and equipment washing; and
 - (v) Toxic or hazardous substances from a spill or other release.
- f. Surface Outlets. When discharging from basins and impoundments, the outlets shall be designed, constructed and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

C. Post-construction Stormwater Management Practice Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must select, design, install, and maintain the practices to meet the *performance criteria* in the New York State Stormwater Management Design Manual (“Design Manual”), dated January 2015, using sound engineering judgment. Where post-construction stormwater management practices (“SMPs”) are not designed in conformance with the *performance criteria* in the Design Manual, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.
2. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must design the practices to meet the applicable *sizing criteria* in Part I.C.2.a., b., c. or d. of this permit.

a. Sizing Criteria for New Development

- (i) Runoff Reduction Volume (“RRv”): Reduce the total Water Quality Volume (“WQv”) by application of RR techniques and standard SMPs with RRv capacity. The total WQv shall be calculated in accordance with the criteria in Section 4.2 of the Design Manual.
- (ii) Minimum RRv and Treatment of Remaining Total WQv: Construction activities that cannot meet the criteria in Part I.C.2.a.(i) of this permit due to site limitations shall direct runoff from all newly constructed impervious areas to a RR technique or standard SMP with RRv capacity unless infeasible. The specific site limitations that prevent the reduction of 100% of the WQv shall be documented in the SWPPP.

For each impervious area that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered infeasible.

In no case shall the runoff reduction achieved from the newly constructed impervious areas be less than the Minimum RRv as calculated using the criteria in Section 4.3 of the Design Manual.

The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

- (iii) Channel Protection Volume (“Cpv”): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
 - (1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
 - (2) The site discharges directly to tidal waters, or fifth order or larger streams.

- (iv) *Overbank* Flood Control Criteria (“Qp”): Requires storage to attenuate the post-development 10-year, 24-hour peak discharge rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
 - (1) the site discharges directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that *overbank* control is not required.

- (v) Extreme Flood Control Criteria (“Qf”): Requires storage to attenuate the post-development 100-year, 24-hour peak discharge rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
 - (1) the site discharges directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that *overbank* control is not required.

b. Sizing Criteria for New Development in Enhanced Phosphorus Removal Watershed

- (i) Runoff Reduction Volume (RRv): Reduce the total Water Quality Volume (WQv) by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24 hour design storm over the post-developed watershed and shall be

calculated in accordance with the criteria in Section 10.3 of the Design Manual.

- (ii) Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part I.C.2.b.(i) of this permit due to *site limitations* shall direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible*.

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 10.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

- (iii) Channel Protection Volume (Cpv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
 - (1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
 - (2) The site *discharges* directly to tidal waters, or fifth order or larger streams.
- (iv) *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
 - (1) the site *discharges* directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that *overbank* control is not required.
- (v) Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
 - (1) the site *discharges* directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that *overbank* control is not required.

c. Sizing Criteria for Redevelopment Activity

- (i) Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* shall be addressed by one of the following options. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C of this permit) shall calculate the WQv in accordance with Section 10.3 of the Design Manual. All other *redevelopment activities* shall calculate the WQv in accordance with Section 4.2 of the Design Manual.
- (1) Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the Design Manual must be applied to all newly created pervious areas, or
 - (2) Capture and treat a minimum of 25% of the WQv from the disturbed, *impervious area* by the application of standard SMPs; or reduce 25% of the WQv from the disturbed, *impervious area* by the application of RR techniques or standard SMPs with RRv capacity., or
 - (3) Capture and treat a minimum of 75% of the WQv from the disturbed, *impervious area* as well as any additional runoff from tributary areas by application of the alternative practices discussed in Sections 9.3 and 9.4 of the Design Manual., or
 - (4) Application of a combination of 1, 2 and 3 above that provide a weighted average of at least two of the above methods. Application of this method shall be in accordance with the criteria in Section 9.2.1(B) (IV) of the Design Manual.

If there is an existing post-construction stormwater management practice located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 – 4 above.

- (ii) Channel Protection Volume (Cpv): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.
- (iii) *Overbank* Flood Control Criteria (Qp): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.
- (iv) Extreme Flood Control Criteria (Qf): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site

d. Sizing Criteria for Combination of Redevelopment Activity and New Development

Construction projects that include both New Development and Redevelopment Activity shall provide post-construction stormwater management controls that meet the sizing criteria calculated as an aggregate of the Sizing Criteria in Part I.C.2.a. or b. of this permit for the New Development portion of the project and Part I.C.2.c of this permit for Redevelopment Activity portion of the project.

D. Maintaining Water Quality

The Department expects that compliance with the conditions of this permit will control *discharges* necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any discharge to either cause or contribute to a violation of *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York, such as:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;
2. There shall be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and
3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the stormwater *discharges* authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standards*; the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this general permit and document in accordance with Part IV.C.4. of this general permit. To address the *water quality standard* violation the *owner or operator* may need to provide additional information, include and implement appropriate controls in the SWPPP to correct the problem, or obtain an individual SPDES permit.

If there is evidence indicating that despite compliance with the terms and conditions of this general permit it is demonstrated that the stormwater *discharges* authorized by this permit are causing or contributing to a violation of *water quality standards*, or if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharges* will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity* to *surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.
2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharges*; including stormwater runoff, snowmelt runoff, and surface runoff and drainage, from *construction activities*.
3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater discharges are authorized by this permit: those listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: “Discharges from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned”; waters to which other components have not been added that are used to control dust in accordance with the SWPPP; and uncontaminated *discharges* from *construction site* de-watering operations. All non-stormwater discharges must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.
4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

F. Activities Which Are Ineligible for Coverage Under This General Permit

All of the following are **not** authorized by this permit:

1. *Discharges* after *construction activities* have been completed and the site has undergone *final stabilization*;
2. *Discharges* that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;
3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;
4. *Construction activities* or *discharges* from *construction activities* that may adversely affect an *endangered or threatened species* unless the *owner or*

operator has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.D.2 of this permit;

5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;
6. *Construction activities* for residential, commercial and institutional projects:
 - a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
 - b. Which are undertaken on land with no existing *impervious cover*; and
 - c. Which disturb one (1) or more acres of land designated on the current United States Department of Agriculture (“USDA”) Soil Survey as Soil Slope Phase “D”, (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase “E” or “F” (regardless of the map unit name), or a combination of the three designations.
7. *Construction activities* for linear transportation projects and linear utility projects:
 - a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
 - b. Which are undertaken on land with no existing *impervious cover*; and
 - c. Which disturb two (2) or more acres of land designated on the current USDA Soil Survey as Soil Slope Phase “D” (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase “E” or “F” (regardless of the map unit name), or a combination of the three designations.

8. *Construction activities* that have the potential to affect an *historic property*, unless there is documentation that such impacts have been resolved. The following documentation necessary to demonstrate eligibility with this requirement shall be maintained on site in accordance with Part II.D.2 of this permit and made available to the Department in accordance with Part VII.F of this permit:
- a. Documentation that the *construction activity* is not within an archeologically sensitive area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant.
 - 1-5 acres of disturbance - 20 feet
 - 5-20 acres of disturbance - 50 feet
 - 20+ acres of disturbance - 100 feet, or
 - b. DEC consultation form sent to OPRHP, and copied to the NYS DEC Agency Historic Preservation Officer (APO), and
 - (i) the State Environmental Quality Review (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or
 - (ii) documentation from OPRHP that the *construction activity* will result in No Impact; or
 - (iii) documentation from OPRHP providing a determination of No Adverse Impact; or
 - (iv) a Letter of Resolution signed by the owner/operator, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA); or
 - c. Documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

- (i) No Affect
- (ii) No Adverse Affect
- (iii) Executed Memorandum of Agreement, or

d. Documentation that:

- (i) SHPA Section 14.09 has been completed by NYS DEC or another state agency.
9. *Discharges from construction activities* that are subject to an existing SPDES individual or general permit where a SPDES permit for *construction activity* has been terminated or denied; or where the *owner or operator* has failed to renew an expired individual permit.

Part II. PERMIT COVERAGE

A. How to Obtain Coverage

1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a regulated, traditional land use control MS4 must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed Notice of Intent (NOI) to the Department to be authorized to discharge under this permit.
2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then have the SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department. The *owner or operator* shall have the “MS4 SWPPP Acceptance” form signed in accordance with Part VII.H., and then submit that form along with a completed NOI to the Department.
3. The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.F. (Change of *Owner or Operator*) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4* . This exemption does not apply to *construction activities* subject to the New York City Administrative Code.

B. Notice of Intent (NOI) Submittal

1. Prior to December 21, 2020, an owner or operator shall use either the electronic (eNOI) or paper version of the NOI that the Department prepared. Both versions of the NOI are located on the Department's website (<http://www.dec.ny.gov/>). The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the following address:

**NOTICE OF INTENT
NYS DEC, Bureau of Water Permits
625 Broadway, 4th Floor
Albany, New York 12233-3505**

2. Beginning December 21, 2020 and in accordance with EPA's 2015 NPDES Electronic Reporting Rule (40 CFR Part 127), the *owner or operator* must submit the NOI electronically using the *Department's* online NOI.
3. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.
4. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

C. Permit Authorization

1. An *owner or operator* shall not *commence construction activity* until their authorization to *discharge* under this permit goes into effect.
2. Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:
 - a. project review pursuant to the State Environmental Quality Review Act ("SEQRA") have been satisfied, when SEQRA is applicable. See the Department's website (<http://www.dec.ny.gov/>) for more information,
 - b. where required, all necessary Department permits subject to the *Uniform Procedures Act ("UPA")* (see 6 NYCRR Part 621), or the equivalent from another New York State agency, have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators of construction activities* that are required to obtain *UPA* permits

must submit a preliminary SWPPP to the appropriate DEC Permit Administrator at the Regional Office listed in Appendix F at the time all other necessary *UPA* permit applications are submitted. The preliminary SWPPP must include sufficient information to demonstrate that the *construction activity* qualifies for authorization under this permit,

- c. the final SWPPP has been prepared, and
 - d. a complete NOI has been submitted to the Department in accordance with the requirements of this permit.
3. An *owner or operator* that has satisfied the requirements of Part II.C.2 above will be authorized to *discharge* stormwater from their *construction activity* in accordance with the following schedule:
- a. For *construction activities* that are not subject to the requirements of a *regulated, traditional land use control MS4*:
 - (i) Five (5) business days from the date the Department receives a complete electronic version of the NOI (eNOI) for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.; or
 - (ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has not been prepared in conformance with the design criteria in technical standard referenced in Part III.B.1. or, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C., the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, or;
 - (iii) Ten (10) business days from the date the Department receives a complete paper version of the NOI for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.

- b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:
 - (i) Five (5) business days from the date the Department receives both a complete electronic version of the NOI (eNOI) and signed “MS4 SWPPP Acceptance” form, or
 - (ii) Ten (10) business days from the date the Department receives both a complete paper version of the NOI and signed “MS4 SWPPP Acceptance” form.
4. Coverage under this permit authorizes stormwater *discharges* from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department. The *owner or operator* shall not *commence construction activity* on the future or additional areas until their authorization to *discharge* under this permit goes into effect in accordance with Part II.C. of this permit.

D. General Requirements For Owners or Operators With Permit Coverage

1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination (“NOT”) has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4. of this permit.
2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-20-001), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, responsible contractor’s or subcontractor’s certification statement (see Part III.A.6.), and all documentation necessary to demonstrate eligibility with this permit at the *construction site* until all disturbed areas have achieved *final stabilization* and the NOT has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.
3. The *owner or operator of a construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land*

- use control MS4, the regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*). At a minimum, the *owner or operator* must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:
- a. The *owner or operator* shall have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
 - b. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.
 - c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.
 - d. The *owner or operator* shall install any additional site-specific practices needed to protect water quality.
 - e. The *owner or operator* shall include the requirements above in their SWPPP.
4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements or consistent with Part VII.K..
 5. Upon a finding of significant non-compliance with the practices described in the SWPPP or violation of this permit, the Department may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.
 6. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*, the *owner or operator* shall notify the

regulated, traditional land use control MS4 in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP required by Part III.A. 4. and 5. of this permit. Unless otherwise notified by the *regulated, traditional land use control MS4*, the *owner or operator* shall have the SWPPP amendments or modifications reviewed and accepted by the *regulated, traditional land use control MS4* prior to commencing construction of the post-construction stormwater management practice.

E. Permit Coverage for Discharges Authorized Under GP-0-15-002

1. Upon renewal of SPDES General Permit for Stormwater Discharges from *Construction Activity* (Permit No. GP-0-15-002), an *owner or operator* of a *construction activity* with coverage under GP-0-15-002, as of the effective date of GP- 0-20-001, shall be authorized to *discharge* in accordance with GP- 0-20-001, unless otherwise notified by the Department.

An *owner or operator* may continue to implement the technical/design components of the post-construction stormwater management controls provided that such design was done in conformance with the technical standards in place at the time of initial project authorization. However, they must comply with the other, non-design provisions of GP-0-20-001.

F. Change of Owner or Operator

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. For *construction activities* subject to the requirements of a *regulated, traditional land use control MS4*, the original *owner or operator* must also notify the MS4, in writing, of the change in ownership at least 30 calendar days prior to the change in ownership.
2. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the Department at the address in Part II.B.1. of this permit. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the permit.
3. Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or*

operator was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new *owner or operator*.

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. A SWPPP shall be prepared and implemented by the *owner or operator* of each *construction activity* covered by this permit. The SWPPP must document the selection, design, installation, implementation and maintenance of the control measures and practices that will be used to meet the effluent limitations in Part I.B. of this permit and where applicable, the post-construction stormwater management practice requirements in Part I.C. of this permit. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the *commencement of construction activity*. A copy of the completed, final NOI shall be included in the SWPPP.
2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the *pollutants* in stormwater *discharges* and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater *discharges*.
3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.
4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the *owner or operator* shall amend the SWPPP, including construction drawings:
 - a. whenever the current provisions prove to be ineffective in minimizing *pollutants* in stormwater *discharges* from the site;

- b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge* of *pollutants*;
 - c. to address issues or deficiencies identified during an inspection by the *qualified inspector*, the Department or other regulatory authority; and
 - d. to document the final construction conditions.
5. The Department may notify the *owner or operator* at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by the Department, the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4. of this permit.
6. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor*. The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

The *owner or operator* shall have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before they commence any *construction activity*:

"I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with

the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater *discharges* from *construction activities* and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained contractor* responsible for SWPPP implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* shall attach the certification statement(s) to the copy of the SWPPP that is maintained at the *construction site*. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement and provide the information listed above.

7. For projects where the Department requests a copy of the SWPPP or inspection reports, the *owner or operator* shall submit the documents in both electronic (PDF only) and paper format within five (5) business days, unless otherwise notified by the Department.

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Where erosion and sediment control practices are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must demonstrate *equivalence* to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:
 - a. Background information about the scope of the project, including the location, type and size of project

- b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours ; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater *discharge(s)*;
- c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);
- d. A construction phasing plan and sequence of operations describing the intended order of *construction activities*, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance;
- e. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;
- f. A temporary and permanent soil stabilization plan that meets the requirements of this general permit and the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of *final stabilization*;
- g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;
- h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;
- i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6. of this permit, to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection

schedule shall be in accordance with the requirements in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016;

- j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the stormwater *discharges*;
 - k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the site, including, but not limited to, stormwater *discharges* from asphalt plants and concrete plants located on the *construction site*; and
 - l. Identification of any elements of the design that are not in conformance with the design criteria in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.
2. Post-construction stormwater management practice component – The *owner or operator* of any construction project identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that includes practices designed in conformance with the applicable *sizing criteria* in Part I.C.2.a., c. or d. of this permit and the *performance criteria* in the technical standard, New York State Stormwater Management Design Manual dated January 2015

Where post-construction stormwater management practices are not designed in conformance with the *performance criteria* in the technical standard, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

The post-construction stormwater management practice component of the SWPPP shall include the following:

- a. Identification of all post-construction stormwater management practices to be constructed as part of the project. Include the dimensions, material specifications and installation details for each post-construction stormwater management practice;

- b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;
- c. A Stormwater Modeling and Analysis Report that includes:
 - (i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points;
 - (ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and post-construction stormwater management practices;
 - (iii) Results of stormwater modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre and post-development runoff rates and volumes for the different storm events;
 - (iv) Summary table, with supporting calculations, which demonstrates that each post-construction stormwater management practice has been designed in conformance with the *sizing criteria* included in the Design Manual;
 - (v) Identification of any *sizing criteria* that is not required based on the requirements included in Part I.C. of this permit; and
 - (vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the Design Manual. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the Design Manual;
- d. Soil testing results and locations (test pits, borings);
- e. Infiltration test results, when required; and
- f. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.

3. Enhanced Phosphorus Removal Standards - All construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the applicable *sizing criteria* in Part I.C.2. b., c. or d. of this permit and the *performance criteria*, Enhanced Phosphorus Removal Standards included in the Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.f. above.

C. Required SWPPP Components by Project Type

Unless otherwise notified by the Department, *owners or operators of construction activities* identified in Table 1 of Appendix B are required to prepare a SWPPP that only includes erosion and sediment control practices designed in conformance with Part III.B.1 of this permit. *Owners or operators of the construction activities* identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3 of this permit.

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures) and all post-construction stormwater management practices identified in the SWPPP are inspected and maintained in accordance with Part IV.B. and C. of this permit.
2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York or protect the public health and safety and/or the environment.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity* identified in Tables 1 and 2 of Appendix B shall have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor shall

begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame.

2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections. The *trained contractor* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of this permit as soon as soil disturbance activities resume.
3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Inspection Requirements

The *owner or operator* shall have a *qualified inspector* conduct site inspections in conformance with the following requirements:

[Note: The *trained contractor* identified in Part III.A.6. and IV.B. of this permit **cannot** conduct the *qualified inspector* site inspections unless they meet the *qualified inspector* qualifications included in Appendix A. In order to perform these inspections, the *trained contractor* would have to be a:

- licensed Professional Engineer,
 - Certified Professional in Erosion and Sediment Control (CPESC),
 - New York State Erosion and Sediment Control Certificate Program holder
 - Registered Landscape Architect, or
 - someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].
1. A *qualified inspector* shall conduct site inspections for all *construction activities* identified in Tables 1 and 2 of Appendix B, with the exception of:
 - a. the construction of a single family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located

in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

- b. the construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;
 - c. construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and
 - d. *construction activities* located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.
2. Unless otherwise notified by the Department, the *qualified inspector* shall conduct site inspections in accordance with the following timetable:
- a. For construction sites where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.
 - b. For construction sites where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part II.D.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
 - c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4*, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to reducing the frequency of inspections.

- d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4*, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization*, and all temporary, structural erosion and sediment control measures have been removed; and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the “*Final Stabilization*” and “*Post-Construction Stormwater Management Practice*” certification statements on the NOT. The *owner or operator* shall then submit the completed NOT form to the address in Part II.B.1 of this permit.
 - e. For construction sites that directly *discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization*, all points of *discharge* to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site*, and all points of *discharge* from the *construction site*.
 4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

- a. Date and time of inspection;
- b. Name and title of person(s) performing inspection;
- c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;
- d. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This shall include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;
- e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This shall include identification of any *discharges* of sediment to the surface waterbody;
- f. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance;
- g. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
- h. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection;
- i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;
- j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);
- k. Identification and status of all corrective actions that were required by previous inspection; and

- I. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.
5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.
6. All inspection reports shall be signed by the *qualified inspector*. Pursuant to Part II.D.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.B.1 of this permit. The NOT form shall be one which is associated with this permit, signed in accordance with Part VII.H of this permit.
2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:
 - a. Total project completion - All *construction activity* identified in the SWPPP has been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;

- b. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational;
 - c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.F. of this permit.
 - d. The *owner or operator* obtains coverage under an alternative SPDES general permit or an individual SPDES permit.
3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall, by signing the “*Final Stabilization*” and “*Post-Construction Stormwater Management Practice certification statements*” on the NOT, certify that all the requirements in Part V.A.2.a. or b. of this permit have been achieved.
4. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4* and meet subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *regulated, traditional land use control MS4* sign the “*MS4 Acceptance*” statement on the NOT in accordance with the requirements in Part VII.H. of this permit. The *regulated, traditional land use control MS4* official, by signing this statement, has determined that it is acceptable for the *owner or operator* to submit the NOT in accordance with the requirements of this Part. The *regulated, traditional land use control MS4* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector’s* final site inspection certification(s) required in Part V.A.3. of this permit.
5. For *construction activities* that require post-construction stormwater management practices and meet subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the NOT, ensure one of the following:
 - a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located,

- b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),
- c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record,
- d. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility; the *owner or operator* has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION RECORDS

A. Record Retention

The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the Department receives a complete NOT submitted in accordance with Part V. of this general permit.

B. Addresses

With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.B.1 of this permit), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate DOW Water (SPDES) Program contact at the Regional Office listed in Appendix F.

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The *owner or operator* must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any non-compliance with this permit constitutes a violation of the Clean Water

Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation, suspension or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator*.

If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE). *Construction activity* shall not resume until written permission to do so has been received from the RWE.

B. Continuation of the Expired General Permit

This permit expires five (5) years from the effective date. If a new general permit is not issued prior to the expiration of this general permit, an *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the terms and conditions of this general permit, if it is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, until a new general permit is issued.

C. Enforcement

Failure of the *owner or operator*, its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a violation of this permit. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to \$37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for an *owner or operator* in an enforcement action that it would have been necessary to halt or reduce the *construction activity* in order to maintain compliance with the conditions of this permit.

E. Duty to Mitigate

The *owner or operator* and its contractors and subcontractors shall take all reasonable steps to *minimize* or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

F. Duty to Provide Information

The *owner or operator* shall furnish to the Department, within a reasonable specified time period of a written request, all documentation necessary to demonstrate eligibility and any information to determine compliance with this permit or to determine whether cause exists for modifying or revoking this permit, or suspending or denying coverage under this permit, in accordance with the terms and conditions of this permit. The NOI, SWPPP and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five (5) business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

G. Other Information

When the *owner or operator* becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any of the documents required by this permit, or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or *impervious area*), which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information to the Department using the contact information in Part II.A. of this permit. Failure of the *owner or operator* to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a violation of this permit.

H. Signatory Requirements

1. All NOIs and NOTs shall be signed as follows:
 - a. For a corporation these forms shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

- (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
 - (ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
 - b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or
 - c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
 - (i) the chief executive officer of the agency, or
 - (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).
2. The SWPPP and other information requested by the Department shall be signed by a person described in Part VII.H.1. of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- a. The authorization is made in writing by a person described in Part VII.H.1. of this permit;
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field,

superintendent, position of *equivalent* responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) and,

- c. The written authorization shall include the name, title and signature of the authorized representative and be attached to the SWPPP.
3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.
4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4*, or by a duly authorized representative of that person.

It shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.

I. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. *Owners or operators* must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity*.

J. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. Requirement to Obtain Coverage Under an Alternative Permit

1. The Department may require any owner or operator authorized by this permit to apply for and/or obtain either an individual SPDES permit or another SPDES general permit. When the Department requires any discharger authorized by a general permit to apply for an individual SPDES permit, it shall notify the discharger in writing that a permit application is required. This notice shall

include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the owner or operator to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from owner or operator receipt of the notification letter, whereby the authorization to discharge under this general permit shall be terminated. Applications must be submitted to the appropriate Permit Administrator at the Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Department, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.

2. When an individual SPDES permit is issued to a discharger authorized to *discharge* under a general SPDES permit for the same *discharge(s)*, the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

L. Proper Operation and Maintenance

The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.

M. Inspection and Entry

The *owner or operator* shall allow an authorized representative of the Department, EPA, applicable county health department, or, in the case of a *construction site* which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the owner's or operator's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment), practices or operations regulated or required by this permit.
4. Sample or monitor at reasonable times, for purposes of assuring permit compliance or as otherwise authorized by the Act or ECL, any substances or parameters at any location.

N. Permit Actions

This permit may, at any time, be modified, suspended, revoked, or renewed by the Department in accordance with 6 NYCRR Part 621. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.

O. Definitions

Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with construction activity covered by this permit, the owner or operator of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.
2. Any Department initiated permit modification, suspension or revocation will be conducted in accordance with 6 NYCRR Part 621, 6 NYCRR 750-1.18, and 6 NYCRR 750-1.20.

Q. Penalties for Falsification of Forms and Reports

In accordance with 6NYCRR Part 750-2.4 and 750-2.5, any person who knowingly makes any false material statement, representation, or certification in any application, record, report or other document filed or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished in accordance with ECL §71-1933 and or Articles 175 and 210 of the New York State Penal Law.

R. Other Permits

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

APPENDIX A – Acronyms and Definitions

Acronyms

APO – Agency Preservation Officer

BMP – Best Management Practice

CPESC – Certified Professional in Erosion and Sediment Control

Cpv – Channel Protection Volume

CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)

DOW – Division of Water

EAF – Environmental Assessment Form

ECL - Environmental Conservation Law

EPA – U. S. Environmental Protection Agency

HSG – Hydrologic Soil Group

MS4 – Municipal Separate Storm Sewer System

NOI – Notice of Intent

NOT – Notice of Termination

NPDES – National Pollutant Discharge Elimination System

OPRHP – Office of Parks, Recreation and Historic Places

Qf – Extreme Flood

Qp – Overbank Flood

RRv – Runoff Reduction Volume

RWE – Regional Water Engineer

SEQR – State Environmental Quality Review

SEQRA - State Environmental Quality Review Act

SHPA – State Historic Preservation Act

SPDES – State Pollutant Discharge Elimination System

SWPPP – Stormwater Pollution Prevention Plan

TMDL – Total Maximum Daily Load

UPA – Uniform Procedures Act

USDA – United States Department of Agriculture

WQv – Water Quality Volume

Definitions

All definitions in this section are solely for the purposes of this permit.

Agricultural Building – a structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products; excluding any structure designed, constructed or used, in whole or in part, for human habitation, as a place of employment where agricultural products are processed, treated or packaged, or as a place used by the public.

Agricultural Property – means the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the “Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State” prepared by the Department in cooperation with agencies of New York Nonpoint Source Coordinating Committee (dated June 2007).

Alter Hydrology from Pre to Post-Development Conditions - means the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer - means a sewer that is designed to collect and convey both “sewage” and “stormwater”.

Commence (Commencement of) Construction Activities - means the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the SWPPP. See definition for “*Construction Activity(ies)*” also.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Construction Site – means the land area where *construction activity(ies)* will occur. See definition for “*Commence (Commencement of) Construction Activities*” and “*Larger Common Plan of Development or Sale*” also.

Dewatering – means the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

Direct Discharge (to a specific surface waterbody) - means that runoff flows from a *construction site* by overland flow and the first point of discharge is the specific surface waterbody, or runoff flows from a *construction site* to a separate storm sewer system

and the first point of discharge from the separate storm sewer system is the specific surface waterbody.

Discharge(s) - means any addition of any pollutant to waters of the State through an outlet or *point source*.

Embankment –means an earthen or rock slope that supports a road/highway.

Endangered or Threatened Species – see 6 NYCRR Part 182 of the Department’s rules and regulations for definition of terms and requirements.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Equivalent (Equivalence) – means that the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

Final Stabilization - means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 and Section 70-0117 of the ECL authorizing a category of discharges.

Groundwater(s) - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Historic Property – means any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) - means all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – means not technologically possible, or not economically practicable and achievable in light of best industry practices.

Larger Common Plan of Development or Sale - means a contiguous area where multiple separate and distinct *construction activities* are occurring, or will occur, under one plan. The term “plan” in “larger common plan of development or sale” is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQRA) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that *construction activities* may occur on a specific plot.

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same “common plan” is not concurrently being disturbed.

Minimize – means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

- (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State;
- (ii) Designed or used for collecting or conveying stormwater;
- (iii) Which is not a *combined sewer*, and
- (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

Natural Buffer –means an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

New Development – means any land disturbance that does not meet the definition of Redevelopment Activity included in this appendix.

New York State Erosion and Sediment Control Certificate Program – a certificate program that establishes and maintains a process to identify and recognize individuals who are capable of developing, designing, inspecting and maintaining erosion and sediment control plans on projects that disturb soils in New York State. The certificate program is administered by the New York State Conservation District Employees Association.

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the general permit for stormwater discharges from *construction activity*.

Nonpoint Source - means any source of water pollution or pollutants which is not a discrete conveyance or *point source* permitted pursuant to Title 7 or 8 of Article 17 of the Environmental Conservation Law (see ECL Section 17-1403).

Overbank –means flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the *construction activity* is occurring; an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications; and/or an entity that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions.

Performance Criteria – means the design criteria listed under the “Required Elements” sections in Chapters 5, 6 and 10 of the technical standard, New York State Stormwater Management Design Manual, dated January 2015. It does not include the Sizing Criteria (i.e. WQv, RRv, Cpv, Qp and Qf) in Part I.C.2. of the permit.

Point Source - means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft, or landfill leachate collection system from which *pollutants* are or may be discharged.

Pollutant - means dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq .

Qualified Inspector - means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder or other Department endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Redevelopment Activity(ies) – means the disturbance and reconstruction of existing impervious area, including impervious areas that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Regulated, Traditional Land Use Control MS4 - means a city, town or village with land use control authority that is authorized to discharge under New York State DEC's

SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s) or the City of New York's Individual SPDES Permit for their Municipal Separate Storm Sewer Systems (NY-0287890).

Routine Maintenance Activity - means *construction activity* that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not limited to:

- Re-grading of gravel roads or parking lots,
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*,
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or *embankment*,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

Site limitations – means site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical site limitations include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of site limitations shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – means the criteria included in Part I.C.2 of the permit that are used to size post-construction stormwater management control practices. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), *Overbank Flood* (Qp), and *Extreme Flood* (Qf).

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Steep Slope – means land area designated on the current United States Department of Agriculture (“USDA”) Soil Survey as Soil Slope Phase “D”, (provided the map unit name is inclusive of slopes greater than 25%) , or Soil Slope Phase E or F, (regardless of the map unit name), or a combination of the three designations.

Streambank – as used in this permit, means the terrain alongside the bed of a creek or stream. The bank consists of the sides of the channel, between which the flow is confined.

Stormwater Pollution Prevention Plan (SWPPP) – means a project specific report, including construction drawings, that among other things: describes the construction activity(ies), identifies the potential sources of pollution at the *construction site*; describes and shows the stormwater controls that will be used to control the pollutants (i.e. erosion and sediment controls; for many projects, includes post-construction stormwater management controls); and identifies procedures the *owner or operator* will implement to comply with the terms and conditions of the permit. See Part III of the permit for a complete description of the information that must be included in the SWPPP.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – means that an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization - means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and *nonpoint sources*. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet *water quality standards*, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for *point source* discharges, load allocations (LAs) for *nonpoint sources*, and a margin of safety (MOS).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed

training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.6., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity).

The *trained contractor* is responsible for the day to day implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part 621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B – Required SWPPP Components by Project Type

Table 1
Construction Activities that Require the Preparation of a SWPPP That Only Includes Erosion and Sediment Controls

<p>The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:</p> <ul style="list-style-type: none">• Single family home <u>not</u> located in one of the watersheds listed in Appendix C or <u>not directly discharging</u> to one of the 303(d) segments listed in Appendix E• Single family residential subdivisions with 25% or less impervious cover at total site build-out and <u>not</u> located in one of the watersheds listed in Appendix C and <u>not</u> directly discharging to one of the 303(d) segments listed in Appendix E• Construction of a barn or other <i>agricultural building</i>, silo, stock yard or pen.
<p>The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:</p> <p>All construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.</p>
<p>The following construction activities that involve soil disturbances of one (1) or more acres of land:</p> <ul style="list-style-type: none">• Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains• Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects• Pond construction• Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an impervious cover• Cross-country ski trails and walking/hiking trails• Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are not part of residential, commercial or institutional development;• Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path or walking path.• Slope stabilization projects• Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics

Table 1 (Continued) CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Spoil areas that will be covered with vegetation
- Vegetated open space projects (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) excluding projects that *alter hydrology from pre to post development* conditions,
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre to post development* conditions
- Demolition project where vegetation will be established, and no redevelopment is planned
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*
- Structural practices as identified in Table II in the “Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State”, excluding projects that involve soil disturbances of greater than five acres and construction activities that include the construction or reconstruction of impervious area
- Temporary access roads, median crossovers, detour roads, lanes, or other temporary impervious areas that will be restored to pre-construction conditions once the construction activity is complete

Table 2
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES
POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Single family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family home that disturbs five (5) or more acres of land
- Single family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out
- Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- Breweries, cideries, and wineries, including establishments constructed on agricultural land
- Campgrounds
- Cemeteries that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other *agricultural building* (e.g. silo) and structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW's, water treatment plants, and water storage tanks
- Office complexes
- Playgrounds that include the construction or reconstruction of impervious area
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surface
- Road construction or reconstruction, including roads constructed as part of the construction activities listed in Table 1

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Parking lot construction or reconstruction, including parking lots constructed as part of the construction activities listed in Table 1
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations and well drilling pads, surfaced with *impervious cover*, and constructed as part of an over-head electric transmission line project, wind-power project, cell tower project, oil or gas well drilling project, sewer or water main project or other linear utility project
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a residential, commercial or institutional development
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a highway construction or reconstruction project
- All other construction activities that include the construction or reconstruction of *impervious area* or *alter the hydrology from pre to post development* conditions, and are not listed in Table 1

APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

Watersheds where *owners or operators* of construction activities identified in Table 2 of Appendix B must prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual (“Design Manual”).

- Entire New York City Watershed located east of the Hudson River - Figure 1
- Onondaga Lake Watershed - Figure 2
- Greenwood Lake Watershed -Figure 3
- Oscawana Lake Watershed – Figure 4
- Kinderhook Lake Watershed – Figure 5

Figure 1 - New York City Watershed East of the Hudson

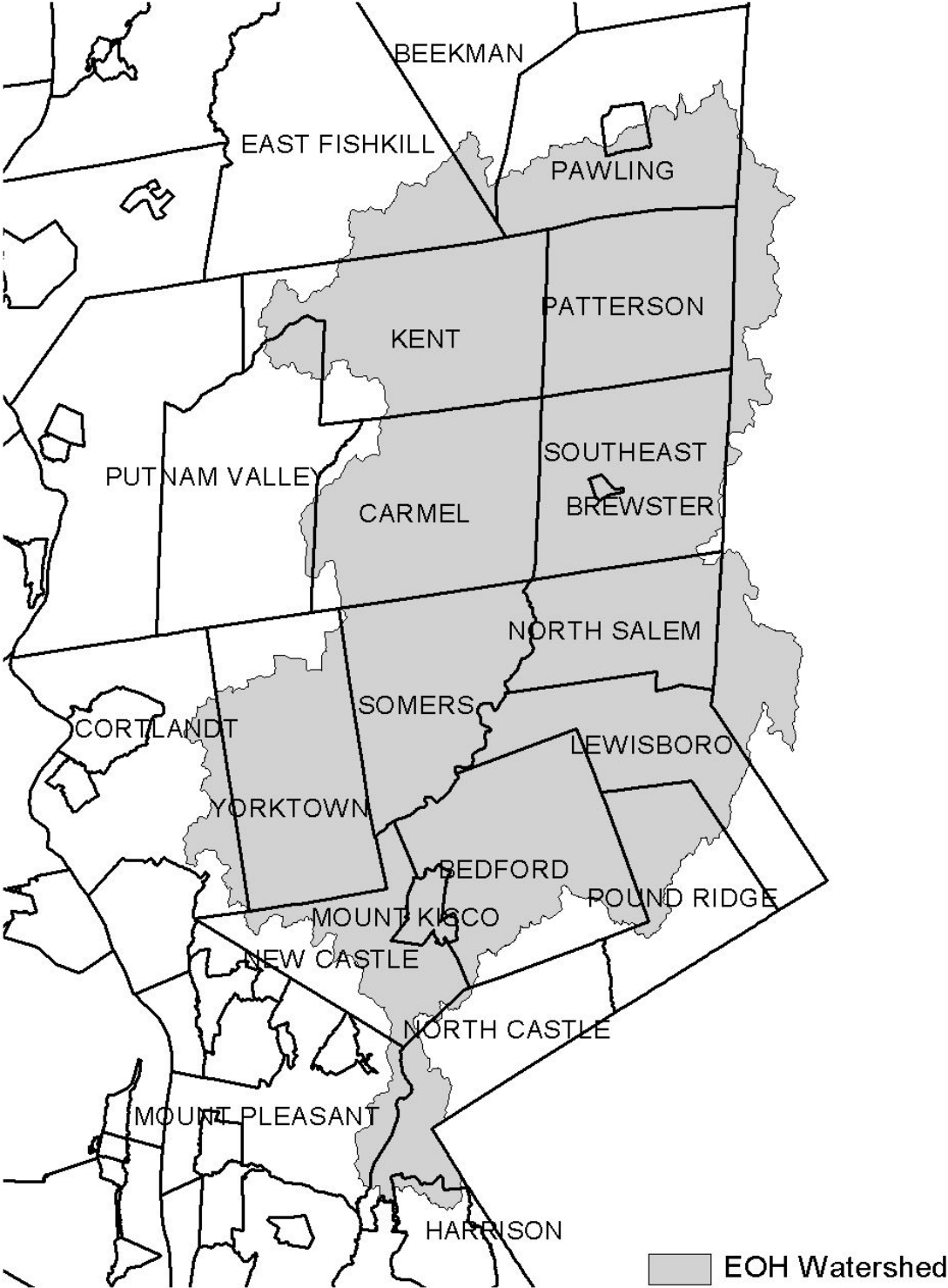


Figure 2 - Onondaga Lake Watershed



Figure 3 - Greenwood Lake Watershed



Figure 4 - Oscawana Lake Watershed

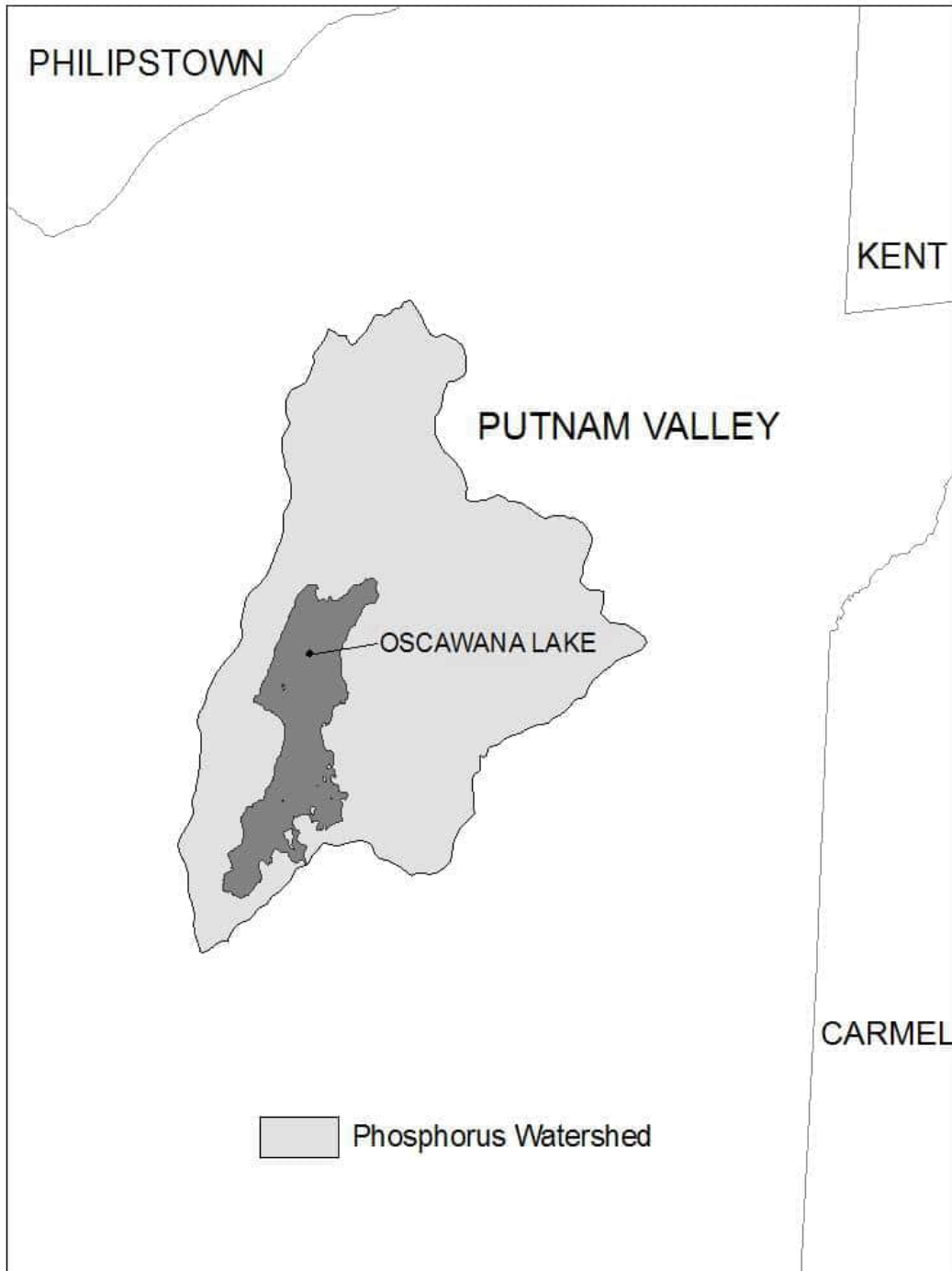
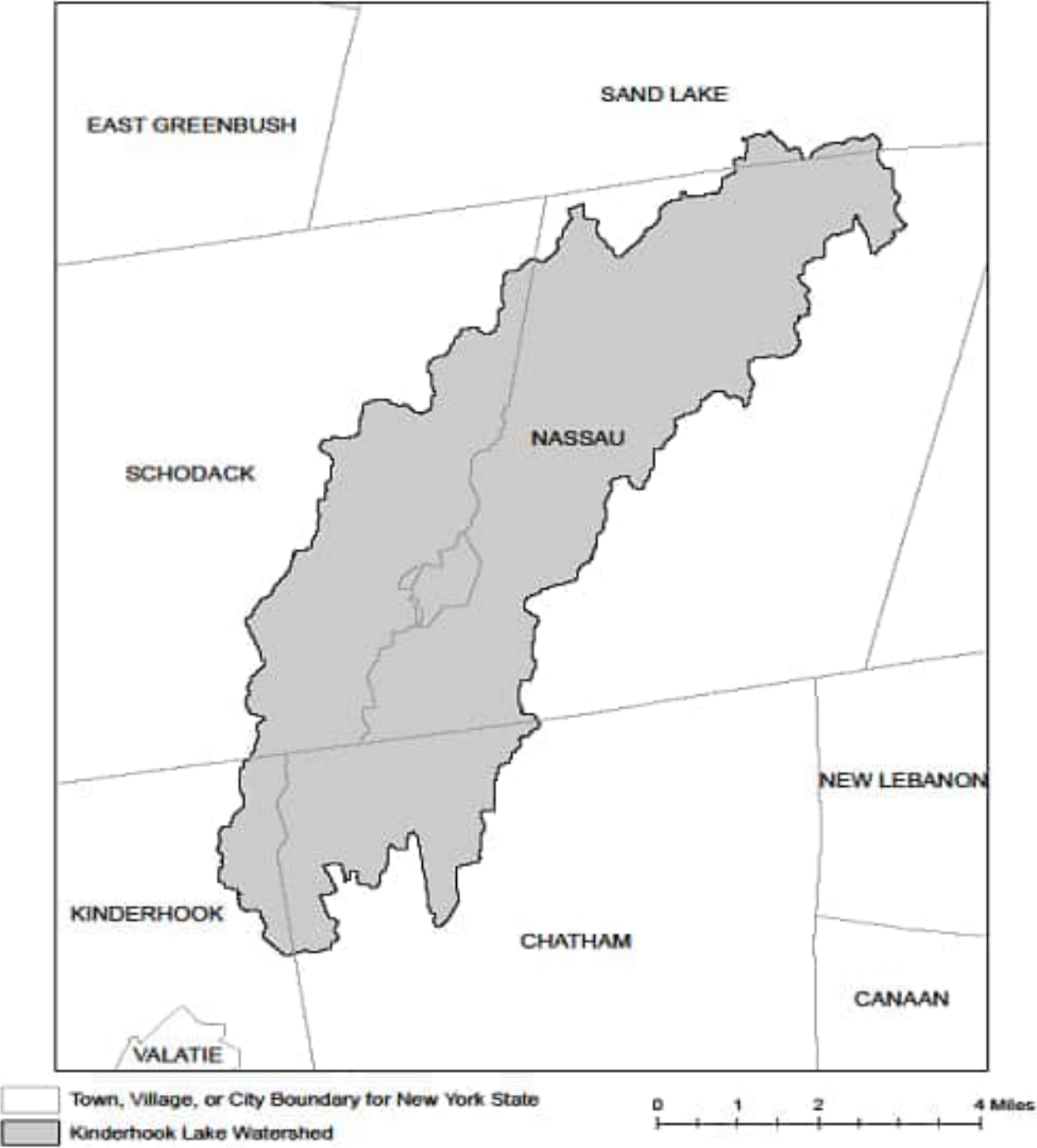


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Watersheds with Lower Disturbance Threshold

Watersheds where *owners or operators* of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River - See Figure 1 in Appendix C

APPENDIX E – 303(d) Segments Impaired by Construction Related Pollutant(s)

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). The list was developed using "The Final New York State 2016 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy" dated November 2016. *Owners or operators* of single family home and single family residential subdivisions with 25% or less total impervious cover at total site build-out that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015.

COUNTY	WATERBODY	POLLUTANT
Albany	Ann Lee (Shakers) Pond, Stump Pond	Nutrients
Albany	Basic Creek Reservoir	Nutrients
Allegany	Amity Lake, Saunders Pond	Nutrients
Bronx	Long Island Sound, Bronx	Nutrients
Bronx	Van Cortlandt Lake	Nutrients
Broome	Fly Pond, Deer Lake, Sky Lake	Nutrients
Broome	Minor Tribs to Lower Susquehanna (north)	Nutrients
Broome	Whitney Point Lake/Reservoir	Nutrients
Cattaraugus	Allegheny River/Reservoir	Nutrients
Cattaraugus	Beaver (Alma) Lake	Nutrients
Cattaraugus	Case Lake	Nutrients
Cattaraugus	Linlyco/Club Pond	Nutrients
Cayuga	Duck Lake	Nutrients
Cayuga	Little Sodus Bay	Nutrients
Chautauqua	Bear Lake	Nutrients
Chautauqua	Chadakoin River and tribs	Nutrients
Chautauqua	Chautauqua Lake, North	Nutrients
Chautauqua	Chautauqua Lake, South	Nutrients
Chautauqua	Findley Lake	Nutrients
Chautauqua	Hulburt/Clymer Pond	Nutrients
Clinton	Great Chazy River, Lower, Main Stem	Silt/Sediment
Clinton	Lake Champlain, Main Lake, Middle	Nutrients
Clinton	Lake Champlain, Main Lake, North	Nutrients
Columbia	Kinderhook Lake	Nutrients
Columbia	Robinson Pond	Nutrients
Cortland	Dean Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Dutchess	Fall Kill and tribs	Nutrients
Dutchess	Hillside Lake	Nutrients
Dutchess	Wappingers Lake	Nutrients
Dutchess	Wappingers Lake	Silt/Sediment
Erie	Beeman Creek and tribs	Nutrients
Erie	Ellicott Creek, Lower, and tribs	Silt/Sediment
Erie	Ellicott Creek, Lower, and tribs	Nutrients
Erie	Green Lake	Nutrients
Erie	Little Sister Creek, Lower, and tribs	Nutrients
Erie	Murder Creek, Lower, and tribs	Nutrients
Erie	Rush Creek and tribs	Nutrients
Erie	Scajaquada Creek, Lower, and tribs	Nutrients
Erie	Scajaquada Creek, Middle, and tribs	Nutrients
Erie	Scajaquada Creek, Upper, and tribs	Nutrients
Erie	South Branch Smoke Cr, Lower, and tribs	Silt/Sediment
Erie	South Branch Smoke Cr, Lower, and tribs	Nutrients
Essex	Lake Champlain, Main Lake, South	Nutrients
Essex	Lake Champlain, South Lake	Nutrients
Essex	Willsboro Bay	Nutrients
Genesee	Bigelow Creek and tribs	Nutrients
Genesee	Black Creek, Middle, and minor tribs	Nutrients
Genesee	Black Creek, Upper, and minor tribs	Nutrients
Genesee	Bowen Brook and tribs	Nutrients
Genesee	LeRoy Reservoir	Nutrients
Genesee	Oak Orchard Cr, Upper, and tribs	Nutrients
Genesee	Tonawanda Creek, Middle, Main Stem	Nutrients
Greene	Schoharie Reservoir	Silt/Sediment
Greene	Sleepy Hollow Lake	Silt/Sediment
Herkimer	Steele Creek tribs	Silt/Sediment
Herkimer	Steele Creek tribs	Nutrients
Jefferson	Moon Lake	Nutrients
Kings	Hendrix Creek	Nutrients
Kings	Prospect Park Lake	Nutrients
Lewis	Mill Creek/South Branch, and tribs	Nutrients
Livingston	Christie Creek and tribs	Nutrients
Livingston	Conesus Lake	Nutrients
Livingston	Mill Creek and minor tribs	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs	Nutrients
Monroe	Buck Pond	Nutrients
Monroe	Cranberry Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Monroe	Lake Ontario Shoreline, Western	Nutrients
Monroe	Long Pond	Nutrients
Monroe	Mill Creek and tribs	Nutrients
Monroe	Mill Creek/Blue Pond Outlet and tribs	Nutrients
Monroe	Minor Tribs to Irondequoit Bay	Nutrients
Monroe	Rochester Embayment - East	Nutrients
Monroe	Rochester Embayment - West	Nutrients
Monroe	Shipbuilders Creek and tribs	Nutrients
Monroe	Thomas Creek/White Brook and tribs	Nutrients
Nassau	Beaver Lake	Nutrients
Nassau	Camaans Pond	Nutrients
Nassau	East Meadow Brook, Upper, and tribs	Silt/Sediment
Nassau	East Rockaway Channel	Nutrients
Nassau	Grant Park Pond	Nutrients
Nassau	Hempstead Bay	Nutrients
Nassau	Hempstead Lake	Nutrients
Nassau	Hewlett Bay	Nutrients
Nassau	Hog Island Channel	Nutrients
Nassau	Long Island Sound, Nassau County Waters	Nutrients
Nassau	Massapequa Creek and tribs	Nutrients
Nassau	Milburn/Parsonage Creeks, Upp, and tribs	Nutrients
Nassau	Reynolds Channel, west	Nutrients
Nassau	Tidal Tribs to Hempstead Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Silt/Sediment
Nassau	Tribs to Smith/Halls Ponds	Nutrients
Nassau	Woodmere Channel	Nutrients
New York	Harlem Meer	Nutrients
New York	The Lake in Central Park	Nutrients
Niagara	Bergholtz Creek and tribs	Nutrients
Niagara	Hyde Park Lake	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Oneida	Ballou, Nail Creeks and tribs	Nutrients
Onondaga	Harbor Brook, Lower, and tribs	Nutrients
Onondaga	Ley Creek and tribs	Nutrients
Onondaga	Minor Tribs to Onondaga Lake	Nutrients
Onondaga	Ninemile Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Middle, and tribs	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Onondaga	Onondaga Lake, northern end	Nutrients
Onondaga	Onondaga Lake, southern end	Nutrients
Ontario	Great Brook and minor tribs	Silt/Sediment
Ontario	Great Brook and minor tribs	Nutrients
Ontario	Hemlock Lake Outlet and minor tribs	Nutrients
Ontario	Honeoye Lake	Nutrients
Orange	Greenwood Lake	Nutrients
Orange	Monhagen Brook and tribs	Nutrients
Orange	Orange Lake	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Oswego	Lake Neatahwanta	Nutrients
Oswego	Pleasant Lake	Nutrients
Putnam	Bog Brook Reservoir	Nutrients
Putnam	Boyd Corners Reservoir	Nutrients
Putnam	Croton Falls Reservoir	Nutrients
Putnam	Diverting Reservoir	Nutrients
Putnam	East Branch Reservoir	Nutrients
Putnam	Lake Carmel	Nutrients
Putnam	Middle Branch Reservoir	Nutrients
Putnam	Oscawana Lake	Nutrients
Putnam	Palmer Lake	Nutrients
Putnam	West Branch Reservoir	Nutrients
Queens	Bergen Basin	Nutrients
Queens	Flushing Creek/Bay	Nutrients
Queens	Jamaica Bay, Eastern, and tribs (Queens)	Nutrients
Queens	Kissena Lake	Nutrients
Queens	Meadow Lake	Nutrients
Queens	Willow Lake	Nutrients
Rensselaer	Nassau Lake	Nutrients
Rensselaer	Snyders Lake	Nutrients
Richmond	Grasmere Lake/Bradys Pond	Nutrients
Rockland	Congers Lake, Swartout Lake	Nutrients
Rockland	Rockland Lake	Nutrients
Saratoga	Ballston Lake	Nutrients
Saratoga	Dwaas Kill and tribs	Silt/Sediment
Saratoga	Dwaas Kill and tribs	Nutrients
Saratoga	Lake Lonely	Nutrients
Saratoga	Round Lake	Nutrients
Saratoga	Tribs to Lake Lonely	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Schenectady	Collins Lake	Nutrients
Schenectady	Duane Lake	Nutrients
Schenectady	Mariaville Lake	Nutrients
Schoharie	Engleville Pond	Nutrients
Schoharie	Summit Lake	Nutrients
Seneca	Reeder Creek and tribs	Nutrients
St.Lawrence	Black Lake Outlet/Black Lake	Nutrients
St.Lawrence	Fish Creek and minor tribs	Nutrients
Steuben	Smith Pond	Nutrients
Suffolk	Agawam Lake	Nutrients
Suffolk	Big/Little Fresh Ponds	Nutrients
Suffolk	Canaan Lake	Silt/Sediment
Suffolk	Canaan Lake	Nutrients
Suffolk	Flanders Bay, West/Lower Sawmill Creek	Nutrients
Suffolk	Fresh Pond	Nutrients
Suffolk	Great South Bay, East	Nutrients
Suffolk	Great South Bay, Middle	Nutrients
Suffolk	Great South Bay, West	Nutrients
Suffolk	Lake Ronkonkoma	Nutrients
Suffolk	Long Island Sound, Suffolk County, West	Nutrients
Suffolk	Mattituck (Marratooka) Pond	Nutrients
Suffolk	Meetinghouse/Terrys Creeks and tribs	Nutrients
Suffolk	Mill and Seven Ponds	Nutrients
Suffolk	Millers Pond	Nutrients
Suffolk	Moriches Bay, East	Nutrients
Suffolk	Moriches Bay, West	Nutrients
Suffolk	Peconic River, Lower, and tidal tribs	Nutrients
Suffolk	Quantuck Bay	Nutrients
Suffolk	Shinnecock Bay and Inlet	Nutrients
Suffolk	Tidal tribs to West Moriches Bay	Nutrients
Sullivan	Bodine, Montgomery Lakes	Nutrients
Sullivan	Davies Lake	Nutrients
Sullivan	Evens Lake	Nutrients
Sullivan	Pleasure Lake	Nutrients
Tompkins	Cayuga Lake, Southern End	Nutrients
Tompkins	Cayuga Lake, Southern End	Silt/Sediment
Tompkins	Owasco Inlet, Upper, and tribs	Nutrients
Ulster	Ashokan Reservoir	Silt/Sediment
Ulster	Esopus Creek, Upper, and minor tribs	Silt/Sediment
Warren	Hague Brook and tribs	Silt/Sediment

303(d) Segments Impaired by Construction Related Pollutant(s)

Warren	Huddle/Finkle Brooks and tribs	Silt/Sediment
Warren	Indian Brook and tribs	Silt/Sediment
Warren	Lake George	Silt/Sediment
Warren	Tribs to L.George, Village of L George	Silt/Sediment
Washington	Cossayuna Lake	Nutrients
Washington	Lake Champlain, South Bay	Nutrients
Washington	Tribs to L.George, East Shore	Silt/Sediment
Washington	Wood Cr/Champlain Canal and minor tribs	Nutrients
Wayne	Port Bay	Nutrients
Westchester	Amawalk Reservoir	Nutrients
Westchester	Blind Brook, Upper, and tribs	Silt/Sediment
Westchester	Cross River Reservoir	Nutrients
Westchester	Lake Katonah	Nutrients
Westchester	Lake Lincolndale	Nutrients
Westchester	Lake Meahagh	Nutrients
Westchester	Lake Mohegan	Nutrients
Westchester	Lake Shenorock	Nutrients
Westchester	Long Island Sound, Westchester (East)	Nutrients
Westchester	Mamaroneck River, Lower	Silt/Sediment
Westchester	Mamaroneck River, Upper, and minor tribs	Silt/Sediment
Westchester	Muscoot/Upper New Croton Reservoir	Nutrients
Westchester	New Croton Reservoir	Nutrients
Westchester	Peach Lake	Nutrients
Westchester	Reservoir No.1 (Lake Isle)	Nutrients
Westchester	Saw Mill River, Lower, and tribs	Nutrients
Westchester	Saw Mill River, Middle, and tribs	Nutrients
Westchester	Sheldrake River and tribs	Silt/Sediment
Westchester	Sheldrake River and tribs	Nutrients
Westchester	Silver Lake	Nutrients
Westchester	Teatown Lake	Nutrients
Westchester	Titicus Reservoir	Nutrients
Westchester	Truesdale Lake	Nutrients
Westchester	Wallace Pond	Nutrients
Wyoming	Java Lake	Nutrients
Wyoming	Silver Lake	Nutrients

APPENDIX F – List of NYS DEC Regional Offices

<u>Region</u>	<u>COVERING THE FOLLOWING COUNTIES:</u>	<u>DIVISION OF ENVIRONMENTAL PERMITS (DEP) PERMIT ADMINISTRATORS</u>	<u>DIVISION OF WATER (DOW) WATER (SPDES) PROGRAM</u>
1	NASSAU AND SUFFOLK	50 CIRCLE ROAD STONY BROOK, NY 11790 TEL. (631) 444-0365	50 CIRCLE ROAD STONY BROOK, NY 11790-3409 TEL. (631) 444-0405
2	BRONX, KINGS, NEW YORK, QUEENS AND RICHMOND	1 HUNTERS POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4997	1 HUNTERS POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4933
3	DUTCHESS, ORANGE, PUTNAM, ROCKLAND, SULLIVAN, ULSTER AND WESTCHESTER	21 SOUTH PUTT CORNERS ROAD NEW PALTZ, NY 12561-1696 TEL. (845) 256-3059	100 HILLSIDE AVENUE, SUITE 1W WHITE PLAINS, NY 10603 TEL. (914) 428 - 2505
4	ALBANY, COLUMBIA, DELAWARE, GREENE, MONTGOMERY, OTSEGO, RENSSELAER, SCHENECTADY AND SCHOHARIE	1150 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 TEL. (518) 357-2069	1130 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 TEL. (518) 357-2045
5	CLINTON, ESSEX, FRANKLIN, FULTON, HAMILTON, SARATOGA, WARREN AND WASHINGTON	1115 STATE ROUTE 86, Po Box 296 RAY BROOK, NY 12977-0296 TEL. (518) 897-1234	232 GOLF COURSE ROAD WARRENSBURG, NY 12885-1172 TEL. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROADAVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7070

Appendix B
Notice of Intent

Appendix C
Soil Data


Custom Soil Resource Report Soil Map




Custom Soil Resource Report


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 1:15,800.

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: Broome County, New York
Survey Area Data: Version 21, Sep 5, 2023

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

Date(s) aerial images were photographed: Jul 26, 2020—Nov 10, 2020

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
AcA	Alden and Chippewa soils, 0 to 3 percent slopes	2.0	1.7%
CaB	Canaseraga silt loam, 3 to 8 percent slopes	6.0	5.3%
CaC	Canaseraga silt loam, 8 to 15 percent slopes	14.8	13.0%
LoE	Lordstown and Oquaga channery silt loams, 25 to 35 percent slopes	2.2	1.9%
MhC	Mardin channery silt loam, 8 to 15 percent slopes	1.7	1.5%
Ms	Middlebury silt loam	0.8	0.7%
Sc	Scio silt loam	11.4	10.0%
Tg	Tioga gravelly silt loam, fan	13.3	11.6%
UnC	Unadilla silt loam, 5 to 15 percent slopes	60.6	53.0%
VoD	Volusia channery silt loam, 15 to 25 percent slopes	0.0	0.0%
W	Water	0.1	0.1%
Wd	Wayland soils complex, 0 to 3 percent slopes, frequently flooded	1.4	1.2%
Totals for Area of Interest		114.4	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

Custom Soil Resource Report

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.

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

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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.

Appendix D
Wetlands, Protected Species, and Historic Preservation Documentation



Barton & Loguidice, D.P.C.

Memo To: Project File **Date:** June 14, 2024

From: Brendan O’Grady, Ryan Luppino **Project No.:** 2271.005.001
Environmental Scientist, Staff Scientist

Subject: Wetland Delineation Memorandum
Hardie Road Solar Farm 5MW PV Project
Town of Conklin, Broome County, New York

Introduction

This memorandum summarizes the results of a wetland identification and boundary delineation performed by Barton & Loguidice, D.P.C. (B&L) for the proposed Hardie Solar Farm 5 MW PV Project, located in the Town of Conklin, Broome County, New York. The Survey Limits are located along Hardie Road, approximately .2 miles southwest of the Route 189 & Route 40 intersection. The Survey Limits are shown on Figure 1 (Topographic) and Figure 2 (Aerial).

Background Information Review

Prior to undertaking the field wetland delineation, the topography, aerial imagery, mapped soils, and mapped resources within the vicinity of the Survey Limits were researched and reviewed. Background information reviewed included the United States Geological Survey (USGS) topographic quadrangle map, soils information from the Natural Resources Conservation Service (NRCS), National Wetland Inventory (NWI) mapping, and New York State Department of Environmental Conservation (NYSDEC) Freshwater Wetland and stream mapping. The results of these reviews are summarized below.

Topographic and Aerial Mapping

The site is located on the USGS 7½-minute Binghamton East quadrangle map (Figure 1). Elevations within the Survey Limits range from 900 feet above mean sea level (amsl) to 940 feet amsl. The lands to the west of the Survey Limits is shown to have abrupt changes in elevation which slope towards the east. The lands to the east of the Survey Limits is a lowland valley that is consistent with the Susquehanna River Basin. A large residential area is mapped to the east near the Susquehanna River, approximately 2796 feet from the Survey Limits.

Aerial imagery shows the Survey Limits to be primarily forested in the southern, eastern, and western quadrants. An emergent area is seen in the north central portion of the Survey Limits. A large pond is situated approximately 200ft south of the Survey Limits. Several overland drainage areas seem to flow south from the Survey Limits, draining into the pond. Residential houses are situated to the north, east, and west of the Survey Limits. These houses are located along Shaw Road and Hardie Road. Commercial properties are mapped approximately 1050 feet to the east of the Survey Limits. Aerial imagery of the Survey Limits is provided in Figure 2.



Soils

The U.S. Department of Agriculture (USDA) NRCS Web Soil Survey (USDA, 2024) mapping for the Survey Limits was reviewed to evaluate the presence of mapped hydric soils (one of the required federal wetland criteria). Table 1, below, lists pertinent data for each soil type mapped within the Survey Limits. Based on the hydric soils ratings, the soils observed within the Survey Limits are considered non-hydric soils. Soil mapping for the Survey Limits is shown on Figure 3.

Table 1 – Mapped Soil Units within Survey Limits				
Symbol	Soil Unit Name	Drainage Class	Hydric Rating (%)	Hydric Description*
CaB	Canaseraga silt loam, 3 to 8 percent slopes	Moderately well drained	0	Non-hydric
Sc	Scio silt loam	Moderately well drained	0	Non-hydric
UnC	Unadilla silt loam, 5 to 15 percent slopes	Well drained	0	Non-hydric
*Hydric Description Key (based on hydric rating %): Hydric: 100%, Predominantly hydric: 66-99%, Partially hydric: 33-66%, Predominantly non-hydric: 1-33%, Non-hydric: 0%				

National Wetlands Inventory Mapping

The U.S. Fish and Wildlife Service’s (USFWS) NWI mapping was reviewed (USFWS, 2024) to identify mapped wetland and surface water locations within the Survey Limits. There are two NWI-mapped wetland polygons within, or within 200 feet of the Survey Limits (Figure 4). One 0.34 acre, Palustrine, Scrub-Shrub, Broad-Leaved Deciduous/ Emergent, Persistent, Seasonally Flooded/ Saturated wetland (PSS1/EM1E) is located in the south central extent of the Survey Limits. This wetland extends south of the Survey Limits towards the pond. An additional 2.90 acre, Palustrine, Emergent, Persistent/ Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded/Saturated wetland (PEM1/SS1E) is mapped approximately 85 feet east of the Survey Limits.

NYSDEC Freshwater Wetlands

The NYSDEC maps the approximate boundaries of wetlands that are state-regulated under Article 24 of the Environmental Conservation Law. In addition to the mapped boundaries, NYSDEC regulates the 100-foot adjacent area surrounding state-regulated wetlands. A review of the NYSDEC freshwater mapping (NYSDEC, 2024) indicated no NYSDEC-mapped wetland within 500 feet of the Survey Limits.

Wetland and Stream Delineation Methodology

A field-based wetland delineation within the Survey Limits was performed by a B&L wetland biologist on December 7 and December 21, 2023. Weather conditions during the December 7 site visit were overcast and 40 degrees Fahrenheit with some snow on the ground. Similar conditions were encountered on the December 21 site visit, minus the snow on the ground. Normal field conditions were not encountered during the site visit. This is due to the site visit occurring outside of the growing season. Although outside of the growing season, vegetation was identifiable as winter weather had not yet set in, nor had the ground frozen. The field delineation was completed for the Survey Limits in accordance with the methodologies set forth in the Routine Wetlands Determination Method with Onsite Inspection presented in the U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (Environmental Laboratory, 1987) and the USACE's Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0 (USACE, 2011). These methodologies require data documentation of field indicators of hydrophytic vegetation, wetland hydrology, and hydric soils that support meeting the federal wetland criteria. The presence of these three parameters were used in the field to identify and delineate the boundaries of wetlands.

Wetland and Stream Delineation Results

One wetland (Wetland A) was identified within the Survey Limits. The identified wetland is shown in Figure 5. Photographs showing the general characteristics of the Survey Limits and the identified resources are included in Appendix A. Information regarding hydrology, vegetation, and soil characteristics observed in the wetland and upland plots for the delineated wetland are included on the field datasheets in Appendix B. The boundary of the delineated wetland extended beyond the Survey Limits and is therefore denoted as an open boundary at the parcel boundary. Wetland A's boundaries that extended beyond the Survey Limits are noted on Figure 5 with an "open wetland boundary" symbol.

Wetland A

Wetland A is a scrub shrub/emergent wetland (PSS/PEM) located throughout the extent of the Survey Limits. As shown on Figure 5, Wetland A extends beyond the Survey Limits to the south and the east. Four data points were plotted throughout Wetland A, with additional upland data plots as well to further support the demarcation of the wetland/upland interface. Hydrology indicators observed among the Wetland A data plots include drainage patterns (B10), geomorphic position (D2), FAC-Neutral test (D5), and a high-water table (A2), and saturation (A3). The vegetation observed in the Wetland A data plots passed the dominance test for hydrophytic vegetation. The dominant species observed across data plots in the herb stratum were sensitive fern (*Onoclea sensibilis*) and smooth goldenrod (*Solidago gigantea*). The dominant species observed across data plots in the sapling/ shrub stratum were red osier dogwood (*Cornus sericea*) and silky dogwood (*Cornus amomum*). The hydric soil indicator Depleted Matrix (F3) was met by the soils across all wetland data plots. The hydrology, vegetation, and soil criteria for federal wetlands were met in this wetland, and the field indicators that supported the wetland identification are documented on the wetland datasheets in Appendix B. Datasheets documenting the site conditions at the upland plots are also included in Appendix B. Data plot locations are included on Figure 5.



Summary

Based on the review of background information and field assessment, one wetland was identified within the Survey Limits. Although final determinations of wetland jurisdiction must be made by the USACE for regulatory purposes, Wetland A is assumed to meet criteria for federal jurisdiction by the USACE under Section 404 of the Clean Water Act due to its surface water connection to other wetland resources that eventually reach the Susquehanna River (a Traditional Navigable Waterway (TNW)). Wetland A has hydrologic connectivity to a Tributary of the Susquehanna River (Water Index No. SR-45-54-1). This determination was based upon field observations and a review of available NYSDEC and USGS mapping, and aerial imagery. A USACE Section 404 Permit will likely be required for disturbance or discharges of fill into the delineated wetland. Based on project impacts, a NYSDEC Section 401 Water Quality Certification may also be required. Once project design is complete, impacts will be assessed and permitted as necessary.

References

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87. U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS.

U.S. Army Corps of Engineers (USACE). 2011. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeastern Region (Version 2.0)*, ed. J.S. Wakeley, R. W. Lichvar, C.V. Noble, and J.F. Berkowitz. ERDC/EL TR 12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

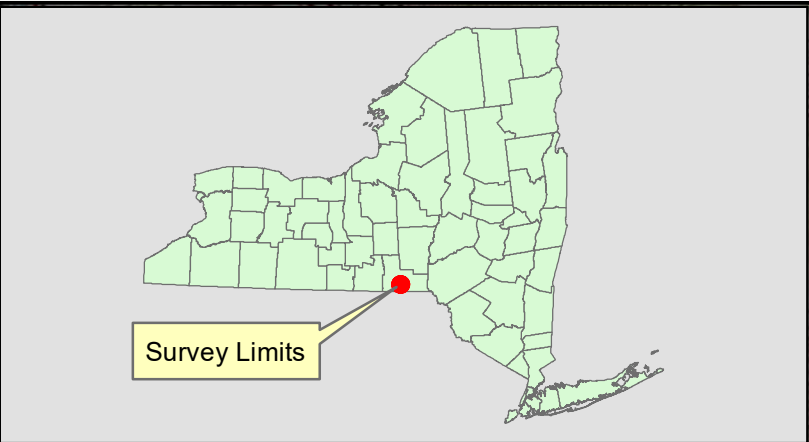
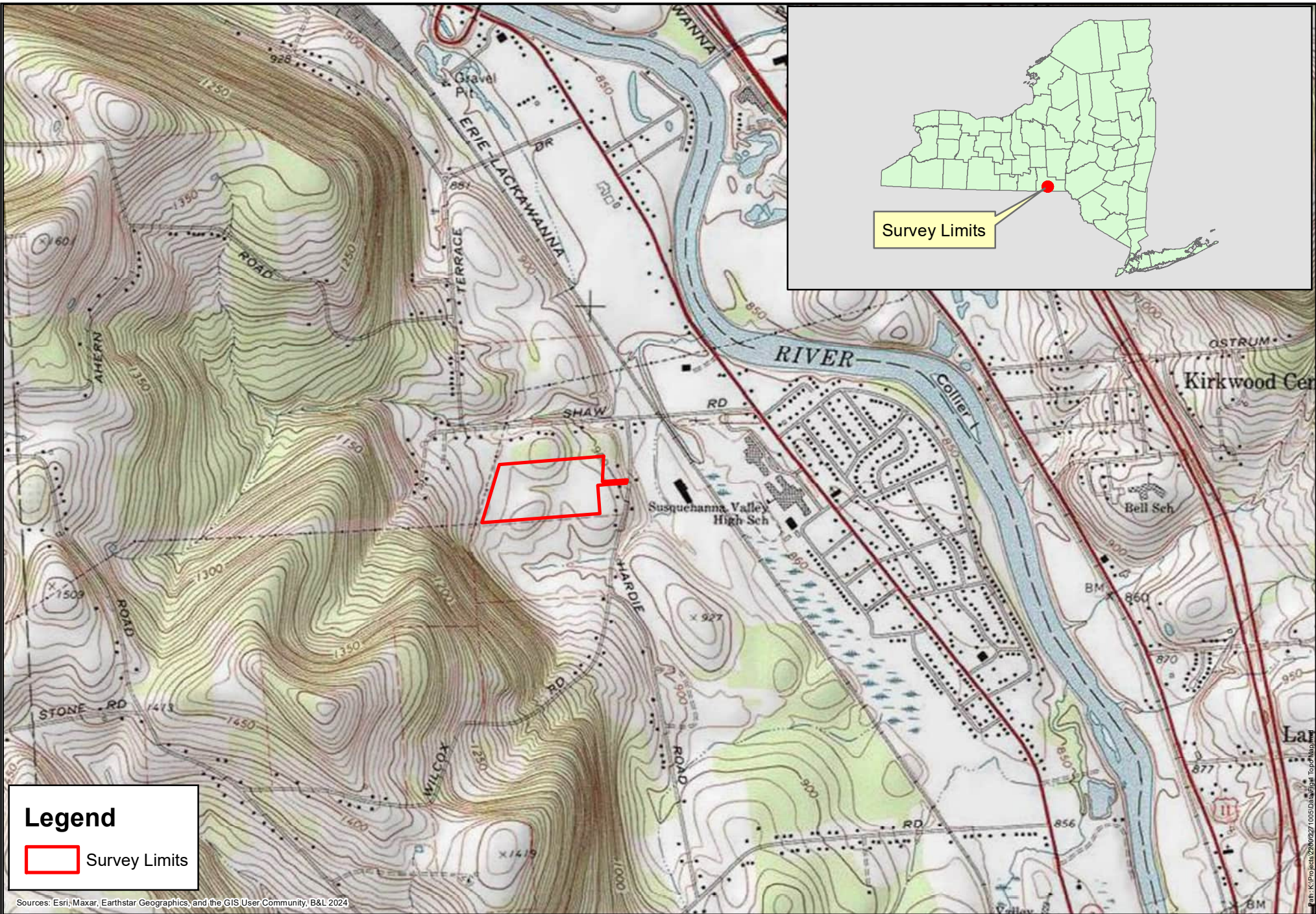
U.S. Department of Agriculture (USDA). 2024. Natural Resource Conservation Service. Web Soil Survey. Accessed February 9, 2024. Available from: <http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>.

U.S. Fish and Wildlife Service (USFWS). 2024. National Wetlands Inventory (NWI) Mapping. Accessed February 9, 2024. Available from: <http://www.fws.gov/wetlands/Wetlands-Mapper.html>.

BPO/jjb
Attachments

Figures

Figure 1	Topographic Project Location Map
Figure 2	Aerial Project Location Map
Figure 3	Mapped Soil Units
Figure 4	Mapped Wetlands & Surface Waters
Figure 5	Delineated Resources

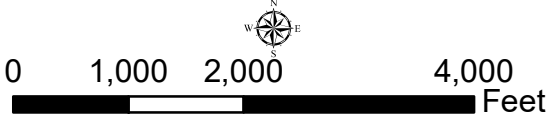


Survey Limits

Legend

Survey Limits

Sources: Esri, Maxar, Earthstar Geographics, and the GIS User Community, B&L 2024




ABUNDANT SOLAR POWER (USNY-327 Hardie Rd-001) LLC
 Hardie Road Solar Site - Solar 5 MW PV
Topographic Survey Limits Map
 Broome County February 2024 New York

Figure 1
 Project No. 2271.005

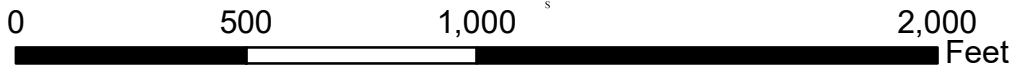


Legend

 Survey Limits

Sources: Esri, Maxar, Earthstar, Geographics, and the GIS User Community, B&L2024

Barton & Loguidice












ABUNDANT SOLAR POWER (USNY-327 Hardie Rd-001) LLC
Hardie Road Solar Site - Solar 5 MW PV
Aerial Survey Limits Map
Broome County February 2024 New York

Figure 2
Project No. 2271.005

Public: 2/20/2024 2:27:00 PM (Broome) Fig. 2 Aerial Map.mxd

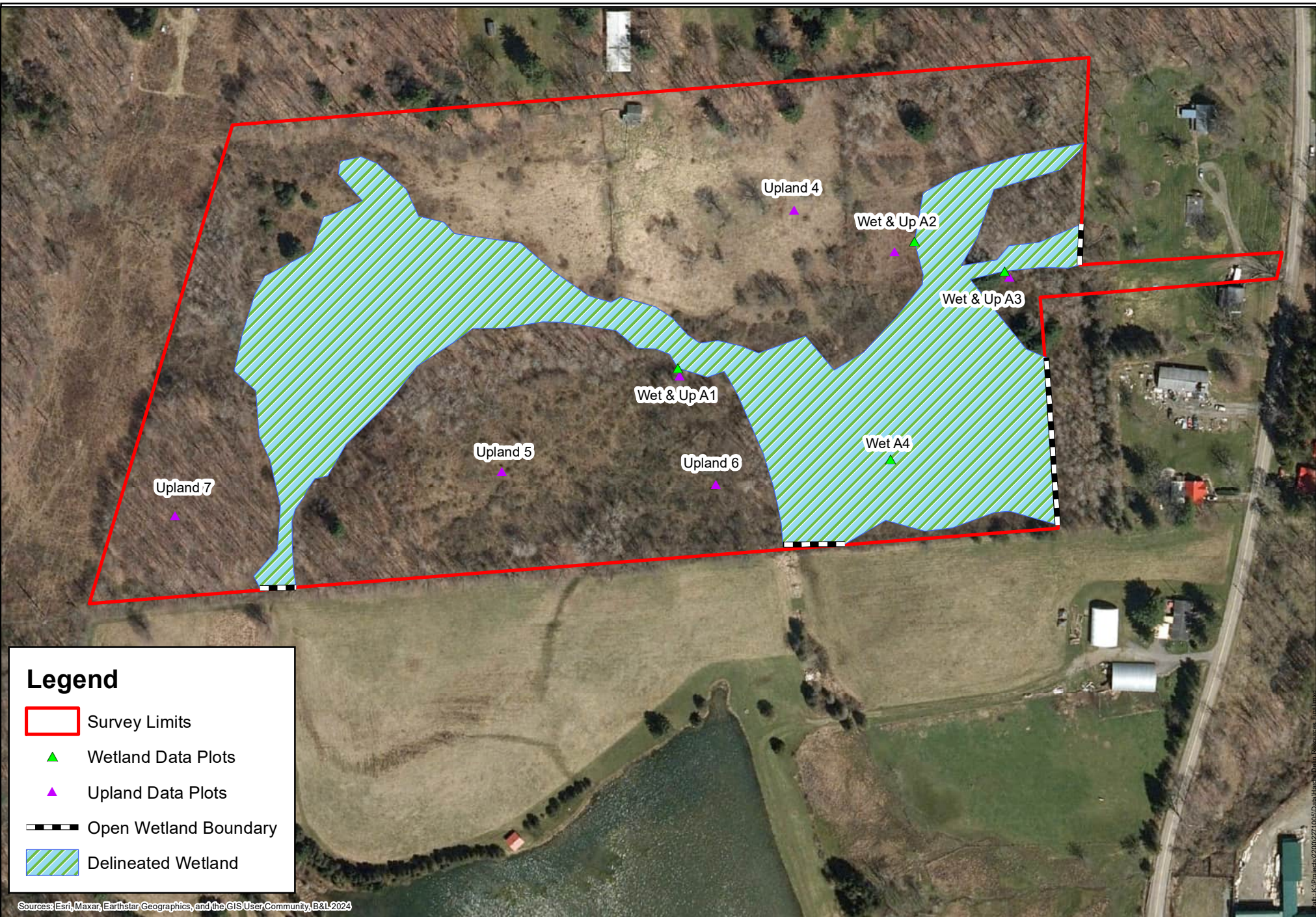


Legend

-  Survey Limits
-  NYSDEC Streams
-  NYSDEC Mapped Wetlands (None Present)
- NWI Wetlands**
-  Freshwater Emergent Wetland
-  Freshwater Forested/Shrub Wetland
-  Freshwater Pond
-  Lake
-  Other
-  Riverine



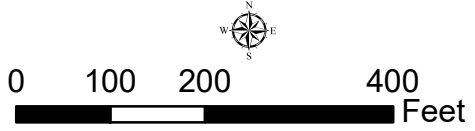
Sources: Esri, Maxar, Earthstar, Geographics, B&L, 2024; Wetlands-USFWS NWI, 2019; NYSDEC 1999; Streams-NYSDEC 2015



Legend

- Survey Limits
- ▲ Wetland Data Plots
- ▲ Upland Data Plots
- Open Wetland Boundary
- Delineated Wetland

Sources: Esri, Maxar, Earthstar Geographics, and the GIS User Community, B&L-2024



ABUNDANT SOLAR POWER (USNY-327 Hardie Rd-001) LLC
 Hardie Road Solar Site - Solar 5 MW PV
Delineated Resources
 Broome County February 2024 New York

Figure
 5
 Project
 No.
 2271.005

John K. Benesch, 2/20/2024, 2271.005.DelineatedResources_Espal.mxd

Appendix A

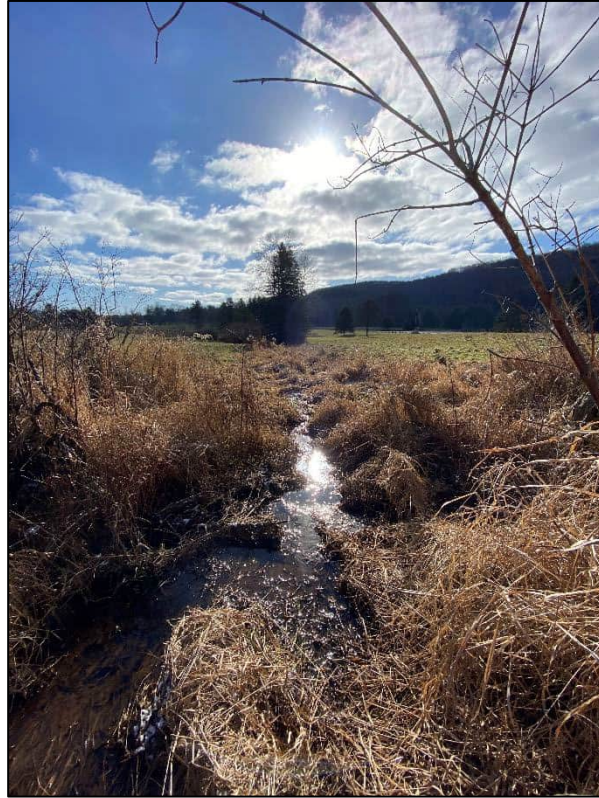
Site Photographs



Photograph 1. Wetland A4 data plot, southeast portion of Survey Limits, facing northwest.



Photograph 2. Wetland A4 data plot, southeast portion of site location, facing northeast.



Photograph 3. Southern central boundary of the Survey Limits, at delineated stream, facing south.



Photograph 4. Southern central boundary of the Survey Limits, at delineated stream, facing north.



Photograph 5. Wetland A1 data plot, central portion of the Survey Limits, facing northeast.



Photograph 6. Typical upland habitat found throughout the Survey Limits.



Photograph 7. Typical upland habitat found throughout the Survey Limits



Photograph 8. Wetland A2 data plot, facing south.

Appendix B

Delineation Datasheets

Project/Site: Hardie Road Solar Site - Solar 5 MW PV City/County: Broome Sampling Date: 12/7/23
 Applicant/Owner: Abundant Solar Power, LLC. State: NY Sampling Point: Wet A1
 Investigator(s): Brendan O'Grady, Ryan Luppino Section, Township, Range: Conklin
 Landform (hillside, terrace, etc.): Bottom Lands Local relief (concave, convex, none): Concave Slope %: 0-3
 Subregion (LRR or MLRA): LRR R, MLRA 140 Lat: 42.076506 Long: -75.834602 Datum: NAD 83
 Soil Map Unit Name: Unadilla silt loam, 5-15% slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u> </u>
---	---

Remarks: (Explain alternative procedures here or in a separate report.)
 This data plot is located in the central portion of Wetland A in the southern extent.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) <u>X</u> Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) ___ Surface Soil Cracks (B6) <u>X</u> Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
--	--

Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>10</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 The hydrology indicator at this data plot was saturation was observed at 10". The secondary hydrology indicators were drainage patterns, geomorphic position, and the FAC-Neutral test.

VEGETATION – Use scientific names of plants.

Sampling Point: Wet A1

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ =Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr><td>OBL species <u>0</u></td><td>x 1 = <u>0</u></td></tr> <tr><td>FACW species <u>110</u></td><td>x 2 = <u>220</u></td></tr> <tr><td>FAC species <u>0</u></td><td>x 3 = <u>0</u></td></tr> <tr><td>FACU species <u>15</u></td><td>x 4 = <u>60</u></td></tr> <tr><td>UPL species <u>0</u></td><td>x 5 = <u>0</u></td></tr> <tr><td>Column Totals: <u>125</u></td><td>(A) <u>280</u> (B)</td></tr> <tr><td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.24</u></td></tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>110</u>	x 2 = <u>220</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>15</u>	x 4 = <u>60</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>125</u>	(A) <u>280</u> (B)	Prevalence Index = B/A = <u>2.24</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
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FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>15</u>	x 4 = <u>60</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>125</u>	(A) <u>280</u> (B)																			
Prevalence Index = B/A = <u>2.24</u>																				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)																				
1. <u>Cornus sericea</u>	<u>55</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Cornus amomum</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ =Total Cover																				
<u>Herb Stratum</u> (Plot size: <u>5</u>)																				
1. <u>Solidago gigantea</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Onoclea sensibilis</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Rubus idaeus</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
4. <u>Epilobium hirsutum</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
5. <u>Rosa multiflora</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
_____ =Total Cover																				
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
_____ =Total Cover																				

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation
 X 2 - Dominance Test is >50%
 X 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)
 The plant community passed the dominance test with 80% and the prevalence index with 2.24.

Project/Site: Hardie Road Solar Site - Solar 5 MW PV City/County: Broome Sampling Date: 12/7/23
 Applicant/Owner: Abundant Solar Power, LLC. State: NY Sampling Point: Wet A2
 Investigator(s): Brendan O'Grady Section, Township, Range: Conklin
 Landform (hillside, terrace, etc.): Bottom Lands Local relief (concave, convex, none): Concave Slope %: 0-3
 Subregion (LRR or MLRA): LRR R, MLRA 140 Lat: 42.07706 Long: -75.833214 Datum: NAD 83
 Soil Map Unit Name: Unadilla silt loam, 5-15% slopes NWI classification: NA
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u> </u>
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Remarks: (Explain alternative procedures here or in a separate report.)
 The Wetland A2 dataplot is located in the northeast portion of the Survey Limits on the eastern edge of Wetland A.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) ___ Surface Water (A1) ___ Water-Stained Leaves (B9) <u>X</u> High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>3</u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>1</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 A high water table was located approximately 3" from the soils surface (A2). Secondary hydrology indicators present at this data plot were FAC-Neutral Test (D5).

VEGETATION – Use scientific names of plants.

Sampling Point: Wet A2

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ =Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr><td>OBL species <u>0</u></td><td>x 1 = <u>0</u></td></tr> <tr><td>FACW species <u>100</u></td><td>x 2 = <u>200</u></td></tr> <tr><td>FAC species <u>0</u></td><td>x 3 = <u>0</u></td></tr> <tr><td>FACU species <u>20</u></td><td>x 4 = <u>80</u></td></tr> <tr><td>UPL species <u>5</u></td><td>x 5 = <u>25</u></td></tr> <tr><td>Column Totals: <u>125</u></td><td>(A) <u>305</u> (B)</td></tr> <tr><td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.44</u></td></tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>100</u>	x 2 = <u>200</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>20</u>	x 4 = <u>80</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>125</u>	(A) <u>305</u> (B)	Prevalence Index = B/A = <u>2.44</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>100</u>	x 2 = <u>200</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>20</u>	x 4 = <u>80</u>																			
UPL species <u>5</u>	x 5 = <u>25</u>																			
Column Totals: <u>125</u>	(A) <u>305</u> (B)																			
Prevalence Index = B/A = <u>2.44</u>																				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)																				
1. <u>Cornus sericea</u>	<u>40</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Cornus amomum</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ =Total Cover																				
<u>Herb Stratum</u> (Plot size: <u>5</u>)																				
1. <u>Phalaris arundinacea</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
2. <u>Sphagnum affine</u>	<u>5</u>	<u>No</u>	<u>UPL</u>																	
3. <u>Solidago canadensis</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>																	
4. <u>Geranium maculatum</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
5. <u>Symphyotrichum novae-angliae</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
6. <u>Onoclea sensibilis</u>	<u>40</u>	<u>Yes</u>	<u>FACW</u>																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
_____ =Total Cover																				
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
_____ =Total Cover																				

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)
 The plant community passed the dominance test with 75% and the Prevalence Index with 2.44.

SOIL

Sampling Point Wet A2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 4/2	75	10YR 6/8	25	C	M	Loamy/Clayey	Prominent redox concentrations
10-18	10YR 6/1	60	10YR 6/1	40	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Mesic Spodic (A17)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- High Chroma Sands (S11) (LRR K, L)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR K, L)
- Red Parent Material (F21) (MLRA 145)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Red Parent Material (F21) (outside MLRA 145)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____ Rock _____
 Depth (inches): _____ 18 _____

Hydric Soil Present? Yes No

Remarks:

The indicator depleted matrix (F3) was met at this dataplot.

Project/Site: Hardie Road Solar Site - Solar 5 MW PV City/County: Broome Sampling Date: 12/21/23
 Applicant/Owner: Abundant Solar Power, LLC. State: NY Sampling Point: Wet A3
 Investigator(s): Brendan O'Grady, Ryan Luppino Section, Township, Range: Conklin
 Landform (hillside, terrace, etc.): Bottom Lands Local relief (concave, convex, none): Concave Slope %: 0-3
 Subregion (LRR or MLRA): LRR R, MLRA 140 Lat: 42.076086 Long: -75.833344 Datum: NAD 83
 Soil Map Unit Name: Unadilla silt loam 5-15% slopes NWI classification: NA
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u> </u>
Remarks: (Explain alternative procedures here or in a separate report.) The Wetland A3 data plot is located in the eastern extent of Wetland A, near the proposed access road.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>4</u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>1</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 The wetland hydrology indicators present at this data plot were high water table, saturation, drainage patterns and the FAC-Neutral Test.

VEGETATION – Use scientific names of plants.

Sampling Point: Wet A3

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ =Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr><td>OBL species <u>0</u></td><td>x 1 = <u>0</u></td></tr> <tr><td>FACW species <u>70</u></td><td>x 2 = <u>140</u></td></tr> <tr><td>FAC species <u>25</u></td><td>x 3 = <u>75</u></td></tr> <tr><td>FACU species <u>0</u></td><td>x 4 = <u>0</u></td></tr> <tr><td>UPL species <u>0</u></td><td>x 5 = <u>0</u></td></tr> <tr><td>Column Totals: <u>95</u></td><td>(A) <u>215</u> (B)</td></tr> <tr><td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.26</u></td></tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>70</u>	x 2 = <u>140</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>95</u>	(A) <u>215</u> (B)	Prevalence Index = B/A = <u>2.26</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>70</u>	x 2 = <u>140</u>																			
FAC species <u>25</u>	x 3 = <u>75</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>95</u>	(A) <u>215</u> (B)																			
Prevalence Index = B/A = <u>2.26</u>																				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)																				
1. <u>Cornus racemosa</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>																	
2. <u>Cornus sericea</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ =Total Cover																				
<u>Herb Stratum</u> (Plot size: <u>5</u>)																				
1. <u>Onoclea sensibilis</u>	<u>60</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Poa sp.</u>	<u>5</u>	<u>No</u>	_____																	
3. <u>Symphyotrichum lateriflorum</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
_____ =Total Cover																				
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
_____ =Total Cover																				

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)
 The plant community passed the dominance test with 100% and the prevalence index with 2.26.

SOIL

Sampling Point Wet A3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1-6	10YR 4/2	100					Loamy/Clayey	
6-18	10YR 6/2	60	10YR 6/8	40	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Mesic Spodic (A17)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- High Chroma Sands (S11) (LRR K, L)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR K, L)
- Red Parent Material (F21) (MLRA 145)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Red Parent Material (F21) (outside MLRA 145)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

The hydric soil indicator present at this data plot was depleted matrix (F3).

Project/Site: Hardie Road Solar Site - Solar 5 MW PV City/County: Broome Sampling Date: 12/21/23
 Applicant/Owner: Abundant Solar Power, LLC. State: NY Sampling Point: Wet A4
 Investigator(s): Brendan O'Grady, Ryan Luppino Section, Township, Range: Conklin
 Landform (hillside, terrace, etc.): Bottom Lands Local relief (concave, convex, none): Concave Slope %: 0-3
 Subregion (LRR or MLRA): LRR R, MLRA 140 Lat: 42.076086 Long: -75.833344 Datum: NAD 83
 Soil Map Unit Name: Unadilla silt loam 5-15% slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u> </u>
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Remarks: (Explain alternative procedures here or in a separate report.)
 The Wetland A4 data plot is located in the south eastern extent of Wetland A.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <u> </u> Surface Water (A1) <u> </u> Water-Stained Leaves (B9) <u>X</u> High Water Table (A2) <u> </u> Aquatic Fauna (B13) <u>X</u> Saturation (A3) <u> </u> Marl Deposits (B15) <u> </u> Water Marks (B1) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Sediment Deposits (B2) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Drift Deposits (B3) <u> </u> Presence of Reduced Iron (C4) <u> </u> Algal Mat or Crust (B4) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Iron Deposits (B5) <u> </u> Thin Muck Surface (C7) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Other (Explain in Remarks) <u> </u> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) <u> </u> Surface Soil Cracks (B6) <u>X</u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Stunted or Stressed Plants (D1) <u> </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>8</u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>5</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 A high water table was located approximately 8" from the soils surface, while saturation was observed at 5" (A2,A3). The Secondary wetland hydrology indicators present were drainage patterns and the FAC-Neutral Test (B10,D5).

VEGETATION – Use scientific names of plants.

Sampling Point: Wet A4

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>71.4%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ =Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr><td>OBL species <u>20</u></td><td>x 1 = <u>20</u></td></tr> <tr><td>FACW species <u>65</u></td><td>x 2 = <u>130</u></td></tr> <tr><td>FAC species <u>0</u></td><td>x 3 = <u>0</u></td></tr> <tr><td>FACU species <u>10</u></td><td>x 4 = <u>40</u></td></tr> <tr><td>UPL species <u>0</u></td><td>x 5 = <u>0</u></td></tr> <tr><td>Column Totals: <u>95</u></td><td>(A) <u>190</u> (B)</td></tr> <tr><td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.00</u></td></tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>20</u>	x 1 = <u>20</u>	FACW species <u>65</u>	x 2 = <u>130</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>95</u>	(A) <u>190</u> (B)	Prevalence Index = B/A = <u>2.00</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>20</u>	x 1 = <u>20</u>																			
FACW species <u>65</u>	x 2 = <u>130</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>10</u>	x 4 = <u>40</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>95</u>	(A) <u>190</u> (B)																			
Prevalence Index = B/A = <u>2.00</u>																				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)																				
1. <u>Cornus sericea</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Cornus amomum</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ =Total Cover																				
<u>Herb Stratum</u> (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Scirpus atrovirens</u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>																	
2. <u>Onoclea sensibilis</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Sphagnum sp.</u>	<u>5</u>	<u>No</u>	_____																	
4. <u>Spartina alterniflora</u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>																	
5. <u>Solidago canadensis</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																	
6. <u>Poa sp</u>	<u>10</u>	<u>Yes</u>	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
_____ =Total Cover																				
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
_____ =Total Cover																				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____																				

Remarks: (Include photo numbers here or on a separate sheet.)
 The plant community passed the dominance test with 71.4% and the prevalence index with 2.00.

SOIL

Sampling Point Wet A4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 3/2	100					Loamy/Clayey	
1-5	10YR 5/2	97	10YR 6/8	3	C	M	Loamy/Clayey	Prominent redox concentrations
5-12	10YR 5/2	70	10YR 6/8	30	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)
<input type="checkbox"/> Mesic Spodic (A17)	<input type="checkbox"/> Red Parent Material (F21) (outside MLRA 145)
<input type="checkbox"/> (MLRA 144A, 145, 149B)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	
<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	
<input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)	
<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Marl (F10) (LRR K, L)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 145)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
 The indicator depleted matrix was met when a matrix color of 10YR 5/2 was observed within the upper 12" of the soil profile with 30% prominent redoximorphic features (10YR 6/8).

Project/Site: Hardie Road Solar Site - Solar 5 MW PV City/County: Broome Sampling Date: 12/7/23
 Applicant/Owner: Abundant Solar Power, LLC. State: NY Sampling Point: Up A1
 Investigator(s): Brendan O'Grady, Ryan Luppino Section, Township, Range: Conklin
 Landform (hillside, terrace, etc.): Upland Local relief (concave, convex, none): Convex Slope %: 0-3
 Subregion (LRR or MLRA): LRR R, MLRA 140 Lat: 42.076448 Long: -75.834617 Datum: NAD 83
 Soil Map Unit Name: Unadilla silt loam, 5-15% slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u> If yes, optional Wetland Site ID: <u> </u>
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Remarks: (Explain alternative procedures here or in a separate report.)
 This data plot is located on an up slope adjacent to the Wetland A1 data plot.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u> </u> No <u> </u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u> </u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u> </u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 No wetland hydrology indicators were present at this data plot

VEGETATION – Use scientific names of plants.

Sampling Point: Up A1

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30</u>)																				
1. <u>Populus grandidentata</u>	<u>30</u>	Yes	FACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25.0%</u> (A/B) Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>6</u></td> <td>x 2 = <u>12</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>95</u></td> <td>x 4 = <u>380</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>101</u> (A)</td> <td><u>392</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>3.88</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>6</u>	x 2 = <u>12</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>95</u>	x 4 = <u>380</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>101</u> (A)	<u>392</u> (B)	Prevalence Index = B/A = <u>3.88</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>6</u>	x 2 = <u>12</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>95</u>	x 4 = <u>380</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>101</u> (A)	<u>392</u> (B)																			
Prevalence Index = B/A = <u>3.88</u>																				
2. <u>Prunus serotina</u>	<u>5</u>	No	FACU																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>35</u> =Total Cover																			
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. <u>Lonicera tatarica</u>	<u>45</u>	Yes	FACU	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>45</u> =Total Cover																			
Herb Stratum (Plot size: <u>5</u>)																				
1. <u>Onoclea sensibilis</u>	<u>6</u>	Yes	FACW																	
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	<u>6</u> =Total Cover																			
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. <u>Vitis aestivalis</u>	<u>15</u>	Yes	FACU	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																
2. _____																				
3. _____																				
4. _____																				
	<u>15</u> =Total Cover																			

Remarks: (Include photo numbers here or on a separate sheet.)
 No hydrophytic vegetation indicators were met at this data plot.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10YR 4/3	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Mesic Spodic (A17)</p> <p>(MLRA 144A, 145, 149B)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p>	<p><input type="checkbox"/> Dark Surface (S7)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> Marl (F10) (LRR K, L)</p> <p><input type="checkbox"/> Red Parent Material (F21) (MLRA 145)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</p> <p><input type="checkbox"/> Red Parent Material (F21) (outside MLRA 145)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (F22)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p>Restrictive Layer (if observed):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes _____ No <u>X</u></p>
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Remarks:
 No hydric soil indicators were present at this data plot.

Project/Site: Hardie Road Solar Site - Solar 5 MW PV City/County: Broome Sampling Date: 12/7/2023
 Applicant/Owner: Abundant Solar Power, LLC. State: NY Sampling Point: Up A2
 Investigator(s): Brendan O'Grady, Ryan Luppino Section, Township, Range: Conklin
 Landform (hillside, terrace, etc.): Upland Local relief (concave, convex, none): Convex Slope %: 0-3
 Subregion (LRR or MLRA): LRR R, MLRA 140 Lat: 42.077014 Long: -75.8333340 Datum: NAD 83
 Soil Map Unit Name: Unadilla silt loam, 5-15% slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u> If yes, optional Wetland Site ID: <u> </u>
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Remarks: (Explain alternative procedures here or in a separate report.)
 This dataplot is located on an upslope adjacent to the Wetland A2 dataplot.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 No hydrology indicators were present at this data plot

VEGETATION – Use scientific names of plants.

Sampling Point: Up A2

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30</u>)																				
1. <u>Lonicera periclymenum</u>	<u>40</u>	Yes	UPL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25.0%</u> (A/B) Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>30</u></td> <td>x 4 = <u>120</u></td> </tr> <tr> <td>UPL species <u>50</u></td> <td>x 5 = <u>250</u></td> </tr> <tr> <td>Column Totals: <u>110</u> (A)</td> <td><u>440</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>4.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>30</u>	x 4 = <u>120</u>	UPL species <u>50</u>	x 5 = <u>250</u>	Column Totals: <u>110</u> (A)	<u>440</u> (B)	Prevalence Index = B/A = <u>4.00</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>20</u>	x 2 = <u>40</u>																			
FAC species <u>10</u>	x 3 = <u>30</u>																			
FACU species <u>30</u>	x 4 = <u>120</u>																			
UPL species <u>50</u>	x 5 = <u>250</u>																			
Column Totals: <u>110</u> (A)	<u>440</u> (B)																			
Prevalence Index = B/A = <u>4.00</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>40</u> =Total Cover																			
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. <u>Cornus sericea</u>	<u>5</u>	Yes	UPL	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>5</u> =Total Cover																			
Herb Stratum (Plot size: <u>5</u>)																				
1. <u>Onoclea sensibilis</u>	<u>15</u>	Yes	FACW																	
2. <u>Solidago canadensis</u>	<u>10</u>	No	FACU																	
3. <u>Rubus idaeus</u>	<u>20</u>	Yes	FACU																	
4. <u>Daucus carota</u>	<u>5</u>	No	UPL																	
5. <u>Poa sp.</u>	<u>10</u>	No	FAC																	
6. <u>Phalaris arundinacea</u>	<u>5</u>	No	FACW																	
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	<u>65</u> =Total Cover																			
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																
2. _____																				
3. _____																				
4. _____																				
	=Total Cover			Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u>																

Remarks: (Include photo numbers here or on a separate sheet.)
 No hydrophytic vegetation indicators were present at this data plot.

SOIL

Sampling Point Up A2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4/3	100					Loamy/Clayey	
6-16	10YR 5/3	70	10YR 6/8	30	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Mesic Spodic (A17)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- High Chroma Sands (S11) **(LRR K, L)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR K, L)**
- Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Red Parent Material (F21) **(outside MLRA 145)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No hydric soil indicators were present at this data plot.

Project/Site: Hardie Road Solar Site - Solar 5 MW PV City/County: Broome Sampling Date: 12/7/23
 Applicant/Owner: Abundant Solar Power, LLC. State: NY Sampling Point: Up A3
 Investigator(s): Brendan O'Grady, Ryan Luppino Section, Township, Range: Conklin
 Landform (hillside, terrace, etc.): Bottom Lands Local relief (concave, convex, none): Concave Slope %: 0-3
 Subregion (LRR or MLRA): LRR R, MLRA 140 Lat: 42.076954 Long: -75.832662 Datum: NAD 83
 Soil Map Unit Name: Unadilla silt loam 5-15% slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u> If yes, optional Wetland Site ID: <u> </u>
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Remarks: (Explain alternative procedures here or in a separate report.)
 This data plot is located on an upslope adjacent to the Wetland A3 data plot.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 No hydrology indicators were present at this data plot.

VEGETATION – Use scientific names of plants.

Sampling Point: Up A3

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u><i>Pinus strobus</i></u>	<u>20</u>	Yes	FACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
	<u>20</u> =Total Cover			Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>30</u></td> <td>x 3 = <u>90</u></td> </tr> <tr> <td>FACU species <u>55</u></td> <td>x 4 = <u>220</u></td> </tr> <tr> <td>UPL species <u>15</u></td> <td>x 5 = <u>75</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>385</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>3.85</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>30</u>	x 3 = <u>90</u>	FACU species <u>55</u>	x 4 = <u>220</u>	UPL species <u>15</u>	x 5 = <u>75</u>	Column Totals: <u>100</u> (A)	<u>385</u> (B)	Prevalence Index = B/A = <u>3.85</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>30</u>	x 3 = <u>90</u>																			
FACU species <u>55</u>	x 4 = <u>220</u>																			
UPL species <u>15</u>	x 5 = <u>75</u>																			
Column Totals: <u>100</u> (A)	<u>385</u> (B)																			
Prevalence Index = B/A = <u>3.85</u>																				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)				Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u><i>Cornus racemosa</i></u>	<u>30</u>	Yes	FAC																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
	<u>30</u> =Total Cover																			
<u>Herb Stratum</u> (Plot size: <u>5</u>)				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																
1. <u><i>Solidago altissima</i></u>	<u>20</u>	Yes	FACU																	
2. <u><i>Geranium maculatum</i></u>	<u>15</u>	Yes	FACU																	
3. <u><i>Fragaria vesca</i></u>	<u>15</u>	Yes	UPL																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
	<u>50</u> =Total Cover																			
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
	_____ =Total Cover																			

Remarks: (Include photo numbers here or on a separate sheet.)
 No hydrophytic vegetation indicators were met at this data plot.

SOIL

Sampling Point Up A3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 4/3	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)
<input type="checkbox"/> Mesic Spodic (A17)	<input type="checkbox"/> Red Parent Material (F21) (outside MLRA 145)
<input type="checkbox"/> (MLRA 144A, 145, 149B)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	
<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	
<input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)	
<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Marl (F10) (LRR K, L)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 145)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
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Remarks:
 No hydric soil indicators were present at this data plot.

Project/Site: Hardie Road Solar Site - Solar 5 MW PV City/County: Broome Sampling Date: 12/7/23
 Applicant/Owner: Abundant Solar Power, LLC. State: NY Sampling Point: Upland 4
 Investigator(s): Brendan O'Grady, Ryan Luppino Section, Township, Range: Conklin
 Landform (hillside, terrace, etc.): Upland Local relief (concave, convex, none): Convex Slope %: 0-3
 Subregion (LRR or MLRA): LRR R, MLRA 140 Lat: 42.077195 Long: -75.833939 Datum: NAD 83
 Soil Map Unit Name: Unadilla silt loam 5-15% slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u> If yes, optional Wetland Site ID: <u> </u>
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Remarks: (Explain alternative procedures here or in a separate report.)
 This data plot is located in the central northeast portion of the Survey Limits.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 No hydrology indicators were present at this data plot

VEGETATION – Use scientific names of plants.

Sampling Point: Upland 4

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ =Total Cover				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>1</u></td> <td>x 2 = <u>2</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>3</u></td> <td>x 4 = <u>12</u></td> </tr> <tr> <td>UPL species <u>3</u></td> <td>x 5 = <u>15</u></td> </tr> <tr> <td>Column Totals: <u>7</u> (A)</td> <td><u>29</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>4.14</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>1</u>	x 2 = <u>2</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>3</u>	x 4 = <u>12</u>	UPL species <u>3</u>	x 5 = <u>15</u>	Column Totals: <u>7</u> (A)	<u>29</u> (B)	Prevalence Index = B/A = <u>4.14</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>1</u>	x 2 = <u>2</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>3</u>	x 4 = <u>12</u>																			
UPL species <u>3</u>	x 5 = <u>15</u>																			
Column Totals: <u>7</u> (A)	<u>29</u> (B)																			
Prevalence Index = B/A = <u>4.14</u>																				
_____ =Total Cover																				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ =Total Cover																				
<u>Herb Stratum</u> (Plot size: <u>5</u>)																				
1. <u>Poa sp.</u>	<u>40</u>	<u>Yes</u>	_____																	
2. <u>Solidago altissima</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Fragaria vesca</u>	<u>5</u>	<u>No</u>	<u>UPL</u>																	
4. <u>Verbascum thapsus</u>	<u>5</u>	<u>No</u>	<u>UPL</u>																	
5. <u>Doellingeria umbellata</u>	<u>15</u>	<u>No</u>	<u>FACW</u>																	
6. <u>Taraxacum officinale</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
7. <u>Rosa multiflora</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
_____ =Total Cover																				
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
_____ =Total Cover																				
Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																				
				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																
Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u>																				

Remarks: (Include photo numbers here or on a separate sheet.)
 No hydrophytic vegetation indicators were met at this data plot.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 4/4	100					Loamy/Clayey	
10-16	10YR 5/4	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Mesic Spodic (A17)
(MLRA 144A, 145, 149B)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- High Chroma Sands (S11) **(LRR K, L)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR K, L)**
- Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Red Parent Material (F21) **(outside MLRA 145)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No hydric soil indicators were present at this data plot.

Project/Site: Hardie Road Solar Site - Solar 5 MW PV City/County: Broome Sampling Date: 12/7/23
 Applicant/Owner: Abundant Solar Power, LLC. State: NY Sampling Point: Upland 5
 Investigator(s): Brendan O'Grady, Ryan Luppino Section, Township, Range: Conklin
 Landform (hillside, terrace, etc.): Upland Local relief (concave, convex, none): Convex Slope %: 0-3
 Subregion (LRR or MLRA): LRR R, MLRA 140 Lat: 42.076012 Long: -75.835677 Datum: NAD 83
 Soil Map Unit Name: Unadilla silt loam 5-15% slopes NWI classification: Not Mapped by NWI

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u> If yes, optional Wetland Site ID: <u> </u>
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Remarks: (Explain alternative procedures here or in a separate report.)
 This data plot is located in a forested stand in the southern central portion of the Survey Limits.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> </u> Water-Stained Leaves (B9) <u> </u> High Water Table (A2) <u> </u> Aquatic Fauna (B13) <u>X</u> Saturation (A3) <u> </u> Marl Deposits (B15) <u> </u> Water Marks (B1) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Sediment Deposits (B2) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Drift Deposits (B3) <u> </u> Presence of Reduced Iron (C4) <u> </u> Algal Mat or Crust (B4) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Iron Deposits (B5) <u> </u> Thin Muck Surface (C7) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Other (Explain in Remarks) <u> </u> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Stunted or Stressed Plants (D1) <u> </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> Microtopographic Relief (D4) <u> </u> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>12</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 The hydrology indicator present at this data plot was saturation at 12".

VEGETATION – Use scientific names of plants.

Sampling Point: Upland 5

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ =Total Cover				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>50</u></td> <td>x 4 = <u>200</u></td> </tr> <tr> <td>UPL species <u>35</u></td> <td>x 5 = <u>175</u></td> </tr> <tr> <td>Column Totals: <u>95</u> (A)</td> <td><u>395</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>4.16</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>50</u>	x 4 = <u>200</u>	UPL species <u>35</u>	x 5 = <u>175</u>	Column Totals: <u>95</u> (A)	<u>395</u> (B)	Prevalence Index = B/A = <u>4.16</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>10</u>	x 2 = <u>20</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>50</u>	x 4 = <u>200</u>																			
UPL species <u>35</u>	x 5 = <u>175</u>																			
Column Totals: <u>95</u> (A)	<u>395</u> (B)																			
Prevalence Index = B/A = <u>4.16</u>																				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)																				
1. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ =Total Cover																				
<u>Herb Stratum</u> (Plot size: <u>5</u>)																				
1. <u>Solidago hispida</u>	<u>25</u>	<u>Yes</u>	<u>UPL</u>																	
2. <u>Poa sp.</u>	<u>15</u>	<u>No</u>																		
3. <u>Elaeagnus angustifolia</u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>																	
4. <u>Fragaria vesca</u>	<u>10</u>	<u>No</u>	<u>UPL</u>																	
5. <u>Aster sp.</u>	<u>5</u>	<u>No</u>																		
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
_____ =Total Cover																				
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
_____ =Total Cover																				

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.)
 No hydrophytic vegetation indicators were met at this data plot.

SOIL

Sampling Point Upland 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 3/4	100					Loamy/Clayey	
10-18	10YR 5/1	80	10YR 6/8	20	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Mesic Spodic (A17)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- High Chroma Sands (S11) (LRR K, L)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR K, L)
- Red Parent Material (F21) (MLRA 145)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Red Parent Material (F21) (outside MLRA 145)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
 No hydric soil indicators were present at this data plot.

VEGETATION – Use scientific names of plants.

Sampling Point: Upland 6

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Lonicera periclymenum</u>	<u>25</u>	Yes	UPL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)	
2. <u>Prunus serotina</u>	<u>40</u>	Yes	FACU		
3. <u>Rhus typhina</u>	<u>30</u>	Yes	UPL		
4. <u>Elaeagnus angustifolia</u>	<u>5</u>	No	FACU		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>100</u> =Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>55</u> x 4 = <u>220</u> UPL species <u>55</u> x 5 = <u>275</u> Column Totals: <u>130</u> (A) <u>550</u> (B) Prevalence Index = B/A = <u>4.23</u>	
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Cornus sericea</u>	<u>5</u>	Yes	FACW		Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>5</u> =Total Cover				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.	
<u>Herb Stratum</u> (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Solidago rugosa</u>	<u>15</u>	Yes	FAC		Hydrophytic Vegetation Present? Yes <u>_____</u> No <u>X</u>
2. <u>Rubus idaeus</u>	<u>10</u>	Yes	FACU		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
<u>25</u> =Total Cover					
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____ =Total Cover					

Remarks: (Include photo numbers here or on a separate sheet.)
 No hydrophytic vegetation indicators were met at this data plot.

SOIL

Sampling Point: Upland 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 3/3	100					Loamy/Clayey	
1-7	10YR 4/3	100					Loamy/Clayey	
7-18	10YR 5/3	90	2.5YR 7/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Dark Surface (S7) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> High Chroma Sands (S11) (LRR K, L) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Mesic Spodic (A17) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> (MLRA 144A, 145, 149B) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Marl (F10) (LRR K, L) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Red Parent Material (F21) (MLRA 145) |
| <input type="checkbox"/> Stripped Matrix (S6) | |

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Red Parent Material (F21) (outside MLRA 145)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No hydric soil indicators were met at this data plot.

Project/Site: Hardie Road Solar Site - Solar 5 MW PV City/County: Broome Sampling Date: 12/21/2023
 Applicant/Owner: Abundant Solar Power, LLC. State: NY Sampling Point: Upland 7
 Investigator(s): Brendan O'Grady, Ryan Luppino Section, Township, Range: Conklin
 Landform (hillside, terrace, etc.): Upland Local relief (concave, convex, none): Convex Slope %: 0-3
 Subregion (LRR or MLRA): LRR R, MLRA 140 Lat: 42.075810 Long: -75.837632 Datum: NAD 83
 Soil Map Unit Name: Unadilla silt loam, 5-15% slopes NWI classification: Not Mapped by NWI

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u> If yes, optional Wetland Site ID: <u> </u>
---	---

Remarks: (Explain alternative procedures here or in a separate report.)
 This dataplot is located within a forested stand in the southwest corner of the Survey Limits.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
--	--

Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 No wetland hydrology indicators were met at this data plot.

VEGETATION – Use scientific names of plants.

Sampling Point: Upland 7

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30</u>)																				
1. <u>Acer rubrum</u>	<u>70</u>	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)																
2. <u>Betula papyrifera</u>	<u>5</u>	No	FACU																	
3. <u>Prunus serotina</u>	<u>5</u>	No	FACU																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>80</u>	=Total Cover		Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>70</u></td> <td>x 3 = <u>210</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>20</u></td> <td>x 5 = <u>100</u></td> </tr> <tr> <td>Column Totals: <u>100</u></td> <td>(A) <u>350</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>3.50</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>70</u>	x 3 = <u>210</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>20</u>	x 5 = <u>100</u>	Column Totals: <u>100</u>	(A) <u>350</u> (B)	Prevalence Index = B/A = <u>3.50</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>70</u>	x 3 = <u>210</u>																			
FACU species <u>10</u>	x 4 = <u>40</u>																			
UPL species <u>20</u>	x 5 = <u>100</u>																			
Column Totals: <u>100</u>	(A) <u>350</u> (B)																			
Prevalence Index = B/A = <u>3.50</u>																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. _____																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
		=Total Cover																		
Herb Stratum (Plot size: <u>5</u>)																				
1. <u>Poa sp.</u>	<u>5</u>	Yes	UPL	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Dennstaedtia punctilobula</u>	<u>15</u>	Yes	UPL																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	<u>20</u>	=Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																
2. _____																				
3. _____																				
4. _____																				
		=Total Cover																		

Remarks: (Include photo numbers here or on a separate sheet.)
 No hydrophytic vegetation indicators were met at this data plot.

SOIL

Sampling Point Upland 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/2	100					Loamy/Clayey	
2-8	10YR 4/4	100					Loamy/Clayey	
8-14	10YR 5/3	85	7.5YR 6/8	15	C	M	Loamy/Clayey	Prominent redox concentrations
14-18	10YR 6/3	95	10YR 7/8	5	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Mesic Spodic (A17)</p> <p>(MLRA 144A, 145, 149B)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p>	<p><input type="checkbox"/> Dark Surface (S7)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> Marl (F10) (LRR K, L)</p> <p><input type="checkbox"/> Red Parent Material (F21) (MLRA 145)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</p> <p><input type="checkbox"/> Red Parent Material (F21) (outside MLRA 145)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (F22)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p>Restrictive Layer (if observed):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes _____ No <u>X</u></p>
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Remarks:
No hydric soil indicators were met at this data plot.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
Email Address: fw5es_nyfo@fws.gov

In Reply Refer To:
Project Code: 2024-0023431
Project Name: Hardie Solar Farm

08/20/2024 20:24:16 UTC

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2))

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: <https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see [Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service \(fws.gov\)](#).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
(607) 753-9334

PROJECT SUMMARY

Project Code: 2024-0023431

Project Name: Hardie Solar Farm

Project Type: Power Gen - Solar

Project Description: This site is being assessed for the new construction of a solar farm.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@42.0775768,-75.8347586507511,14z>



Counties: Broome County, New York

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered

CLAMS

NAME	STATUS
Green Floater <i>Lasmigona subviridis</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7541	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Johanna Duffy
Address: 443 Electronics Parkway
City: Liverpool
State: NY
Zip: 13088
Email: jduffy@bartonandloguidice.com
Phone: 3154575200

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Army Corps of Engineers

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act¹ and the Migratory Bird Treaty Act².

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats³, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below.

Specifically, please review the ["Supplemental Information on Migratory Birds and Eagles"](#).

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds
<https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC
<https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read

["Supplemental Information on Migratory Birds and Eagles"](#), specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

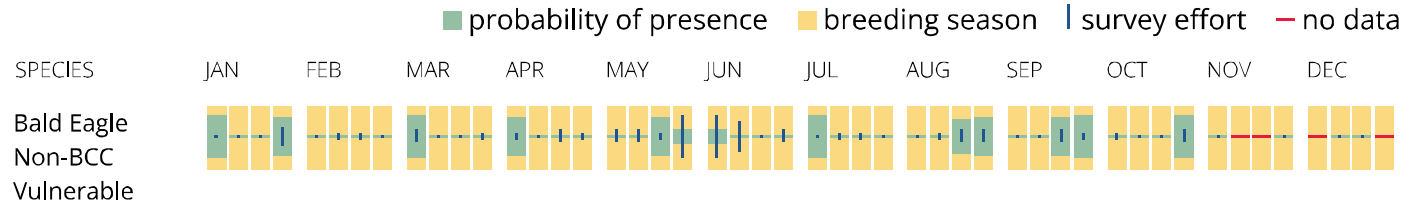
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply). To see a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the [Eagle Act](#) should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "[Supplemental Information on Migratory Birds and Eagles](#)".

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON

Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Aug 31
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Black-capped Chickadee <i>Poecile atricapillus praticus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 10 to Jul 31
Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Canada Warbler <i>Cardellina canadensis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Prairie Warbler <i>Setophaga discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read ["Supplemental Information on Migratory Birds and Eagles"](#), specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (-)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure.

To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in

offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
Email Address: fw5es_nyfo@fws.gov

In Reply Refer To:
Project code: 2024-0023431
Project Name: Hardie Solar Farm

07/26/2024 20:30:21 UTC

Federal Nexus: yes
Federal Action Agency (if applicable): Army Corps of Engineers

Subject: Federal agency coordination under the Endangered Species Act, Section 7 for 'Hardie Solar Farm'

Dear Tiffany Toukatly:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on July 26, 2024, for 'Hardie Solar Farm' (here forward, Project). This project has been assigned Project Code 2024-0023431 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements may not be complete.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project.

Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat Rangewide Determination Key (DKey), invalidates this letter. ***Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid.***

Determination for the Northern Long-Eared Bat

Based upon your IPaC submission and a standing analysis completed by the Service, your project has reached the determination of "May Affect, Not Likely to Adversely Affect" for the northern long-eared bat. **Note that this applies only to the northern long-eared bat and not to any other species or critical habitat, if any, that may be affected by your project.** Unless the

Service advises you within 15 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that consultation on the Action is complete and no further action is necessary unless either of the following occurs:

- new information reveals effects of the action that may affect the northern long-eared bat in a manner or to an extent not previously considered; or,
- the identified action is subsequently modified in a manner that causes an effect to the northern long-eared bat that was not considered when completing the determination key.

15-Day Review Period

As indicated above, the Service will notify you within 15 calendar days if we determine that this proposed Action does not meet the criteria for a “may affect, not likely to adversely affect” (NLAA) determination for the northern long-eared bat. If we do not notify you within that timeframe, you may proceed with the Action under the terms of the NLAA concurrence provided here. This verification period allows the identified Ecological Services Field Office to apply local knowledge to evaluation of the Action, as we may identify a small subset of actions having impacts that we did not anticipate when developing the key. In such cases, the identified Ecological Services Field Office may request additional information to verify the effects determination reached through the Northern Long-eared Bat DKey.

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination for the northern long-eared bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Green Floater *Lasmigona subviridis* Proposed Threatened
- Monarch Butterfly *Danaus plexippus* Candidate

You may coordinate with our Office to determine whether the Action may affect the species and/or critical habitat listed above. Note that reinitiation of consultation would be necessary if a new species is listed or critical habitat designated that may be affected by the identified action before it is complete.

If you have any questions regarding this letter or need further assistance, please contact the New York Ecological Services Field Office and reference Project Code 2024-0023431 associated with this Project.

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

Hardie Solar Farm

2. Description

The following description was provided for the project 'Hardie Solar Farm':

This site is being assessed for the new construction of a solar farm.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@42.0775768,-75.8347586507511,14z>



DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of “may affect, but not likely to adversely affect” for the Endangered northern long-eared bat (*Myotis septentrionalis*).

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of the northern long-eared bat or any other listed species?

Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

No

2. Does any component of the action involve construction or operation of wind turbines?

Note: For federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

No

3. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

Yes

4. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

No

5. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

No

6. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

No

7. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

No

8. Have you determined that your proposed action will have no effect on the northern long-eared bat? Remember to consider the [effects of any activities](#) that would not occur but for the proposed action.

If you think that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, answer “No” below and continue through the key. If you have determined that the northern long-eared bat does not occur in your project’s action area and/or that your project will have no effects whatsoever on the species despite the potential for it to occur in the action area, you may make a “no effect” determination for the northern long-eared bat.

Note: Federal agencies (or their designated non-federal representatives) must consult with USFWS on federal agency actions that may affect listed species [50 CFR 402.14(a)]. Consultation is not required for actions that will not affect listed species or critical habitat. Therefore, this determination key will not provide a consistency or verification letter for actions that will not affect listed species. If you believe that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, please answer “No” and continue through the key. Remember that this key addresses only effects to the northern long-eared bat. Consultation with USFWS would be required if your action may affect another listed species or critical habitat. The definition of [Effects of the Action](#) can be found here: <https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions>

No

9. Have you contacted the appropriate agency to determine if your action is near any known northern long-eared bat hibernacula?

Note: A document with links to Natural Heritage Inventory databases and other state-specific sources of information on the locations of northern long-eared bat hibernacula is available [here](#). Location information for northern long-eared bat hibernacula is generally kept in state natural heritage inventory databases – the availability of this data varies by state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited.

Yes

10. Is any portion of the action area within 0.5-mile radius of any known northern long-eared bat hibernacula? If unsure, contact your local Ecological Services Field Office.

No

11. Does the action area contain any caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating northern long-eared bats?

No

12. Is suitable summer habitat for the northern long-eared bat present within 1000 feet of project activities?
(If unsure, answer "Yes.")

Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats (i.e., live trees and/or snags ≥ 3 inches (12.7 centimeter) dbh), answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat can be found at: <https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions>

Yes

13. Will the action cause effects to a bridge?

No

14. Will the action result in effects to a culvert or tunnel?

No

15. Does the action include the intentional exclusion of northern long-eared bats from a building or structure?

Note: Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local U.S. Fish and Wildlife Services Ecological Services Field Office to help assess whether northern long-eared bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures

No

16. Does the action involve removal, modification, or maintenance of a human-made structure (barn, house, or other building) **known or suspected to contain roosting bats**?

No

17. Will the action directly or indirectly cause construction of one or more new roads that are open to the public?

Note: The answer may be yes when a publicly accessible road either (1) is constructed as part of the proposed action or (2) would not occur but for the proposed action (i.e., the road construction is facilitated by the proposed action but is not an explicit component of the project).

No

18. Will the action include or cause any construction or other activity that is reasonably certain to increase average daily traffic on one or more existing roads?

Note: For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.). .

No

19. Will the action include or cause any construction or other activity that is reasonably certain to increase the number of travel lanes on an existing thoroughfare?

For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

No

20. Will the proposed action involve the creation of a new water-borne contaminant source (e.g., leachate pond pits containing chemicals that are not NSF/ANSI 60 compliant)?

No

21. Will the proposed action involve the creation of a new point source discharge from a facility other than a water treatment plant or storm water system?

No

22. Will the proposed action involve blasting?

No

23. Will the action involve military training (e.g., smoke operations, obscurant operations, exploding munitions, artillery fire, range use, helicopter or fixed wing aircraft use)?

No

24. Will the proposed action involve the use of herbicide or other pesticides (e.g., fungicides, insecticides, or rodenticides)?

No

25. Will the action include or cause activities that are reasonably certain to cause chronic nighttime noise in suitable summer habitat for the northern long-eared bat? Chronic noise is noise that is continuous or occurs repeatedly again and again for a long time.

Note: Additional information defining suitable summer habitat for the northern long-eared bat can be found at: <https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions>

No

26. Does the action include, or is it reasonably certain to cause, the use of artificial lighting within 1000 feet of suitable northern long-eared bat roosting habitat?

Note: Additional information defining suitable roosting habitat for the northern long-eared bat can be found at: <https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions>

No

27. Will the action include tree cutting or other means of knocking down or bringing down trees, tree topping, or tree trimming?

Yes

28. Have you contacted the appropriate agency to determine if the action area overlaps with a known northern long-eared bat conservation buffer / known summer habitat (3-mile buffers around northern long-eared bat captures or detections; 1.5 mile buffer around known roosts)) or spring staging/fall swarming buffer (within 5 miles of known hibernacula)?

Note: A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees can be found [here](#). Location information for northern long-eared bat maternity roost trees and swarming areas is generally kept in state natural heritage inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. If you'd like to assume presence of northern long-eared bats, answer "No".

Yes

29. Does the action area overlap with a known spring staging/fall swarming buffer (within 5 miles of known hibernacula)?

No

30. Does the action area overlap with a known northern long-eared bat conservation buffer (3-mile buffer around northern long-eared bat captures or detections; 1.5-mile buffer around known roost trees)?

Answer yes to this question if you also answered 'yes' above to the question "Do you have post-white nose syndrome occurrence data that indicates that northern long-eared bats (NLEB) are likely to be present in the action area?"

No

31. Has a presence/probable absence summer bat survey targeting the northern long-eared bat following the Service's [Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines](#) been conducted within the project area? If unsure, answer "No."

No

32. Does the action include emergency cutting or trimming of hazard trees in order to remove an imminent threat to human safety or property? See hazard tree note at the bottom of the key for text that will be added to response letters

Note: A "hazard tree" is a tree that is an immediate threat to lives, public health and safety, or improved property and has a diameter breast height of six inches or greater.

No

33. Are any of the trees proposed for cutting or other means of knocking down, bringing down, topping, or trimming suitable for northern long-eared bat roosting (i.e., live trees and/or snags ≥ 3 inches dbh that have exfoliating bark, cracks, crevices, and/or cavities)?

Yes

34. [Semantic] Does your project intersect a known sensitive area for the northern long-eared bat?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your [state agency or USFWS field office](#)

Automatically answered

No

35. Will all tree cutting/trimming or other knocking or bringing down of trees be restricted to the inactive season for the northern long-eared bat?

Note: Inactive Season dates for summer habitat outside of staging and swarming areas can be found here: <https://www.fws.gov/media/inactive-season-dates-swarming-and-staging-areas>.

Yes

36. Will the action cause trees to be cut, knocked down, or otherwise brought down across an area greater than 10 acres?

No

37. Will the action cause trees to be cut, knocked down, or otherwise brought down in a way that would fragment a forested connection (e.g., tree line) between two or more forest patches of at least 5 acres?

The forest patches may consist of entirely contiguous forest or multiple forested areas that are separated by less than 1000' of non-forested area. A project will fragment a forested connection if it creates an unforested gap of greater than 1000'.

No

38. Will the action result in the use of prescribed fire?

No

39. Will the action cause noises that are louder than ambient baseline noises within the action area?

Yes

40. Will the action cause noises during the active season in suitable summer habitat that are louder than anthropogenic noises to which the affected habitat is currently exposed?
Answer 'no' if the noises will occur only during the inactive period.

Note: Inactive Season dates for areas within a spring staging/fall swarming area can be found here: <https://www.fws.gov/media/inactive-season-dates-swarming-and-staging-areas>.

Note: Additional information defining suitable summer habitat for the northern long-eared bat can be found at: <https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions>

No

PROJECT QUESTIONNAIRE

Will all project activities be completed by November 30, 2024?

No

In what extent of the area (in acres) will trees be cut, knocked down, or trimmed during the inactive (hibernation) season for northern long-eared bat? **Note:** Inactive Season dates for spring staging/fall swarming areas can be found here: <https://www.fws.gov/media/inactive-season-dates-swarming-and-staging-areas>

.059

Enter the extent of the action area (in acres) from which trees will be removed - round up to the nearest tenth of an acre. For this question, include the entire area where tree removal will take place, even if some live or dead trees will be left standing.

.059

In what extent of the area (in acres) will trees be cut, knocked down, or trimmed during the active (non-hibernation) season for northern long-eared bat? **Note:** Inactive Season dates for spring staging/fall swarming areas can be found here: <https://www.fws.gov/media/inactive-season-dates-swarming-and-staging-areas>

0

Will all potential northern long-eared bat (NLEB) roost trees (trees ≥ 3 inches diameter at breast height, dbh) be cut, knocked, or brought down from any portion of the action area greater than or equal to 0.1 acre? If all NLEB roost trees will be removed from multiple areas, select 'Yes' if the cumulative extent of those areas meets or exceeds 0.1 acre.

No

Enter the extent of the action area (in acres) from which all potential NLEB roost trees will be removed. If all NLEB roost trees will be removed from multiple areas, enter the total extent of those areas. Round up to the nearest tenth of an acre.

.059

For the area from which all potential northern long-eared bat (NLEB) roost trees will be removed, on how many acres (round to the nearest tenth of an acre) will trees be allowed to regrow? Enter '0' if the entire area from which all potential NLEB roost trees are removed will be developed or otherwise converted to non-forest for the foreseeable future.

0

Will any snags (standing dead trees) ≥ 3 inches dbh be left standing in the area(s) in which all northern long-eared bat roost trees will be cut, knocked down, or otherwise brought down?

No

IPAC USER CONTACT INFORMATION

Agency: Army Corps of Engineers
Name: Tiffany Toukatly
Address: 7413 County House Road
City: Auburn
State: NY
Zip: 13021
Email: tiffany.d.toukatly@usace.army.mil
Phone: 7169547090

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Army Corps of Engineers

Environmental Resource Mapper



The coordinates of the point you clicked on are:

UTM 18

Easting: 431138.3555845905

Northing: 4658645.259215836

Longitude/Latitude

Longitude: -75.83248705313886

Latitude: 42.07686885669488

The approximate address of the point you clicked on is:

Town of Conklin, New York

County: Broome

Town: Conklin

USGS Quad: BINGHAMTON EAST

[Rare Plants and Rare Animals](#)

This location is in the vicinity of Animals Listed as Endangered or Threatened - Contact NYSDEC Regional Office

If your project or action is within or near an area with a rare animal, a permit may be required if the species is listed as endangered or threatened and the department determines the action may be harmful to the species or its habitat.

If your project or action is within or near an area with rare plants and/or significant natural communities, the environmental impacts may need to be addressed.

The presence of a unique geological feature or landform near a project, unto itself, does not trigger a requirement for a NYS DEC permit. Readers are advised, however, that there is the chance that a unique feature may also show in another data layer (ie. a wetland) and thus be subject to permit jurisdiction.

Please refer to the "Need a Permit?" tab for permit information or other authorizations regarding these natural resources.

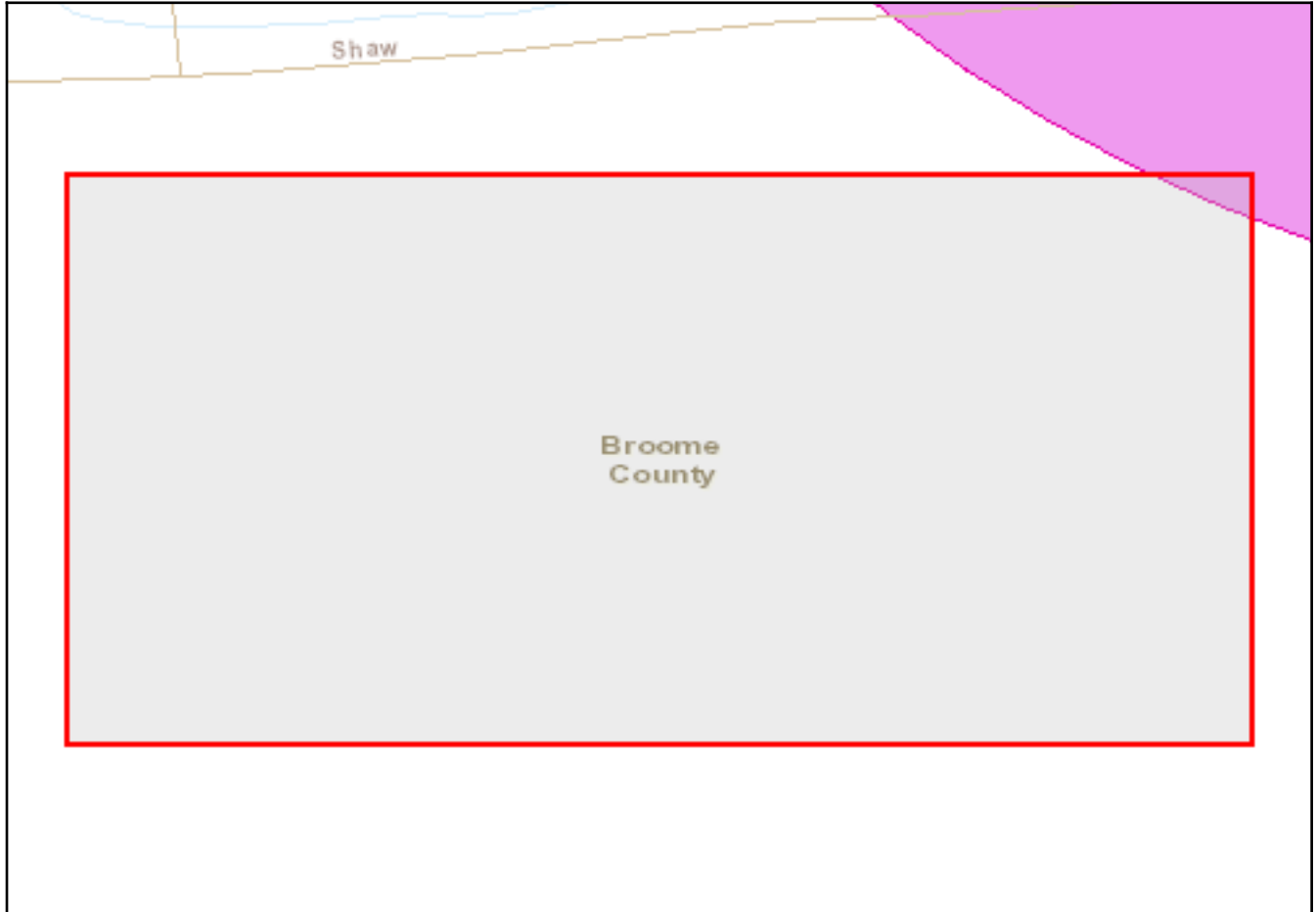
Disclaimer: If you are considering a project or action in, or near, a wetland or a stream, a NYS DEC permit may be required. The Environmental Resources Mapper does not show all natural resources which are regulated by NYS DEC, and for which permits from NYS DEC are required. For example, Regulated Tidal Wetlands, and Wild, Scenic, and Recreational Rivers, are currently not included on the maps.

[Print Preview](#)

New York Nature Explorer

Hardie Road Solar Site - Solar 5 MW PV

Criteria: Selected Map Area



Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status State	Federal	Conservation Rank State	Global
-------------	----------	---------------------	---------------------	-------------------------	---------	-------------------------	--------

No Records Found

Note: Restricted plants and animals may also have also been documented in one or more of the Towns or Cities in which your user-defined area is located, but are not listed in these results. This application does not provide information at the level of Town or City on state-listed animals and on other sensitive animals and plants. A list of the restricted animals and plants documented at the corresponding county level can be obtained via the County link(s) on the original User Defined Search Results page. Any individual plant or animal on this county's restricted list may or may not occur in this particular user-defined area.

This list only includes records of rare species and significant natural communities from the databases of the NY Natural Heritage Program. This list is not a definitive statement about the presence or absence of all plants and animals, including rare or state-listed species, or of all significant natural communities. For most areas, comprehensive field surveys have not been conducted, and this list should not be considered a substitute for on-site surveys.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits, Region 7

5786 Widewaters Parkway, Syracuse, NY 13214-1867

P: (315) 426-7438 | F: (315) 426-7425

www.dec.ny.gov

April 24, 2024

Bartolo Morales
Abundant Solar Power Inc.
700 West Metro Park
Rochester, NY 14623-2678

**RE: 327 Hardie Rd Solar Project
Jurisdictional Determination Request
DEC ID #: 7-0328-00115
Town of Conklin, Broome County**

Dear Mr. Morales:

The New York State Department of Environmental Conservation (DEC) received the submitted information for the above referenced project on April 8, 2024, and supplemental information on April 19, 2024. According to the provided materials, Abundant Solar Power Inc. is proposing to build and operate a ground mount 5MW AC Solar PV array at 327 Hardie Rd, Conklin, NY 13748.

Based upon our review of your inquiry, DEC offers the following comments:

PROTECTION OF WATERS

A Protection of Waters permit is required to physically disturb the bed or banks (up to 50 feet from stream) of any streams identified as “protected.” A permit is not required to disturb the bed or banks of “non-protected” streams. A Protection of Waters permit is required for any excavation or filling below the Mean High-Water Level (MHWL) of any waterbodies and contiguous wetlands identified as “navigable.”

There are no waterbodies that appear on our regulatory maps at the location/project site you identified. If there is a stream or pond outlet present at the site that runs intermittently (seasonally), it is not protected, and a Protection of Waters permit is not required. If there is a stream or pond outlet present at the site with year-round flow, it assumes the classification of the watercourse into which it feeds, Class C (unprotected), and a Protection of Waters permit is not required.

Although a Protection of Waters permit does not appear to be required, please note, however, the project sponsor is responsible for ensuring that work shall not pollute any potential nearby stream or waterbody. Care shall be taken to prevent contamination of any stream or waterbody by silt, sediment, fuels, solvents, lubricants, or any other pollutant associated with the project.

FRESHWATER WETLANDS

The project area does not appear to be within a New York State protected freshwater wetland. However, please contact your town officials and the United States Army Corps of Engineers Auburn Field Office, at (315) 255-8090, for any permitting they might require.

WATER QUALITY CERTIFICATION

If the U.S. Army Corps of Engineers (USACE or Corps) requires a permit pursuant to Section 404 of the Clean Water Act for the discharge of fill in Waters of the U.S., then a Section 401 Water Quality Certification will be required. Issuance of these certifications is delegated in New York State to DEC. If the project qualifies for a Nationwide Permit, it may be eligible for coverage under DEC's Blanket Water Quality Certification. A determination on Corps jurisdiction and Nationwide Permit eligibility is likely necessary for a DEC jurisdictional determination. For more information, please visit https://www.dec.ny.gov/permits/6042.html#Water_Quality_Certification.

STATE-LISTED SPECIES

DEC has reviewed the State's Natural Heritage records. We have determined that the site is located within or near record(s) of the following state-listed species: Bald Eagle (*Haliaeetus leucocephalus*).

Please be aware, pursuant to Article 11, Title 5, Section 535 of the Environmental Conservation Law, Threatened and Endangered Species, an "Incidental Take" Permit may be required from the DEC for any project if it is determined that a take of a threatened or endangered species will occur. However, DEC has determined that no adverse impacts to Bald Eagles are anticipated to result from this project. Therefore, an Article 11 Permit is not required for this proposal. If you have any questions, please contact Bonnie Parton of Wildlife at (315) 635-7017.

The absence of data does not necessarily mean that other rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

STORMWATER

Soil disturbances of one or more acres of land from construction activities must obtain permit coverage under the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities (GP-0-20-001) by submitting a Notice of Intent and developing & implementing a Stormwater Pollution Prevention Plan. For further information please consult with Julie Melancon in DEC's Division of Water at 315-426-7550 or see the NYSDEC Stormwater web page at <https://www.dec.ny.gov/chemical/8468.html>. Additionally, please see the attached solar panel stormwater permitting guidance document. If the project does not meet ALL criteria for Scenario 1, including alignment of solar panels along the contour, the SWPPP must address post-construction stormwater practices designed in accordance with the sizing criteria identified in the New York State Stormwater Management Design Manual.

CULTURAL RESOURCES

We have reviewed the statewide inventory of archaeological resources maintained by the New York State Museum and the New York State Office of Parks, Recreation, and Historic Preservation. These records indicate that the project is located within an area considered to be sensitive with regard to archaeological resources. For more information, please visit the New York State Office of Historic Preservation website at <http://www.nysparks.com/shpo/>.

Other permits from this Department or other agencies may be required for projects conducted on this property now or in the future. Also, regulations applicable to the location subject to this determination occasionally are revised and you should, therefore, verify the need for permits if your project is delayed or postponed.

This determination regarding the need for permits will remain effective for a maximum of one year unless you are otherwise notified. Applications may be downloaded from our website at www.dec.ny.gov under "Programs" then "Division of Environmental Permits."

Please contact this office if you have questions regarding the above information. Thank you.

Sincerely,



Jonathan Cronell
Environmental Analyst
Division of Environmental Permits, Region 7
Telephone No. (315) 426-5494

Encl: Solar Panel Installation Stormwater Guidance

cc: J. Foley, R7 BEH
J. Melançon, R7 DOW
B. Parton, R7 Wildlife
T. Conklin



**New York State
Parks, Recreation and
Historic Preservation**

KATHY HOCHUL
Governor

RANDY SIMONS
Commissioner Pro Tempore

April 04, 2024

Brendan O'Grady
Barton & Loguidice
11 Centre Park Suite 203
Rochester, NY 14614

Re: DEC
Hardie Solar Farm/5MW/25 Acres
24PR02099

Dear Brendan O'Grady:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the project in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the OPRHP and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project.

Based upon this review, it is the opinion of OPRHP that no properties, including archaeological and/or historic resources, listed in or eligible for the New York State and National Registers of Historic Places will be impacted by this project.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above. If you have any questions, please contact Daniel H. Boggs at the following email address:

Daniel.Boggs@parks.ny.gov

Sincerely,

A handwritten signature in black ink that reads "R. Daniel Mackay".

R. Daniel Mackay

Deputy Commissioner for Historic Preservation
Division for Historic Preservation

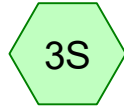
Appendix E
Pre- and Post-Development Hydrologic Calculations



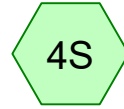
DA #1 (Existing)



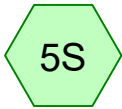
DA #2 (Existing)



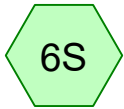
DA #3 (Existing)



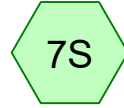
DA #4 (Existing)



DA #1 (Proposed, No Mitigation)



DA #2 (Proposed, No Mitigation)



DA #3 (Proposed, No Mitigation)



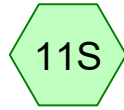
DA #4 (Proposed, No Mitigation)



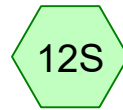
DA #1 (Proposed, w/ Mitigation)



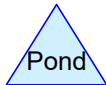
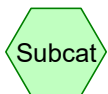
DA #2 (Proposed, w/ Mitigation)



DA #3 (Proposed, w/ Mitigation)



DA #4 (Proposed, No Mitigation)



Routing Diagram for Abundant Hardie Rd Solar HydroCAD (ID 3168513)

Prepared by Barton & Loguidice, DPC, Printed 9/23/2024

HydroCAD® 10.20-2g s/n 05255 © 2022 HydroCAD Software Solutions LLC

Abundant Hardie Rd Solar HydroCAD (ID 3168513)

Prepared by Barton & Loguidice, DPC

Printed 9/23/2024

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Page 2

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	10-Year	Type II 24-hr		Default	24.00	1	3.51	2
2	100-Year	Type II 24-hr		Default	24.00	1	6.08	2

Abundant Hardie Rd Solar HydroCAD (ID 3168513)

Prepared by Barton & Loguidice, DPC

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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
10.209	61	>75% Grass cover, Good, HSG B (3S, 4S, 7S, 8S, 11S, 12S)
0.045	80	>75% Grass cover, Good, HSG D (3S, 7S, 11S)
10.873	48	Brush, Good, HSG B (1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, 9S, 10S, 11S, 12S)
6.751	73	Brush, Good, HSG D (1S, 2S, 5S, 6S, 9S, 10S)
25.064	58	Meadow, non-grazed, HSG B (5S, 6S, 7S, 9S, 10S, 11S)
1.046	78	Meadow, non-grazed, HSG D (6S, 10S)
2.648	98	Paved parking, HSG B (3S, 4S, 6S, 7S, 8S, 10S, 11S, 12S)
0.042	98	Paved parking, HSG D (3S, 7S, 11S)
0.015	98	Roofs, HSG B (2S)
22.070	55	Woods, Good, HSG B (1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, 9S, 10S, 11S, 12S)
9.479	77	Woods, Good, HSG D (1S, 2S, 3S, 5S, 6S, 7S, 9S, 10S, 11S)
22.116	58	Woods/grass comb., Good, HSG B (1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, 9S, 10S, 11S, 12S)
2.130	79	Woods/grass comb., Good, HSG D (2S, 6S, 10S)
112.488	61	TOTAL AREA

Abundant Hardie Rd Solar HydroCAD (ID 3168513)

Prepared by Barton & Loguidice, DPC

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Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
92.995	HSG B	1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, 9S, 10S, 11S, 12S
0.000	HSG C	
19.493	HSG D	1S, 2S, 3S, 5S, 6S, 7S, 9S, 10S, 11S
0.000	Other	
112.488		TOTAL AREA

Abundant Hardie Rd Solar HydroCAD (ID 3168513)

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Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	10.209	0.000	0.045	0.000	10.254	>75% Grass cover, Good	3S, 4S, 7S, 8S, 11S, 12S
0.000	10.873	0.000	6.751	0.000	17.624	Brush, Good	1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, 9S, 10S, 11S, 12S
0.000	25.064	0.000	1.046	0.000	26.110	Meadow, non-grazed	5S, 6S, 7S, 9S, 10S, 11S
0.000	2.648	0.000	0.042	0.000	2.690	Paved parking	3S, 4S, 6S, 7S, 8S, 10S, 11S, 12S
0.000	0.015	0.000	0.000	0.000	0.015	Roofs	2S
0.000	22.070	0.000	9.479	0.000	31.549	Woods, Good	1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, 9S, 10S, 11S, 12S

Abundant Hardie Rd Solar HydroCAD (ID 3168513)

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Ground Covers (selected nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	22.116	0.000	2.130	0.000	24.246	Woods/grass comb., Good	1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, 9S, 10S, 11S, 12S
0.000	92.995	0.000	19.493	0.000	112.488	TOTAL AREA	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: DA #1 (Existing)	Runoff Area=2.803 ac 0.00% Impervious Runoff Depth>0.39" Flow Length=549' Tc=16.0 min CN=58 Runoff=1.03 cfs 0.091 af
Subcatchment 2S: DA #2 (Existing)	Runoff Area=22.715 ac 0.07% Impervious Runoff Depth>0.45" Flow Length=1,708' Tc=50.9 min CN=60 Runoff=4.93 cfs 0.851 af
Subcatchment 3S: DA #3 (Existing)	Runoff Area=9.633 ac 2.98% Impervious Runoff Depth>0.35" Flow Length=1,252' Tc=22.3 min CN=57 Runoff=2.45 cfs 0.283 af
Subcatchment 4S: DA #4 (Existing)	Runoff Area=2.339 ac 19.37% Impervious Runoff Depth>0.75" Flow Length=668' Tc=38.0 min CN=67 Runoff=1.25 cfs 0.146 af
Subcatchment 5S: DA #1 (Proposed, No	Runoff Area=2.803 ac 0.00% Impervious Runoff Depth>0.46" Flow Length=549' Tc=15.1 min CN=60 Runoff=1.41 cfs 0.108 af
Subcatchment 6S: DA #2 (Proposed, No	Runoff Area=22.724 ac 0.13% Impervious Runoff Depth>0.53" Flow Length=1,708' Tc=50.5 min CN=62 Runoff=6.20 cfs 0.996 af
Subcatchment 7S: DA #3 (Proposed, No	Runoff Area=9.633 ac 5.11% Impervious Runoff Depth>0.42" Flow Length=1,252' Tc=20.9 min CN=59 Runoff=3.42 cfs 0.339 af
Subcatchment 8S: DA #4 (Proposed, No	Runoff Area=2.339 ac 19.37% Impervious Runoff Depth>0.75" Flow Length=668' Tc=38.0 min CN=67 Runoff=1.25 cfs 0.146 af
Subcatchment 9S: DA #1 (Proposed, w/	Runoff Area=2.803 ac 0.00% Impervious Runoff Depth>0.45" Flow Length=549' Tc=60.8 min CN=60 Runoff=0.54 cfs 0.104 af
Subcatchment 10S: DA #2 (Proposed, w/	Runoff Area=22.724 ac 0.13% Impervious Runoff Depth>0.51" Flow Length=1,709' Tc=84.9 min CN=62 Runoff=4.30 cfs 0.971 af
Subcatchment 11S: DA #3 (Proposed, w/	Runoff Area=9.633 ac 5.11% Impervious Runoff Depth>0.39" Flow Length=1,249' Tc=129.0 min CN=59 Runoff=0.99 cfs 0.310 af
Subcatchment 12S: DA #4 (Proposed, No	Runoff Area=2.339 ac 19.37% Impervious Runoff Depth>0.75" Flow Length=668' Tc=38.0 min CN=67 Runoff=1.25 cfs 0.146 af
Total Runoff Area = 112.488 ac Runoff Volume = 4.491 af Average Runoff Depth = 0.48" 97.60% Pervious = 109.783 ac 2.40% Impervious = 2.705 ac	

Summary for Subcatchment 1S: DA #1 (Existing)

Runoff = 1.03 cfs @ 12.13 hrs, Volume= 0.091 af, Depth> 0.39"
 Routed to nonexistent node 1L

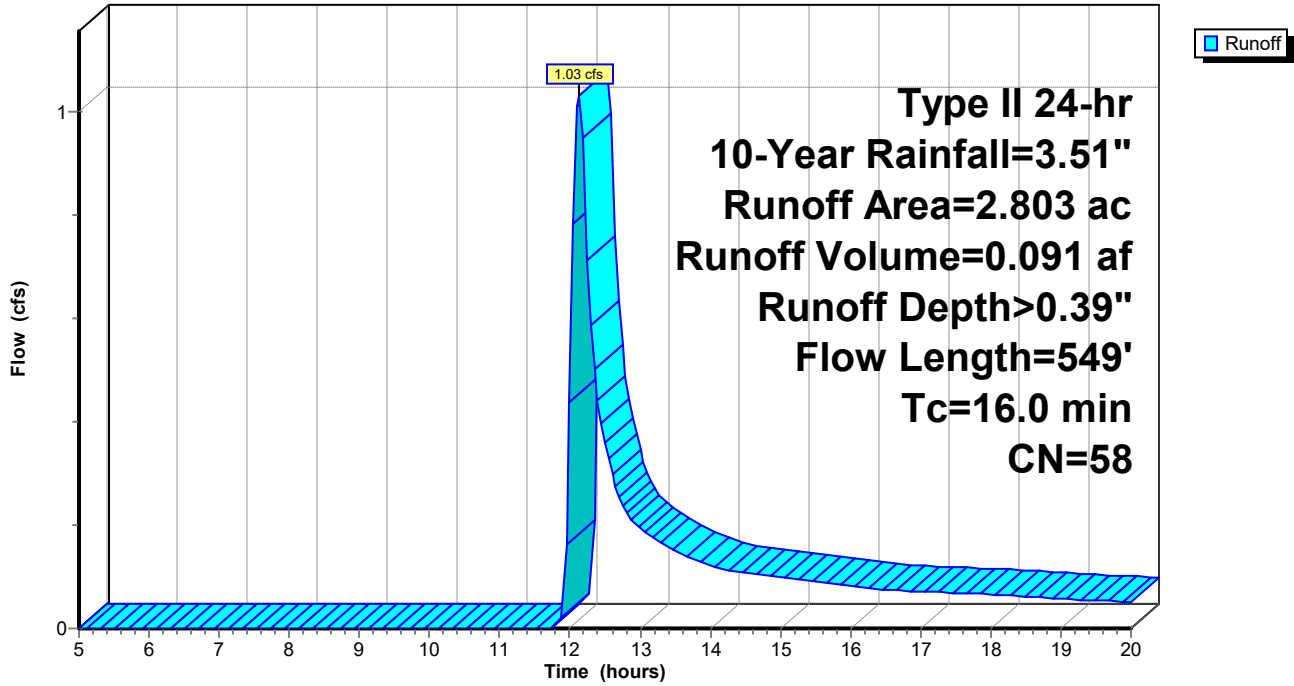
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-Year Rainfall=3.51"

Area (ac)	CN	Description
0.092	77	Woods, Good, HSG D
1.782	55	Woods, Good, HSG B
0.502	73	Brush, Good, HSG D
0.326	48	Brush, Good, HSG B
0.101	58	Woods/grass comb., Good, HSG B
2.803	58	Weighted Average
2.803		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	56	0.1169	0.13		Sheet Flow, SHEET FLOW 1 Woods: Light underbrush n= 0.400 P2= 2.58"
2.6	44	0.1076	0.28		Sheet Flow, SHEET FLOW 2 Range n= 0.130 P2= 2.58"
0.1	15	0.0937	2.14		Shallow Concentrated Flow, SCF 1 Short Grass Pasture Kv= 7.0 fps
0.8	104	0.0919	2.12		Shallow Concentrated Flow, SCF 2 Short Grass Pasture Kv= 7.0 fps
4.0	273	0.0519	1.14		Shallow Concentrated Flow, SCF 3 Woodland Kv= 5.0 fps
1.1	57	0.0280	0.84		Shallow Concentrated Flow, SCF 4 Woodland Kv= 5.0 fps
16.0	549	Total			

Subcatchment 1S: DA #1 (Existing)

Hydrograph



Summary for Subcatchment 2S: DA #2 (Existing)

Runoff = 4.93 cfs @ 12.63 hrs, Volume= 0.851 af, Depth> 0.45"
 Routed to nonexistent node 1L

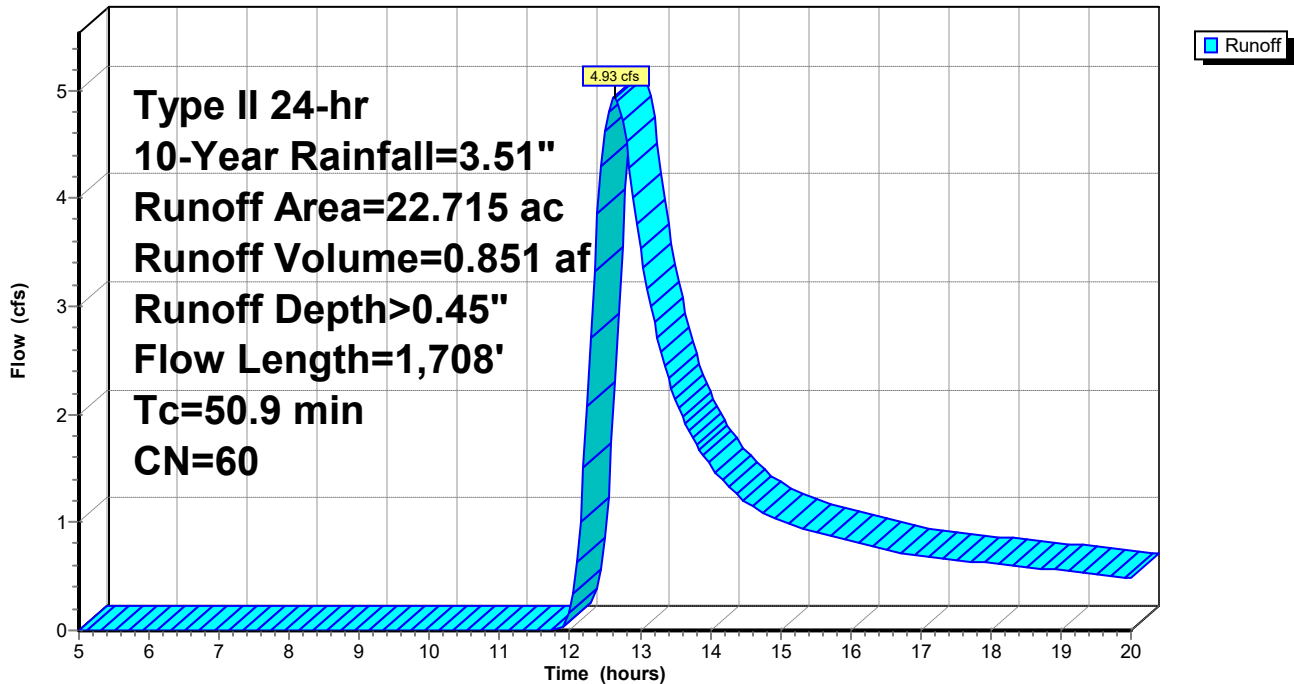
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-Year Rainfall=3.51"

Area (ac)	CN	Description
3.445	77	Woods, Good, HSG D
5.877	55	Woods, Good, HSG B
4.614	48	Brush, Good, HSG B
2.245	73	Brush, Good, HSG D
0.015	98	Roofs, HSG B
5.809	58	Woods/grass comb., Good, HSG B
0.710	79	Woods/grass comb., Good, HSG D
22.715	60	Weighted Average
22.700		99.93% Pervious Area
0.015		0.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1	100	0.0400	0.09		Sheet Flow, SHEET FLOW 1 Woods: Light underbrush n= 0.400 P2= 2.58"
2.2	121	0.0327	0.90		Shallow Concentrated Flow, SCF 1 Woodland Kv= 5.0 fps
1.7	181	0.0633	1.76		Shallow Concentrated Flow, SCF 2 Short Grass Pasture Kv= 7.0 fps
1.5	97	0.0476	1.09		Shallow Concentrated Flow, TCF 3 Woodland Kv= 5.0 fps
2.8	168	0.0390	0.99		Shallow Concentrated Flow, TCF 4 Woodland Kv= 5.0 fps
2.9	138	0.0248	0.79		Shallow Concentrated Flow, SCF 5 Woodland Kv= 5.0 fps
21.7	903	0.0192	0.69		Shallow Concentrated Flow, SCF 6 Woodland Kv= 5.0 fps
50.9	1,708	Total			

Subcatchment 2S: DA #2 (Existing)

Hydrograph



Summary for Subcatchment 3S: DA #3 (Existing)

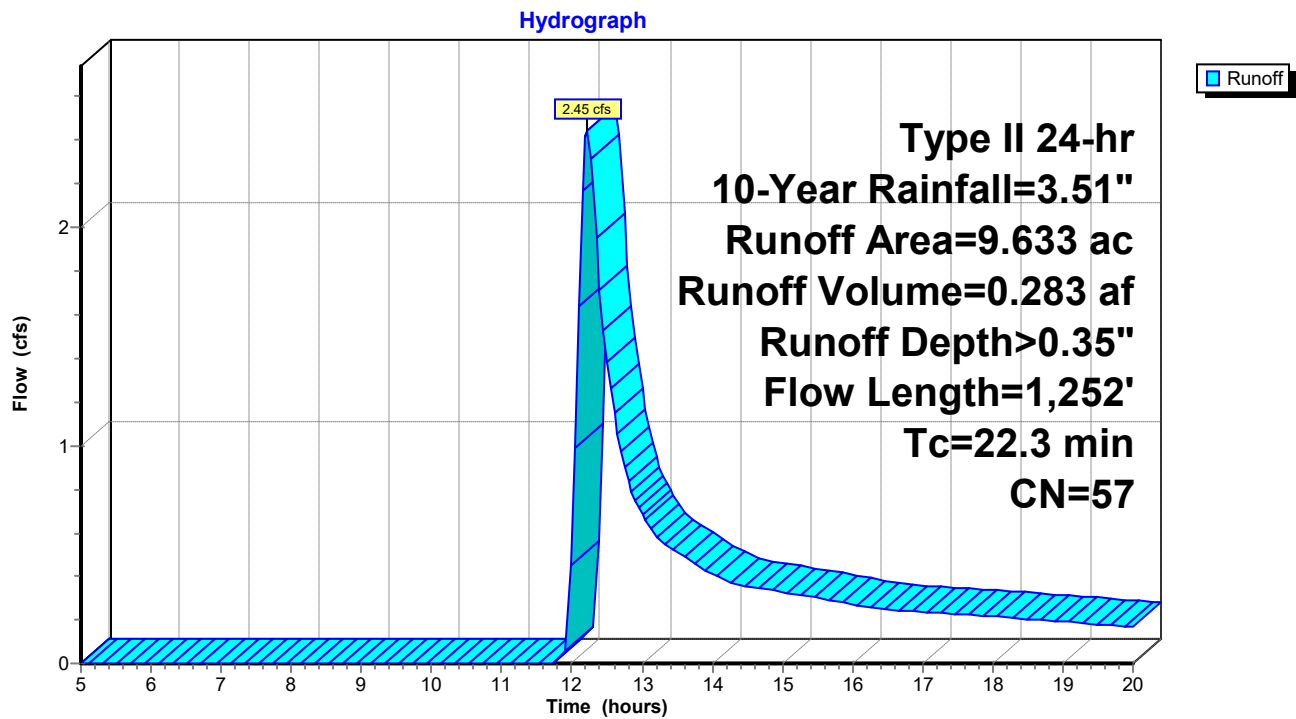
Runoff = 2.45 cfs @ 12.22 hrs, Volume= 0.283 af, Depth> 0.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-Year Rainfall=3.51"

Area (ac)	CN	Description
4.588	55	Woods, Good, HSG B
0.002	77	Woods, Good, HSG D
1.227	48	Brush, Good, HSG B
2.090	61	>75% Grass cover, Good, HSG B
0.015	80	>75% Grass cover, Good, HSG D
1.424	58	Woods/grass comb., Good, HSG B
0.273	98	Paved parking, HSG B
0.014	98	Paved parking, HSG D
9.633	57	Weighted Average
9.346		97.02% Pervious Area
0.287		2.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.0644	0.27		Sheet Flow, SHEET FLOW 1 Range n= 0.130 P2= 2.58"
0.9	126	0.1072	2.29		Shallow Concentrated Flow, SCF 1 Short Grass Pasture Kv= 7.0 fps
2.5	188	0.0319	1.25		Shallow Concentrated Flow, SCF 2 Short Grass Pasture Kv= 7.0 fps
3.2	123	0.0162	0.64		Shallow Concentrated Flow, SCF 3 Woodland Kv= 5.0 fps
7.9	484	0.0413	1.02		Shallow Concentrated Flow, SCF 4 Woodland Kv= 5.0 fps
0.2	49	0.0714	4.01		Shallow Concentrated Flow, SCF 5 Grassed Waterway Kv= 15.0 fps
1.4	161	0.1467	1.92		Shallow Concentrated Flow, SCF 6 Woodland Kv= 5.0 fps
0.1	21	0.2044	6.78		Shallow Concentrated Flow, SCF 7 Grassed Waterway Kv= 15.0 fps
22.3	1,252	Total			

Subcatchment 3S: DA #3 (Existing)



Summary for Subcatchment 4S: DA #4 (Existing)

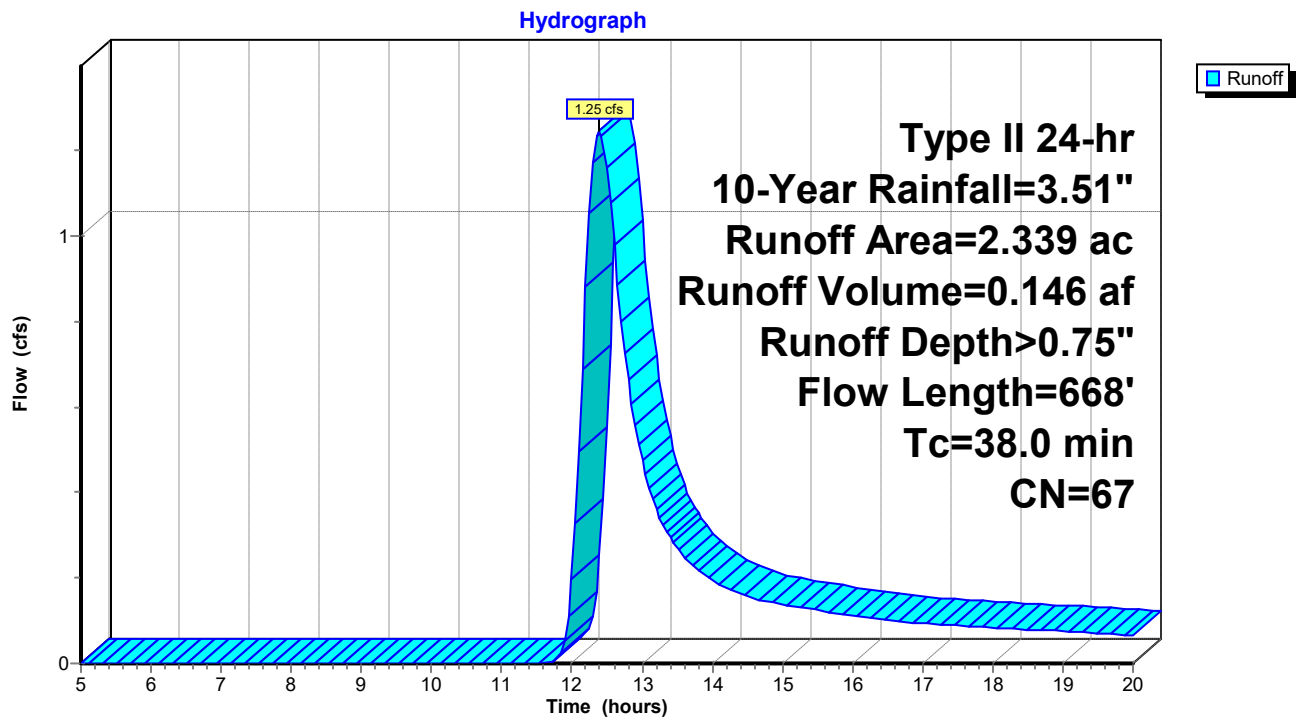
Runoff = 1.25 cfs @ 12.39 hrs, Volume= 0.146 af, Depth> 0.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-Year Rainfall=3.51"

Area (ac)	CN	Description
0.453	98	Paved parking, HSG B
0.461	55	Woods, Good, HSG B
0.042	48	Brush, Good, HSG B
1.345	61	>75% Grass cover, Good, HSG B
0.038	58	Woods/grass comb., Good, HSG B
2.339	67	Weighted Average
1.886		80.63% Pervious Area
0.453		19.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.3	85	0.0154	0.06		Sheet Flow, SHEET FLOW 1 Woods: Light underbrush n= 0.400 P2= 2.58"
5.3	15	0.0191	0.05		Sheet Flow, SHEET FLOW 2 Woods: Light underbrush n= 0.400 P2= 2.58"
7.5	127	0.0032	0.28		Shallow Concentrated Flow, SCF 1 Woodland Kv= 5.0 fps
0.7	123	0.0343	2.78		Shallow Concentrated Flow, SCF 2 Grassed Waterway Kv= 15.0 fps
0.3	82	0.0514	4.60		Shallow Concentrated Flow, SCF 3 Paved Kv= 20.3 fps
0.6	169	0.0919	4.55		Shallow Concentrated Flow, SCF 4 Grassed Waterway Kv= 15.0 fps
0.3	67	0.0702	3.97		Shallow Concentrated Flow, SCF 5 Grassed Waterway Kv= 15.0 fps
38.0	668	Total			

Subcatchment 4S: DA #4 (Existing)



Summary for Subcatchment 5S: DA #1 (Proposed, No Mitigation)

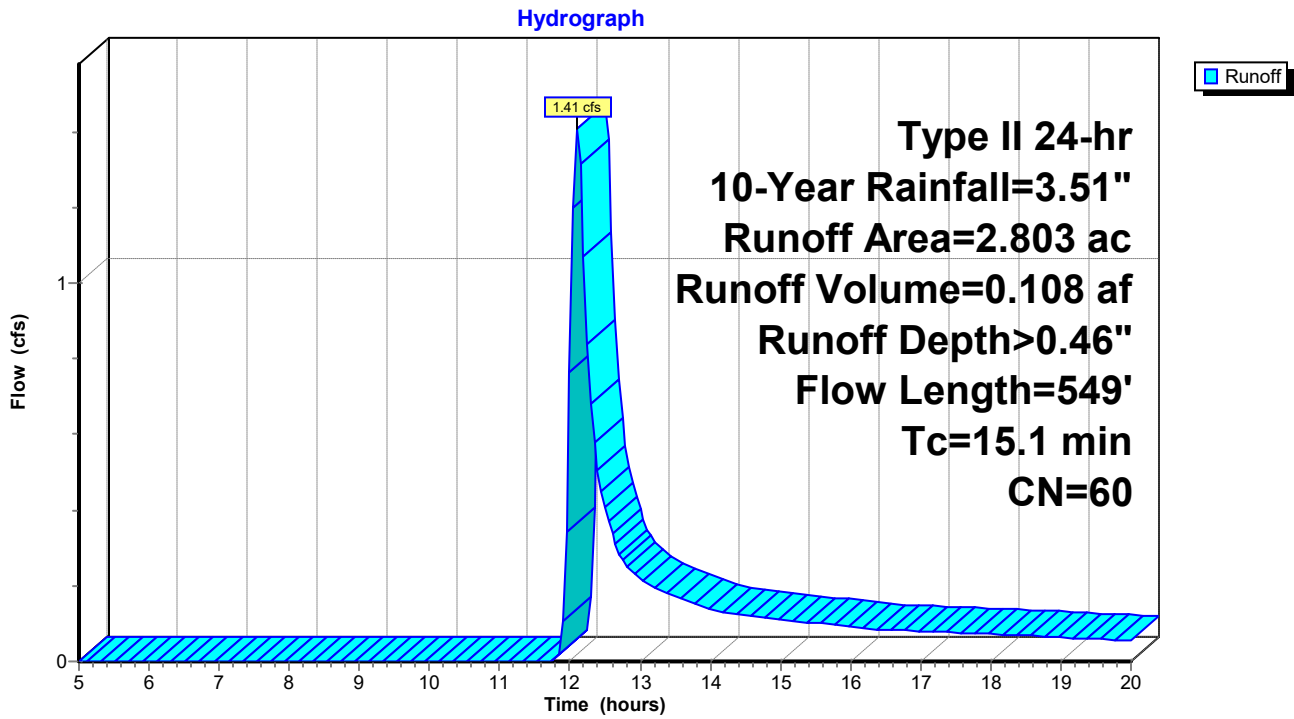
Runoff = 1.41 cfs @ 12.11 hrs, Volume= 0.108 af, Depth> 0.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-Year Rainfall=3.51"

Area (ac)	CN	Description
0.092	77	Woods, Good, HSG D
0.371	55	Woods, Good, HSG B
0.502	73	Brush, Good, HSG D
0.326	48	Brush, Good, HSG B
1.411	58	Meadow, non-grazed, HSG B
0.101	58	Woods/grass comb., Good, HSG B
2.803	60	Weighted Average
2.803		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	56	0.1169	0.13		Sheet Flow, SHEET FLOW 1 Woods: Light underbrush n= 0.400 P2= 2.58"
2.6	44	0.1076	0.28		Sheet Flow, SHEET FLOW 2 Range n= 0.130 P2= 2.58"
0.1	15	0.0937	2.14		Shallow Concentrated Flow, SCF 1 Short Grass Pasture Kv= 7.0 fps
0.8	104	0.0919	2.12		Shallow Concentrated Flow, SCF 2 Short Grass Pasture Kv= 7.0 fps
1.1	71	0.0468	1.08		Shallow Concentrated Flow, SCF 3 Woodland Kv= 5.0 fps
2.2	210	0.0516	1.59		Shallow Concentrated Flow, SCF 4 Short Grass Pasture Kv= 7.0 fps
0.9	49	0.0325	0.90		Shallow Concentrated Flow, SCF 5 Woodland Kv= 5.0 fps
15.1	549	Total			

Subcatchment 5S: DA #1 (Proposed, No Mitigation)



Summary for Subcatchment 6S: DA #2 (Proposed, No Mitigation)

Runoff = 6.20 cfs @ 12.61 hrs, Volume= 0.996 af, Depth> 0.53"

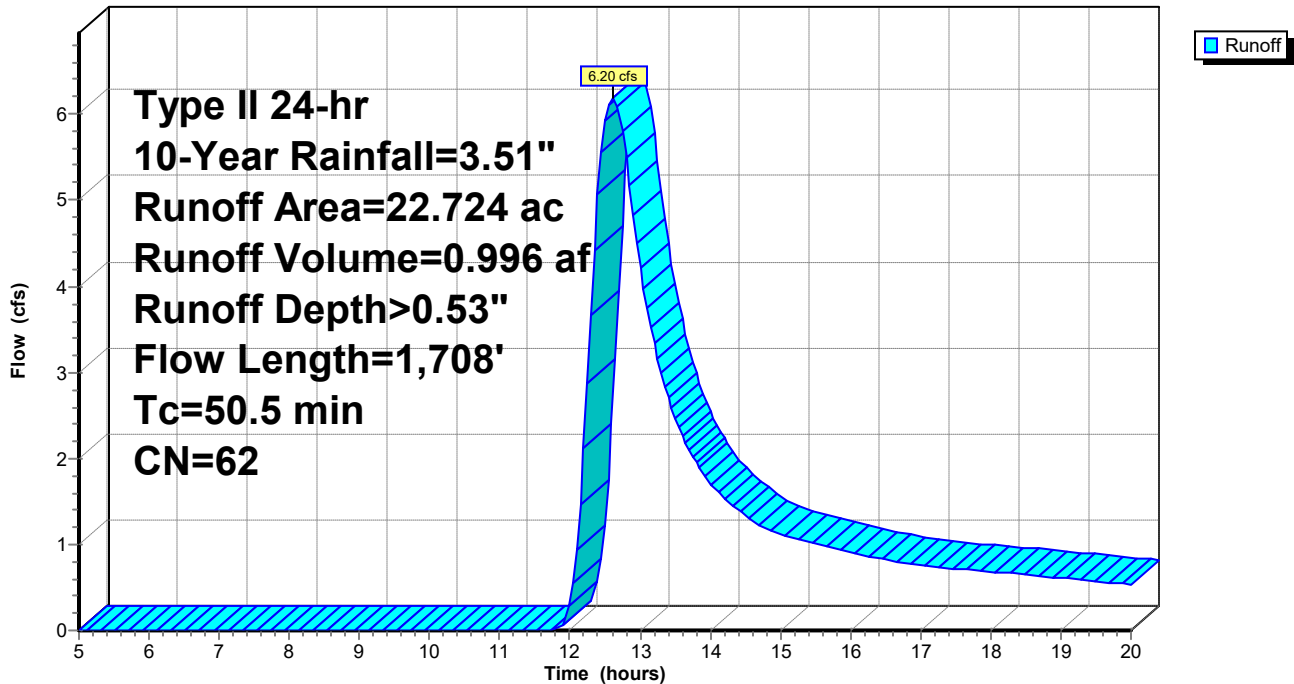
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-Year Rainfall=3.51"

Area (ac)	CN	Description
2.876	77	Woods, Good, HSG D
0.636	55	Woods, Good, HSG B
1.555	48	Brush, Good, HSG B
1.500	73	Brush, Good, HSG D
9.085	58	Meadow, non-grazed, HSG B
0.523	78	Meadow, non-grazed, HSG D
5.809	58	Woods/grass comb., Good, HSG B
0.710	79	Woods/grass comb., Good, HSG D
0.030	98	Paved parking, HSG B
22.724	62	Weighted Average
22.694		99.87% Pervious Area
0.030		0.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1	100	0.0400	0.09		Sheet Flow, SHEET FLOW 1 Woods: Light underbrush n= 0.400 P2= 2.58"
2.2	121	0.0327	0.90		Shallow Concentrated Flow, SCF 1 Woodland Kv= 5.0 fps
1.7	181	0.0633	1.76		Shallow Concentrated Flow, SCF 2 Short Grass Pasture Kv= 7.0 fps
1.2	79	0.0477	1.09		Shallow Concentrated Flow, SCF 3 Woodland Kv= 5.0 fps
1.1	99	0.0464	1.51		Shallow Concentrated Flow, SCF 4 Short Grass Pasture Kv= 7.0 fps
1.6	87	0.0322	0.90		Shallow Concentrated Flow, SCF 5 Woodland Kv= 5.0 fps
2.9	138	0.0248	0.79		Shallow Concentrated Flow, SCF 6 Woodland Kv= 5.0 fps
21.7	903	0.0192	0.69		Shallow Concentrated Flow, SCF 7 Woodland Kv= 5.0 fps
50.5	1,708	Total			

Subcatchment 6S: DA #2 (Proposed, No Mitigation)

Hydrograph



Summary for Subcatchment 7S: DA #3 (Proposed, No Mitigation)

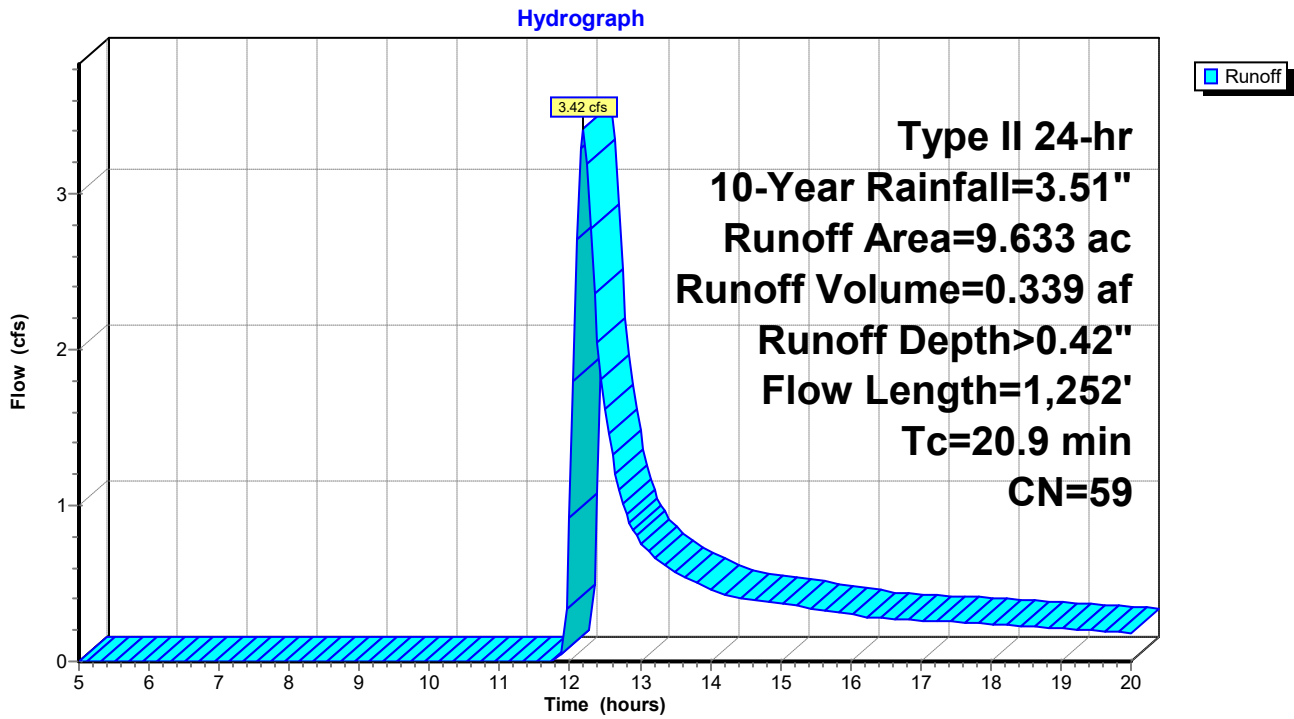
Runoff = 3.42 cfs @ 12.19 hrs, Volume= 0.339 af, Depth> 0.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-Year Rainfall=3.51"

Area (ac)	CN	Description
3.213	55	Woods, Good, HSG B
0.002	77	Woods, Good, HSG D
0.409	48	Brush, Good, HSG B
2.042	61	>75% Grass cover, Good, HSG B
0.015	80	>75% Grass cover, Good, HSG D
2.036	58	Meadow, non-grazed, HSG B
1.424	58	Woods/grass comb., Good, HSG B
0.478	98	Paved parking, HSG B
0.014	98	Paved parking, HSG D
9.633	59	Weighted Average
9.141		94.89% Pervious Area
0.492		5.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.0644	0.27		Sheet Flow, SHEET FLOW 1 Range n= 0.130 P2= 2.58"
0.9	126	0.1072	2.29		Shallow Concentrated Flow, SCF 1 Short Grass Pasture Kv= 7.0 fps
2.5	188	0.0319	1.25		Shallow Concentrated Flow, SCF 2 Short Grass Pasture Kv= 7.0 fps
3.2	202	0.0226	1.05		Shallow Concentrated Flow, SCF 3 Short Grass Pasture Kv= 7.0 fps
6.5	405	0.0431	1.04		Shallow Concentrated Flow, SCF 4 Woodland Kv= 5.0 fps
0.2	49	0.0714	4.01		Shallow Concentrated Flow, SCF 5 Grassed Waterway Kv= 15.0 fps
1.4	161	0.1467	1.92		Shallow Concentrated Flow, SCF 6 Woodland Kv= 5.0 fps
0.1	21	0.2044	6.78		Shallow Concentrated Flow, SCF 7 Grassed Waterway Kv= 15.0 fps
20.9	1,252	Total			

Subcatchment 7S: DA #3 (Proposed, No Mitigation)



Summary for Subcatchment 8S: DA #4 (Proposed, No Mitigation)

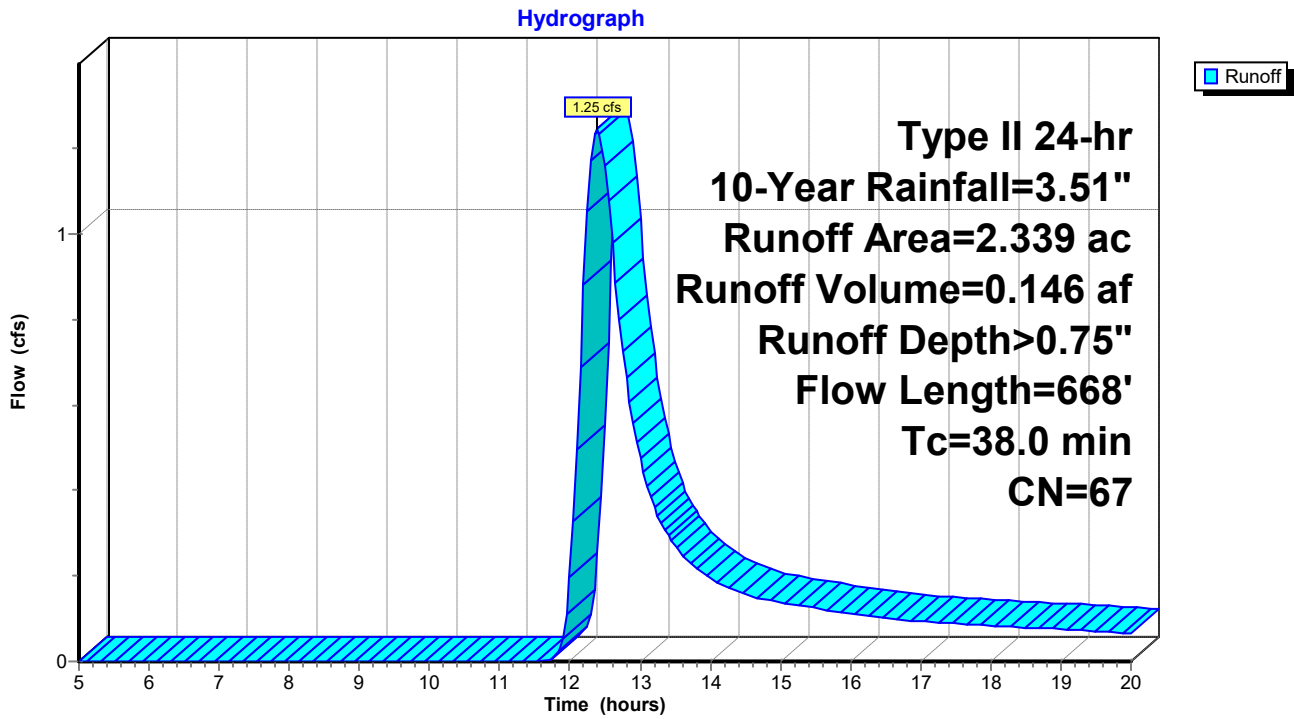
Runoff = 1.25 cfs @ 12.39 hrs, Volume= 0.146 af, Depth> 0.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-Year Rainfall=3.51"

Area (ac)	CN	Description
0.461	55	Woods, Good, HSG B
0.042	48	Brush, Good, HSG B
1.345	61	>75% Grass cover, Good, HSG B
0.038	58	Woods/grass comb., Good, HSG B
0.453	98	Paved parking, HSG B
2.339	67	Weighted Average
1.886		80.63% Pervious Area
0.453		19.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.3	85	0.0154	0.06		Sheet Flow, SHEET FLOW 1 Woods: Light underbrush n= 0.400 P2= 2.58"
5.3	15	0.0191	0.05		Sheet Flow, SHEET FLOW 2 Woods: Light underbrush n= 0.400 P2= 2.58"
7.5	127	0.0032	0.28		Shallow Concentrated Flow, SCF 1 Woodland Kv= 5.0 fps
0.7	123	0.0343	2.78		Shallow Concentrated Flow, SCF 2 Grassed Waterway Kv= 15.0 fps
0.3	82	0.0514	4.60		Shallow Concentrated Flow, SCF 3 Paved Kv= 20.3 fps
0.6	169	0.0919	4.55		Shallow Concentrated Flow, SCF 4 Grassed Waterway Kv= 15.0 fps
0.3	67	0.0676	3.90		Shallow Concentrated Flow, SCF 5 Grassed Waterway Kv= 15.0 fps
38.0	668	Total			

Subcatchment 8S: DA #4 (Proposed, No Mitigation)



Summary for Subcatchment 9S: DA #1 (Proposed, w/ Mitigation)

Runoff = 0.54 cfs @ 12.79 hrs, Volume= 0.104 af, Depth> 0.45"

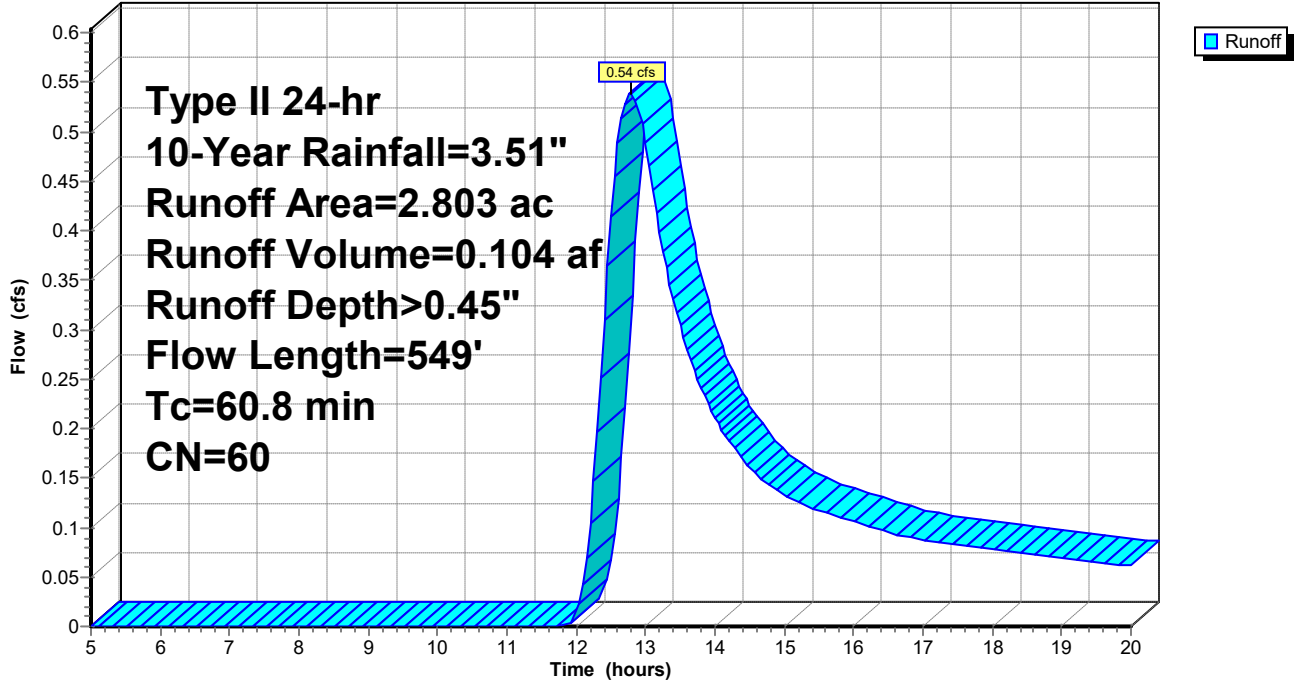
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-Year Rainfall=3.51"

Area (ac)	CN	Description
0.092	77	Woods, Good, HSG D
0.371	55	Woods, Good, HSG B
0.502	73	Brush, Good, HSG D
0.326	48	Brush, Good, HSG B
1.411	58	Meadow, non-grazed, HSG B
0.101	58	Woods/grass comb., Good, HSG B
2.803	60	Weighted Average
2.803		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	56	0.1169	0.13		Sheet Flow, SHEET FLOW 1 Woods: Light underbrush n= 0.400 P2= 2.58"
2.6	44	0.1076	0.28		Sheet Flow, SHEET FLOW 2 Range n= 0.130 P2= 2.58"
0.1	15	0.0937	2.14		Shallow Concentrated Flow, SCF 1 Short Grass Pasture Kv= 7.0 fps
0.8	104	0.0919	2.12		Shallow Concentrated Flow, SCF 2 Short Grass Pasture Kv= 7.0 fps
1.1	71	0.0469	1.08		Shallow Concentrated Flow, SCF 3 Woodland Kv= 5.0 fps
15.9	100	0.0586	0.11		Sheet Flow, SHEET FLOW 1 Grass: Bermuda n= 0.410 P2= 2.58"
17.1	100	0.0486	0.10		Sheet Flow, SHEET FLOW 2 Grass: Bermuda n= 0.410 P2= 2.58"
4.7	10	0.0123	0.04		Sheet Flow, SHEET FLOW 3 Grass: Bermuda n= 0.410 P2= 2.58"
11.1	49	0.0325	0.07		Sheet Flow, SHEET FLOW 4 Woods: Light underbrush n= 0.400 P2= 2.58"
60.8	549	Total			

Subcatchment 9S: DA #1 (Proposed, w/ Mitigation)

Hydrograph



Summary for Subcatchment 10S: DA #2 (Proposed, w/ Mitigation)

Runoff = 4.30 cfs @ 13.12 hrs, Volume= 0.971 af, Depth> 0.51"

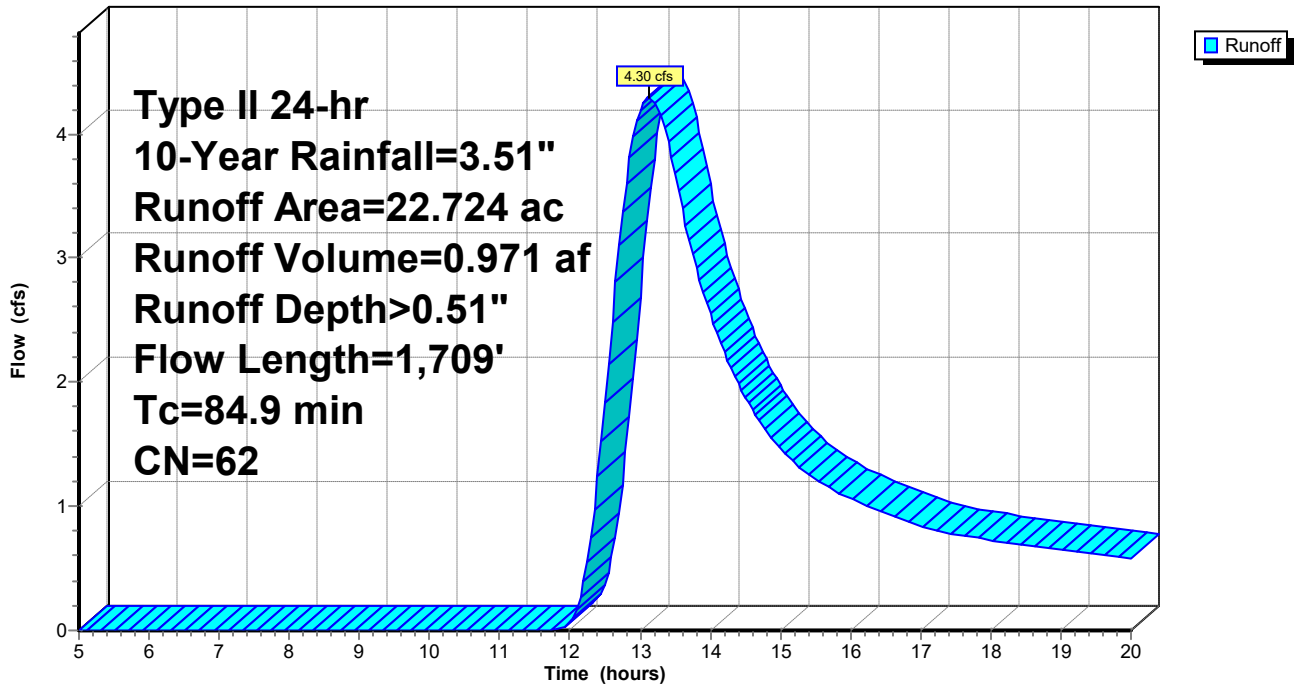
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-Year Rainfall=3.51"

Area (ac)	CN	Description
2.876	77	Woods, Good, HSG D
0.636	55	Woods, Good, HSG B
1.555	48	Brush, Good, HSG B
1.500	73	Brush, Good, HSG D
9.085	58	Meadow, non-grazed, HSG B
0.523	78	Meadow, non-grazed, HSG D
5.809	58	Woods/grass comb., Good, HSG B
0.710	79	Woods/grass comb., Good, HSG D
0.030	98	Paved parking, HSG B
22.724	62	Weighted Average
22.694		99.87% Pervious Area
0.030		0.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1	100	0.0400	0.09		Sheet Flow, SHEET FLOW 1 Woods: Light underbrush n= 0.400 P2= 2.58"
2.2	121	0.0327	0.90		Shallow Concentrated Flow, SCF 1 Woodland Kv= 5.0 fps
1.7	181	0.0633	1.76		Shallow Concentrated Flow, SCF 2 Short Grass Pasture Kv= 7.0 fps
1.2	79	0.0477	1.09		Shallow Concentrated Flow, SCF 3 Woodland Kv= 5.0 fps
17.3	99	0.0464	0.10		Sheet Flow, SHEET FLOW 1 Grass: Bermuda n= 0.410 P2= 2.58"
20.0	100	0.0311	0.08		Sheet Flow, SHEET FLOW 2 Woods: Light underbrush n= 0.400 P2= 2.58"
2.7	126	0.0249	0.79		Shallow Concentrated Flow, SCF 5 Woodland Kv= 5.0 fps
21.7	903	0.0192	0.69		Shallow Concentrated Flow, SCF 6 Woodland Kv= 5.0 fps
84.9	1,709	Total			

Subcatchment 10S: DA #2 (Proposed, w/ Mitigation)

Hydrograph



Summary for Subcatchment 11S: DA #3 (Proposed, w/ Mitigation)

Runoff = 0.99 cfs @ 13.89 hrs, Volume= 0.310 af, Depth> 0.39"

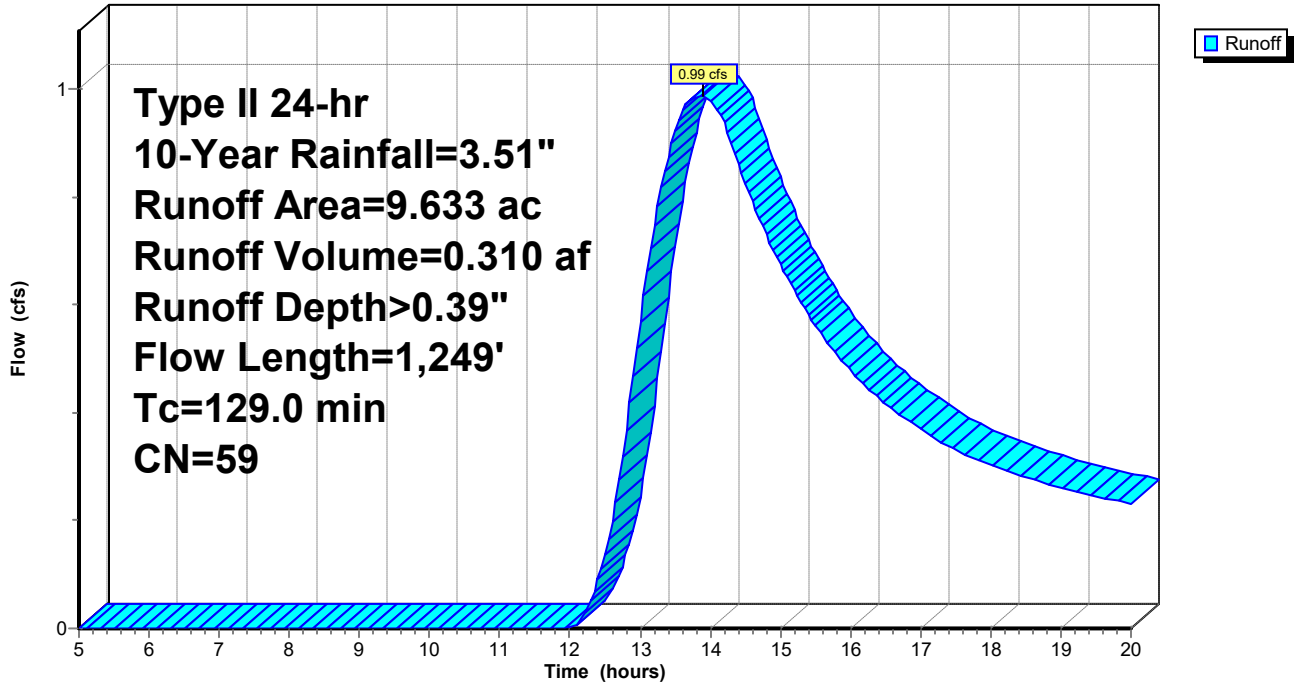
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-Year Rainfall=3.51"

Area (ac)	CN	Description
3.213	55	Woods, Good, HSG B
0.002	77	Woods, Good, HSG D
0.409	48	Brush, Good, HSG B
2.042	61	>75% Grass cover, Good, HSG B
0.015	80	>75% Grass cover, Good, HSG D
2.036	58	Meadow, non-grazed, HSG B
1.424	58	Woods/grass comb., Good, HSG B
0.478	98	Paved parking, HSG B
0.014	98	Paved parking, HSG D
9.633	59	Weighted Average
9.141		94.89% Pervious Area
0.492		5.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.0644	0.27		Sheet Flow, SHEET FLOW 1 Range n= 0.130 P2= 2.58"
0.2	27	0.0878	2.07		Shallow Concentrated Flow, SCF 1 Short Grass Pasture Kv= 7.0 fps
12.2	100	0.1119	0.14		Sheet Flow, SHEET FLOW 2 Grass: Bermuda n= 0.410 P2= 2.58"
19.6	100	0.0347	0.09		Sheet Flow, SHEET FLOW 3 Grass: Bermuda n= 0.410 P2= 2.58"
22.0	100	0.0260	0.08		Sheet Flow, SHEET FLOW 4 Grass: Bermuda n= 0.410 P2= 2.58"
25.7	100	0.0176	0.06		Sheet Flow, SHEET FLOW 5 Grass: Bermuda n= 0.410 P2= 2.58"
17.0	87	0.0373	0.09		Sheet Flow, SHEET FLOW 6 Grass: Bermuda n= 0.410 P2= 2.58"
19.7	96	0.0300	0.08		Sheet Flow, SHEET FLOW 7 Woods: Light underbrush n= 0.400 P2= 2.58"
4.8	308	0.0454	1.07		Shallow Concentrated Flow, SCF 2 Woodland Kv= 5.0 fps
0.2	49	0.0714	4.01		Shallow Concentrated Flow, SCF 3 Grassed Waterway Kv= 15.0 fps
1.4	161	0.1467	1.92		Shallow Concentrated Flow, SCF 4 Woodland Kv= 5.0 fps
0.1	21	0.2044	6.78		Shallow Concentrated Flow, SCF 5 Grassed Waterway Kv= 15.0 fps
129.0	1,249	Total			

Subcatchment 11S: DA #3 (Proposed, w/ Mitigation)

Hydrograph



Summary for Subcatchment 12S: DA #4 (Proposed, No Mitigation)

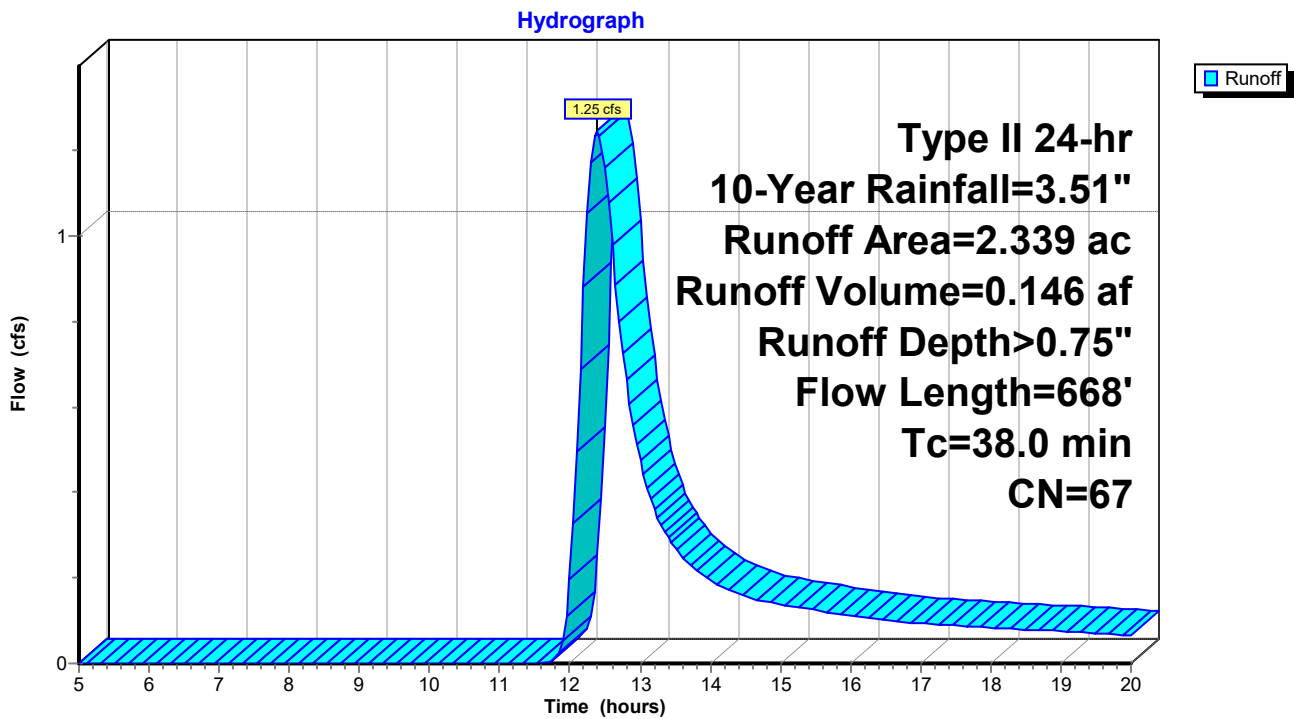
Runoff = 1.25 cfs @ 12.39 hrs, Volume= 0.146 af, Depth> 0.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-Year Rainfall=3.51"

Area (ac)	CN	Description
0.461	55	Woods, Good, HSG B
0.042	48	Brush, Good, HSG B
1.345	61	>75% Grass cover, Good, HSG B
0.038	58	Woods/grass comb., Good, HSG B
0.453	98	Paved parking, HSG B
2.339	67	Weighted Average
1.886		80.63% Pervious Area
0.453		19.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.3	85	0.0154	0.06		Sheet Flow, SHEET FLOW 1 Woods: Light underbrush n= 0.400 P2= 2.58"
5.3	15	0.0191	0.05		Sheet Flow, SHEET FLOW 2 Woods: Light underbrush n= 0.400 P2= 2.58"
7.5	127	0.0032	0.28		Shallow Concentrated Flow, SCF 1 Woodland Kv= 5.0 fps
0.7	123	0.0343	2.78		Shallow Concentrated Flow, SCF 2 Grassed Waterway Kv= 15.0 fps
0.3	82	0.0514	4.60		Shallow Concentrated Flow, SCF 3 Paved Kv= 20.3 fps
0.6	169	0.0919	4.55		Shallow Concentrated Flow, SCF 4 Grassed Waterway Kv= 15.0 fps
0.3	67	0.0676	3.90		Shallow Concentrated Flow, SCF 5 Grassed Waterway Kv= 15.0 fps
38.0	668	Total			

Subcatchment 12S: DA #4 (Proposed, No Mitigation)



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: DA #1 (Existing)	Runoff Area=2.803 ac 0.00% Impervious Runoff Depth>1.62" Flow Length=549' Tc=16.0 min CN=58 Runoff=5.95 cfs 0.377 af
Subcatchment 2S: DA #2 (Existing)	Runoff Area=22.715 ac 0.07% Impervious Runoff Depth>1.74" Flow Length=1,708' Tc=50.9 min CN=60 Runoff=24.76 cfs 3.298 af
Subcatchment 3S: DA #3 (Existing)	Runoff Area=9.633 ac 2.98% Impervious Runoff Depth>1.53" Flow Length=1,252' Tc=22.3 min CN=57 Runoff=15.81 cfs 1.231 af
Subcatchment 4S: DA #4 (Existing)	Runoff Area=2.339 ac 19.37% Impervious Runoff Depth>2.34" Flow Length=668' Tc=38.0 min CN=67 Runoff=4.36 cfs 0.455 af
Subcatchment 5S: DA #1 (Proposed, No	Runoff Area=2.803 ac 0.00% Impervious Runoff Depth>1.77" Flow Length=549' Tc=15.1 min CN=60 Runoff=6.80 cfs 0.414 af
Subcatchment 6S: DA #2 (Proposed, No	Runoff Area=22.724 ac 0.13% Impervious Runoff Depth>1.90" Flow Length=1,708' Tc=50.5 min CN=62 Runoff=27.62 cfs 3.604 af
Subcatchment 7S: DA #3 (Proposed, No	Runoff Area=9.633 ac 5.11% Impervious Runoff Depth>1.69" Flow Length=1,252' Tc=20.9 min CN=59 Runoff=18.45 cfs 1.356 af
Subcatchment 8S: DA #4 (Proposed, No	Runoff Area=2.339 ac 19.37% Impervious Runoff Depth>2.34" Flow Length=668' Tc=38.0 min CN=67 Runoff=4.36 cfs 0.455 af
Subcatchment 9S: DA #1 (Proposed, w/	Runoff Area=2.803 ac 0.00% Impervious Runoff Depth>1.73" Flow Length=549' Tc=60.8 min CN=60 Runoff=2.68 cfs 0.405 af
Subcatchment 10S: DA #2 (Proposed, w/	Runoff Area=22.724 ac 0.13% Impervious Runoff Depth>1.87" Flow Length=1,709' Tc=84.9 min CN=62 Runoff=18.67 cfs 3.539 af
Subcatchment 11S: DA #3 (Proposed, w/	Runoff Area=9.633 ac 5.11% Impervious Runoff Depth>1.59" Flow Length=1,249' Tc=129.0 min CN=59 Runoff=4.95 cfs 1.273 af
Subcatchment 12S: DA #4 (Proposed, No	Runoff Area=2.339 ac 19.37% Impervious Runoff Depth>2.34" Flow Length=668' Tc=38.0 min CN=67 Runoff=4.36 cfs 0.455 af

Total Runoff Area = 112.488 ac Runoff Volume = 16.864 af Average Runoff Depth = 1.80"
97.60% Pervious = 109.783 ac 2.40% Impervious = 2.705 ac

Summary for Subcatchment 1S: DA #1 (Existing)

Runoff = 5.95 cfs @ 12.10 hrs, Volume= 0.377 af, Depth> 1.62"
 Routed to nonexistent node 1L

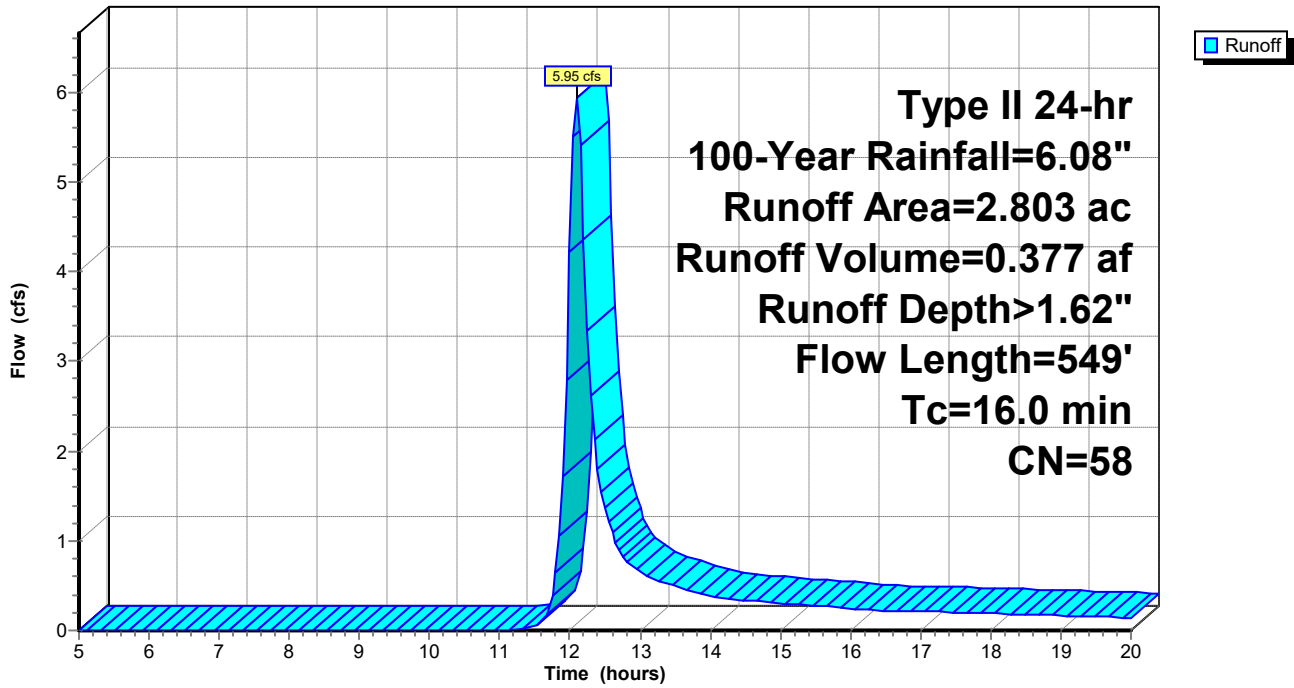
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-Year Rainfall=6.08"

Area (ac)	CN	Description
0.092	77	Woods, Good, HSG D
1.782	55	Woods, Good, HSG B
0.502	73	Brush, Good, HSG D
0.326	48	Brush, Good, HSG B
0.101	58	Woods/grass comb., Good, HSG B
2.803	58	Weighted Average
2.803		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	56	0.1169	0.13		Sheet Flow, SHEET FLOW 1 Woods: Light underbrush n= 0.400 P2= 2.58"
2.6	44	0.1076	0.28		Sheet Flow, SHEET FLOW 2 Range n= 0.130 P2= 2.58"
0.1	15	0.0937	2.14		Shallow Concentrated Flow, SCF 1 Short Grass Pasture Kv= 7.0 fps
0.8	104	0.0919	2.12		Shallow Concentrated Flow, SCF 2 Short Grass Pasture Kv= 7.0 fps
4.0	273	0.0519	1.14		Shallow Concentrated Flow, SCF 3 Woodland Kv= 5.0 fps
1.1	57	0.0280	0.84		Shallow Concentrated Flow, SCF 4 Woodland Kv= 5.0 fps
16.0	549	Total			

Subcatchment 1S: DA #1 (Existing)

Hydrograph



Summary for Subcatchment 2S: DA #2 (Existing)

Runoff = 24.76 cfs @ 12.54 hrs, Volume= 3.298 af, Depth> 1.74"
 Routed to nonexistent node 1L

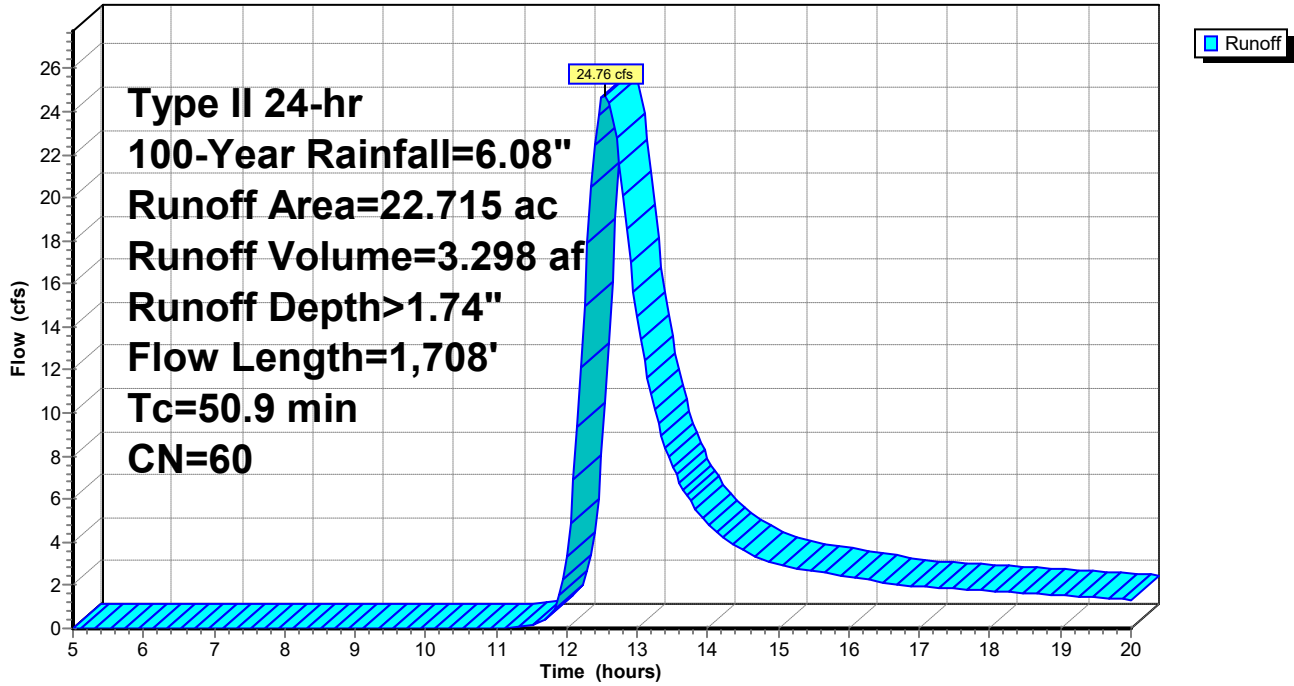
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-Year Rainfall=6.08"

Area (ac)	CN	Description
3.445	77	Woods, Good, HSG D
5.877	55	Woods, Good, HSG B
4.614	48	Brush, Good, HSG B
2.245	73	Brush, Good, HSG D
0.015	98	Roofs, HSG B
5.809	58	Woods/grass comb., Good, HSG B
0.710	79	Woods/grass comb., Good, HSG D
22.715	60	Weighted Average
22.700		99.93% Pervious Area
0.015		0.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1	100	0.0400	0.09		Sheet Flow, SHEET FLOW 1 Woods: Light underbrush n= 0.400 P2= 2.58"
2.2	121	0.0327	0.90		Shallow Concentrated Flow, SCF 1 Woodland Kv= 5.0 fps
1.7	181	0.0633	1.76		Shallow Concentrated Flow, SCF 2 Short Grass Pasture Kv= 7.0 fps
1.5	97	0.0476	1.09		Shallow Concentrated Flow, TCF 3 Woodland Kv= 5.0 fps
2.8	168	0.0390	0.99		Shallow Concentrated Flow, TCF 4 Woodland Kv= 5.0 fps
2.9	138	0.0248	0.79		Shallow Concentrated Flow, SCF 5 Woodland Kv= 5.0 fps
21.7	903	0.0192	0.69		Shallow Concentrated Flow, SCF 6 Woodland Kv= 5.0 fps
50.9	1,708	Total			

Subcatchment 2S: DA #2 (Existing)

Hydrograph



Summary for Subcatchment 3S: DA #3 (Existing)

Runoff = 15.81 cfs @ 12.17 hrs, Volume= 1.231 af, Depth> 1.53"

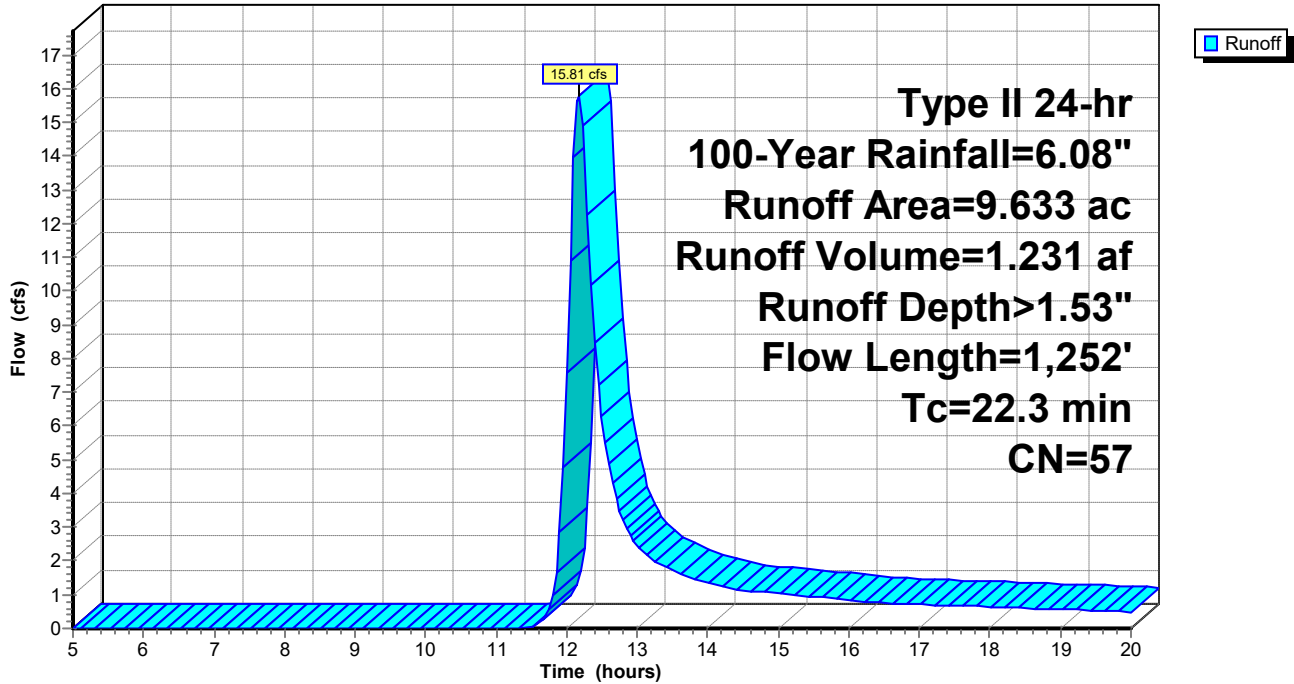
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-Year Rainfall=6.08"

Area (ac)	CN	Description
4.588	55	Woods, Good, HSG B
0.002	77	Woods, Good, HSG D
1.227	48	Brush, Good, HSG B
2.090	61	>75% Grass cover, Good, HSG B
0.015	80	>75% Grass cover, Good, HSG D
1.424	58	Woods/grass comb., Good, HSG B
0.273	98	Paved parking, HSG B
0.014	98	Paved parking, HSG D
9.633	57	Weighted Average
9.346		97.02% Pervious Area
0.287		2.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.0644	0.27		Sheet Flow, SHEET FLOW 1 Range n= 0.130 P2= 2.58"
0.9	126	0.1072	2.29		Shallow Concentrated Flow, SCF 1 Short Grass Pasture Kv= 7.0 fps
2.5	188	0.0319	1.25		Shallow Concentrated Flow, SCF 2 Short Grass Pasture Kv= 7.0 fps
3.2	123	0.0162	0.64		Shallow Concentrated Flow, SCF 3 Woodland Kv= 5.0 fps
7.9	484	0.0413	1.02		Shallow Concentrated Flow, SCF 4 Woodland Kv= 5.0 fps
0.2	49	0.0714	4.01		Shallow Concentrated Flow, SCF 5 Grassed Waterway Kv= 15.0 fps
1.4	161	0.1467	1.92		Shallow Concentrated Flow, SCF 6 Woodland Kv= 5.0 fps
0.1	21	0.2044	6.78		Shallow Concentrated Flow, SCF 7 Grassed Waterway Kv= 15.0 fps
22.3	1,252	Total			

Subcatchment 3S: DA #3 (Existing)

Hydrograph



Summary for Subcatchment 4S: DA #4 (Existing)

Runoff = 4.36 cfs @ 12.35 hrs, Volume= 0.455 af, Depth> 2.34"

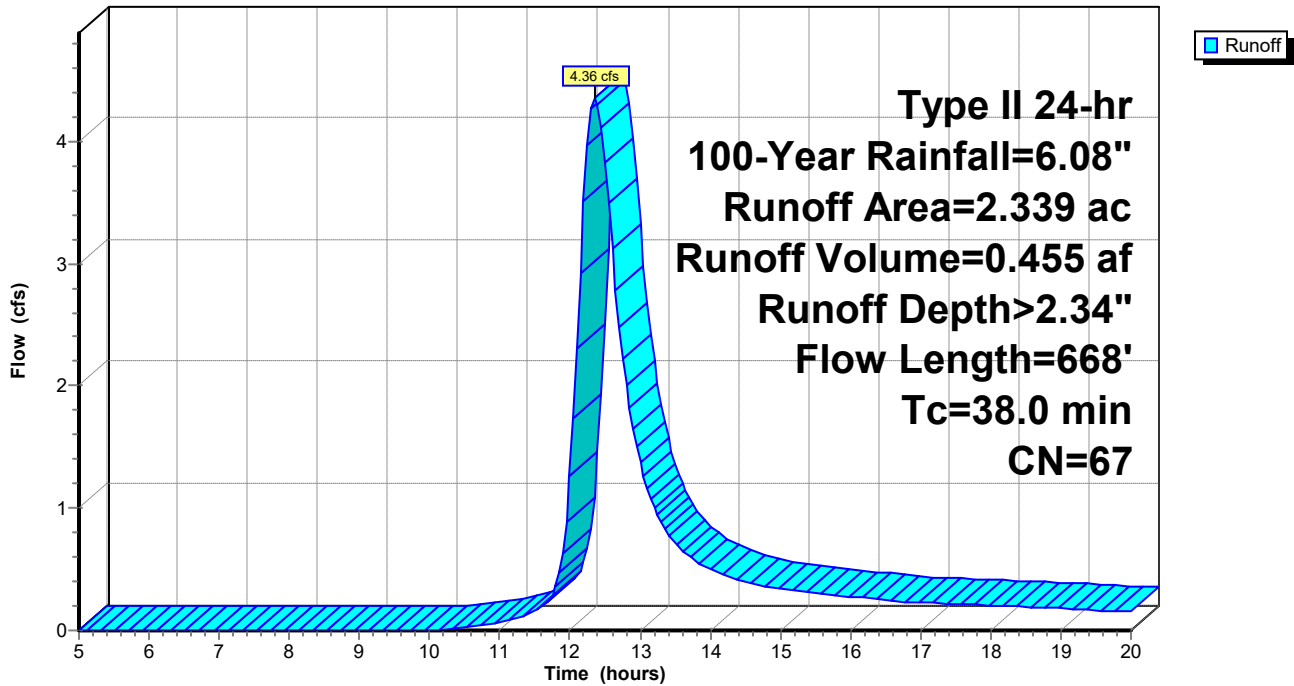
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-Year Rainfall=6.08"

Area (ac)	CN	Description
0.453	98	Paved parking, HSG B
0.461	55	Woods, Good, HSG B
0.042	48	Brush, Good, HSG B
1.345	61	>75% Grass cover, Good, HSG B
0.038	58	Woods/grass comb., Good, HSG B
2.339	67	Weighted Average
1.886		80.63% Pervious Area
0.453		19.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.3	85	0.0154	0.06		Sheet Flow, SHEET FLOW 1 Woods: Light underbrush n= 0.400 P2= 2.58"
5.3	15	0.0191	0.05		Sheet Flow, SHEET FLOW 2 Woods: Light underbrush n= 0.400 P2= 2.58"
7.5	127	0.0032	0.28		Shallow Concentrated Flow, SCF 1 Woodland Kv= 5.0 fps
0.7	123	0.0343	2.78		Shallow Concentrated Flow, SCF 2 Grassed Waterway Kv= 15.0 fps
0.3	82	0.0514	4.60		Shallow Concentrated Flow, SCF 3 Paved Kv= 20.3 fps
0.6	169	0.0919	4.55		Shallow Concentrated Flow, SCF 4 Grassed Waterway Kv= 15.0 fps
0.3	67	0.0702	3.97		Shallow Concentrated Flow, SCF 5 Grassed Waterway Kv= 15.0 fps
38.0	668	Total			

Subcatchment 4S: DA #4 (Existing)

Hydrograph



Summary for Subcatchment 5S: DA #1 (Proposed, No Mitigation)

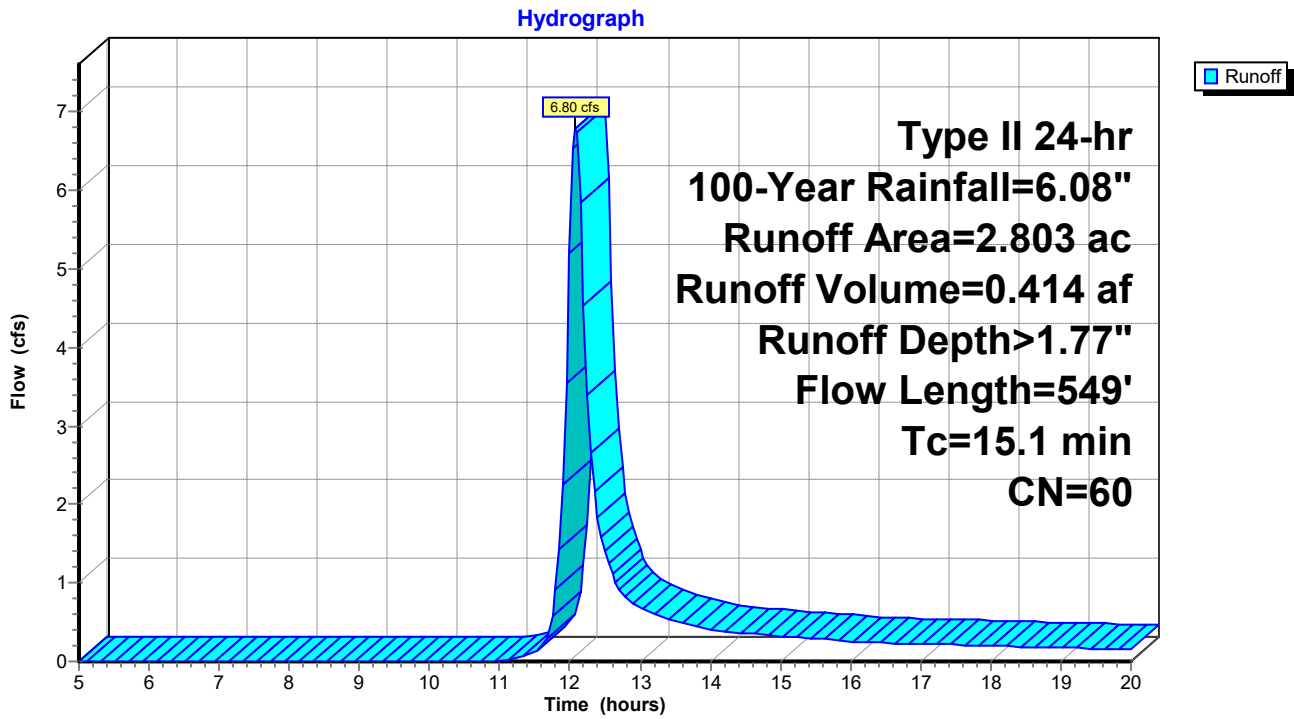
Runoff = 6.80 cfs @ 12.08 hrs, Volume= 0.414 af, Depth> 1.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-Year Rainfall=6.08"

Area (ac)	CN	Description
0.092	77	Woods, Good, HSG D
0.371	55	Woods, Good, HSG B
0.502	73	Brush, Good, HSG D
0.326	48	Brush, Good, HSG B
1.411	58	Meadow, non-grazed, HSG B
0.101	58	Woods/grass comb., Good, HSG B
2.803	60	Weighted Average
2.803		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	56	0.1169	0.13		Sheet Flow, SHEET FLOW 1 Woods: Light underbrush n= 0.400 P2= 2.58"
2.6	44	0.1076	0.28		Sheet Flow, SHEET FLOW 2 Range n= 0.130 P2= 2.58"
0.1	15	0.0937	2.14		Shallow Concentrated Flow, SCF 1 Short Grass Pasture Kv= 7.0 fps
0.8	104	0.0919	2.12		Shallow Concentrated Flow, SCF 2 Short Grass Pasture Kv= 7.0 fps
1.1	71	0.0468	1.08		Shallow Concentrated Flow, SCF 3 Woodland Kv= 5.0 fps
2.2	210	0.0516	1.59		Shallow Concentrated Flow, SCF 4 Short Grass Pasture Kv= 7.0 fps
0.9	49	0.0325	0.90		Shallow Concentrated Flow, SCF 5 Woodland Kv= 5.0 fps
15.1	549	Total			

Subcatchment 5S: DA #1 (Proposed, No Mitigation)



Summary for Subcatchment 6S: DA #2 (Proposed, No Mitigation)

Runoff = 27.62 cfs @ 12.53 hrs, Volume= 3.604 af, Depth> 1.90"

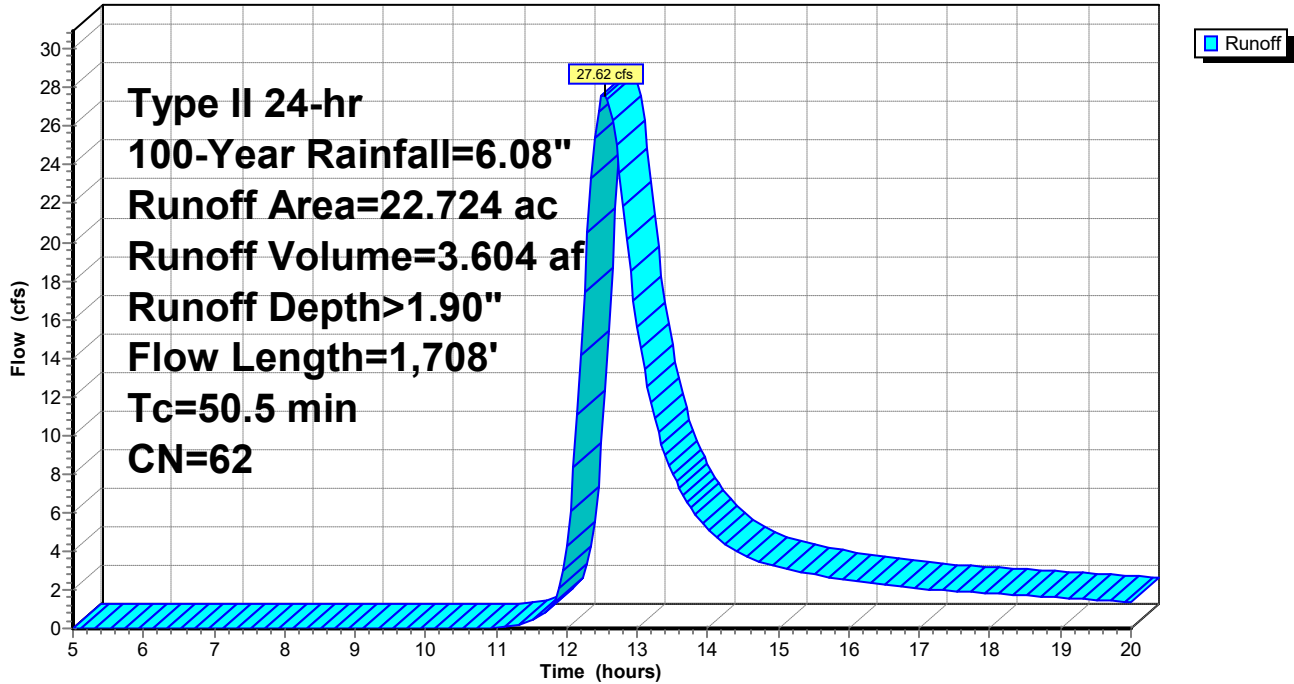
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-Year Rainfall=6.08"

Area (ac)	CN	Description
2.876	77	Woods, Good, HSG D
0.636	55	Woods, Good, HSG B
1.555	48	Brush, Good, HSG B
1.500	73	Brush, Good, HSG D
9.085	58	Meadow, non-grazed, HSG B
0.523	78	Meadow, non-grazed, HSG D
5.809	58	Woods/grass comb., Good, HSG B
0.710	79	Woods/grass comb., Good, HSG D
0.030	98	Paved parking, HSG B
22.724	62	Weighted Average
22.694		99.87% Pervious Area
0.030		0.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1	100	0.0400	0.09		Sheet Flow, SHEET FLOW 1 Woods: Light underbrush n= 0.400 P2= 2.58"
2.2	121	0.0327	0.90		Shallow Concentrated Flow, SCF 1 Woodland Kv= 5.0 fps
1.7	181	0.0633	1.76		Shallow Concentrated Flow, SCF 2 Short Grass Pasture Kv= 7.0 fps
1.2	79	0.0477	1.09		Shallow Concentrated Flow, SCF 3 Woodland Kv= 5.0 fps
1.1	99	0.0464	1.51		Shallow Concentrated Flow, SCF 4 Short Grass Pasture Kv= 7.0 fps
1.6	87	0.0322	0.90		Shallow Concentrated Flow, SCF 5 Woodland Kv= 5.0 fps
2.9	138	0.0248	0.79		Shallow Concentrated Flow, SCF 6 Woodland Kv= 5.0 fps
21.7	903	0.0192	0.69		Shallow Concentrated Flow, SCF 7 Woodland Kv= 5.0 fps
50.5	1,708	Total			

Subcatchment 6S: DA #2 (Proposed, No Mitigation)

Hydrograph



Summary for Subcatchment 7S: DA #3 (Proposed, No Mitigation)

Runoff = 18.45 cfs @ 12.15 hrs, Volume= 1.356 af, Depth> 1.69"

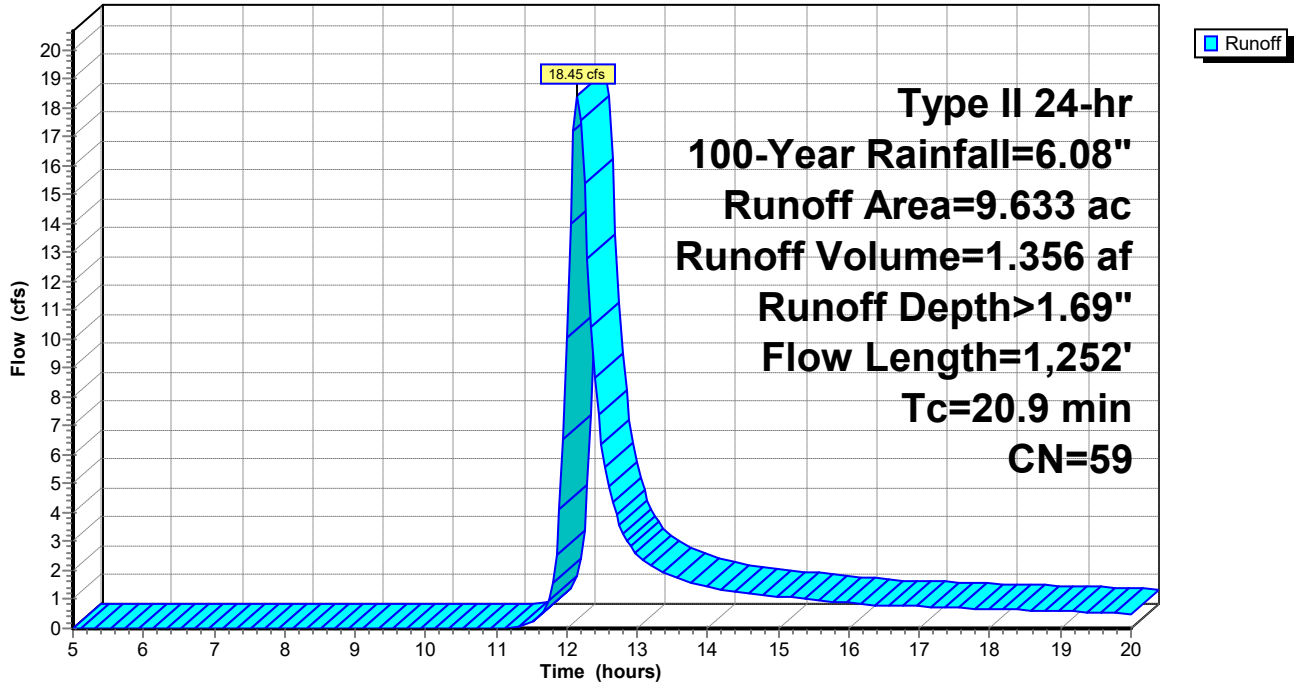
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=6.08"

Area (ac)	CN	Description
3.213	55	Woods, Good, HSG B
0.002	77	Woods, Good, HSG D
0.409	48	Brush, Good, HSG B
2.042	61	>75% Grass cover, Good, HSG B
0.015	80	>75% Grass cover, Good, HSG D
2.036	58	Meadow, non-grazed, HSG B
1.424	58	Woods/grass comb., Good, HSG B
0.478	98	Paved parking, HSG B
0.014	98	Paved parking, HSG D
9.633	59	Weighted Average
9.141		94.89% Pervious Area
0.492		5.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.0644	0.27		Sheet Flow, SHEET FLOW 1 Range n= 0.130 P2= 2.58"
0.9	126	0.1072	2.29		Shallow Concentrated Flow, SCF 1 Short Grass Pasture Kv= 7.0 fps
2.5	188	0.0319	1.25		Shallow Concentrated Flow, SCF 2 Short Grass Pasture Kv= 7.0 fps
3.2	202	0.0226	1.05		Shallow Concentrated Flow, SCF 3 Short Grass Pasture Kv= 7.0 fps
6.5	405	0.0431	1.04		Shallow Concentrated Flow, SCF 4 Woodland Kv= 5.0 fps
0.2	49	0.0714	4.01		Shallow Concentrated Flow, SCF 5 Grassed Waterway Kv= 15.0 fps
1.4	161	0.1467	1.92		Shallow Concentrated Flow, SCF 6 Woodland Kv= 5.0 fps
0.1	21	0.2044	6.78		Shallow Concentrated Flow, SCF 7 Grassed Waterway Kv= 15.0 fps
20.9	1,252	Total			

Subcatchment 7S: DA #3 (Proposed, No Mitigation)

Hydrograph



Summary for Subcatchment 8S: DA #4 (Proposed, No Mitigation)

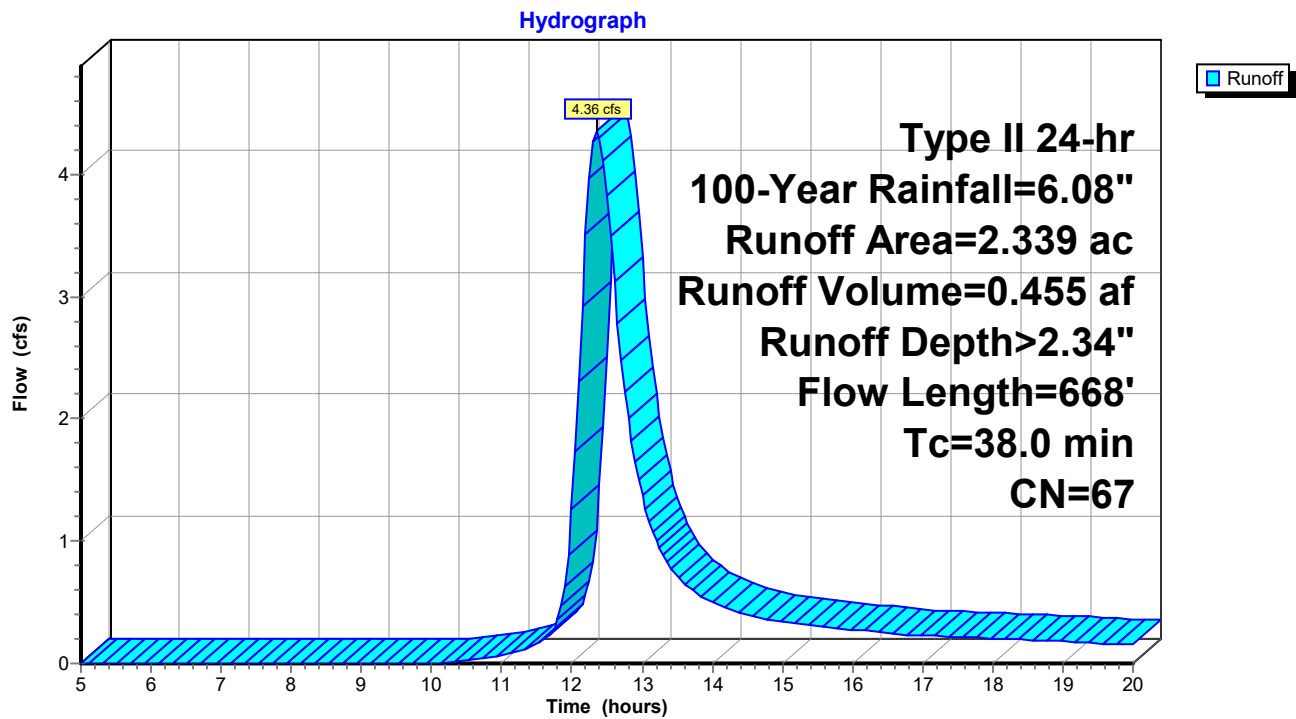
Runoff = 4.36 cfs @ 12.35 hrs, Volume= 0.455 af, Depth> 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-Year Rainfall=6.08"

Area (ac)	CN	Description
0.461	55	Woods, Good, HSG B
0.042	48	Brush, Good, HSG B
1.345	61	>75% Grass cover, Good, HSG B
0.038	58	Woods/grass comb., Good, HSG B
0.453	98	Paved parking, HSG B
2.339	67	Weighted Average
1.886		80.63% Pervious Area
0.453		19.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.3	85	0.0154	0.06		Sheet Flow, SHEET FLOW 1 Woods: Light underbrush n= 0.400 P2= 2.58"
5.3	15	0.0191	0.05		Sheet Flow, SHEET FLOW 2 Woods: Light underbrush n= 0.400 P2= 2.58"
7.5	127	0.0032	0.28		Shallow Concentrated Flow, SCF 1 Woodland Kv= 5.0 fps
0.7	123	0.0343	2.78		Shallow Concentrated Flow, SCF 2 Grassed Waterway Kv= 15.0 fps
0.3	82	0.0514	4.60		Shallow Concentrated Flow, SCF 3 Paved Kv= 20.3 fps
0.6	169	0.0919	4.55		Shallow Concentrated Flow, SCF 4 Grassed Waterway Kv= 15.0 fps
0.3	67	0.0676	3.90		Shallow Concentrated Flow, SCF 5 Grassed Waterway Kv= 15.0 fps
38.0	668	Total			

Subcatchment 8S: DA #4 (Proposed, No Mitigation)



Summary for Subcatchment 9S: DA #1 (Proposed, w/ Mitigation)

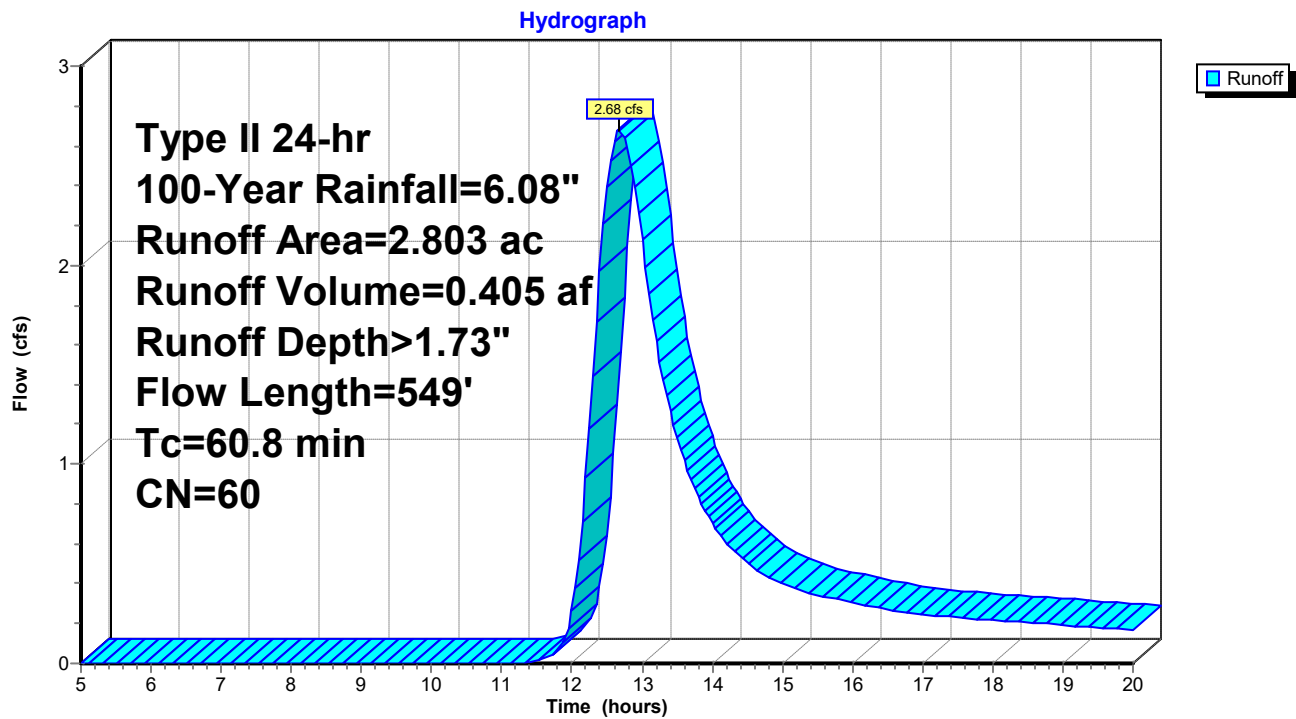
Runoff = 2.68 cfs @ 12.67 hrs, Volume= 0.405 af, Depth> 1.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-Year Rainfall=6.08"

Area (ac)	CN	Description
0.092	77	Woods, Good, HSG D
0.371	55	Woods, Good, HSG B
0.502	73	Brush, Good, HSG D
0.326	48	Brush, Good, HSG B
1.411	58	Meadow, non-grazed, HSG B
0.101	58	Woods/grass comb., Good, HSG B
2.803	60	Weighted Average
2.803		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	56	0.1169	0.13		Sheet Flow, SHEET FLOW 1 Woods: Light underbrush n= 0.400 P2= 2.58"
2.6	44	0.1076	0.28		Sheet Flow, SHEET FLOW 2 Range n= 0.130 P2= 2.58"
0.1	15	0.0937	2.14		Shallow Concentrated Flow, SCF 1 Short Grass Pasture Kv= 7.0 fps
0.8	104	0.0919	2.12		Shallow Concentrated Flow, SCF 2 Short Grass Pasture Kv= 7.0 fps
1.1	71	0.0469	1.08		Shallow Concentrated Flow, SCF 3 Woodland Kv= 5.0 fps
15.9	100	0.0586	0.11		Sheet Flow, SHEET FLOW 1 Grass: Bermuda n= 0.410 P2= 2.58"
17.1	100	0.0486	0.10		Sheet Flow, SHEET FLOW 2 Grass: Bermuda n= 0.410 P2= 2.58"
4.7	10	0.0123	0.04		Sheet Flow, SHEET FLOW 3 Grass: Bermuda n= 0.410 P2= 2.58"
11.1	49	0.0325	0.07		Sheet Flow, SHEET FLOW 4 Woods: Light underbrush n= 0.400 P2= 2.58"
60.8	549	Total			

Subcatchment 9S: DA #1 (Proposed, w/ Mitigation)



Summary for Subcatchment 10S: DA #2 (Proposed, w/ Mitigation)

Runoff = 18.67 cfs @ 13.00 hrs, Volume= 3.539 af, Depth> 1.87"

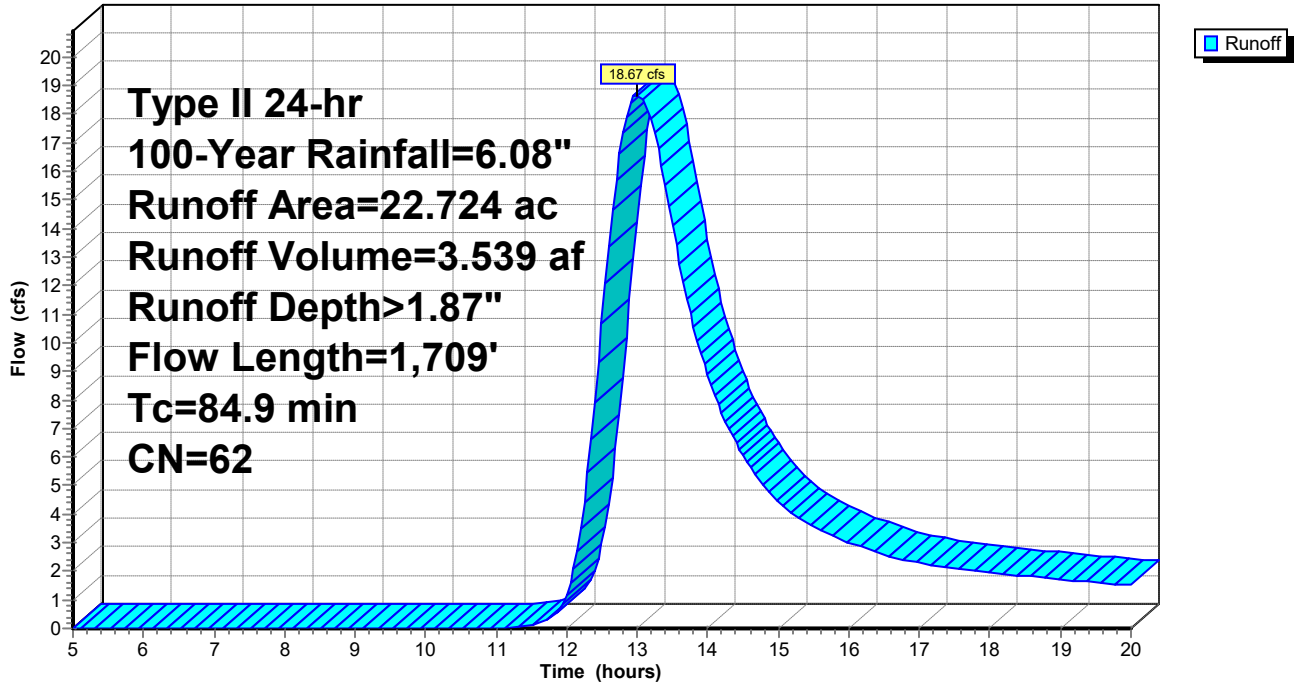
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-Year Rainfall=6.08"

Area (ac)	CN	Description
2.876	77	Woods, Good, HSG D
0.636	55	Woods, Good, HSG B
1.555	48	Brush, Good, HSG B
1.500	73	Brush, Good, HSG D
9.085	58	Meadow, non-grazed, HSG B
0.523	78	Meadow, non-grazed, HSG D
5.809	58	Woods/grass comb., Good, HSG B
0.710	79	Woods/grass comb., Good, HSG D
0.030	98	Paved parking, HSG B
22.724	62	Weighted Average
22.694		99.87% Pervious Area
0.030		0.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1	100	0.0400	0.09		Sheet Flow, SHEET FLOW 1 Woods: Light underbrush n= 0.400 P2= 2.58"
2.2	121	0.0327	0.90		Shallow Concentrated Flow, SCF 1 Woodland Kv= 5.0 fps
1.7	181	0.0633	1.76		Shallow Concentrated Flow, SCF 2 Short Grass Pasture Kv= 7.0 fps
1.2	79	0.0477	1.09		Shallow Concentrated Flow, SCF 3 Woodland Kv= 5.0 fps
17.3	99	0.0464	0.10		Sheet Flow, SHEET FLOW 1 Grass: Bermuda n= 0.410 P2= 2.58"
20.0	100	0.0311	0.08		Sheet Flow, SHEET FLOW 2 Woods: Light underbrush n= 0.400 P2= 2.58"
2.7	126	0.0249	0.79		Shallow Concentrated Flow, SCF 5 Woodland Kv= 5.0 fps
21.7	903	0.0192	0.69		Shallow Concentrated Flow, SCF 6 Woodland Kv= 5.0 fps
84.9	1,709	Total			

Subcatchment 10S: DA #2 (Proposed, w/ Mitigation)

Hydrograph



Summary for Subcatchment 11S: DA #3 (Proposed, w/ Mitigation)

Runoff = 4.95 cfs @ 13.62 hrs, Volume= 1.273 af, Depth> 1.59"

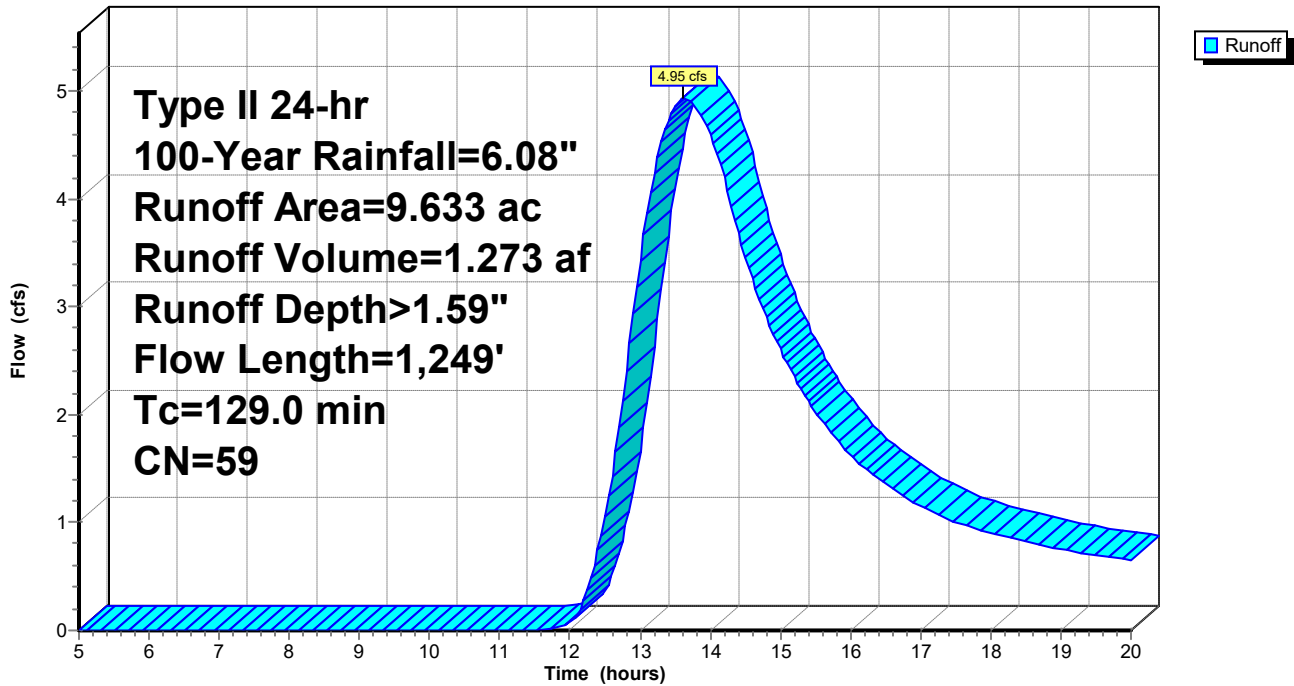
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=6.08"

Area (ac)	CN	Description
3.213	55	Woods, Good, HSG B
0.002	77	Woods, Good, HSG D
0.409	48	Brush, Good, HSG B
2.042	61	>75% Grass cover, Good, HSG B
0.015	80	>75% Grass cover, Good, HSG D
2.036	58	Meadow, non-grazed, HSG B
1.424	58	Woods/grass comb., Good, HSG B
0.478	98	Paved parking, HSG B
0.014	98	Paved parking, HSG D
9.633	59	Weighted Average
9.141		94.89% Pervious Area
0.492		5.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.0644	0.27		Sheet Flow, SHEET FLOW 1 Range n= 0.130 P2= 2.58"
0.2	27	0.0878	2.07		Shallow Concentrated Flow, SCF 1 Short Grass Pasture Kv= 7.0 fps
12.2	100	0.1119	0.14		Sheet Flow, SHEET FLOW 2 Grass: Bermuda n= 0.410 P2= 2.58"
19.6	100	0.0347	0.09		Sheet Flow, SHEET FLOW 3 Grass: Bermuda n= 0.410 P2= 2.58"
22.0	100	0.0260	0.08		Sheet Flow, SHEET FLOW 4 Grass: Bermuda n= 0.410 P2= 2.58"
25.7	100	0.0176	0.06		Sheet Flow, SHEET FLOW 5 Grass: Bermuda n= 0.410 P2= 2.58"
17.0	87	0.0373	0.09		Sheet Flow, SHEET FLOW 6 Grass: Bermuda n= 0.410 P2= 2.58"
19.7	96	0.0300	0.08		Sheet Flow, SHEET FLOW 7 Woods: Light underbrush n= 0.400 P2= 2.58"
4.8	308	0.0454	1.07		Shallow Concentrated Flow, SCF 2 Woodland Kv= 5.0 fps
0.2	49	0.0714	4.01		Shallow Concentrated Flow, SCF 3 Grassed Waterway Kv= 15.0 fps
1.4	161	0.1467	1.92		Shallow Concentrated Flow, SCF 4 Woodland Kv= 5.0 fps
0.1	21	0.2044	6.78		Shallow Concentrated Flow, SCF 5 Grassed Waterway Kv= 15.0 fps
129.0	1,249	Total			

Subcatchment 11S: DA #3 (Proposed, w/ Mitigation)

Hydrograph



Summary for Subcatchment 12S: DA #4 (Proposed, No Mitigation)

Runoff = 4.36 cfs @ 12.35 hrs, Volume= 0.455 af, Depth> 2.34"

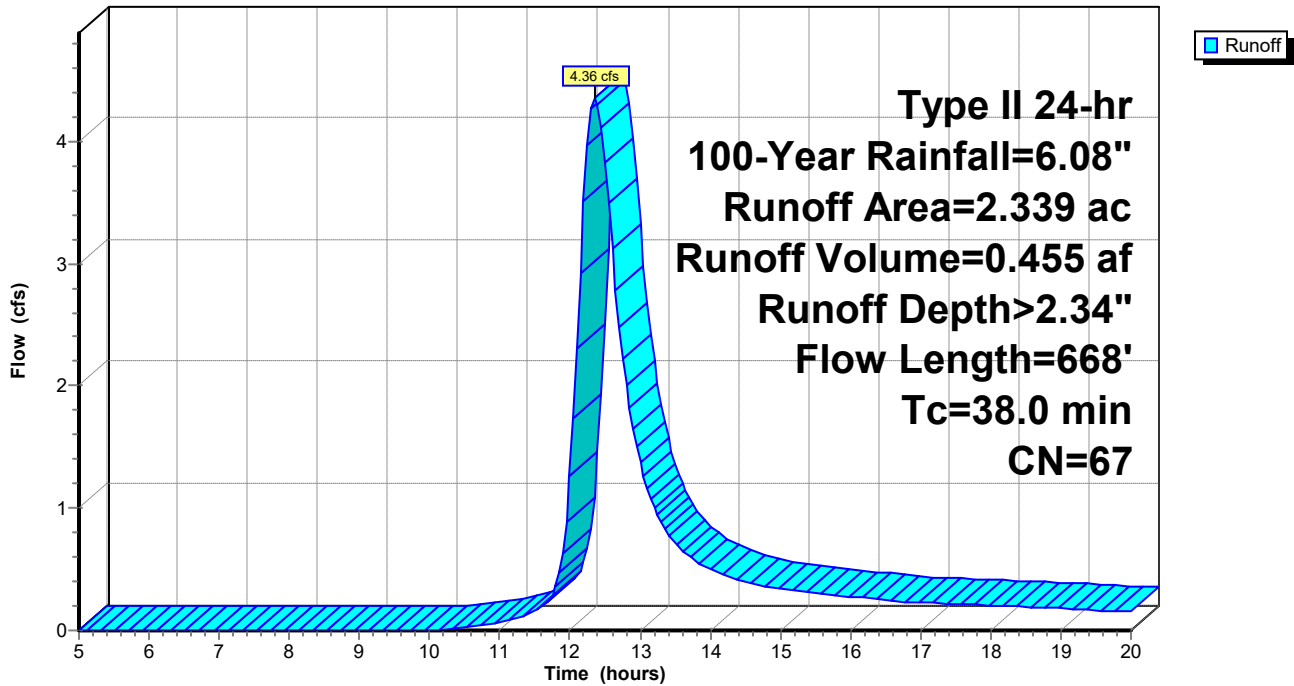
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-Year Rainfall=6.08"

Area (ac)	CN	Description
0.461	55	Woods, Good, HSG B
0.042	48	Brush, Good, HSG B
1.345	61	>75% Grass cover, Good, HSG B
0.038	58	Woods/grass comb., Good, HSG B
0.453	98	Paved parking, HSG B
2.339	67	Weighted Average
1.886		80.63% Pervious Area
0.453		19.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.3	85	0.0154	0.06		Sheet Flow, SHEET FLOW 1 Woods: Light underbrush n= 0.400 P2= 2.58"
5.3	15	0.0191	0.05		Sheet Flow, SHEET FLOW 2 Woods: Light underbrush n= 0.400 P2= 2.58"
7.5	127	0.0032	0.28		Shallow Concentrated Flow, SCF 1 Woodland Kv= 5.0 fps
0.7	123	0.0343	2.78		Shallow Concentrated Flow, SCF 2 Grassed Waterway Kv= 15.0 fps
0.3	82	0.0514	4.60		Shallow Concentrated Flow, SCF 3 Paved Kv= 20.3 fps
0.6	169	0.0919	4.55		Shallow Concentrated Flow, SCF 4 Grassed Waterway Kv= 15.0 fps
0.3	67	0.0676	3.90		Shallow Concentrated Flow, SCF 5 Grassed Waterway Kv= 15.0 fps
38.0	668	Total			

Subcatchment 12S: DA #4 (Proposed, No Mitigation)

Hydrograph



Appendix F
Technical Field Guidance for Spill Reporting and Initial Notification
(NYSDEC, 1996)

TECHNICAL
FIELD GUIDANCE

**SPILL REPORTING AND INITIAL
NOTIFICATION REQUIREMENTS**

NOTES

Spill Reporting and Initial Notification Requirements

GUIDANCE SUMMARY AT-A-GLANCE

- Reporting spills is a crucial first step in the response process.
- You should understand the spill reporting requirements to be able to inform the spillers of their responsibilities.
- Several different state, local, and federal laws and regulations require spillers to report petroleum and hazardous materials spills.
- The state and federal reporting requirements are summarized in Exhibit 1.1-1.
- Petroleum spills must be reported to DEC unless they meet all of the following criteria:
 - The spill is known to be less than 5 gallons; and
 - The spill is contained and under the control of the spiller; and
 - The spill has not and will not reach the State's water or any land; and
 - The spill is cleaned up within 2 hours of discovery.

All reportable petroleum spills and most hazardous materials spills must be reported to DEC hotline (1-800-457-7362) within New York State; and (1-518 457-7362) from outside New York State. For spills not deemed reportable, it is strongly recommended that the facts concerning the incident be documented by the spiller and a record maintained for one year.

- Inform the spiller to report the spill to other federal or local authorities, if required.
- Report yourself those spills for which you are unable to locate the responsible spiller.
- Make note of other agencies' emergency response telephone numbers in case you require their on-scene assistance, or if the response is their responsibility and not BSPR's.

NOTES

1.1.1 Notification Requirements for Oil Spills and Hazardous Material Spills

Spillers are required under state law and under certain local and federal laws to report spills. These various requirements, summarized in Exhibit 1.1-1, often overlap; that is, a particular spill might be required to be reported under several laws or regulations and to several authorities. Under state law, all petroleum and most hazardous material spills must be reported to DEC Hotline (1-800-457-7362), within New York State, and to 1-518-457-7362 from outside New York State. Prompt reporting by spillers allows for a quick response, which may reduce the likelihood of any adverse impact to human health and the environment. You will often have to inform spillers of their responsibilities.

Although the spiller is responsible for reporting spills, other persons with knowledge of a spill, leak, or discharge is required to report the incident (see Appendices A and B). You will often have to inform spillers of their responsibilities. You may also have to report spills yourself in situations where the spiller is not known or cannot be located. However, it is the legal responsibility of the spiller to report spills to both state and other authorities.

BSPR personnel also are responsible for notifying other response agencies when the expertise or assistance of other agencies is needed. For example, the local fire department should be notified of spills that pose a potential explosion and/or fire hazard. If such a hazard is detected and the fire department has not been notified, call for their assistance immediately. Fire departments are trained and equipped to respond to these situations; you should not proceed with your response until the fire/safety hazard is eliminated. For more information on interagency coordination in emergency situations see Part 1, Section 3, Emergency Response.

Another important responsibility is notifying health department officials when a drinking water supply is found to be contaminated as a result of a spill. It will be the health department's responsibility to advise you on the health risk associated with any contamination.

Exhibits 1.1-1 and 1.1-2 list the state and federal requirements to report petroleum and hazardous substance spills, respectively. The charts describe the type of material covered, the applicable act or regulation, the agency that must be notified, what must be reported, and the person responsible for reporting. New York state also has a emergency notification network for spill situations (e.g., major chemical releases) that escalate beyond the capabilities of local and regional response agencies/authorities to provide adequate response. The New York State Emergency Management Office (SEMO) coordinates emergency response activities among local, state, and federal government organizations in these cases.

Exhibit 1.1-1

State and Federal Reporting Requirements for Petroleum Spills, Leaks, and Discharges

Materials Covered	Act or Regulation	Agency to Notify	What Must Be Reported and When	Who Must Report
Petroleum from any source	Navigation Law Article 12; 17 NYCRR 32.3 and 32.4	DEC Hotline 1-800-457-7362	<p>The notification of a discharge must be immediate, but in no case later than two hours after discharge.</p> <ol style="list-style-type: none"> 1. Name of person making report and his relationship to any person which might be responsible for causing the discharge. 2. Time and date of discharge. 3. Probable source of discharge. 4. The location of the discharge, both geographic and with respect to bodies of water. 5. Type of petroleum discharges. 6. Possible health or fire hazards resulting from the discharge. 7. Amount of petroleum discharged. 8. All actions that are being taken to clean up and remove the discharge. 9. The personnel presently on the scene. 10. Other government agencies that have been or will be notified. 	Any person causing discharge of petroleum. Owner or person in actual or constructive control must notify DEC unless that person has adequate assurance that such notice has already been given.
All aboveground petroleum and underground storage facilities with a combined storage capacity of over 1100 gallons.	ECL §17-1007; 6 NYCRR §613.8	DEC Hotline 1-800-457-7362	<ol style="list-style-type: none"> 1. Report spill incident within two hours of discovery. 2. Also when results of any inventory, record, test, or inspection shows a facility is leaking, that fact must be reported within two hours of discovery. 	Any person with knowledge of a spill, leak, or discharge.
Petroleum contaminated with PCB.	Chemical Bulk Storage Act 6 NYCRR Parts 595, 596, 597	DEC Hotline 1-800-457-7362	Releases of a reportable quantity of PCB oil.	Owner or person in actual or constructive possession or control of the substance, or a person in contractual relationship, who inspects, tests, or repairs for owner.

Exhibit 1.1-1

**State and Federal Reporting Requirements for Petroleum Spills, Leaks, and Discharges
(continued)**

Materials Covered	Act or Regulation	Agency to Notify	What Must Be Reported and When	Who Must Report
Any liquid (petroleum included) that if released would be likely to pollute lands or waters of the state.	ECL §17-1743	DEC Hotline 1-800-457-7362	Immediate notification that a spill, release, or discharge of any amount has occurred. Owner or person in actual or constructive possession or control of more than 1,100 gallons of the liquid.	
Petroleum Discharge in violation of §311(b)(3) of the Clean Water Act	40 CFR §110.10 (Clean Water Act)	<ol style="list-style-type: none"> 1. National Response Center (NRC) 1-800-424-8802. 2. If not possible to notify NRC, notify Coast Guard or predesignated on-scene coordinator. 3. If not possible to notify either 1 or 2, reports may be made immediately to nearest Coast Guard units, provided NRC notified as soon as possible. 	<p>Immediate notification as soon as there is knowledge of an oil discharge that violates water quality standards or causes sheen on navigable waters. Procedures for notice are set forth in 33 CFR Part 153, Subpart B, and in the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300, Subpart E.</p>	Person in charge of vessel or on-shore or off-shore facility.
Petroleum, petroleum by-products or other dangerous liquid commodities that may create a hazardous or toxic condition spilled into navigable waters.	33 CFR 126.29 (Ports and Waters Safety Act)	Captain of the Port or District Commander	As soon as discharge occurs, owner or master of vessel must immediately report that a discharge has occurred.	Owner or master of vessel or owner or operator of the facility at which the discharge occurred.

Exhibit 1.1-1

**State and Federal Reporting Requirements for Petroleum Spills, Leaks, and Discharges
(continued)**

Materials Covered	Act or Regulation	Agency to Notify	What Must Be Reported and When	Who Must Report
Petroleum or hazardous substance from a vessel, on-shore or off-shore facility in violation of §311(b)(3) of the Clean Water Act.	33 CFR 153.203 (Clean Water Act)	<ol style="list-style-type: none"> 1. NRC U.S. Coast Guard, 2100 Second Street, SW, Washington, DC 20593; 1-800-424-8802. 2. Where direct reporting not practicable, reports may be made to the Coast Guard (District Offices), the 3rd and 9th district of the EPA regional office at 26 Federal Plaza, NY, NY 10278; 1-201-548-8730. 3. Where none of the above is possible, may contact nearest Coast Guard unit, provided NRC notified as soon as possible. 	Any discharger shall immediately notify the NRC of such discharge.	Person in charge of vessel or facility.

Exhibit 1.1-2

State and Federal Reporting Requirements for Hazardous Substance Spills, Leaks, and Discharges

Materials Covered	Act or Regulation	Agency to Notify	What Must Be Reported and When	Who Must Report
Any hazardous substance pursuant to Article 37. Does not include petroleum.	Chemical Bulk Storage Act 6 NYCRR Parts 595, 596, 597; ECL 40-0113(d)	DEC Hotline 1-800-457-7362	Releases of a reportable quantity of a hazardous substance.	Owner or person in actual or constructive possession or control of the substance, or a person in contractual relationship, who inspects, tests, or repairs for owner.
Hazardous materials or substances as defined in 49 CFR §171.8 that are transported. (See federal reporting requirements.)	Transportation Law 14(f); 17 NYCRR 507.4(b)	Local fire department or police department or local municipality	<p>Immediate notification must be given of incident in which any of the following occurs as a direct result of a spill of hazardous materials:</p> <ol style="list-style-type: none"> 1. Person is killed. 2. Person receives injuries requiring hospitalization. 3. Estimated damage to carrier or other property exceeds \$50,000. 4. Fire, breakage, spillage, or suspected contamination due to radioactive materials. 5. Fire, breakage, spillage, or suspected contamination involving etiologic agents. 6. Situation is such that, in the judgment of the carrier, a continuing danger to life or property exists at the scene of the incident. 	All persons and carriers engaged in the transportation of hazardous materials.

Exhibit 1.1-2
State and Federal Reporting Requirements for Hazardous Substance Spills, Leaks, and Discharges
(continued)

Materials Covered	Act or Regulation	Agency to Notify	What Must Be Reported and When	Who Must Report
Hazardous materials (wastes included) that are transported, whose carrier is involved in an accident.	Department of Transportation Regulations 49 CFR 171.15; 17 NYCRR Part 924; 17 NYCRR Part 507	<ol style="list-style-type: none"> 1. U.S. Department of Transportation 1-800-424-8802 2. DEC Hotline 1-800-457-7362 3. Rail Carrier <u>On-Duty</u> 518-457-1046 <u>Off-Duty</u> 518-457-6164 4. Notify local police or fire department. 	<p>Notice should be given by telephone at the earliest practicable moment and should include:</p> <ol style="list-style-type: none"> 1. Name of reporter. 2. Name and address of carrier represented by reporter. 3. Phone number where reporter can be contacted. 4. Date, time, and location of incident. 5. The extent of injuries, if any. 6. Classification, name and quantity of hazardous materials involved, if available. 7. Type of incident and nature of hazardous material involved and whether a continuing danger to life exists at scene. 8. Each carrier making this report must also make the report required by §171.16. 	<p>Each carrier that transports hazardous materials involves in an accident that causes any of the following as a direct result:</p> <ol style="list-style-type: none"> 1. A person is killed 2. A person receives injuries requiring hospitalization 3. Estimated damage to carrier or other property exceeds \$50,000 4. Fire, breakage, spillage, suspected or otherwise involving radioactive material. 5. Fire, breakage, spillage, suspected contamination involving etiologic agents. 6. Situation is such that carrier thinks it should be reported in accordance with paragraph b.

Exhibit 1.1-2
State and Federal Reporting Requirements for Hazardous Substance Spills, Leaks, and Discharges
(continued)

Materials Covered	Act or Regulation	Agency to Notify	What Must Be Reported and When	Who Must Report
Reportable quantity of a hazardous substance into navigable waters or adjoining shorelines. Substances are listed in 40 CFR 302.4.	Department of Transportation Regulations 49 CFR §171.16 as authorized by the Hazardous Materials Transportation Act	U.S. Coast Guard National Response Center (NRC), 1-800-424-8802 or 1-202-267-2675	<p>As soon as person in charge becomes aware of a spill incident, he must notify NRC and provide the following information:</p> <ol style="list-style-type: none"> 1. The information required by 49 CFR §171.15 (see above). 2. Name of shipper of hazardous substance. 3. Quantity of hazardous substance discharged, if known. 4. If person in charge is incapacitated, carrier shall make the notification. 5. Estimate of quantity of hazardous substance removed from the scene and the manner of disposition of any unremoved hazardous substance shall be entered in Part (H) of the report required by 49 CFR 171.16 (see above). 	Person in charge of aircraft, vessel, transport vehicle, or facility. Must inform NRC directly, or indirectly through carrier.
Reportable quantity of a hazardous substance from vessel, on-shore or off-shore facility. Substances and requirements specified in 40 CFR §117.3.	40 CFR §117.21 as authorized under the FWPCA	NRC 1-800-424-8802. If not practicable report may be made to the Coast Guard (3rd or 9th Districts) District Offices or to EPA, designated On-Scene Coordinator, Region II, 26 Federal Plaza, NY, NY 10278; 1-201-548-8730	Immediate notification is required.	Person in charge of vessel, or on-shore or off-shore facility

**Exhibit 1.1-2
State and Federal Reporting Requirements for Hazardous Substance Spills, Leaks, and Discharges
(continued)**

Materials Covered	Act or Regulation	Agency to Notify	What Must Be Reported and When	Who Must Report
<p>Facilities where a hazardous chemical is produced, used, or stored, and there is a reportable quantity of any extremely hazardous substance as set out in Appendix A to 40 CFR 355 or a CERCLA hazardous substance as specified in 40 CFR 302.4. (This section does not apply to a release that does not go beyond the facility, that emanates from a facility that is federally permitted, is continuous as defined under §103(f) of CERCLA or to any release exempt from CERCLA §103(a) reporting under §101(22) of CERCLA.)</p>	<p>40 CFR 355.40 (SARA)</p> <p>Releases of CERCLA Hazardous Substances are subject to release reporting requirements of CERCLA §103, codified at 40 CFR Part 302, in addition to being subject to the requirements of this Part.</p>	<p>Community emergency coordinator for the local emergency planning committee of any area likely to be affected and the State Emergency Response Commission of any state likely to be affected by the release. If there is no local emergency planning commission notification shall be made to relevant local emergency response personnel.</p>	<p>Immediately notify agencies at left and provide the following information when available:</p> <ol style="list-style-type: none"> 1. Chemical name or identity of any substance involved in the release. 2. Indication of whether the substance is an extremely hazardous substance. 3. An estimate of the quantity released. 4. Time and duration of release. 5. Medium or media into which the release occurred. 6. Known health risks associated with emergency and where appropriate advice regarding medical attention for those exposed. 7. Proper precautions/actions that should be taken, including evacuation. 8. Names and telephone numbers of person to be contacted for further information. <p>As soon as practicable after release, followup notification by providing the following information:</p> <ol style="list-style-type: none"> 1. Actions taken to respond to and contain the release. 2. Health risks. 3. Advice on medical attention for exposed individuals. 	<p>Owner or operator of facility</p>

Exhibit 1.1-2
State and Federal Reporting Requirements for Hazardous Substance Spills, Leaks, and Discharges
(continued)

Materials Covered	Act or Regulation	Agency to Notify	What Must Be Reported and When	Who Must Report
Hazardous liquids transported in pipelines, a release of which results in any circumstances as set out in 195.50(a) through (f). Also any incident that results in circumstances listed in 195.52(g).	49 CFR 195.50, 195.52 and 195.54 (Hazardous Liquid Pipeline Safety Act).	NRC, 1-800-424-8802	<p>Notice must be given at the earliest practicable moment and the following information provided:</p> <ol style="list-style-type: none"> 1. Name and address of the operator. 2. Name and telephone number of the reporter. 3. Location of the failure. 4. The time of the failure. 5. The fatalities and personal injuries, if any. 6. All other significant facts known by the operator that are relevant to the cause of the failure or extent of the damages. 	Operator of system.
Hazardous wastes in transport	40 CFR §263.30(a) (RCRA)	<ol style="list-style-type: none"> 1. Local authorities 2. If required by 49 CFR 171.15, notify the NRC at 1-800-424-8802 or 1-202-426-2675 3. Report in writing to Director of Hazardous Materials Regulations, Materials Transportation Bureau, Department of Transportation, Washington, DC 20590 	<p>Notification must be immediate.</p> <p>For discharge of hazardous waste by air, rail, highway, or water, the transporter must:</p> <ol style="list-style-type: none"> 1. Give notice as in 49 CFR 161.15 (if applicable). 2. Report in writing as in 49 CFR 171.16. <p>Wastes transporter (bulk shipment) must give same notice as required by 33 CFR 153.20.</p>	Transporter by air, rail, highway, or water.

Exhibit 1.1-2
State and Federal Reporting Requirements for Hazardous Substance Spills, Leaks, and Discharges
(continued)

Materials Covered	Act or Regulation	Agency to Notify	What Must Be Reported and When	Who Must Report
Vinyl Chloride from any manual vent valve, or polyvinyl chloride plants	Clean Air Act 40 CFR 61.64	Administrator of EPA	<p>Within 10 days of any discharge from any manual vent valve, report must be made, in writing, and the following information provided:</p> <ol style="list-style-type: none"> 1. Source, nature and cause of the discharge 2. Date and time of the discharge 3. Approximate total vinyl chloride loss during discharge 4. Method used for determining loss 5. Action taken to prevent the discharge 6. Measures adopted to prevent future discharges. 	Owner or operator of plant.
Radioactive Materials	6 NYCRR §380.7	Commissioner of DEC	<ol style="list-style-type: none"> 1. Notify immediately by telephone when concentration, averaged over a 24-hour period, exceeds or threatens to exceed 5000 times the limits set forth in Schedule 2 of 380.9 (in uncontrolled areas). 2. Notify within 24 hours by telephone when concentration, averaged over 24- hour period, exceeds or threatens to exceed 500 times the limits set forth in Schedule 2 above (in uncontrolled areas). 3. Report within 30 days the concentration and quantity of radioactive material involved, the cause of the discharge, and corrective steps taken or planned to ensure no recurrence of the discharge. 	Operator of the radiation installation.

Exhibit 1.1-2
State and Federal Reporting Requirements for Hazardous Substance Spills, Leaks, and Discharges
(continued)

Materials Covered	Act or Regulation	Agency to Notify	What Must Be Reported and When	Who Must Report
Low Level radioactive wastes in transport. Any suspected or actual uncontrolled releases.	6 NYCRR 381.16 ECL §27-0305 Waste Transporter Permits	DEC and Department of Health	Immediate notification.	Transporter

TECHNICAL
FIELD GUIDANCE

**SPILL REPORTING AND INITIAL NOTIFICATION
ENFORCEMENT OF SPILLER RESPONSIBILITY**

NOTES

Spill Reporting and Initial Notification - Enforcement of Spiller Responsibility

GUIDANCE SUMMARY-AT-A-GLANCE

Use the "Notification Procedures Checklist" (Exhibit 1.1-3) to document conversations with the responsible party or potentially responsible party (PRP/RP) concerning his or her clean-up responsibilities.

The steps to follow when you inform the PRP/RP of his or her legal responsibility are:

- Give your name and identify yourself as a DEC employee;
- Inform them that they have been identified as the party responsible for the spill;
- Inform PRP/Rps of their liability for all clean-up and removal costs. (If necessary, cite Section 181 of the Navigation Law);
- Ask PRP/Rps "point blank" if they will accept responsibility for the cleanup; and
- If the PRP/RP does not accept responsibility, or does not admit to being the PRP/RP, inform him or her that DEC will conduct the cleanup and send the bill to whoever is the PRP/RP. Also inform them that a DEC-conducted cleanup could be more costly than a PRP/RP-conducted cleanup, and that the PRP/RP could face interest charges and penalties for refusing to clean up the spill.

If the PRP/RP accepts responsibility for the cleanup:

- (1) Send the PRP/RP a "Spiller Responsibility Letter" (Exhibit 1.1-5) and an "Acceptance of Financial Responsibility Form" (Exhibit 1.1-6) and
- (2) Send the PRP/RP an "Option Letter," which should outline the options available to the PRP/RP to clean up the spill. See Exhibit 1.1-4 for a summary of how and when to use these forms and what they may include.

NOTES

1.1.2 Spill Reporting and Initial Notification - Enforcement of Spiller Responsibility

This section provides guidance on those steps you take to inform responsible parties or potentially responsible parties (PRP/Rps) or spillers of their responsibility under state law for cleaning up spills. This guidance applies to all contacts (by phone, by mail, or in person) you have with Rps throughout the response process concerning their fulfillment of this legal responsibility. The possible consequences of an RP's refusal or inability to conduct the spill response are also discussed.

1. State Law and Policy

Under Article 12 of the Navigation Law and Article 71 of the Environmental Conservation law (ECL), those parties responsible for a petroleum release are liable for all costs associated with cleaning up the spill as well as third party damages (see Introduction-A for more information). Section 181 of the Navigation Law states:

Any person who has discharged petroleum shall be strictly liable, without regard to fault, for all cleanup and removal costs and all direct damages, no matter by whom sustained as defined in this section.

There are two ways by which PRP/RPs can pay for the costs associated with cleanups. First, the PRP/RP can reimburse the state for site investigation, clean-up, and remediation costs incurred by the State Oil Spill Fund or federal Leaking Underground Storage Tank (LUST) Trust Fund. Second, the PRP/RP can assume full responsibility for the cleanup from the beginning and bear all costs throughout the clean-up process. It is DEC's policy to make every effort to have PRP/RPs pay for cleanups from the outset.¹

To achieve PRP/RP-directed and PRP/RP-financed cleanups, your responsibilities are to: (1) identify the PRP/RP(s), (2) inform them of their legal responsibilities for the spill, and (3) ensure that they carry out these responsibilities. All investigations of spills and PRP/RPs should be pursued vigorously and without prejudice. Use to your advantage the argument that having the PRP/RP assume responsibility for clean-up costs benefits both DEC and the spiller. It saves DEC the expense of cost-recovery procedures. It also allows the PRP/RP to be more involved in clean-up decisions (e.g., choosing their clean-up contractors) and, more significantly, it usually results in **lower clean-up costs. Because the PRP/RP is responsible for all indirect costs incurred if DEC conducts the cleanup, the spiller will pay for the DEC contractor's clean-up work, as well as the supervision costs incurred by DEC, any third-party claims associated with the spill, and any punitive fines levied.**

¹ Spillers are not only responsible for assuming the costs of a cleanup, but also can be subject to a \$25,000 per day fine for not paying the clean-up costs (among other violations). The Navigation Law provides for these penalties in Section 192, which states:

Any person who knowingly gives or causes to be given any false information as a part of, or in response to, any claim made pursuant to this article for cleanup and removal costs, direct or indirect damages resulting from a discharge, or who otherwise violates any of the provisions of this article or any rule promulgated thereunder or who fails to comply with any duty created by this article shall be liable to a penalty of not more than twenty-five thousand dollars for each offense in court of competent jurisdiction. If the violation is of a continuing nature each day during which it continues shall constitute an additional, separate, and distinct offense. (emphasis added)

NOTES

2. Notification Process

Part 1, Section 4, of this manual discusses the process of identifying the PRP/RP as part of the spill investigation for a particular site. Once you identify the PRP/RP, follow the guidance provided below for informing the PRP/RP of his or her responsibilities for spill cleanup. If you are uncertain about who the PRP/RP is, apply the procedures outlined below with all suspected RPs until the responsible party or parties are identified.

a. Informing RPs of Their Responsibility at the Spill Scene

It is important to inform PRP/RPs of their legal responsibility to clean up a spill as soon as possible. When you arrive at a spill site, you should immediately inform the representative of any PRP/RP of their liability under the Navigation Law and the Environmental Conservation Law. In doing so, follow the steps covered in the "Notification Procedures Checklist" (Exhibit 1.1-3).

Document completion of the notification steps, and identify your contact(s).

Although you should be firm and direct in informing the PRP/RP of their responsibility, you should make every attempt to avoid an adversarial relationship with the RP. The full cooperation of the PRP/RP will result in a more efficient and effective cleanup.

b. Informing Spillers of Their Responsibility in Writing

You should send three different letters to the PRP/RP to inform them of their responsibility (see Exhibit 1.1-4, "Notification Forms Summary"). If a site response was initiated and you are able to confirm the spill visually, the "Spiller Responsibility Letter" (Exhibit 1.1-5) along with an "Acceptance of Financial Responsibility Form" (Exhibit 1.1-6) should be sent as soon as possible. In addition, an "Option Letter" that informs the PRP/RP of their possible options for addressing a spill should be sent. These letters should be kept as part of the Corrective Action Plan (CAP) (see Part 1, Section 5, "Corrective Action Plans.")

**Exhibit 1.1-3
Notification Procedures Checklist**

Completed	Step	Date	Contact(s)
_____	1. Give your name and identify yourself as a DEC employee.		
_____	2. Inform the PRP/RP that he/she has been identified as the party responsible for the spill.		
_____	3. Inform PRP/RPs of their responsibility to pay for all clean-up costs. (As necessary, cite Section 181 of the Navigation Law or Article 71 of the ECL.)		
_____	4. Ask PRP/RPs "point blank" if they will accept responsibility for the cleanup.		
	Response: _____ _____ _____ _____		
_____	5. If the PRP/RP does not accept responsibility, or does not admit to being the spiller, inform him/her that DEC will conduct the cleanup and send the bill to whoever is the spiller.		
_____	6. If the PRP/RP does not accept responsibility also inform him or her that a DEC-conducted cleanup could be more costly than a spiller-conducted cleanup, and that the spiller could face interest charges and a fine for refusing to pay for the billed clean-up costs.		

Exhibit 1-A-4

**Notification Forms Summary
(Send Forms by Certified Mail)**

Notification Form	When and How to Use	Information to be Included
Spiller Responsibility Letter	Send by certified mail to PRP/RP for confirmed spill.	<ul style="list-style-type: none"># Spill location;# Spiller's responsibility under the Navigation Law;# Penalties that can be levied if the spiller does not cooperate; and# Deadline for spiller to begin containment and removal of the spill.
Acceptance of Spiller Responsibility Form	Send by certified mail to PRP/RP for confirmed spill.	<ul style="list-style-type: none"># Request for spiller's signature acknowledging his or her acceptance of responsibility for the spill cleanup.
Option Letter	Send by certified mail to PRP/RP for confirmed or suspected release (e.g., failed tightness test).	<ul style="list-style-type: none"># Spill number;# Date spill was discovered or reported;# Exact location of the spill;# Authority of Article 12 of the Navigation Act; and# Penalties for noncompliance.

Exhibit 1.1-5

Spiller Responsibility Letter

[Date]

[Addressee]

[Address]

Dear []:

This is to inform you that as a result of investigation by our Department, we consider you responsible for Petroleum Spill Number _____, dated _____, at _____. Under Article 12 of the Navigation Law, Section 192, any person who discharges petroleum without a permit and fails to promptly clean up such prohibited discharge may be subject to a penalty of up to \$25,000 a day.

Containment and removal of this spill must be initiated within _____ hours.

Your failure to initiate timely spill cleanup and removal, in addition to the penalty stated above, will result in your being billed for all actual costs incurred by New York State as set forth in Section 181 of the Navigation Law. These costs include cleanup and removal, all direct and indirect damages, including damages incurred by third parties.

Sincerely,

Regional Spill Engineer
Region

Exhibit 1.1-6
Acceptance of Spiller Responsibility Letter

[Date]

SPILL # _____

ACCEPTANCE OF FINANCIAL RESPONSIBILITY

_____, hereby assumes responsibility for containment and
(Name of Company and Person)

cleanup of _____ discharged from _____
(Substance) (Source)

on _____, and recognizes that the determination of the adequacy and propriety of
(Date)

the containment and cleanup operation continues to rest with the New York State
Department of Environmental Conservation On-Scene Coordinator.

(Authorized Signature and Title)

(Name and Title Printed)

(Address of Company)

(Date and Time)

(Witness)

NOTES

The "Spiller Responsibility Letter" informs spillers of their responsibility under the Navigation Law and explains the penalties that can be levied if the spiller does not cooperate. It should be sent to the spiller or suspected spiller as soon as a petroleum spill has been confirmed. The letter notifies the spiller that he or she is required to initiate containment and removal of the spill within a period of time you specify.

There are at least three factors you should consider when specifying a deadline in this letter:

- # The size and nature of the spill;
- # The proximity of the spill to, or its possible effects on, water supplies (surface or ground water), nearby homes and other structures, and/or sensitive environmental areas; and The possible environmental, safety, and/or human health effects of delaying containment and removal.

The "Acceptance of Spiller Responsibility Form" requires the spiller's signature acknowledging his or her responsibility for containment and cleanup of the spill. This form and the "Spiller Responsibility Letter" should be sent by certified mail.

The "Option Letter" outlines the possible options available to the PRP/RP for cleanup of the spill. The contents of this letter can vary somewhat depending on how the release was discovered (e.g., through a complaint or a failed tightness test), the extent and type of spill, and the policies and procedures of your regional office. There is, however, some information that should appear in every "Option Letter." All "Option Letters" should contain the following: spill number, date the spill was discovered, and exact location of the spill. In addition, the letter should cite the response authority provided DEC by Article 12 of the Navigation Act and describe the penalties for noncompliance.

Each "Option Letter" should outline clearly the options open to the PRP/RP to address the spill and the information you wish submitted, and may also specify certain deadlines for taking action. However, it is up to you to determine the particular options, information requirements, and dates you include in the letter. Depending on the circumstances, you may list in your letter one or several options from which the PRP/RP can choose. For example, when an UST fails an initial tank test the following options could be included:

- # Conduct separate integrity tests on the piping and the tanks in order to verify the release source within the tank system.
- # Remove the "non-tight" tank and either remove and dispose of all contaminated soils, or install monitoring wells.

NOTES

- # Install monitoring wells and abandon the "non-tight" tank in-place.
- # Remove the tank within 30 days, according to the requirements for tank removal (outline these requirements in the letter).

The "Option Letter" should always be sent by certified mail. In addition, you should have the PRP/RP inform you as soon as possible about the option(s) he or she has chosen.

Several examples of possible "Option Letters" are included as Exhibits 1.1-7 through 1.1-12. These are provided as examples only; you should use "Option Letters" developed by your own office, or develop your own.

Exhibit 1.1-7 is a sample option letter to an PRP/RP for removal of contaminated soil from an UST release. Note that this option letter includes: (a) specific requirements for removal of the contaminated soil; (b) dates for when the removal must be completed, and (c) requirements for the PRP/RP to forward to DEC copies of the landfill disposal receipt and ample test results. The additional sample option letters apply to the following situations: when an UST has failed an initial tightness test (Exhibit 1.1-8), when an UST fails an isolation tank test (Exhibit 1.1-9), when an UST fails a Petro-tite Systems Test (Exhibit 1.1-10), and ground-water contamination cleanup (Exhibit 1.1-11).

3. Dealing with Uncooperative Spillers

There are generally two ways in which an PRP/RP may fail to fulfill his or her legal responsibilities for spill cleanup: (1) a PRP/RP may refuse from the beginning to accept responsibility, or (2) an PRP/RP may fail to conduct a cleanup in the manner, or in as timely a fashion, as agreed upon with the DEC. If a PRP/RP refuses to cooperate from the outset, try again to change the RP's mind. Send additional notices of spiller responsibility (Exhibit 1.1-12) and/or initiate phone conversations with PRP/RPs to inform them again of the consequences of not cooperating (i.e., higher clean-up costs and possible penalties). If a party claims not to be the PRP/RP, you should inform them of your reasons for believing they are the PRP/RP under the Navigation Law.

If a PRP/RP agrees to conduct and pay for the cleanup and then does not proceed in the manner agreed upon or as quickly as agreed upon, you should inform the PRP/RP immediately that you are dissatisfied with the progress of the cleanup and that DEC is considering taking it over. There are no hard-and-fast rules for deciding when you should take over a cleanup. If possible, you should always work toward having the PRP/RP continue the cleanup in the agreed-upon manner. Attempt to determine why the cleanup is not proceeding as planned and consider means of helping the PRP/RP-directed cleanup get back on track.

Exhibit 1.1-7

Sample Option Letter:
Soil Cleanup Spill

[Date]

[Addressee]

[Address]

Dear []:

This letter is to confirm your - (site meeting) (telephone conversation) with _____ of this Department on _____, (Name) (day) (date) (year) in regards to the above-mentioned spill site. This site involves _____ (explanation)

The following items were discussed and agreed upon:

1. All contaminated material must be removed and stored on site until it can be properly disposed of at a properly permitted landfill.
2. All contaminated material must be sampled for _____ (analyses). The results must be negative for the material to be considered non-hazardous oily debris. You must contact your selected sanitary landfill to verify the sample analyses that they require for disposal.
3. A hauler with a Part 364 permit must be used to haul the contaminated soil to your selected landfill.
4. Please notify this Department after the work is completed but prior to any backfilling of the spill area so that an inspection of the excavation may be made.
5. Please forward to us a copy of the landfill disposal receipt and the sample results.

A schedule for this work is required by _____ (day) (date) (year).

Cleanup must be performed by no later than _____ (day) (date) (year).

If you have any questions, please feel free to contact _____ (Name)

at 847-4590. Your cooperation will be appreciated.

Very truly yours,

Senior Sanitary Engineer

Exhibit 1.1-8

Sample Option Letter:
Initial Tank Failure

[Date]

[Addressee]

[Address]

Dear []:

This Department received notification on _____ that (a)
_____ (day) (date) (year)
_____ tank(s) failed its (their) tank test performed by
(gallons) (product stored)
_____. On _____, Mr. _____ of this Department
(contractor) (date) (name)
discussed with _____ that one of the following options must be done concerning this tank.
(person)

- OPTION 1:
1. The tank is to be immediately isolated from the piping and is to be retested. If the tank tests tight, it may remain in service.
 2. The lines are to be repaired, if necessary, and retested by a state-approved method. Exposed piping may be air tested.
 3. A copy of any test results are to be sent to this office.

- OPTION 2: If the tank fails the retest, or if you decide not to retest, the following must now be done:
1. All product must be immediately removed from the tank.
 2. The tank itself must be removed within thirty days. A Petroleum Bulk Storage form must be submitted to this Department prior to tank removal.
 3. The interior surface of the tank must be cleaned, and all sludge and residue generated by this process must be properly disposed. The tank must be cut open to allow for this work and to ensure proper ventilation of the tank interior.
 4. All safety precautions regarding the opening, cleaning and entering of the tank must be followed. The interior atmosphere of the tank may be explosive and proper procedures must be followed.
 5. Once the tank has been cleaned out, it may be disposed as scrap.

Mr. _____ must be notified when you have a firm date for retesting or removal. Please note, we must be present when this tank is removed to determine if any groundwater or soil contamination exists. If groundwater or soil contamination is found, further remedial work will be required.

If you have any questions, please contact _____ at 847-4590. Your cooperation will be appreciated.

Sincerely,

[]

Exhibit 1.1-9

Sample Option Letter:
Retest Failure, Tank Removal

[Date]

[Addressee]

[Address]

Dear []:

On _____, a _____ gallon _____, underground store storage tank at the
(day) (date) (year) (#) (material)
above-mentioned address failed a system tank test. On _____, this tank failed an isolation tank test.
(day) (date) (year)

Since the tank failed the retest, the following must now be done:

1. All product must be immediately removed from the tank.
2. The tank itself must be removed within thirty days. A Petroleum Bulk Storage form (enclosed) must be submitted to this Department prior to tank removal.
3. The interior surface of the tank must be cleaned, and all sludge and residue generated by this process must be properly disposed. The tank must be cut open to allow for this work and to ensure proper ventilation of the tank interior.
4. All safety precautions regarding the opening, cleaning and entering of the tank must be followed. The interior atmosphere of the tank may be explosive and proper procedures must be followed.
5. Once the tank has been cleaned out, it may be disposed as scrap.

_____ of this Department must be notified when you have a firm
(Name)

date for removal. We must be present when this tank is removed to determine if any groundwater or soil contamination exists. If groundwater or soil contamination is found, further remedial work will be required.

For your use, enclosed is a list of contractors that are known by this Department to do this type of work. This list is by no means complete. Any contractor may be used by you for this work.

If you have any questions, please feel free to call _____ at 847-4590.
(Name)

Your cooperation will be appreciated.

Sincerely,

[]

Exhibit 1.1-10

Sample Option Letter:
Failed Tank Test

[Date]

CERTIFIED - RETURN RECEIPT REQUESTED

[Addressee]

[Address]

RE: Spill No.

Gentlemen:

This office has been informed by _____ (Name) that _____ (tank) failed a Petrotite systems test. In accordance with Article 12 of the New York State Navigation Law, I must determine if there has been any harm to the lands or the groundwater of the State. In order for me to make this determination, you have three options:

1. Prove that it was not a leaking tank by removing all the piping from the tank and separately Petrotite test the tank. If the tank passes the Petrotite test, it is a piping leak. The tank may then be abandoned or the piping can be repaired, attached to the tank, and the system Petrotite tested.
2. Excavate and remove the tank in the presence of a representative from this office so that an inspection of the tank and the soil can be made. If the tank is sound, and there is no evidence of product loss, nothing further need be done. If there is a problem, proceed as in 3 below.
3. Abandon the tank in-place and install several four (4) inch diameter PVC site wells extending five (5) feet into the groundwater with a screen length of ten (10) feet, with slot size of .020 inches. The exact location and number of wells will be determined by a representative from this office. These wells will be checked for a period of twelve months by New York State, and if there is no evidence of product for that period, the spill will be removed from our listing. If free or dissolved product appears, cleanup must begin immediately.

If cleanup does not begin by _____ (Date) by the responsible party, the State will begin the cleanup and bill the responsible party.

Sincerely,

[]

Exhibit 1.1-11

Sample Option Letter:
Ground-water Cleanup

[Date]

[Addressee]

[Address]

Dear []:

This letter is to confirm your (site meeting) (telephone conversation) with (Name) of this Department on (day) (date) (year). Groundwater at this spill site is contaminated with (free floating oil) (dissolved oil components). The following items were discussed and agreed upon:

1. (#) additional four-inch monitoring wells will be installed at the agreed upon locations. A sketch of a typical monitoring well is enclosed for your use.
2. One recovery well will be installed to recover oil product. Groundwater must be pumped to depress the groundwater table. The groundwater must be pumped to an oil-water separator tank. Accumulated oil may be recovered from the well by bailing or by a second pump. A second type of recovery well pumps both oil and water to a separator tank. Oil from the tank is then recovered. You should check with your contractor to determine the best method for the recovery well. Groundwater must be pumped to depress the groundwater table.
3. The discharge water must be sampled for (Contaminates). Dependent upon the sampling results, it may be discharged with a SPDES permit to (Name). The water must at all times be sheenless. An air stripper or a carbon filter may be necessary for the discharge water.
4. All collected oil must be properly disposed. Copies of receipts indicating the disposal site must be forwarded to this office.

It was also agreed that these actions be completed by (Date). Should you have any questions, please do not hesitate to contact (Name) at 847-4590. Your cooperation will be appreciated.

Sincerely,

[]

Exhibit 1.1-12

Sample Option Letter:
Soil Disposal, Soil Still On Site

[Date]

[Addressee]

[Address]

Dear []:

A recent inspection by (Name) of this office indicated that the contaminated soil at your facility still remains on site. We are requesting this oil be removed by (day) (date) (year) to an acceptable landfill. Please send a copy of the disposal receipt to this office.

If you cannot remove the soil by that date, please contact this office immediately. If you do not contact this office and the soil still remains on site past (Date) , DEC will have the soil removed from your site. You will then be billed for the costs of removal and disposal as well any relevant penalties.

If you have any questions, please feel free to contact (Name) at 847-4590. Your cooperation will be appreciated.

Very truly yours,

Senior Sanitary Engineer

NOTES

If all efforts to encourage a PRP/RP to continue the cleanup fail, send a certified letter (Exhibit 1.1-13) notifying them that their actions have been unsatisfactory and that DEC will assume responsibility for the cleanup. This letter again informs the PRP/RP of his or her liability for all costs incurred by DEC during its cleanup.

Exhibit 1.1-13

Unsatisfactory Cleanup Notice Letter

[Date]

CERTIFIED MAIL

SPILL #

[Addressee]

[Address]

Dear Sir:

My letter of (Date) notified you of New York State's interest in a pollution incident for which you are presently considered responsible.

You are hereby given notice that your actions to remove the pollutant and mitigate its effects have been evaluated as unsatisfactory. Effective (Date), the New York State Department of Environmental Conservation will conduct all cleanup activities under the authority of Article 12 of the Navigation Law. Removal will be effected in accordance with the regulations of the Department of Environmental Conservation. You will be billed for all actual costs incurred by New York State as set forth in Section 181 of the Navigation Law, as well as interest and penalties.

Should you require further information concerning this matter, contact: (Name)

Sincerely,

[]

Received and Acknowledged

Time

Date

**TECHNICAL
FIELD GUIDANCE**

**SPILL REPORTING AND INITIAL NOTIFICATIONS -
ACCESS AND RIGHT-OF-ENTRY**

NOTES

Spill Reporting and Initial Notifications - Access and Right-of-Entry

GUIDANCE SUMMARY AT-A-GLANCE

- # Section 178 of the Navigation Law gives you the authority to enter private property to investigate or clean up a suspected spill.
- # In general, you should inform the property owner of your right to enter onto private property and obtain consent from the owner. This consent can be either written or verbal.
- # Detailed information and procedures for access and right-of-entry is considered confidential for spill responders. This information is contained in Appendix L, and is marked confidential.

NOTES

1.1.3 Access and Right-of-Entry

This section addresses the right of NYSDEC personnel to enter private property on which a spill has occurred or is suspected, for the purpose of investigating, containing, and/or cleaning up the spill. Detailed information and procedures of access and right-of-entry are considered confidential. Therefore, this information can be found in Appendix L, including your legal rights to enter property and the procedures to follow to ensure that no charges of trespassing are brought against the Department.

1. State Law and Policy

You have the authority, under the Navigation Law, to enter property to investigate or clean up a real or suspected spill. Specifically, Section 178 of the Navigation Law states:

The department is hereby authorized to enter and inspect any property or premises for the purpose of inspecting facilities and investigating either actual or suspected sources of discharges or violation of this article or any rule or regulations promulgated pursuant to this article. The department is further authorized to enter on property or premises in order to assist in the cleanup or removal of the discharge. Any information relating to secret processes or methods of manufacture shall be kept confidential.

In any emergency or non-emergency, you must possess information supporting a reasonable belief to suspect that a spill has occurred or is occurring, or that the spill is impacting the premises for which access is sought. A reasonable belief may be based on a report of a spill or visual observation. For example, if a gasoline station operator reports an unexpected loss of product from his underground storage tanks that are located near private household wells, you might want to investigate those wells and check the water.

Although you have the authority to enter the premises, *it is always advisable to obtain the consent of the property owner or his or her agent before entering the property.* This consent can be either written or verbal. Obtaining this consent may help avoid civil or criminal charges for trespass being logged. In cases where the owner/agent is not available or not ascertainable, entry should be made.

Appendix G
Weekly Construction Inspection Form

Stormwater Construction Site Inspection Report

General Information			
Project Name			
SPDES Tracking No.		Location	
Date of Inspection		Start/End Time	
Inspector's Name(s)			
Inspector's Title(s)			
Inspector's Contact Information			
Inspector's Qualifications			
Describe present phase of construction			
Type of Inspection: <input type="checkbox"/> Regular <input type="checkbox"/> Pre-storm event <input type="checkbox"/> During storm event <input type="checkbox"/> Post-storm event			
Weather Information			
Has there been a storm event since the last inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, provide: Storm Start Date & Time: Storm Duration (hrs): Approximate Amount of Precipitation (in):			
Weather at time of this inspection? <input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Rain <input type="checkbox"/> Sleet <input type="checkbox"/> Fog <input type="checkbox"/> Snowing <input type="checkbox"/> High Winds <input type="checkbox"/> Other: Temperature:			
Have any discharges occurred since the last inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe:			
Are there any discharges at the time of inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe:			

Site-specific BMPs

- Number the structural and non-structural BMPs identified in your SWPPP on your site map and list them below (add as many BMPs as necessary). Carry a copy of the numbered site map with you during your inspections. This list will ensure that you are inspecting all required BMPs at your site.
- Describe corrective actions initiated, date completed, and note the person that completed the work in the Corrective Action Log.

	BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
1		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

	BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
3		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
6		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
7		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
8		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
9		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
10		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

	BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
11		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
12		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
13		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
14		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
15		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
16		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
17		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
18		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

	BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
19		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
20		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Overall Site Issues

Below are some general site issues that should be assessed during inspections. Customize this list as needed for conditions at your site.

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
1	Are all slopes and disturbed areas not actively being worked properly stabilized?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with barriers or similar BMPs?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	Are perimeter controls and sediment barriers adequately installed (keyed into substrate) and maintained?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	Are discharge points and receiving waters free of any sediment deposits?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	Are storm drain inlets properly protected?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
6	Is the construction exit preventing sediment from being tracked into the street?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
7	Is trash/litter from work areas collected and placed in covered dumpsters?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
8	Are washout facilities (e.g., paint, stucco, concrete) available, clearly marked, and maintained?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
9	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
10	Are materials that are potential stormwater contaminants stored inside or under cover?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
11	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
12	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Non-Compliance

Describe any incidents of non-compliance not described above:

CERTIFICATION STATEMENT

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Print name and title: _____

Signature: _____ **Date:** _____

Appendix H
Corrective Action Log

Appendix I
Log of Changes and Updates to SWPPP

Appendix J
Notice of Termination

**New York State Department of Environmental Conservation
 Division of Water
 625 Broadway, 4th Floor
 Albany, New York 12233-3505
 *(NOTE: Submit completed form to address above)***

**NOTICE OF TERMINATION for Storm Water Discharges Authorized
 under the SPDES General Permit for Construction Activity**

Please indicate your permit identification number: NYR _____

I. Owner or Operator Information

1. Owner/Operator Name:

2. Street Address:

3. City/State/Zip:

4. Contact Person:

4a. Telephone:

4b. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

III. Reason for Termination

9a. All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP. ***Date final stabilization completed** (month/year): _____

9b. Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR _____
 (Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. Other (Explain on Page 2)

IV. Final Site Information:

10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? yes no (If no, go to question 10f.)

10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? yes no (If no, explain on Page 2)

10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

**NOTICE OF TERMINATION for Storm Water Discharges Authorized under the
SPDES General Permit for Construction Activity - continued**

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? yes no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

- Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.
- Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).
- For post-construction stormwater management practices that are privately owned, a mechanism is in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the owner or operator's deed of record.
- For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university or hospital), government agency or authority, or public utility; policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____
(acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? yes
 no
(If Yes, complete section VI - "MS4 Acceptance" statement)

V. Additional Information/Explanation:
(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:

Title/Position:

Signature:

Date:

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the
SPDES General Permit for Construction Activity - continued

VII. Qualified Inspector Certification - Final Stabilization:

I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:

Title/Position:

Signature:

Date:

VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):

I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:

Title/Position:

Signature:

Date:

IX. Owner or Operator Certification

I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:

Title/Position:

Signature:

Date:

(NYS DEC Notice of Termination - January 2015)

Appendix K
Contract Drawings
(Separately Bound)

The experience to
listen
The power to
solveSM

Barton
&Loguidice

www.bartonandloguidice.com

Decommissioning Plan



Decommissioning Narrative

Decommissioning of the Abundant Solar Power (US NY-327 Hardie Rd-001) LLC Hardie Solar Farm shall occur when any of the following conditions arise:

- If the solar array is abandoned or otherwise ceases operation for a cumulative period of one hundred-eighty (180) days in any three hundred sixty-five (365) day period.
- If the Owner begins but does not complete construction of the project within eighteen (18) months, or twenty-four (24) months upon the granting of an extension by the Town Board after receiving Special Use Permit approval.
- If the Special Use Permit for the solar array is revoked, terminated, or expires and is not recertified.
- If the permitted solar array falls into such a state of disrepair that it creates a health or safety hazard.
- If the solar array is located, constructed or modified without first obtaining, or in a manner not authorized by, the required site plan review approval, Special Use Permit, or any other necessary authorization.

The Owner shall adhere to the following schedule, to implement the decommissioning of the Solar Array system.

- Upon the occurrence of any event listed above, the Town shall notify the Owner and/or Operator of the solar array to implement the decommissioning plan. Within ninety (90) days of the service of said notice, the Owner and/or Operator shall either restore operation equal to 50% of approved capacity, or commence implementation of the decommissioning plan, which plan must be fully completed within one hundred-eighty (180) days after implementation thereof.
- In the event that construction of the approved solar array has been started but is not completed and functioning within eighteen (18) months of the issuance of the final site plan approval and Special Use Permit, the Town may notify the Owner to complete construction and installation of the facility within 90 days. If the Owner fails to perform, or to apply for and receive a Special Use Permit extension in accordance with § 138-24 of the Town Code, the Town may notify the Owner and/or Operator to implement the decommissioning plan. The decommissioning plan must be completed in one hundred-eighty (180) days of such notification by the Town.
- Upon revocation, termination or non-renewal of an expired Special Use Permit, the Owner and/or Operator must fully complete the decommissioning plan within one hundred-eighty (180) days of the date of revocation, termination or non-renewal.

The Operator of the facility shall notify the Town Codes Enforcement Officer 30 days prior to commencing decommissioning of the array. Upon commencement, the Operator shall perform the following tasks, at a minimum, in order to decommission the solar array.



Pre-Demolition:

- Prepare an Erosion & Sediment Control Stormwater Pollution Prevention Plan for the demolition activities, if necessary.

Phase 1:

- Remove and dispose of the main switch gear and transformer.
- Disconnect, remove and salvage solar modules, remove and dispose of solar table and foundations as directed by the Owner. Per Town Code, remove all footings, foundations or similar installations to a depth of four feet below grade.
- Remove and Dispose of double swing chain link security gate with facility ID sign.

Phase 2:

- Unless written consent is received by the Town from the landowner, remove and dispose of limited use pervious access road.
- Restore the site surface grades and soils after removal of equipment, to the extent possible, to the condition which existed prior to the installation of the Solar Array.
 - Seed mix for reseeding shall consist of native seed mixes and conform to New York State Standards and Specifications for Erosion and Sediment Control, Table 4.4.

Post-Demolition:

- Water and soil testing will be performed in accordance with the approved soil and water sampling program.

Disposal of all solid and hazardous waste will be in accordance with local, state and federal waste disposal regulations. Any receipts for hazardous disposal items will be delivered to the town supervisor per § 138-26.A.3 of the Town of Conklin Town Code.



Financial Assurance

As financial assurance of the decommissioning costs of the facility, the Owner/Operator of the facility shall obtain a payment surety bond in the amount of \$180,627.00, which is representative of 120% of the current decommissioning cost estimate. This cost estimate shall be reevaluated every three (3) years and the surety amount adjusted accordingly, if necessary. Under the terms of the bond, the surety will become liable on the bond obligation if the Owner/Operator fails to perform as described above.

Decommissioning Cost Estimate

Decommissioning Fund		
Time Frame (year)	Bond Value Increase	Minimum Cumulative Bond Value
1	\$180,627.00	\$180,627.00
2	\$4,515.67	\$185,142.68
3	\$4,628.57	\$189,771.24
4	\$4,744.28	\$194,515.52
5	\$4,862.89	\$199,378.41
6	\$4,984.46	\$204,362.87
7	\$5,109.07	\$209,471.94
8	\$5,236.80	\$214,708.74
9	\$5,367.72	\$220,076.46
10	\$5,501.91	\$225,578.37
11	\$5,639.46	\$231,217.83
12	\$5,780.45	\$236,998.28
13	\$5,924.96	\$242,923.23
14	\$6,073.08	\$248,996.31
15	\$6,224.91	\$255,221.22
16	\$6,380.53	\$261,601.75
17	\$6,540.04	\$268,141.80
18	\$6,703.54	\$274,845.34
19	\$6,871.13	\$281,716.48
20	\$7,042.91	\$288,759.39
21	\$7,218.98	\$295,978.37
22	\$7,399.46	\$303,377.83
23	\$7,584.45	\$310,962.28
24	\$7,774.06	\$318,736.33
25	\$7,968.41	\$326,704.74
26	\$8,167.62	\$334,872.36
27	\$8,371.81	\$343,244.17
28	\$8,581.10	\$351,825.27
29	\$8,795.63	\$360,620.91
30	\$9,015.52	\$369,636.43

Hardie Solar Farm Decommissioning Cost Estimate	
Task*	NYSERDA (5 MW)
Remove Rack Wiring	\$ 6,147.50
Remove Panels	\$ 6,125.00
Dismantle Racks	\$ 30,875.00
Remove Electrical Equipment	\$ 4,625.00
Breakup and Remove Concrete Pads	\$ 3,750.00
Remove Racks	\$ 19,500.00
Remove Cable	\$ 16,250.00
Remove Ground Screws and Power Poles	\$ 34,625.00
Remove Fence	\$ 12,375.00
Grading	\$ 10,000.00
Seed Distributed Areas	\$ 625.00
Truck to Recycling Center	\$ 5,625.00
Current Total	\$ 150,522.50
120% of Current Decommissioning Cost Estimate	\$ 180,627.00

*= Tasks and costs are taken from the NYSERDA guide for "Decommissioning Solar Panel Systems"

Interconnection Agreement

APPENDIX A -

**NEW YORK STATE STANDARDIZED CONTRACT
FOR INTERCONNECTION OF NEW DISTRIBUTED GENERATION
UNITS
AND/OR ENERGY STORAGE SYSTEMS WITH CAPACITY OF 5 MW
OR LESS
CONNECTED IN PARALLEL WITH
UTILITY DISTRIBUTION SYSTEMS**

Interconnection Customer Information:

Abundant Solar Power Inc.
327 Hardie Rd
Conklin, NY 13748

Telephone: 647-896-4588

Unit Application / File No. 20906
Nonresidential Photovoltaic System – 5000 kW

Utility Information:

New York State Electric & Gas Corporation
18 Link Dr
Binghamton, NY 13904

Contact: distributedgenerationadmin@avangrid.com

Utility Account No. New Service

DEFINITIONS

Delivery Service means the services the Utility may provide to deliver capacity or energy generated by the Interconnection Customer to a buyer to a delivery point(s), including related ancillary services.

Energy Storage System (ESS) means a commercially available mechanical, electrical, or electro-chemical means to store and release electrical energy, and its associated electrical inversion device and control functions that may be stand-alone or paired with a distributed generator at a point of common coupling.

Interconnection Customer means the owner of the Unit.

Interconnection Facilities means the equipment and facilities on the Utility's system necessary to permit operation of the Unit in parallel with the Utility's system.

Material Modification means a Modification to a Unit that may have adverse impacts on the Utility's system, Utility customers, other projects, or applications in the interconnection queue.

Modification means a change to the ownership, equipment, equipment ratings, equipment configuration, or operating conditions of the Unit.

Premises means the real property where the Unit is located.

SIR means the New York State Standardized Interconnection Requirements for new distributed generation units and/or energy storage systems with a nameplate capacity of 5 MW or less connected in parallel with the Utility's distribution system.

Unit means the distributed generation, stand-alone ESS, or combined generation and ESS facilities approved by the Utility for operation in parallel with the Utility's system. This Agreement relates only to such Unit, but a new agreement shall not be required if the Interconnection Customer makes physical alterations to the Unit that do not result in an increase in its nameplate generating capacity. The nameplate generating capacity or inverter/converter rating of the Unit shall not exceed 5 MW.

Utility means New York State Electric & Gas Corporation.

I. TERM AND TERMINATION

1.1 Term: This Agreement shall become effective when executed by both Parties and shall continue in effect until terminated.

1.2 Termination: This Agreement may be terminated as follows:

- a. The Interconnection Customer may terminate this Agreement at any time, by giving the Utility sixty (60) days' written notice.
- b. Failure by the Interconnection Customer to seek final acceptance by the Utility within twelve (12) months after completion of the utility construction process described in the SIR shall automatically terminate this Agreement.
- c. Either Party may, by giving the other Party at least sixty (60) days' prior written notice, terminate this Agreement in the event that the other Party is in default of any of the material terms and conditions of this Agreement. The terminating Party shall specify in the notice the basis for the termination and shall provide a reasonable opportunity to cure the default.
- d. The Utility may, by giving the Interconnection Customer at least sixty (60) days' prior written notice, terminate this Agreement for cause. The Interconnection Customer's non-compliance with an upgrade to the SIR, unless the Interconnection Customer's installation is "grandfathered," shall constitute good cause.

1.3 Disconnection and Survival of Obligations: Upon termination of this Agreement the Unit will be disconnected from the Utility's electric system. The termination of this Agreement shall not relieve either Party of its liabilities and obligations, owed or continuing at the time of the termination.

1.4 Suspension: This Agreement will be suspended during any period in which the Interconnection Customer is not eligible for Delivery Service from the Utility

II. SCOPE OF AGREEMENT

2.1 Scope of Agreement: This Agreement relates solely to the conditions under which the Utility and the Interconnection Customer agree that the Unit may be interconnected to and operated in parallel with the Utility's system.

2.2 Electricity Not Covered: The Utility shall have no duty under this Agreement to account for, pay for, deliver, or return in kind any electricity produced by the Facility and delivered into the Utility's System unless the system is net metered as described in Public Service Law Section 66-1.

III. INSTALLATION, OPERATION AND MAINTENANCE OF UNIT

3.1 Compliance with SIR: Subject to the provisions of this Agreement, the Utility shall be required to interconnect the Unit to the Utility's system, for purposes of parallel operation, if the Utility accepts the Unit as in compliance with the SIR. The Interconnection Customer shall have a continuing obligation to maintain and operate the Unit in compliance with the SIR.

3.2 Observation of the Unit - Construction Phase: The Utility may, in its discretion and upon reasonable notice, perform reasonable on-site verifications during the construction of the Unit. Whenever the Utility chooses to exercise its right to perform observations herein it shall specify to the Interconnection Customer its reasons for its decision to perform the observation. For purposes of this paragraph and paragraphs 3.3 through 3.5, the term "on-site verification" shall not include testing of the Unit, and verification tests shall not be required except as provided in paragraphs 3.3 and 3.4.

3.3 Observation of the Unit - Ten-day Period: The Utility may perform on-site verifications of the Unit and observe the execution of verification testing within a reasonable period of time, not exceeding ten (10) business days after system installation. The Unit will be allowed to commence parallel operation upon satisfactory completion of the verification test. The Interconnection Customer must have complied with and must continue to comply with all contractual and technical requirements.

3.4 Observation of the Unit - Post-Ten-day Period: If the Utility does not perform an on-site verification of the Unit and observe the execution of verification testing within the ten-day period, the Interconnection Customer will send the Utility within five (5) days of the verification testing a written notification certifying that the Unit has been installed and tested in compliance with the SIR, the utility-accepted design and the equipment manufacturer's instructions. The Interconnection Customer may begin to produce energy upon satisfactory completion of the verification test. After receiving the verification test notification, the Utility will either issue to the Interconnection Customer a formal letter of acceptance for interconnection, or may request that the applicant and utility set a date and time to perform an on-site verification of the Unit and make reasonable inquiries of the Interconnection Customer, but only for purposes of determining whether the verification tests were properly performed. The Interconnection Customer shall not be required to perform the verification tests a second time, unless irregularities appear in the verification test report or there are other objective indications that the tests were not properly performed in the first instance.

3.5 Observation of the Unit - Operations: The Utility may perform on-site verification of the operations of the Unit after it commences operations if the Utility has a reasonable basis for doing so based on its responsibility to provide continuous and reliable utility service or as authorized by the provisions of the Utility's Retail Electric Tariff relating to the verification of Interconnection Customer installations generally.

3.6 Costs of Interconnection Facilities: During the term of this Agreement, the Utility shall design, construct and install the Interconnection Facilities. The Interconnection Customer

shall be responsible for paying the incremental capital cost of such Interconnection Facilities attributable to the Interconnection Customer's Unit. All costs associated with the operation and maintenance of the Dedicated Facilities after the Unit first produces energy shall be the responsibility of the Utility.

3.7 Modifications to the Unit: The Interconnection Customer may request a Modification at any time after commencement of parallel operation. The Utility shall evaluate the request and determine whether the proposed change is a Material Modification in accordance with the rules for requesting changes to applications in the SIR. A Material Modification will be studied pursuant to the procedures in the SIR for new applications. In the case of a non-material modification that is accepted by the Utility, the parties will execute an amendment to this Agreement describing the Unit changes that have been approved.

IV. DISCONNECTION OF THE UNIT

4.1 Emergency Disconnection: The Utility may disconnect the Unit, without prior notice to the Interconnection Customer (a) to eliminate conditions that constitute a potential hazard to Utility personnel or the general public; (b) if pre-emergency or emergency conditions exist on the Utility system; (c) if a hazardous condition relating to the Unit is observed by a Utility inspection; or (d) if the Interconnection Customer has tampered with any protective device. The Utility shall notify the Interconnection Customer of the emergency if circumstances permit. The Interconnection Customer shall notify the Utility promptly when it becomes aware of an emergency condition that affects the Unit that may reasonably be expected to affect the Utility EPS.

4.2 Non-Emergency Disconnection Due to Unit Performance: The Utility may disconnect the Unit, after notice to the responsible party has been provided and a reasonable time to correct, consistent with the conditions, has elapsed, if (a) the Interconnection Customer has failed to make available records of verification tests and maintenance of his protective devices; (b) the Unit system interferes with Utility equipment or equipment belonging to other customers of the Utility; (c) the Unit adversely affects the quality of service of adjoining customers; (d) the ESS does not operate in compliance with the operating parameters and limits described in Attachment 1 to this Agreement.

4.3 Non-Emergency Disconnection for Utility Work: The Utility may disconnect the Unit after notice to Interconnection Customer when necessary for routine maintenance, construction, and repairs on the Utility EPS. The Interconnection Customer may request to reconnect its service prior to the completion of the Utility's work. The Utility shall accommodate such requests, provided that the Interconnection Customer shall be responsible for the costs of the Utility's review and any system modifications required to reconnect the Unit ahead of schedule.

4.4 Disconnection by Interconnection Customer: The Interconnection Customer may disconnect a Unit with an AC nameplate rating above 300 kW upon 18 hours advance notice to

the Utility if the planned shutdown will last 8 hours or more. For non-emergency forced outages lasting 8 hours or more, the Interconnection Customer shall notify the Utility within 24 hours of the commencement of the shutdown.

4.5 Utility Obligation to Cure Adverse Effect: If, after the Interconnection Customer meets all interconnection requirements, the operations of the Utility are adversely affecting the performance of the Unit or the Customer's premises, the Utility shall immediately take appropriate action to eliminate the adverse effect. If the Utility determines that it needs to upgrade or reconfigure its system, the Interconnection Customer will not be responsible for the cost of new or additional equipment beyond the point of common coupling between the Interconnection Customer and the Utility.

V. ACCESS

5.1 Access to Premises: The Utility shall have access to the disconnect switch of the Unit at all times. At reasonable hours and upon reasonable notice consistent with Section III of this Agreement, or at any time without notice in the event of an emergency (as defined in paragraph 4.1), the Utility shall have access to the Premises.

5.2 Utility and Interconnection Customer Representatives: The Utility shall designate, and shall provide to the Interconnection Customer, the name and telephone number of a representative or representatives who can be reached at all times to allow the Interconnection Customer to report an emergency and obtain the assistance of the Utility. For the purpose of allowing access to the premises, the Interconnection Customer shall provide the Utility with the name and telephone number of a person who is responsible for providing access to the Premises.

5.3 Utility Right to Access Utility-Owned Facilities and Equipment: If necessary for the purposes of this Agreement, the Interconnection Customer shall allow the Utility access to the Utility's equipment and facilities located on the Premises. To the extent that the Interconnection Customer does not own all or any part of the property on which the Utility is required to locate its equipment or facilities to serve the Interconnection Customer under this Agreement, the Interconnection Customer shall secure and provide in favor of the Utility the necessary rights to obtain access to such equipment or facilities, including easements if the circumstances so require.

VI. DISPUTE RESOLUTION

6.1 Good Faith Resolution of Disputes: Each Party agrees to attempt to resolve all disputes arising hereunder promptly, equitably and in a good faith manner.

6.2 Mediation: If a dispute arises under this Agreement, and if it cannot be resolved by the Parties within ten (10) business days after written notice of the dispute, the parties agree to submit the dispute to mediation by a mutually acceptable mediator, in a mutually convenient

location in New York State, in accordance with the then current International Institute for Conflict prevention & Resolution Procedure, or to mediation by a mediator provided by the New York Public Service Commission. The Parties agree to participate in good faith in the mediation for a period of up to 90 days. If the Parties are not successful in resolving their disputes through mediation, then the parties may refer the dispute for resolution to the New York Public Service Commission, which shall maintain continuing jurisdiction over this Agreement.

6.3 Escrow: If there are amounts in dispute of more than two thousand dollars (\$2,000), the Interconnection Customer shall either place such disputed amounts into an independent escrow account pending final resolution of the dispute in question, or provide to the Utility an appropriate irrevocable standby letter of credit in lieu thereof.

VII. INSURANCE

7.1. Commercial General Liability: The Interconnection Customer shall, at its own expense, procure and maintain throughout the period of this Agreement the following minimum insurance coverage:

7.1.1. Commercial general liability insurance with limits not less than:

7.1.1.1. Five million dollars (\$5,000,000) for each occurrence and in the aggregate if the AC Nameplate rating of the Interconnection Customer's Facility is greater than five (5) MWAC;

7.1.1.2. Two million dollars (\$2,000,000) for each occurrence and five million dollars (\$5,000,000) in the aggregate if the AC Nameplate rating of the Interconnection Customer's Facility is greater than one (1) MWAC and less than or equal to five (5) MWAC;

7.1.1.3. One million dollars (\$1,000,000) for each occurrence and in the aggregate if the AC Nameplate rating of the Interconnection Customer's Facility is greater than or equal to 300 (kWAC) and less than or equal to one (1) MWAC

7.1.2. Any combination of general liability and umbrella/excess liability policy limits can be used to satisfy the limit requirements of Section 7.1.1 (a).

7.1.3. The general liability insurance required to be purchased in Section 7.1 (a) may be purchased for the direct benefit of the Utility and shall respond to third party claims asserted against the Utility (hereinafter known as "Owners Protective Liability"). Should this option be chosen, the requirement of Section 7.3(a) will not apply but the Owners Protective Liability policy will be purchased for the direct benefit of the Utility and the Utility will be designated as the primary and "Named Insured" under the policy.

7.2. General Commercial Liability Insurance: The Interconnection Customer is not required to provide general commercial liability insurance for facilities with an AC nameplate rating of 300 kW or less. Due to the risk of incurring damages however, the New York State Public Service Commission (“Commission”) recommends that the Interconnection Customer obtain adequate insurance. The inability of the Utility to require the Interconnection Customer to provide general commercial liability insurance coverage for operation of the Unit is not a waiver of any rights the Utility may have to pursue remedies at law against the Interconnection Customer to recover damages.

7.3. Insurer Requirements and Endorsements: All required insurance shall be written by reputable insurers authorized to conduct business in New York. In addition, all general liability insurance shall, (a) include the Utility as an additional insured; (b) contain a severability of interest clause or cross-liability clause; (c) provide that the Utility shall not incur liability to the insurance carrier for payment of premium for such insurance; and (d) provide for thirty (30) calendar days’ written notice to the Utility prior to cancellation or termination of such insurance, with the exception of a ten (10) days’ notice in the event of premium non-payment; provided that to the extent the Interconnection Customer is satisfying the requirements of subpart (d) of this paragraph by means of a presently existing insurance policy, the Interconnection Customer shall only be required to make good faith efforts to satisfy that requirement and will assume the responsibility for notifying the Utility as required above.

7.4. Evidence of Insurance: Evidence of the insurance required shall state that coverage provided is primary and is not in excess to or contributing with any insurance or self-insurance maintained by Interconnecting Customer. Prior to the Utility commencing work on System Modifications, and annually thereafter, the Interconnection Customer shall have its insurer furnish to the Utility certificates of insurance evidencing the insurance coverage required above.

7.4.1 If coverage is on a claims-made basis, the Interconnection Customer agrees that the policy effective date or retroactive date shall be no later than the effective date of this agreement, be continuously maintained throughout the life of this agreement, and remain in place for a minimum of three (3) years following the termination of this agreement or if policies are terminated will purchase a three-year extended reporting period. Evidence of such coverage will be provided on an annual basis.

7.4.2 In the event that an Owners Protective Liability policy is provided, the original policy shall be provided to the Utility.

7.5. Self-Insurance: If the Interconnection Customer has a self-insurance program established in accordance with commercially acceptable risk management practices, the Interconnection Customer may comply with the following in lieu of the above requirements as reasonably approved by the Utility:

7.5.1. The Interconnection Customer shall provide to the Utility, at least thirty (30) calendar days prior to the Date of Initial Operation, evidence of such program to self-insure to a level of coverage equivalent to that required.

7.5.2. If the Interconnection Customer ceases to self-insure to the standards required hereunder, or if the Interconnection Customer is unable to provide continuing evidence of the Interconnection Customer's financial ability to self-insure, the Interconnection Customer agrees to promptly obtain the coverage required under Section 7.1.

7.6. Utility Obligation to Maintain Insurance: The Utility agrees to maintain general liability insurance or self-insurance consistent with its existing commercial practice. Such insurance or self-insurance shall not exclude coverage for the Utility's liabilities undertaken pursuant to this Agreement.

7.7. Notification Obligations: The Parties further agree to notify each other whenever an accident or incident occurs resulting in any injuries or damages that are included within the scope of coverage of such insurance, whether or not such coverage is sought.

VIII. LIMITATION OF LIABILITY

8.1 Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages of any kind whatsoever. Nothing herein is meant to limit the liability of a Party to an unaffiliated third-party claimant.

IX. INDEMNITY

9.1 This provision protects each Party from liability incurred to third parties arising from actions taken pursuant to the provisions of this Agreement. Liability under this provision is exempt from the general limitations on liability found in Section 7.

9.2 Each Party (the "Indemnifying Party") shall at all times indemnify, defend, and hold the other Party (the "Indemnified Party") harmless from any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, to the extent arising out of or resulting from the Indemnifying Party's action or failure to meet its obligations under this Agreement, except in cases of negligence, gross negligence or intentional wrongdoing by the Indemnified Party.

9.3 If a Party is obligated to indemnify and hold the Indemnified Party harmless under this section, the amount owing to the Indemnified Party shall be the amount of such Indemnified Party's actual loss, as adjudicated by the Indemnifying Party's insurance carrier, net of any insurance or other recovery.

9.4 Promptly after receipt by an Indemnified Party of any claim or notice of the

commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in this section may apply, the Indemnified Party shall notify the Indemnifying Party of such fact. Any unintentional failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the Indemnifying Party.

X. CONSEQUENTIAL DAMAGES

10.1 Other than as expressly provided for in this Agreement or pursuant to the utility tariff, neither Party shall be liable to the other Party under any provision of this Agreement for any losses, damages, costs, or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

XI. MISCELLANEOUS PROVISIONS

11.1 Beneficiaries: This Agreement is intended solely for the benefit of the Parties hereto, and if a Party is an agent, its principal. Nothing in this Agreement shall be construed to create any duty to, or standard of care with reference to, or any liability to, any other person.

11.2 Severability: If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction, such portion or provision shall be deemed separate and independent, and the remainder of this Agreement shall remain in full force and effect.

11.3 Entire Agreement: This Agreement constitutes the entire Agreement between the Parties and supersedes all prior agreements or understandings, whether verbal or written.

11.4 Waiver: No delay or omission in the exercise of any right under this Agreement shall impair any such right or shall be taken, construed or considered as a waiver or relinquishment thereof, but any such right may be exercised from time to time and as often as may be deemed expedient. In the event that any agreement or covenant herein shall be breached and thereafter waived, such waiver shall be limited to the particular breach so waived and shall not be deemed to waive any other breach hereunder.

11.5 Applicable Law: This Agreement shall be governed by and construed in accordance with the law of the State of New York.

11.6 Amendments: This Agreement shall not be amended unless the amendment is in writing and signed by the Utility and the Customer.

11.7 Force Majeure: For purposes of this Agreement, "Force Majeure Event" means any event: (a) that is beyond the reasonable control of the affected Party; and (b) that the affected Party is unable to prevent or provide against by exercising reasonable diligence, including the following events or circumstances, but only to the extent they satisfy the preceding requirements: acts of war, public disorder, insurrection, or rebellion; floods, hurricanes, earthquakes, lightning, storms, and other natural calamities; explosions or fires; strikes, work stoppages, or labor disputes; embargoes; and sabotage. If a Force Majeure Event prevents a Party from fulfilling any obligations under this Agreement, such Party will promptly notify the other Party in writing, and will keep the other Party informed on a continuing basis of the scope and duration of the Force Majeure Event. The affected Party will specify in reasonable detail the circumstances of the Force Majeure Event, its expected duration, and the steps that the affected Party is taking to mitigate the effects of the event on its performance. The affected Party will be entitled to suspend or modify its performance of obligations under this Agreement, other than the obligation to make payments then due or becoming due under this Agreement, but only to the extent that the effect of the Force Majeure Event cannot be mitigated by the use of reasonable efforts. The affected Party will use reasonable efforts to resume its performance as soon as possible.

11.8 Assignment to Corporate Party: At any time during the term, the Interconnection Customer may assign this Agreement to a corporation or other entity with limited liability, provided that the Interconnection Customer obtains the consent of the Utility. Such consent will not be withheld unless the Utility can demonstrate that the corporate entity is not reasonably capable of performing the obligations of the assigning Interconnection Customer under this Agreement.

11.9 Assignment to Individuals: At any time during the term, the Interconnection Customer may assign this Agreement to another person, other than a corporation or other entity with limited liability, provided that the assignee is the owner, lessee, or is otherwise responsible for the Unit.

11.10 Permits and Approvals: Interconnection Customer shall obtain all environmental and other permits lawfully required by governmental authorities prior to the construction and for the operation of the Unit during the term of this Agreement.

11.11 Limitation of Liability: Neither by inspection, if any, or non-rejection, nor in any other way, does the Utility give any warranty, express or implied, as to the adequacy, safety, or other characteristics of any structures, equipment, wires, appliances or devices owned, installed or maintained by the Interconnection Customer or leased by the Interconnection Customer from third parties, including without limitation the Unit and any structures, equipment, wires, appliances or devices appurtenant thereto.

ACCEPTED AND AGREED:

Interconnection Customer

Signature: 

Printed Name: Andrew van Doorn

Title: President

Date: 2023-09-14

Utility Signature: 

Printed Name: Patricia Nilsen

Title: President and CEO, NYSEG and RG&E

Date: September 7, 2023

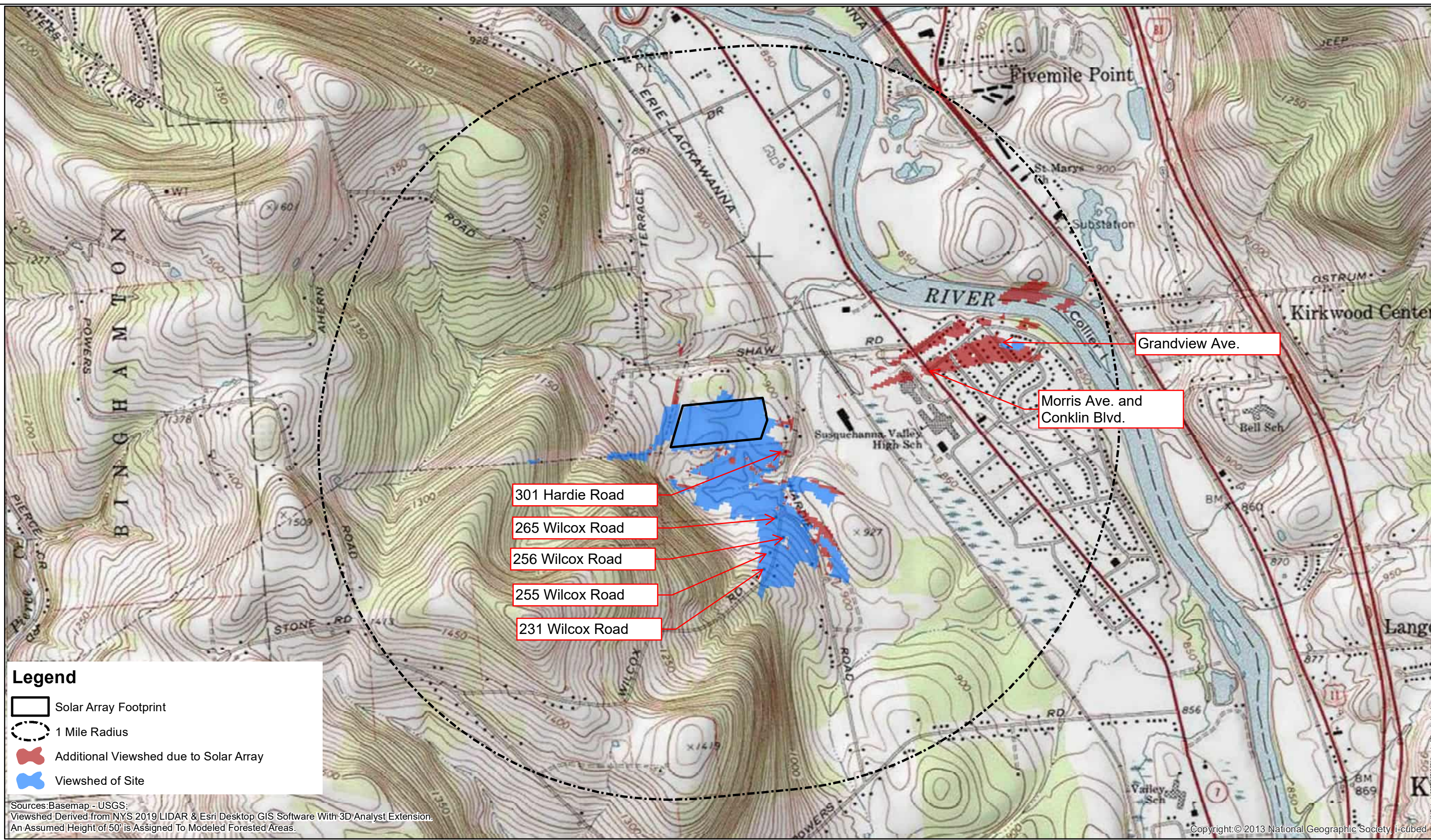
Visual Impact Assessment

Visual Assessment

The potential visibility of the array to surrounding locations was modeled using the most recently available topography for the surrounding area. Tree cover data was obtained from the National Land Cover Database. For viewshed modeling, the tree cover was removed within the proposed fence line, and to the southern property line. The solar array was modeled as a 15 foot high surface with the footprint of the proposed fence line (black project outline on Figure 1). The viewshed indicates where the project site will potentially be visible at ground level (modeled without additional 10 feet of height) and the additional area from which the 15 foot high surface would potentially be visible. It is important to note that, while the model takes into account topography and mapped tree cover, it does not take into account other visual obstacles such as buildings, fences, or brush, and therefore is used as a guide for potential visibility which must be confirmed through additional reconnaissance.

Modeling shows that the project would be predominately visible from within the solar array property boundary, with some potential off site visibility to the southeast where a brush/tree line will remain between the proposed fence and the adjacent property, but was not modeled at tree height. Photo views from the properties within that potential viewshed have been attached which indicate that the existing hedgerows and tree lines will obscure the view of the solar array. In addition, modeling indicates that the 10 foot of additional height of the array would potentially be visible from locations to the east of the site. This is due to the opening in the vegetation created by the access roadway which would be viewed from over 1,500 feet away. The attached photos indicate that these views would be obstructed by houses and large buildings located between the viewshed area and the property.

The visual assessment indicates that the proposed project would be minimally visible due to the existing vegetation surrounding the proposed project site which will be left in place for screening.



Legend

- Solar Array Footprint
- 1 Mile Radius
- Additional Viewshed due to Solar Array
- Viewshed of Site

Sources: Basemap - USGS;
 Viewshed Derived from NYS 2019 LIDAR & Esri Desktop GIS Software With 3D Analyst Extension.
 An Assumed Height of 50' is Assigned To Modeled Forested Areas.

Copyright © 2013 National Geographic Society, i-cubed



1 inch = 1,300 feet

ABUNDANT SOLAR POWER (US NY- 327 Hardie Rd - 001) LLC Solar Array Viewshed		Figure 1 Project No. 2271.005.001
Broome County	9/26/2024	New York

Viewshed Location
301 Hardie Road

Legend



Google Earth

© 2024 Google

5.80 ft



Viewshed Location
231 Wilcox Road

Legend



Google Earth

© 2024 Google

931 ft



Viewshed Location
255 Wilcox Road

Legend



Google Earth

© 2024 Google

9.04 ft

Viewshed Location
258 Wilcox Road

Legend



Google Earth
© 2024 Google

10 ft



Viewshed Location
285 Wilcox Road

Legend



Google Earth

© 2024 Google

661 ft



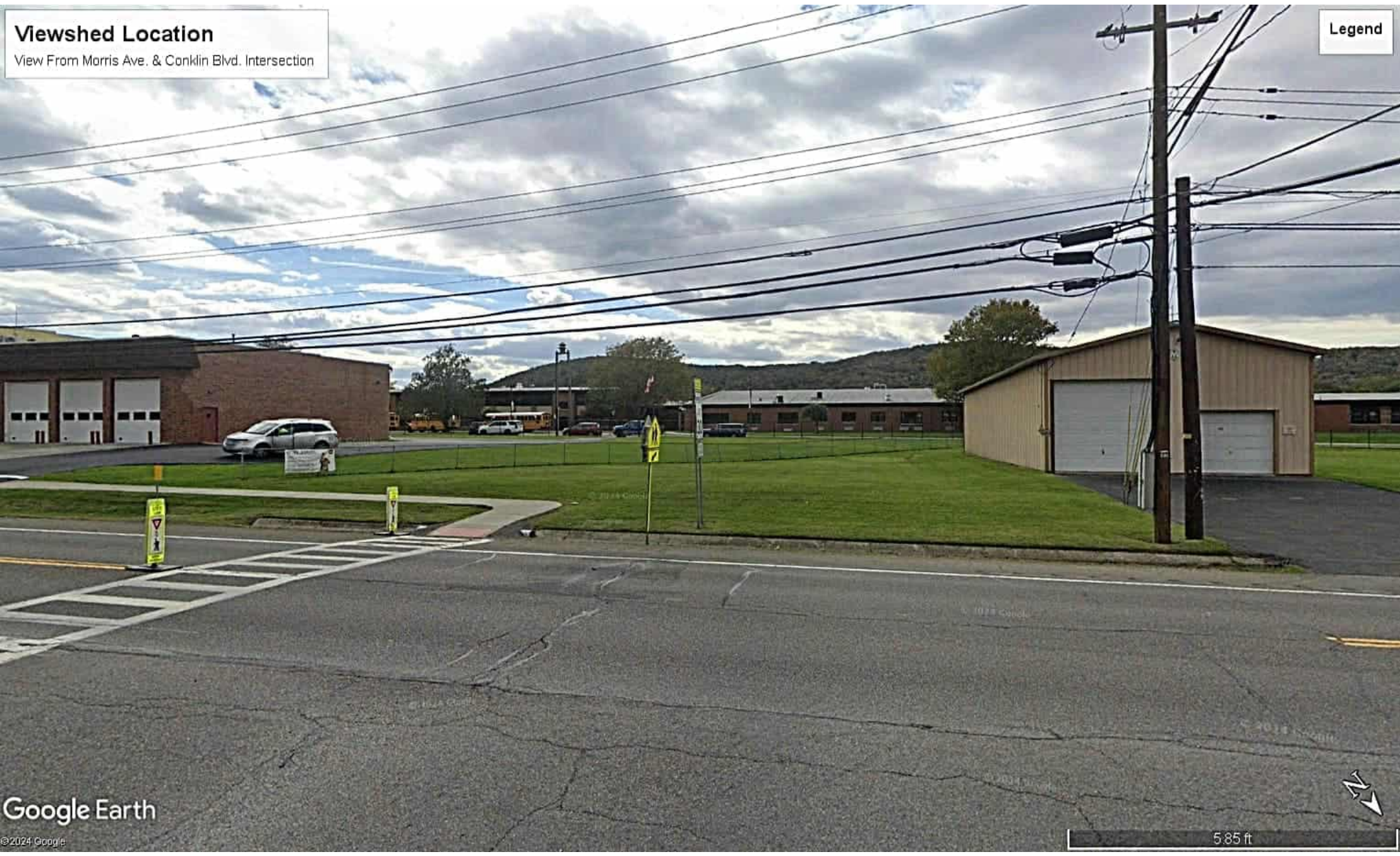
Viewshed Location
View From Grandview Ave

Legend



Legend

Viewshed Location
View From Marris Ave. & Conklin Blvd. Intersection



Water and Soil Quality Assessment Plan

Water Quality and Soil Testing

To comply with Town of Conklin Local Law No. 2 of 2024 §138-19.D(8)(l), this Water Quality and Soil Testing Plan details the samples, locations, parameters and frequency of environmental sampling to establish the original condition to which the project site soil and water quality must be protect and/or restored upon Special Use Permit recertification. The overall sampling plan is focused on specific hazardous materials listed in 6 NYCEE 597.3 that may be associated with existing land use or proposed solar energy system land use. Data collection and evaluation will be supervised by a NYS professional engineer or geologist.

1.1 Soil Testing

1.1.1 Locations

Soil samples will be collected from two locations at the site. These samples will be representative of low-lying areas within the property and are shown on Sheet Number 1 - Sampling Locations, as SOIL-1 and SOIL-2. One of the soil sampling locations is located on the western half of the property (SOIL-1), and the second soil sampling location will be located in the southeastern portion of the property (SOIL-2).

1.1.2 Frequency

Soil sampling will be conducted during one pre-construction event to collect original condition (baseline) soil quality. Soil sampling will then continue at a frequency of one event every three years in accordance with the Special Use Permit recertification provisions.

1.1.3 Parameters

During each soil sampling event, the two soil locations will be sampled for the following parameters:

- Volatile Organic Compounds (VOCs) Target Compound List (TCL) via EPA Method 8260
- Cadmium via EPA Method 6010D
- Lead via EPA Method 6010D

One Quality Assurance/Quality Control (QAQC) trip blank will be included during each sampling event. The samples will be submitted under chain of custody documentation to a NELAP certified laboratory for analysis. The Target Compound List contains 60 VOC compounds, including common petroleum and industrial solvents. Cadmium and lead are cited in an article published by the N.C. Clean Energy Technology Center at N.C. State University, Health and Safety Impacts of Solar Photovoltaics, as being elements used in photovoltaic panels and systems.

1.1.4 Sampling Details

The soil samples will be collected from a depth of 0 to 0.5 feet below ground surface (bgs). The samples will be collected using stainless steel hand tools, which will be decontaminated prior to the collection of each sample.

1.2 Surface Water Sampling

1.2.1 Location

Surface water will be sampled at an area of standing water or pond centrally located on the property shown on Sheet Number 1 - Sampling Locations as SURFACE WATER.

1.2.2 Frequency

Surface water will be conducted during one pre-construction event to collect original condition (baseline) water quality. Surface water sampling will then continue at a frequency of one event every three years in accordance with the Special Use Permit recertification provisions.

1.2.3 Parameters

During each sampling event, surface water will be analyzed for the following parameters:

- VOCs (TCL) via EPA Method 8260
- Cadmium via EPA Method 200.8
- Lead via EPA Method 200.8

One QAQC trip blank will be included during each sampling event. The samples will be submitted under chain of custody documentation to a NELAP certified laboratory for analysis.

1.2.4 Sampling Details

The surface water sample will be collected from the middle of the water column at the surface water discharge location. Any equipment used to collect the surface water sample will be decontaminated prior to sampling.

1.3 Water Supply Well Testing

1.3.1 Location

One residential water supply well will be sampled to represent groundwater quality. The water supply well is located on the eastern portion of the property along the site entrance driveway. The water supply well remains in use by a residential home. This water supply well is shown on Sheet Number 1 - Sampling Locations as SUPPLY WELL.

1.3.2 Frequency

The water supply well will be conducted during one pre-construction event to collect original condition (baseline) water quality. Water sampling will then continue at a frequency of one event every three years in accordance with the Special Use Permit recertification provisions.

1.3.3 Parameters

During each sampling event, the water supply well will be analyzed for the following parameters:

- VOCs (TCL) via EPA Method 8260
- Cadmium via EPA Method 200.8
- Lead via EPA Method 200.8



One QAQC trip blank will be included during each sampling event. The samples will be submitted under chain of custody documentation to a NELAP certified laboratory for analysis.

1.3.4 Sampling Details

The water supply well will be purged by running the water for a minimum of 15 minutes prior to sample collection during each sampling event. In the event that the homeowner uses a treatment system or water softener, the purging and sampling will take place from a sampling point before the raw water enters the treatment system. Water supply well sampling is contingent on homeowner authorizing access to the sampling location.

1.4 Evaluation of Results

The Applicant will provide the Town with a Water Quality and Soil Testing Report after results are available from the pre-construction sampling event, and then after each of the 3 year sampling events. The report will contain a narrative evaluation of results, tabulated analytical data summary, and each analytical laboratory report. Analyzed parameters will be compared to the baseline soil and water quality results to determine if significant increases or trends in concentrations has occurred. Each report will be provided to the Town within 90 days from the sampling date.

Noise Assessment

Noise Impact Assessment

A desktop noise assessment was completed based on the permit level design of the site. The primary noise sources during system operation are the inverters, of which 25 will be required for the project, spread throughout the array, and two transformers, which will be placed on equipment pads. Manufacturers test data was obtained for the proposed equipment for use in modeling expected noise levels at the project property line.

1.1 Methodology

The noise assessment was conducted in accordance with the New York State Department of Environmental Conservation (NYSDEC) Program Policy DEP-00-01, Assessing and Mitigating Noise Impacts.

1.1.1 Noise Fundamentals

Noise is generally defined as unwanted, or intruding, sound in and around our environment. The degree of disturbance or annoyance of an intruding sound depends on various factors including the magnitude and nature of the intruding sound, the magnitude of the background or pre-development ambient sound levels present without the intruding sound, and the nature of the activity of people in the area where the noise is heard. As this *Noise Impact Assessment* is assessing potential noise, or unwanted sound impacts, the terms “noise” and “sound” within this assessment may be used interchangeably.

The magnitude, or loudness, of sound waves (pressure oscillations) is described quantitatively by the terms sound pressure level, sound level, or simply noise level. Sound waves contain energy in the form of pressure and are measured along a logarithmic scale in units called decibels (dB). Decibels are used to quantify sound pressure levels just as degrees are used to quantify temperature and inches are used to quantify distance. The faintest sound level that can be heard by a young healthy ear is about 0 dB, a moderate sound level is about 50 dB, and a loud sound level is about 100 dB. Examples of various common outdoor sound levels are listed below (Table 1 excerpted from NYSDEC DEP-00-1).

Table 1
Common Noise Levels

Sound Source	dBA	Response Criteria
	150	
Carrier Deck Jet Operation	140	
	130	Painfully Loud Limit Amplified Speech
Jet Takeoff (200 feet) Discotheque Auto Horn (3 feet) Riveting Machine	120	
	110	Maximum Vocal Effort
Jet Takeoff (2000 feet) Shout (0.5 feet)	100	
N.Y. Subway Station Heavy Truck (50 feet)	90	Very Annoying Hearing Damage (8 hours, continuous exposure)
Pneumatic Drill (50 feet)	80	Annoying
Freight Train (50 feet) Freeway Traffic (50 feet)	70	Telephone Use Difficult Intrusive
Air Conditioning Unit (20 feet)	60	
Light Auto Traffic (50 feet)	50	Quiet
Living Room Bedroom	40	
Library Soft Whisper (15 feet)	30	Very Quiet
Broadcasting Studio	20	
	10	Just Audible
	0	Threshold of Hearing

Source: NYSDEC Program Policy DEP-00-1 Assessing and Mitigating Noise Impacts (NYSDEC, 2001)

1.1.2 Sound Levels Decrease Over Distance

In order to assess sound levels, it is also important to have an understanding of the way sound levels decrease (or attenuate) with distance. The decrease in sound level from any point sound source normally follows the “inverse square law.” That is, the sound pressure changes in inverse proportion to the square of the distance from the sound source. At distances beginning at approximately 10 feet from a point sound source, every doubling of the distance produces a 6 dBA reduction in the sound for point sources such as air conditioners, compressors, a rock concert, or a rock crusher. Therefore, a sound level of 70 dBA at 50 feet would have a sound level of approximately 64 dBA at 100 feet. At 200 feet, sound from the same source would be perceived as having a sound level of approximately 58 dBA. When assessing a line sound source such as a moving traffic stream on a highway, the sound levels will decrease by approximately 3 dBA per distance doubling over hard surfaces such as water, asphalt, or concrete; and between 5 and 6 dBA per distance doubled over grass or other soft surfaces.

1.1.3 Noise Criteria

The NYSDEC policy includes the following thresholds for significant sound pressure level (SPL) increases:

“The goal for any permitted operation should be to minimize increases in sound pressure level above ambient levels at the chosen point of sound reception. Increases ranging from 0 to 3 dB should have no appreciable effect on receptors. Increases from 3 to 6 dB may have potential for adverse noise impact only in cases where the most sensitive of receptors are present.”

In addition, the NYSDEC policy contains typical values for ambient noise:

“For estimation purposes, ambient SPLs will vary from approximately 35 dB(A) in a wilderness area to approximately 87 dB(A) in a highly industrial setting. A quiet seemingly serene setting such as rural farm land will be at the lower end of the scale at about 45 dB(A), whereas an urban industrial area will be at the high end of this scale at around 79 dB(A) (EPA 550/9-79-100, November 1978).”

1.1.4 Noise Sources and Receptors

The potential receptors at the property line were determined based on proximity to the proposed locations of the system equipment, potential for off-site receptors, and predominant wind direction. These locations were determined to be to the north and east of the array – closest to each of the proposed equipment pads and the ends of the panel arrays where the inverters will be located.

1.2 Calculations

Potential noise at these receptors was calculated based on the manufacturer's data for noise generation of the proposed equipment as well as distance from the property line. All noise calculations consider the cumulative effects of the 25 invertors and 2 transformers proposed at the site at each of the five receptor locations. Noise calculations did not include any considerations for topography, vegetative buffers, or atmospheric conditions, which all have the potential to mitigate noise propagation to the receptor locations. It is also important to note that these represent noise levels at the property line, with additional attenuation occurring with distance to the actual residences on the adjacent properties.

Receptor Location	Assumed Current Leq (dBA)	Calculated Leq	Difference in Leq (dBA)
PL-1	45	44.22	0-3
PL-2	45	45.45	0-3
PL-3	45	44.48	0-3
PL-4	45	44.45	0-3
PL-5	45	44.53	0-3
PL-6	45	35.61	0-3

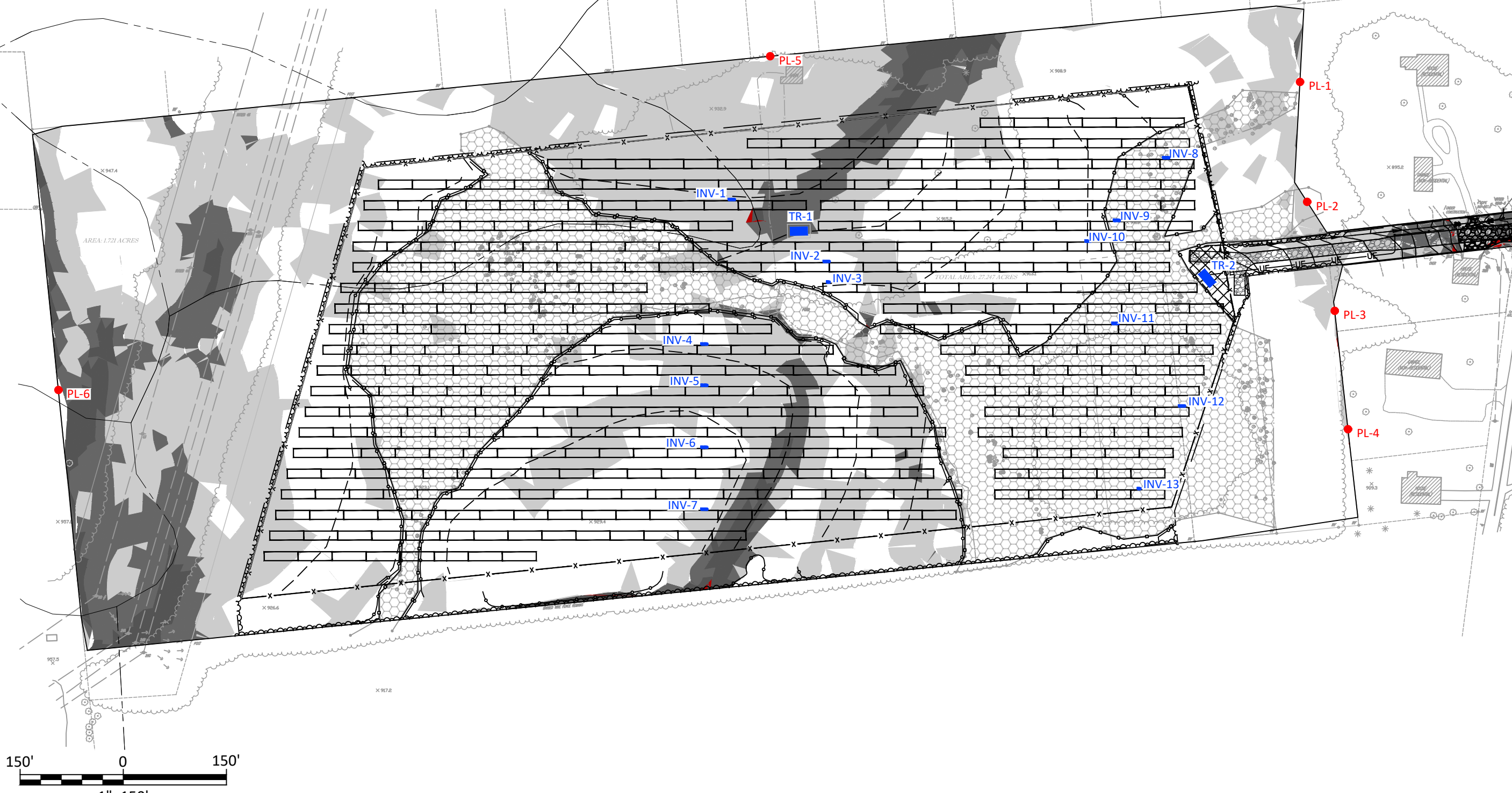
Based on these calculations, there is expected to be negligible changes in noise level at the property line due to the proposed project.

Plotted: Sep 27, 2024 - 2:07PM
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SVR By: JMB2



Source Location	Receiver Distances (ft)					
	PL-1	PL-2	PL-3	PL-4	PL-5	PL-6
INV-1	839	832	887	952	214	1013
INV-2	732	700	738	792	307	1128
INV-3	734	695	726	774	338	1129
INV-4	942	896	913	940	427	937
INV-5	967	912	918	934	486	935
INV-6	1012	942	933	932	575	939
INV-7	1062	980	956	938	664	951
INV-8	234	210	306	446	590	1638
INV-9	258	275	339	383	554	1652
INV-10	301	312	368	381	532	1618
INV-11	374	237	315	254	631	1667
INV-12	499	345	257	239	782	1630
INV-13	634	482	382	314	825	1576
TRANS-1	746	727	774	834	251	1087
TRANS-2	305	178	177	287	698	1666



ABUNDANT SOLAR POWER, INC.
 HARDIE SOLAR FARM

NOISE ASSESSMENT
 SITE PLAN

BROOME COUNTY, NEW YORK

TOWN OF CONKLIN

Barton & Loguidice
 443 Electronics Parkway
 Liverpool, NY 13088

Date
 SEPTEMBER 2024

Scale
 1" = 150'

Figure Number
 1

Project Number
 2271.005.001

Solar Panel Toxicity Data

TÜV Rheinland (Shanghai) Co., Ltd.

Solar Module TCLP Report

Commissioned Test

Client: ZNSHINE PV-TECH Co., Ltd.

Report No.: CN23HZO2 001

December 2023

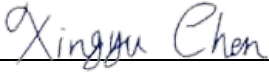
TÜV Rheinland (Shanghai) Co., Ltd.

TÜV Building III, No.177, Lane 777, West Guangzhong Road
Jingan District, Shanghai

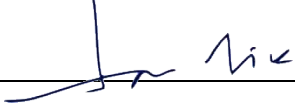
www.tuv.com

Please contact: John K.Q. Tie
Phone: +86 21 6081 4708
Email: JohnKQ.Tie@tuv.com

Rev No.	Rev. Date	Content/Changes	Prepared/revised	Checked/released
1	11 December 2023	Formal Report	Xingyu Chen	John Tie



Inspector



Authorizer

Disclaimer

TÜV Rheinland has prepared this document solely for the project referred to in this report on behalf of the Client based on the hereto related appointment letter (“Agreement”). This report is, in all cases, subject to the terms and conditions set forth herein and in the Agreement, in particular exclusions on liability.

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Client:	ZNSHINE PV-TECH Co., Ltd.
Quotation No.:	P01286219-245823153
Order No.:	244563044
Order Date:	04.12.2023

List of Contents

- 1. Executive Summary 6
- 2. Results 7
- 3. Equipment List..... 9

List of Abbreviations

ND: Not detected

µg/L: Microgram per liter

mg/L: Milligrams per liter

TCLP: Toxicity Characteristic Leaching Procedure

TUV: TÜV Rheinland (Shanghai) Co., Ltd.

J-Box: Junction-Box

1. Executive Summary

General Information	
Client	ZNSHINE PV-TECH Co., Ltd.
Project Name	Solar Module TCLP
Product Specification	Solar Photovoltaic Module: ZXM8-TPLDD132-XXX/M; ZXM7-UHLDD144-XXX/N
Detail of sample	<ol style="list-style-type: none"> 1. A section of the laminate, including the glass superstrate and substrate (top and bottom), the encapsulant, the cell and the interconnect wires (aka ribbons) 2. A section of the aluminum frame with the adhesive used to adhere the frame to the laminate 3. A complete junction box assembly, including the adhesive used to adhere the assembly to the substrate, the junction box, diodes, cables, connectors and potting compound.
Test Details	
Scope of work	TCLP
Test Period	01.12.2023 - 08.12.2023
Laboratory	TÜV Building III, No.177, Lane 777, West Guangzhong Road Jingan District, Shanghai, China
Reference Standards	For Arsenic, Mercury, Selenium: HJ/T 300-2007; HJ694-2014
	For Barium, Cadmium, Chromium, Lead, Silver: HJ/T 300-2007; HJ776-2015
Result	<ol style="list-style-type: none"> 1. Arsenic was found in Laminate, Frame, Junction-box. 2. Barium was found in frame. 3. Mercury was found in Junction-box. 4. Other elements were not found. <p>Note: Refer to table 1 and table 2 for data Detail in next two pages.</p>

2. Results

Table 1 for ZXM8-TPLDD132-XXX/M:

Metal	Results			Threshold	Unit
	Laminate	Frame	Junction-box		
Arsenic	N.D.	N.D.	N.D.	0.3	µg/L
Barium	N.D.	N.D.	N.D.	0.01	mg/L
Cadmium	N.D.	N.D.	N.D.	0.05	mg/L
Chromium	N.D.	N.D.	N.D.	0.03	mg/L
Lead	N.D.	N.D.	N.D.	0.1	mg/L
Mercury	N.D.	N.D.	N.D.	0.04	µg/L
Selenium	N.D.	N.D.	N.D.	0.4	µg/L
Silver	N.D.	N.D.	N.D.	0.03	mg/L

Remark:

N.D.: Not detected.

Reference Standards: For Arsenic, Mercury, Selenium: HJ/T 300-2007; HJ694-2014

Reference Standards: For Barium, Cadmium, Chromium, Lead, Silver: HJ/T 300-2007; HJ776-2015

Table 2 for ZXM7-UHLDD144-XXX/N:

Metal	Results			Threshold	Unit
	Laminate	Frame	Junction-box		
Arsenic	N.D.	N.D.	N.D.	0.3	µg/L
Barium	N.D.	N.D.	N.D.	0.01	mg/L
Cadmium	N.D.	N.D.	N.D.	0.05	mg/L
Chromium	N.D.	N.D.	N.D.	0.03	mg/L
Lead	N.D.	N.D.	N.D.	0.1	mg/L
Mercury	N.D.	N.D.	N.D.	0.04	µg/L
Selenium	N.D.	N.D.	N.D.	0.4	µg/L
Silver	N.D.	N.D.	N.D.	0.03	mg/L
<p>Remark:</p> <p>N.D.: Not detected.</p> <p>Reference Standards: For Arsenic, Mercury, Selenium: HJ/T 300-2007; HJ694-2014</p> <p>Reference Standards: For Barium, Cadmium, Chromium, Lead, Silver: HJ/T 300-2007; HJ776-2015</p>					

3. Equipment List

Table 3:

Equipment name	Equipment Type	Expiry Date
Atomic fluorescence photometer	LabAF1000	19.10.2023-18.10.2024
Inductively coupled plasma emission spectrometer	710	20.10.2023-19.10.2024

End of the report

TÜV Rheinland (Shanghai) Co., Ltd.

Solar Module TCLP Report

Commissioned Test

Client: PT REC Solar Energy Indonesia

Report No.: CN23AGXT 001


December 2023

TÜV Rheinland (Shanghai) Co., Ltd.


TÜV Building III, No.177, Lane 777, West Guangzhong Road
Jingan District, Shanghai
www.tuv.com

Please contact: John K.Q. Tie
Phone: +86 21 6081 4708
Email: JohnKQ.Tie@tuv.com

Rev No.	Rev. Date	Content/Changes	Prepared/revised	Checked/released
1	11 December 2023	Formal Report	Xingyu Chen	John Tie



Inspector



Authorizer

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Client:	PT REC Solar Energy Indonesia
Quotation No.:	P01286219-245823153
Order No.:	244563044
Order Date:	04.12.2023

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1. Executive Summary

General Information	
Client	PT REC Solar Energy Indonesia
Project Name	Solar Module TCLP
Product Specification	Solar Photovoltaic Module: NESExxx-66MHB-G12; NESExxx-72THB-M10
Detail of sample	<ol style="list-style-type: none"> 1. A section of the laminate, including the glass superstrate and substrate (top and bottom), the encapsulant, the cell and the interconnect wires (aka ribbons) 2. A section of the aluminum frame with the adhesive used to adhere the frame to the laminate 3. A complete junction box assembly, including the adhesive used to adhere the assembly to the substrate, the junction box, diodes, cables, connectors and potting compound.
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Reference Standards	For Arsenic, Mercury, Selenium: HJ/T 300-2007; HJ694-2014
	For Barium, Cadmium, Chromium, Lead, Silver: HJ/T 300-2007; HJ776-2015
Result	<ol style="list-style-type: none"> 1. Arsenic was found in Laminate, Frame, Junction-box. 2. Barium was found in frame. 3. Mercury was found in Junction -box. 4. Other elements were not found. <p>Note: Refer to table 1 and table 2 for data Detail in next two pages.</p>

2. Results

Table 1 for NESExxx-66MHB-G12:

Metal	Results			Threshold	Unit
	Laminate	Frame	Junction-box		
Arsenic	N.D.	N.D.	N.D.	0.3	µg/L
Barium	N.D.	N.D.	N.D.	0.01	mg/L
Cadmium	N.D.	N.D.	N.D.	0.05	mg/L
Chromium	N.D.	N.D.	N.D.	0.03	mg/L
Lead	N.D.	N.D.	N.D.	0.1	mg/L
Mercury	N.D.	N.D.	N.D.	0.04	µg/L
Selenium	N.D.	N.D.	N.D.	0.4	µg/L
Silver	N.D.	N.D.	N.D.	0.03	mg/L
Remark: N.D.: Not detected. Reference Standards: For Arsenic, Mercury, Selenium: HJ/T 300-2007; HJ694-2014 Reference Standards: For Barium, Cadmium, Chromium, Lead, Silver: HJ/T 300-2007; HJ776-2015					

Table 2 for NESExxx-72THB-M10:

Metal	Results			Threshold	Unit
	Laminate	Frame	Junction-box		
Arsenic	N.D.	N.D.	N.D.	0.3	µg/L
Barium	N.D.	N.D.	N.D.	0.01	mg/L
Cadmium	N.D.	N.D.	N.D.	0.05	mg/L
Chromium	N.D.	N.D.	N.D.	0.03	mg/L
Lead	N.D.	N.D.	N.D.	0.1	mg/L
Mercury	N.D.	N.D.	N.D.	0.04	µg/L
Selenium	N.D.	N.D.	N.D.	0.4	µg/L
Silver	N.D.	N.D.	N.D.	0.03	mg/L
Remark: N.D.: Not detected. Reference Standards: For Arsenic, Mercury, Selenium: HJ/T 300-2007; HJ694-2014 Reference Standards: For Barium, Cadmium, Chromium, Lead, Silver: HJ/T 300-2007; HJ776-2015					

3. Equipment List

Table 3:

Equipment name	Equipment Type	Expiry Date
Atomic fluorescence photometer	LabAF1000	19.10.2023-18.10.2024
Inductively coupled plasma emission spectrometer	710	20.10.2023-19.10.2024

End of the report

State Environmental Quality Review
Full Environmental Assessment Form

**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: Hardie Solar Farm		
Project Location (describe, and attach a general location map): 327 Hardie Rd, Conklin, NY 13748		
Brief Description of Proposed Action (include purpose or need): The Applicant is proposing the development of a 5 MWAC solar photovoltaic (PV) facility consisting of rows of PV cell panels mounted on free-standing posts driven into the ground, appurtenant access road, equipment pads, and perimeter fencing. The solar farm is proposed at 327 Hardie Rd in Conklin, NY. The proposed project will generate clean renewable energy for the local community and surrounding areas.		
Name of Applicant/Sponsor: ABUNDANT SOLAR POWER (US NY-327 Hardie Rd-001) LLC		Telephone: 647-544-5734 E-Mail: andrew.vandoorn@solarbankcorp.com
Address: 700 West Metro Park		
City/PO: Rochester	State: NY	Zip Code: 14623
Project Contact (if not same as sponsor; give name and title/role): Andrew van Doorn, Chief Operating Officer		Telephone: 208-818-9194 E-Mail: andrew.vandoorn@solarbankcorp.com
Address: 700 West Metro Park		
City/PO: Rochester	State: NY	Zip Code: 14623
Property Owner (if not same as sponsor): Sustainable Investments LTD		Telephone: E-Mail:
Address:		
City/PO:	State:	Zip Code:

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 Council, Town Board, <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No or Village Board of Trustees		
b. City, Town or Village <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Planning Board or Commission	Town Planning Board - Site Plan Approval, Special Use Permit	
c. City, Town or <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Village Zoning Board of Appeals		
d. Other local agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Town Code Enforcement - Building Permit	
e. County agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Broome County Planning - GMU §§ 239 Referral	
f. Regional agencies <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
g. State agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	NYSDEC - SPDES Permit, NYSEERDA - Funding	
h. Federal agencies <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
i. Coastal Resources.		
i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
iii. Is the project site within a Coastal Erosion Hazard Area?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<ul style="list-style-type: none"> • 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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If Yes, identify the plan(s): NYS Major Basins: Upper Susquehanna _____ _____ _____	
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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?
R-15 One and Two Family Residence

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? Susquehanna Valley Central School District

b. What police or other public protection forces serve the project site?
NYS Police - Kirkwood, Broome County Sheriff

c. Which fire protection and emergency medical services serve the project site?
Conklin Volunteer Fire Department, Superior Ambulance, Broome Volunteer Ambulance

d. What parks serve the project site?
Schnurbusch Park, Sullivan Park

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)? Solar PV Facility

b. a. Total acreage of the site of the proposed action? +/- 27.23 acres
 b. Total acreage to be physically disturbed? +/- 20.92 acres *(Includes temporary and permanent disturbances)
 c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? +/- 28.95 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: 12 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 35 (arrays)

ii. Dimensions (in feet) of largest proposed structure: 10' height; 13' width; and 1187' length

iii. Approximate extent of building space to be heated or cooled: N/A 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? Yes No
 (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)
 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): An unmapped wetland hydrologically connected to a Tributary of the Susquehanna River.

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:

The cover type would be altered through the removal of woody vegetation over 2.5 acres of wetland. In addition, 0.06 acres of the wetland would be physically disturbed by removal of tree stumps. Solar panels, fencing, and conduit transmission will be accomplished through minimal disturbance from driven or screw piles or supports which rest on the ground surface. No trenching in wetland areas is proposed.

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: _____

Physically disturbed areas will be reclaimed through planting of wetland seed mix.

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 0.00 acres (impervious surface)
 _____ Square feet or 27.23 acres (parcel size)
 ii. Describe types of new point sources. Pervious access road and two (2) equipment pads.

 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)?
There is limited grading proposed and drainage patterns will not change from existing conditions. Stormwater will be directed to onsite wetlands and the existing roadside ditch.

 • If to surface waters, identify receiving water bodies or wetlands: _____
Onsite 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)

 ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

 iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

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): _____

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.

<p>i. During Construction:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 7 AM - 7 PM • Saturday: _____ 7 AM - 7 PM • Sunday: _____ N/A (Emergency purposes only) • Holidays: _____ N/A (Emergency purposes only) 	<p>ii. During Operations:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 24/7 • Saturday: _____ 24/7 • Sunday: _____ 24/7 • Holidays: _____ 24/7
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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:
Sources of noise during construction will include the operation of heavy equipment and typical construction noise, including temporary pile driving. There will be no noise disturbance during project operation.

ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? Yes No
 Describe: +/- 15.9 acres of trees/brush is proposed for removal. Perimeter natural barriers to residences will remain and continue to act as a noise barrier/screening.

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:

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):

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: _____ 1 tons per _____ week (unit of time)
- Operation : _____ 1 tons per _____ year (unit of time)

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

- Construction: Shipping and receiving materials (e.g., cardboard, plastic containers, cartons, paper) will be recycled, as practicable.
- Operation: Minimal materials will be generated during operation. It is anticipated that existing equipment will be replaced, as necessary during operation. Recycling will be used as practicable.

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

- Construction: Roll-off disposal for off-site hauling to landfill or recycling facility in accordance with local, state and/or federal regulations.
- Operation: Operational waste will be removed by staff and disposed of off-site in accordance with local, state and/or federal regulations.

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): Public Service (NYSEG)

ii. If mix of uses, generally describe:

The project site is surrounded by residential properties to the north, east, and south. The western portion of the project site is bordered by NYSEG property containing an overhead transmission line.

b. Land uses and covertypes on the project site.

Land use or Covertypes	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0.07	0.07	-
• Forested	14.70	8.52	-6.18
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	4.34	10.28	+5.94
• Agricultural (includes active orchards, field, greenhouse etc.)	-	-	-
• Surface water features (lakes, ponds, streams, rivers, etc.)	-	-	-
• Wetlands (freshwater or tidal)	8.12	8.12	-
• Non-vegetated (bare rock, earth or fill)	-	-	-
• Other Describe: Pervious Access Road and two (2) equipment pads	-	0.24	+0.24

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 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:

Canaseraga silt loam (3-8% slopes)	_____	8 %
Scio silt loam	_____	2 %
Unadilla silt loam (5-15% slopes)	_____	90 %

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

e. Drainage status of project site soils:

<input checked="" type="checkbox"/> Well Drained:	_____	90 % of site
<input checked="" type="checkbox"/> Moderately Well Drained:	_____	10 % of site
<input type="checkbox"/> Poorly Drained	_____	% of site

f. Approximate proportion of proposed action site with slopes:

<input checked="" type="checkbox"/> 0-10%:	_____	85 % of site
<input checked="" type="checkbox"/> 10-15%:	_____	10 % of site
<input checked="" type="checkbox"/> 15% or greater:	_____	5 % 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 <u>Federal wetlands</u>	Approximate Size +/- <u>8.12 Acres</u>
• 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: _____
 N/A

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: Principal Aquifer, Primary Aquifer, Sole Source Aquifer Names: Clinton Street Ballpark SSA

<p>m. Identify the predominant wildlife species that occupy or use the project site:</p>		
White-tailed deer	Eastern gray and red squirrels	Red Fox
Raccoon	Eastern Cottontail	Various bird species
<p>n. Does the project site contain a designated significant natural community? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Describe the habitat/community (composition, function, and basis for designation): _____</p> <p style="margin-left: 20px;">ii. Source(s) of description or evaluation: _____</p> <p style="margin-left: 20px;">iii. Extent of community/habitat:</p> <ul style="list-style-type: none"> • Currently: _____ acres • Following completion of project as proposed: _____ acres • Gain or loss (indicate + or -): _____ acres 		
<p>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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Species and listing (endangered or threatened): _____</p> <p>Bald Eagle</p>		
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Species and listing: _____</p>		
<p>q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If yes, give a brief description of how the proposed action may affect that use: _____</p>		
<p>E.3. Designated Public Resources On or Near Project Site</p>		
<p>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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes, provide county plus district name/number: _____</p>		
<p>b. Are agricultural lands consisting of highly productive soils present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p style="margin-left: 20px;">i. If Yes: acreage(s) on project site? +/- 27.23 acres _____</p> <p style="margin-left: 20px;">ii. Source(s) of soil rating(s): <u>USDA NRCS Websoil Survey</u></p>		
<p>c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Nature of the natural landmark: <input type="checkbox"/> Biological Community <input type="checkbox"/> Geological Feature</p> <p style="margin-left: 20px;">ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____</p>		
<p>d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. CEA name: _____</p> <p style="margin-left: 20px;">ii. Basis for designation: _____</p> <p style="margin-left: 20px;">iii. Designating agency and date: _____</p>		

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.

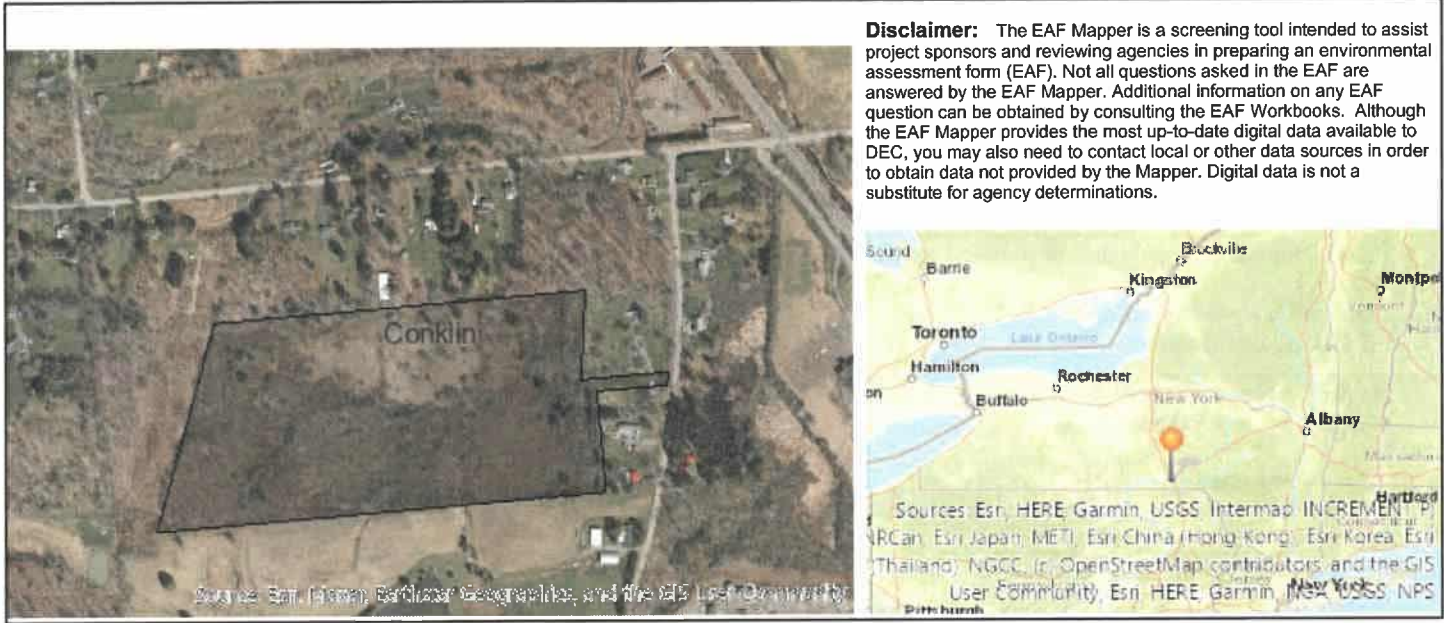
If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

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

Applicant/Sponsor Name Andrew van Doorn Date 09/27/24

Signature  Title Chief Operating Officer



B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	NYS Major Basins:Upper Susquehanna
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]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.2.j. [100 Year Floodplain]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.2.k. [500 Year Floodplain]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.2.l. [Aquifers]	Yes

E.2.i. [Aquifer Names]	Principal Aquifer, Primary Aquifer, Sole Source Aquifer Names:Clinton Street Ballpark SSA
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]	Yes
E.3.a. [Agricultural District]	BROOc05
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]	No
E.3.i. [Designated River Corridor]	No

