DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers, ATTN: CENAN-OP-RU
Upstate Regulatory Field Office
1 Buffington St., Building 10, 3rd Fl. North
Watervliet, New York 12189-4000

SEP 26 2019

Upstate New York Section

SUBJECT: Permit Application No. NAN-2019-01104-USH
by Oak Hill Solar 1, LLC and Oak Hill Solar 2, LLC
Town of Duanesburg, Schenectady County, New York

Giovanni Maruca
Oak Hill Solar 1, LLC and Oak Hill Solar 2, LLC
333 Broadway, Suite 460
Troy, New York 12180

Dear Mr. Maruca

On August 28, 2019, this office received your Joint Application Form dated August 16, 2019, and the attached drawings entitled "Proposed Site Plan for Oak Hill Solar 1& 2", Sheet Nos. 6, 7, and 8 of 10, all prepared by Environmental Design Partnership, LLP, dated February 8, 2019, and last revised June 6, 2019. The submitted information describes a proposal that would consist of the following:

The discharge of fill material into approximately 0.02 acres of waters of the United States, including wetlands to facilitate the installation of an access road in association with the construction a ground mounted solar farm. In addition, approximately 0.06 acres of wetland will be temporarily impacted to facilitate the installation of underground utility cables. All temporary impacts will be restored to pre-existing contours and conditions.

Based upon the information provided, it appears that your proposed work may be authorized under Department of the Army nationwide general permit numbers: 12 and 14. The nationwide permits are prescribed as a Reissuance of Nationwide Permits in the Federal Register dated January 6, 2017 (82 FR 1860).

The work may be performed without further authorization from this office provided the activity complies with the terms and conditions of the Nationwide Permits (NWP) and the permit conditions listed in Section B, Nos. 12 and 14, Section C, any applicable New York District regional conditions, and any applicable regional conditions added by the State of New York. Please note that NWP General Condition No. 12 requires the installation and maintenance of proper soil erosion and sediment controls during construction.

The 2017 Nationwide Permits, including their final regional conditions, water quality certifications, and coastal zone concurrence statements are available at:

http://www.nan.usace.army.mil/Missions/Regulatory/Nationwide-Permits/

Please review and familiarize yourself with all relevant terms and conditions of the nationwide permit prior to proceeding with your project, and subsequently ensure you adhere to all conditions through the duration of the project. If you do not have internet access and require a specific paper copy, please contact the undersigned to request one be mailed to you. Please be sure to have your permit application number readily available when you call.

This verification is valid until March 18, 2022, unless the nationwide permit is modified, reissued, or revoked. This verification will remain valid until March 18, 2022, if the activity complies with the terms of any subsequent modifications of the nationwide permit authorization. If the nationwide permits are suspended, revoked, or modified in such a way that the activity would no longer comply with the terms and conditions of a nationwide permit, and the proposed activity has commenced, or is under contract to commence, the permittee shall have 12 months from the date of such action to complete the activity.

Please note that this determination does not eliminate the need to obtain any other Federal, State, or local authorizations required by law for the above described work, including any required permit from the NYSDEC.

In order for us to better serve you, please complete our Customer Service Survey located at:

http://www.nan.usace.army.mil/Missions/Regulatory/CustomerSurvey.aspx

Any inquiries can be directed to the undersigned at (518) 266-6355.

Sincerely,

Brad Sherwood
Project Manager
Upstate New York Section

Enclosure

Cf: Gabriel, T. – NYSDEC, Region 4, Schenectady (4-4220-00309/00001)
Town of Duanesburg
Kirkpatrick, B. - EDR

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers, ATTN: CENAN-OP-RU
Upstate Regulatory Field Office
1 Buffington St., Building 10, 3rd Fl. North
Watervliet, New York 12189-4000

CENAN-OP-RU

NATIONWIDE PERMIT COMPLIANCE CERTIFICATION AND REPORT FORM

Permittee: Oak Hill Solar 1 & 2, LLC Permit No. NAN-2019-01104-USH

Date Permit Issued: SEP 26 2019

Location: Town of Duanesburg, Schenectady County, New York

Within 30 days of the completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the address at the bottom of this form.

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with this permit, you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of said permit, and required mitigation was completed in accordance with the permit conditions.

_____ _____

Signature of Permittee Date

Fold this form into thirds, with the bottom third facing outward. Tape it together and mail to the address below **or EMAIL TO:** cenan.rfo@usace.army.mil

---

Place Stamp Here

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
ATTN: CENAN-OP-RU
Upstate Regulatory Field Office
1 Buffington St., Bldg. 10, 3rd Fl. North
Watervliet, New York 12189-4000

SEP 2 6 2019

CENAN-OP-RU

Application Number NAN-2019-01104-USH

MEMORANDUM FOR RECORD

SUBJECT: Department of the Army Memorandum Documenting Nationwide Permit Verification

Applicant: Oak Hill Solar 1, LLC and Oak Hill Solar 2, LLC

Project Location ***(Waterway, Section, Township, Range, City, County, State):*** Unnamed trib. to Schoharie Creek, Mohawk River, Town of Duanesburg, Schenectady County, New York

Pre-Construction Notification Receipt Date: 8-28-19 **Complete?** ☒Yes ☐No

Additional Information Requested Date:

Pre-Construction Notification Complete Date: 8-28-19

Waters of the US: Wetlands and unnamed tributary
*see Approved/Preliminary Jurisdictional Determination form(s) and/or letter(s) dated:

Authority: ☐Section 10 ☒Section 404 ☐Section 103

Project Description ***(Describe activities in waters of the U.S. considered for verification):*** **The discharge of fill material into approximately 0.02 acres of waters of the United States, including wetlands to facilitate the installation of an access road in association with the construction a ground mounted solar farm. In addition, approximately 0.06 acres of wetland will be temporarily impacted to facilitate the installation of underground utility cables. All temporary impacts will be restored to pre-existing contours and conditions.**

Type of Permit Requested: NWP # 12 and 14

Pre-construction Notification Required: ☒Yes ☐No

Waiver required to begin work ***(see GC 32 (a)(2) as applied to appropriate NWPs)***:

☐Yes ☒No

Rationale:

Coordination with Agencies/Tribes Needed: ☐Yes ☒No Date:

Resolution:

Commenting Agencies:

US Fish and Wildlife Service
US Environmental Protection Agency
National Marine Fisheries Service
State Agency (list commenting state agencies)
State Historic Preservation Office
Other:
Substantive Issues Raised and Corps Resolution *(Consideration of Comments)*:

Compliance with Other Federal Laws *(If specific law is not applicable write N/A):*

a) Endangered Species Act:
Name of species present: Northern long-eared bat
Effects determination: No Effect
Date of Service(s) concurrence: N/A
Basis for "no effect" determination: No tree clearing proposed at part of the proposed project
Additional information (optional):

b) Magnuson-Stevens Act (Essential Fish Habitat): N/A
Name of species present:
Effects determination:
Date of Service(s) concurrence:
Basis for "no effect" determination:
Additional information (optional):

c) Section 106 of the National Historic Preservation Act:
Known site present: ☐ yes ☒ no
Survey required/conducted: ☐ yes ☐ no
Effects determination: No Effect
Rationale: Date consultation complete (if necessary):
Additional information (optional):

d) Section 401 Water Quality Certification:
Water Quality Certification required: ☒ yes ☐ no
☐Issued ☐Waived ☐Denied ☐Blanket

e) Coastal Zone Management Act:
Individual certification required: ☐ yes ☒ no
☐Issued ☐Waived ☐Denied
Additional information (optional):

f) Wild and Scenic Rivers Act:
Project located on designated or "study" river: ☐ yes ☒no
Managing Agency:
Date written determination provided that the project will not adversely affect the Wild and Scenic River designation or study status:
Additional information (optional):

g) Other:

Special Conditions Required *(include rationale for each required condition/explanation for requiring no special conditions)*: ☐ yes ☒ no

The general and regional conditions to which the proposed work would be subject if authorized by the NWP are adequate to assure that aquatic and other environmental effects are minimized to the maximum extent practicable, including the required implementation of best management practices during construction.

Compensatory Mitigation Determination: The applicant has avoided and minimized impacts to the maximum extent practicable.

(1) Is compensatory mitigation required for unavoidable impacts to jurisdictional aquatic resources to reduce the individual and cumulative adverse environmental effects to a minimal level?

☐ yes ☒ no The proposed work will result in less than 0.10 acres of loss of wetlands and compensatory mitigation is not required or warranted.

(2) Is the impact in the service area of an approved mitigation bank? ☐ yes ☐ no

i. Does the mitigation bank have appropriate number and resource type of credits available? ☐ yes ☐ no

(3) Is the impact in the service area of an approved in-lieu fee program? ☐ yes ☐ no

i. Does the in-lieu fee program have appropriate number and resource type of credits available? ☐ yes ☐ no

(4) Check the selected compensatory mitigation option(s):

☐ mitigation bank credits
☐ in-lieu fee program credits
☐ permittee-responsible mitigation under a watershed approach
☐ permittee-responsible mitigation, on-site and in-kind
☐ permittee-responsible mitigation, off-site and out-of-kind

(5) If a selected compensatory mitigation option deviates from the order of the options presented in §332.3(b)(2)-(6), explain why the selected compensatory mitigation option is environmentally preferable. Address the criteria provided in §332.3(a)(1) (i.e., the likelihood for ecological success and sustainability, the location of the compensation site relative to the impact site and their significance within the watershed, and the costs of the compensatory mitigation project):

Determination *(Reference Section D. District Engineer's Decision):*

The proposed activity would result in no more than minimal individual and cumulative adverse environmental effects and would not be contrary to the public interest. This project complies with all terms and conditions of NWP # 12 and 14, as prescribed as a Reissuance of Nationwide Permits in the Federal Register dated January 6, 2017 (82 FR 1860), including any applicable regional conditions.

PREPARED AND APPROVED BY:

Date: SEP 26 2019

Brad Sherwood
Project Manager
Upstate New York Section

SEP 26 2019

CENAN-OP-RU
SITE INSPECTION REPORT

APPLICATION NUMBER: NAN-2019-01104-USH

LOCATION: 13590 Duanesburg Road, Town of Duanesburg, Schenectady County, New York

PURPOSE OF INSPECTION: To review the wetland delineation and proposed impact areas

DATE OF INSPECTION: 9-20-19

CORPS INSPECTOR: Brad Sherwood

PARTICIPANTS/AFFILIATIONS: Brian Kirkpatrick – Environmental Design & Research (EDR)

OBSERVATIONS:

The 99-acre site is located north of Duanesburg Road (NYS Route 7), and west of Youngs Road. The area consists predominantly of open, fallow agricultural fields, with a small portion of forested hedgerows. EDR delineated four wetlands (A, B, C, and D) that totaled 7.71 acres, and one stream channel totaling 640 linear feet. These potential waters of the United States were identified in the drawings entitled "Proposed Site Plan for Oak Hill Solar 1& 2", Sheet Nos. 6, 7, and 8 of 10, all prepared by Environmental Design Partnership, LLP, dated February 8, 2019, and last revised June 6, 2019.

The drawings depicts the proposed land-based solar project with associated utilities and roadways. The project would result in temporary impacts to 0.06 acres of wetland in association with the installation of underground cables, and permanent impacts to 0.02 acres of wetland in association with the access road. The access road is proposed to be constructed across narrow portions of the wetland to limit the permanent impacts.

Mr. Sherwood reviewed the property and the delineation, and requested no changes or modifications to the above referenced pans/drawings.

CONCLUSION:

The application will continued to be reviewed and processed, and then this office may be able to issue an authorization foe the proposed project. This office will contact the applicant/consultant if additional information is necessary after further review of the application.

PREPARED BY: _____
Brad Sherwood
Upstate New York Section

Sherwood, Bradley J CIV USARMY CENAN (USA)

From: Sherwood, Bradley J CIV USARMY CENAN (USA)
Sent: Friday, September 06, 2019 11:38 AM
To: Brian Kirkpatrick
Cc: Dangler, Andrew C CIV USARMY CENAN (USA)
Subject: RE: Oak Hill Solar

How about Friday, the 20th at 10?

-----Original Message-----
From: Brian Kirkpatrick [mailto:bkirkpatrick@edrdpc.com]
Sent: Friday, September 06, 2019 11:29 AM
To: Sherwood, Bradley J CIV USARMY CENAN (USA) <Brad.Sherwood@usace.army.mil>
Subject: [Non-DoD Source] Re: Oak Hill Solar

Either day would work

Sent via the Samsung Galaxy S®6 active, an AT&T 4G LTE smartphone

-------- Original message --------
From: "Sherwood, Bradley J CIV USARMY CENAN (USA)" <Brad.Sherwood@usace.army.mil>
Date: 9/6/19 11:26 (GMT-05:00)
To: Brian Kirkpatrick <bkirkpatrick@edrdpc.com>
Subject: Oak Hill Solar

[EXTERNAL SENDER]

Good morning Brian,

Trying to set up a site visit for this project in the Town of Duanesburg. I was wondering if Sept 19 or 20 would work for that.

Thanks,
Brad

Brad Sherwood, Senior Project Manager
NY District, U.S. Army Corps of Engineers
Upstate Regulatory Field Office
Bldg 10, 3rd Floor
1 Buffington St.
Watervliet, NY 12189-4000
518-266-6355 - office
518-487-0382 - mobile

New York State Department of Environmental Conservation
Notification of Availability for Review

To HABITAT Region 4 Stamford Sub-Office
US ARMY CORPS OF ENGINEERS - NY DIST ALBANY OFFICE

From PATRICIA M GABRIEL
NYSDEC Region 4 Headquarters
Schenectady NY 12306 (518) 357-2069

Send Date August 28, 2019
Reply By September 11, 2019

Application Id 4-4220-00309/00001 ***Batch ID*** 849088

SPDES ID ***Mined Land ID*** ***Solid Waste ID***

Permits Applied 1 - Section 401 - Clean Water Act Water Quality Certification

Applicant/Owner Oak Hill Solar 1 LLC ***Owner ID*** 1792077

Facility Name Oak Hill Solar 1 & 2

Facility Address 13590 -13592 Duanesburg Rd Duanesburg NY

County SCHENECTADY COUNTY ***NYTM-E***: 561.083
Town DUANESBURG ***NYTM-N:*** 4730.923

Description
construct 2 solar arrays

Sender Comments
application for WQC for a proposal solar array in Duanesburg. Please review and comment.

Brad - you should have received this directly. .

Reviewer Comments / Recommendations

_____
_____
_____
_____
_____
_____

Comments continued on back ___ ***Comments attached*** ___

Reviewed By _____
(name)

_____ _____ _____
(unit) (phone) (date)

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS, ATTN: CENAN-OP-RU
UPSTATE REGULATORY FIELD OFFICE
1 BUFFINGTON ST, BLDG 10, 3RD FL NORTH
WATERVLIET, NEW YORK 12189-4000

September 6, 2019

SUBJECT: Permit Application No. **NAN-2019-01104-USH**
by Oak Hill Solar 1 LLC & Oak Hill Solar 2 LLC
Town of Duanesburg, Schenectady County, New York

Giovanni Maruca
Oak Hill Solar 1 LLC
Oak Hill Solar 2 LLC
333 Broadway Ste 460
Troy, New York 12180-3279

Dear Mr. Maruca:

We have received your application for a Department of the Army permit for property located near Duanesburg Road in the Town of Duanesburg, Schenectady County, New York pursuant to:

[ ] Section 10 of the Rivers and Harbors Act of 1899

[X] Section 404 of the Clean Water Act

Please use the above referenced application number when requesting information concerning your application. This number will be used on any further correspondence.

You are advised not to undertake any activity in connection with the proposed work within waters of the United States until any required Department of the Army authorization has been obtained.

Please contact Brad Sherwood, the assigned Project Manager at (518) 266-6355 or e-mail address brad.sherwood@usace.army.mil if you have any questions.

Sincerely,

/s/ Mark D. Spivey

Digitally signed by SPIVEY.MARK.D.1090293300
Date: 2019.09.06 11:07:54 -04'00'

Mark D. Spivey
Program Assistant

CF:
P. Gabriel - NYSDEC Region 4, Stamford (4-4220-00309/00001)
B. Kirkpatrick - EDR

PLEASE USE THE ABOVE 18-CHARACTER FILE NUMBER ON ALL CORRESPONDENCE WITH THIS OFFICE.

BS
NWP

Environmental Design & Research,
Landscape Architecture, Engineering & Environmental Services, D.P.C.
217 Montgomery Street, Suite 1000, Syracuse, New York 13202
P. 315.471.0688 • F. 315.471.1061 • www.edrdpc.com

letter of transmittal

To:	**US Army Corps of Engineers New York District** Upstate Regulatory Field Office ATTN: CENAN-OP-RU, Bldg. 10, 3rd Floor North 1 Buffington Street Watervliet, NY 12189-4000	**EDR Project No:**	19058
From:	Brian Kirkpatrick		
Date:	August 26, 2019		
Reference:	Oak Hill Solar Pre-Construction Notice		
We are sending:	Attached		
Sent Via:	UPS		

RECEIVED BY REGULATORY
AUG 28 2019
USACE NY DISTRICT URFO

Comments:

To Whom it May Concern:

Enclosed please find one copy of the Pre-Construction Notice and one full-size drawings for the Oak Hill Solar Project.

Please contact me if you have any questions or need any further information (bkirkpatrick@edrdpc.com).

Sincerely,

Brian Kirkpatrick

Copies To: NYSDEC, Region 4
File

Environmental Design & Research,
Landscape Architecture, Engineering & Environmental Services, D.P.C.
217 Montgomery Street, Suite 1000, Syracuse, New York 13202
P. 315.471.0688 · F. 315.471.1061 · www.edrdpc.com

August 20, 2019

U.S. Army Corps of Engineers
Upstate New York Field Office
ATTN: CENAN-OP-RU, Building 10
3rd Floor North
1 Buffington Street, Watervliet Arsenal
Watervliet, New York 12189-4000

Re: Pre-Construction Notice
Nationwide Permits 12, 14 and 51
Oak Hill Solar 1 & 2
13590 Duanesburg Road
Parcel ID: 74.00-2-5
Town Duanesburg, Schenectady County, New York

To whom it may concern:

On behalf of Oak Hill Solar 1, LLC, and Oak Hill Solar 2, LLC Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C (EDR) is pleased to submit this Pre-Construction Notice (PCN) to the U.S. Army Corps of Engineers (USACE) to verify that the proposed construction of the Oak Hill Solar 1 & 2 (Project) meets the requirements of Nationwide Permits (NWP) 12, 14 and/or 51. In accordance with the requirements General Condition 32 and conditions G-E and G-F of the *Final 2017 Nationwide Permit Regional Conditions and Designated Critical Resource Waters in the Buffalo (LRB) and New York (NAN) Districts for New York State* (effective March 19, 2017 and expiring March 18, 2022) the following information is provided for your review:

Name, address and telephone numbers of the prospective permittee

Oak Hill Solar 1, LLC and Oak Hill Solar, 2 LLC

Location of the proposed activity

The Project is located on an approximately 99-acre parcel in the Town Duanesburg, Schenectady County, New York (hereafter referred to as the "Project Site"). The majority of the Project Site consist of active agricultural field and areas of open meadow, forest and shrubland. The Project site is identified as parcel 74.00-2-5 in the Town of Duanesburg tax records

The Project Site is identified as:

Oak Hill Solar 1 & 2
13590 Duanesburg Road
Town Duanesburg, Schenectady County, New York

Latitude: 42.729401 Longitude: -74.252744

Identification of the specific NWP or NWP(s)

Nationwide Permits (NWP) 12, 14 and/or 51 as appropriate. Activities include the construction of a land-based renewable energy facility. Activities requiring the discharge of fill to Waters of the United States (WOUS) include construction of an at-grade, limited, use permeable access road and installation of underground utility lines

Description of the proposed activity

Oak Hill Solar 1, LLC and Oak Hill Solar 2 LLC are is proposing to construct two solar farms totaling 10 MW on the Project Site. As depicted on the attached site plans and details, through careful planning the has minimized the discharge of fill, mechanical land clearing and trenching requiring backfill in WOUS. Project implementation will require the disturbance of less than 0.1 acre of WOUS for the construction of an access road and installation of underground utilities. The Project also includes driving of piles for the solar panel racking system in emergent wetlands/wet meadows within the existing hayfields.

Delineation of Wetlands

EDR personnel conducted field delineations of wetlands and streams on the portion of the Project Site proposed for Project development on April 23 2019. The identification of wetland boundaries was based on the methodology described in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987). Determination of wetland boundaries was also guided by the methodologies presented in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0* (USACE, 2012). Wetland boundaries were defined in the field with sequentially-numbered pink surveyor's flagging, mapped using GPS technology with reported sub-meter accuracy, and subsequently plotted on Project Site plans.

A Wetlands Delineation Report is provided as Attachment A and contains a Vicinity Map with latitude and longitude coordinates (Latitude: 42.729401 Longitude: -74.252744) of the Project and information on aquatic resources using the Cowardin Classification System Mapping conventions

New York State/USACE Joint Application Form

A completed copy of the New York State/USACE Joint Application Form is provided as Attachment B.

Drawings

Legible black and white project drawings on 8.5" by 11" paper depicting the location of WOUS on the Project Site, and the work to be undertaken are provided as Attachment C. Project drawings include a Vicinity Map, Plan View and Cross-Section View.

Color Photographs

Photos sufficient to accurately portray the Project Site, keyed to a location map and not taken when snow cover is present are provided in the attached Wetlands Delineation Report (Attachment A).

Avoidance and Minimization

There a total of 7.71 acres of palustrine emergent (PEM) wetlands within the Project limits. Project implementation requires the permanent loss of less than 1,035 square feet of the wetlands for the construction of a limited use pervious access road and the temporary disturbance of 2,569 square feet of PEM wetlands for the installation of underground collection cables and. All other construction activities requiring the discharge of fill, including transformer stations, converters and parts storage containers have been located outside of WOUS. To further avoid and minimize discharge of fill to WOUS collection lines will be placed in trays rather than buried in trenches. Existing vegetation communities, hydric soils and wetlands hydrology will be retained in the remaining areas of PEM wetlands.

Mitigation

The project will result in the loss of less than 0.1 acre of WOUS and no loss of intermittent or ephemeral streams. Therefore, mitigation is not required for this Project

Nationwide Rivers Inventory

No river segment listed within the National Park Service Nationwide Rivers Inventory (NRI) is located within or adjacent to the proposed Project Site.

Historic or Cultural Resources

The New York State EAF Mapper identified the Sheldon Farmhouse and archeological resources in the vicinity of the Project. However, all of the project activities are located within soils previously disturbed for agriculture and project implementation requires minimal land disturbance. Other that the remnants of stone walls created as part of farming activities on the Project Site there are no above ground structures greater than 50 years old within the limits of the project.

The New York State Historic Preservation Office (SHPO) reviewed the report entitled *Phase I Archaeological Investigation, Oak Hill Solar Farms, NY-7 / Duanesburg Road, Town of Duanesburg, Schenectady County, New York* (May 2019). No archaeological resources were identified during the survey. In letter dated June 4, 2019 the SHPO indicated they have no concerns regarding the project's potential to affect historic architectural resources. A copy of the SHPO letter is provided as Attachment D.

Endangered Species and Essential Fish Habitat

No essential fish habitat exists on the Project Site. The New York State EAF Mapper identified the presence of northern long-eared bat (*Myotis septentrionalis*) in the vicinity of the site. Project implementation does not require the cutting or removal of any trees and the Project does not present a risk of collision mortality to bats. Therefore, no adverse impacts to northern long-eared bat are anticipated as a result of the proposed Project. A copy of the results of an iPAC review of the Project is provided as Attachment E.

100 Year Floodplain

No portion of the project is located within a mapped 100-year floodplain

Submission of Multiple Copies of PCN

A total of two copies of this application package are being provided to the USACE.

Critical Resource Waters

The Project is not located in Critical Resource Waters as described in Condition G-F of the Final 2017 Nationwide Permit Regional Conditions and Designated Critical Resource Wates in the Buffalo (LRB) and New York (NAN) Districts of the State of New York (Effective March 19, 2017 - Expiring March 18, 2022).

EDR respectfully requests your concurrence that the project meets the conditions of NWP's 12, 14 and/or 51.

If you have any questions please feel free to contact me.

Regards:

Brian Kirkpatrick, CWB
Director of Ecological Services

List of Attachments

Attachment A – Wetland Delineation Report

Attachment B – Joint Application Form

Attachment C – Project Drawings

Attachment D – SHPO Correspondence

Attachment E – Endangered Species Consultation

Attachment A

Wetland Delineation Report

Wetland and Stream Delineation Report

Oak Hill Solar

Pin 2650.52

Town of Duanesburg, Schenectady County, New York

Prepared for:

EDEN RENEWABLES

Eden Renewables LLC
333 Broadway, Suite 460
Troy, New York 12180

Prepared by:

Environmental Design & Research,
Landscape Architecture, Engineering, & Environmental Services, D.P.C.
217 Montgomery Street, Suite 1000
Syracuse, New York 13202
www.edrdpc.com

July 2019

TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

1.0 INTRODUCTION

1.1 PROJECT SITE DESCRIPTION

At the request of Eden Renewables, LLC., Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR) has conducted a wetland and stream delineation on a 99-acre area (Parcel ID: 74.00-2-5) north of Interstate 86 and between County Road (CR) 153 and State Route (SR) 30, in the Town of Duanesburg, Schenectady County, New York (Figure 1). The 99-acre area (hereafter referred to as the Project Site) is proposed for the construction of a new ground-mounted solar project called Oak Hill Solar.

1.2 PURPOSE

The purpose of this study was to delineate and describe on-site wetlands and streams that occur within the Project Site and could potentially fall under state or federal jurisdiction. Specific tasks performed for this study included 1) review of background resource data/mapping, 2) field delineation and flagging of potential state and federal jurisdictional wetlands and streams, 3) Global Positioning System (GPS) survey of delineated wetland and stream boundaries, 4) quantification of the area of on-site wetlands and streams, 5) description of these potential jurisdictional areas based on hydrology, vegetation, and soils data collected in the field.

This report describes the results of the wetland and stream delineations conducted by EDR. It is intended to provide the information necessary to identify jurisdictional areas and support a permit application to the United States Army Corps of Engineers (USACE) and the New York State Department of Environmental Conservation (NYSDEC), as well as other impact evaluations conducted in support of the project (e.g., State Environmental Quality Review Act).

1.3 RESOURCES

Materials and data supporting this investigation have been derived from a number of sources including United States Geological Survey (USGS) topographic mapping (Schoharie and Gallupville NY 7.5 minute quadrangles), United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping, NYSDEC Freshwater Wetlands mapping, the Natural Resources Conservation Service (NRCS) Web Soil Survey (Soil Survey Staff, 2019), the NRCS List of Hydric Soils of the State of New York (NRCS, 2018), and recent aerial photography.

Vascular plant names follow nomenclature found in the New York Flora Atlas (Weldy et al., 2019), and wetland indicator status for plant species was determined by reference to the National Wetland Plant List (Lichvar et al., 2019).

Jurisdictional areas were characterized according to the wetlands and deepwater habitats classification system used in NWI mapping (Cowardin, 1979).

1.4 QUALIFICATIONS

Wetland and stream delineations were conducted by EDR field ecologists Brian Kirkpatrick, Ben Feinberg, and Krystal White.

Mr. Kirkpatrick is the Director of Ecological Services with more than 30 years of project management and environmental and ecological consulting experience. He received a BS in Wildlife Resources from West Virginia University, and is a Certified Wildlife Biologist through The Wildlife Society. Mr. Kirkpatrick experience includes senior-level expertise in wetland delineations, endangered species habitat assessment and surveys, and vegetation inventories.

Mr. Feinberg is an Environmental Analyst with more than 5 years of experience in the natural resources field. He received a Bachelor of Science degree in Aquatics and Fisheries Science from the State University of New York (SUNY) College of Environmental Science and Forestry. Mr. Feinberg is proficient in biological, ecological, and environmental data collection in a large range of settings and conditions. Mr. Feinberg experience includes wetland and stream delineations, catch oversight for commercial fisheries, monitoring of commercial fish deliveries, and post-construction environmental monitoring at wind farms. At EDR Ben has conducted wetland and stream delineation surveys on energy and transmission line projects.

Ms. White is an Environmental Analyst with two years of experience in the natural resources field. She received a Bachelor of Arts in Environmental Studies from the SUNY at Potsdam and a Master's degree in Environmental Science from SUNY College of Environmental Science and Forestry. Ms. White's experience includes environmental and ecological policy research, wetland and stream delineations, environmental impact analysis, data management, technical report writing, and GIS data analysis.

2.0 REGULATORY AUTHORITIES AND PERMITS

2.1 WATERS OF THE UNITED STATES

In accordance with the Section 404 of the Clean Water Act, the USACE has regulatory jurisdiction over Waters of the United States (WOUS). As defined by the USACE, WOUS includes lakes, ponds, streams (intermittent and perennial), and wetlands. Wetlands are defined as "*those areas that are inundated or saturated by surface or ground water at a*

frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (EPA, 2001). Such areas are indicated by the presence of three conditions: 1) a dominance of hydrophytic vegetation, 2) the presence of hydric soils, and 3) evidence of wetland hydrology during the growing season (Environmental Laboratory, 1987).

On August 28, 2015, the United States Environmental Protection Agency (USEPA) released the *Clean Water Rule* (the "2015 Rule"; 33 CFR Part 328) which provides a clearer and more consistent approach to defining the scope of the CWA and WOUS. In February 2017, an Executive Order was issued directing the USEPA and the USACE to review and rescind or revise the 2015 Rule. However, as of August 29, 2018, the 2015 Rule remains in effect for 22 states, including New York.

Three major elements of the 2015 Rule that define jurisdictional waters are summarized below:

Traditional navigable waters, interstate waters, territorial seas, and impoundments of jurisdictional waters:

- Consistent with the existing regulations.
- The agencies will assert jurisdiction over these waters.

Tributaries:

- Specifically defines tributaries as "*waters that are characterized by the presence of physical indicators of flow – bed and banks and ordinary high water mark – and that contribute flow directly or indirectly to a traditional navigable water*".
- The agencies will assert jurisdiction over these waters.

Adjacent Waters:

- Defined as "*bordering, contiguous, or neighboring, including waters separated from other "waters of the United States" by constructed dikes or barriers, natural river berms, beach dunes and the like*".
- The agencies will assert jurisdiction over these waters if any of these settings occur:
    - *"Waters located in whole or in part within 100 feet of the ordinary high water mark of a traditional navigable waters, interstate waters, territorial seas, and impoundments"*;
    - *"Waters located in whole or in part in the 100-year floodplain and that are within 1,500 feet of the ordinary high-water mark of a traditional navigable water, interstate waters, territorial seas, an impoundment, or a tributary"*; and

- *"Waters located in whole or in a part within 1,500 feet of the tide line of a traditional navigable water or the territorial seas and waters located within 1,500 feet of the ordinary high-water mark of the Great Lakes".*

A Section 404 permit from the USACE is required for activities that result in the placement of dredged or fill materials in WOUS. It is assumed that all delineated wetlands and streams within the Project Site are jurisdictional WOUS.

In addition to Section 404 of the CWA, Section 10 of the Rivers and Harbor Act (33 U.S.C. 401 et seq.) requires a permit from the USACE to construct any structure in or over any navigable water of the United States, as well as any proposed action that would alter or disturb (such as excavation/dredging or deposition of materials in) these waters. There are no navigable waters mapped within or adjacent to the Project Site.

2.2 NEW YORK STATE FRESHWATER WETLANDS AND PROTECTED STREAMS

The Freshwater Wetlands Act (Article 24 and Title 23 of Article 71 of the ECL) gives the NYSDEC jurisdiction over state-protected wetlands and adjacent areas. The Freshwater Wetlands Act requires the NYSDEC to map all state-protected wetlands to allow landowners and other interested parties a means of determining where state-jurisdictional wetlands exist. To implement the policy established by this Act, regulations were promulgated by the state under 6 NYCRR Parts 663 and 664. Part 664 of the regulations designates wetlands into four class ratings, with Class I being the highest or best quality wetland, and Class IV being the lowest. In general, wetlands regulated by the state are those 12.4 acres in size or larger. Smaller wetlands can also be regulated if they are considered of unusual local importance. The 100-foot adjacent area consists of uplands adjacent to the delineated boundary of any state regulated wetland and are under NYSDEC jurisdiction. An Article 24 permit is required from the NYSDEC for any disturbance to a state-protected wetland or an adjacent area, including removing vegetation.

Under Article 15 of the ECL (Protection of Waters), the NYSDEC has regulatory jurisdiction over any activity that disturbs the bed or banks of protected streams. In addition, small lakes and ponds with a surface area of 10 acres or less, located within the course of a protected stream, are considered to be part of a stream and are subject to regulation under the stream protection category of Article 15. Protected stream means any stream, or particular portion of a stream, that has been assigned by the NYSDEC any of the following classifications or standards: AA, A, B, or C(T) or C(TS) (6 NYCRR Part 701). A classification of AA or A indicates that the best use of the stream is as a source of water supply for drinking, culinary or food processing purposes, primary and secondary contact recreation, and fishing. The best usages of Class B waters are primary and secondary contact recreation and fishing. The best usage of Class C waters is fishing. Streams designated (T) indicate that they support trout, while those designated (TS) support trout

spawning. State water quality classifications of unprotected watercourses include Class C and Class D streams. Waters with a classification of D are suitable for fishing and non-contact recreation. An Article 15 permit is required from the NYSDEC for any disturbance to a stream classified C(T) or higher.

3.0 PHYSICAL CHARACTERISTICS AND RESOURCES

3.1 PHYSIOGRAPHY AND SOILS

The Project Site is located within the Catskill Mountains Physiographic Province of New York State. The geography in this province is characterized by mountainous terrain created by glacial and stream activity which carved deep valleys in flat-lying rocks (NYSDOT, 2013). Topography of the province is controlled by the bedrock with step valley sides and minor landforms in the valleys consisting of outwash, kames, deltas, alluvial flats, and lacustrine plains. The bedrock in the Project Site is mainly of the Wisconsin age consisting of shale, limestone, and sandstone. Elevations within the Project Site range from 300 feet above mean sea level (USGS) to approximately 320 feet (Figure 3).

A review of the Schenectady County Soil Survey, and the United State Department of Agriculture's (USDA) Web Soil Survey database indicates the occurrence of three soil series within the Project Site (Figure 3 and Table 1) (USDA, 1972; Soil Survey Staff, 2018). The three soil series include Burdett-Scriba channery silt loam (3-8% slopes), Burdett-Scriba channery silt loam (8% to 15% slopes), and Ilion silt loam (0% to 3% slopes). Of these, the Burdett-Scriba channery silt loams are the most dominant, covering 73 acres (74%) of the Project Site, followed by Ilion silt loam comprising 26 acres (26%). Table 1 lists the soil map units within the Project Site and their characteristics. Soil drainage in the Project Site is generally poor, with 26% classified as poorly drained and 74% classified as somewhat poorly drained. Designation of hydric soils is based on information obtained from the USDA Web Soil Survey (Soil Survey Staff, 2019). Although soil series may be generally classified as hydric or potentially hydric in the online databases, this is for general use and does not supersede specific conditions documented in the field.

Table 1. Project Site Soils

Mapping Unit	Series	Slope (%)	Drainage[1]	Hydric[2]	Potentially Hydric[3]
BvB	Burdett-Scriba channery silt loam	3-8	SPD	No	Yes
BvC	Burdett-Scriba channery silt loam	8-15	SPD	No	Yes
IIA	Ilion silt loam	0-3	PD	Yes	No

[1] Soil drainage is represented by the following abbreviations: "SPD" = somewhat poorly drained, "PD" = poorly drained
[2] "Yes" indicates this soil is listed as containing 66% or more hydric components within the map unit as listed on the USDA Web Soil Survey.
[3] "Yes" indicates this soil is listed as containing 1% to 65% hydric components within the map unit as listed on the USDA Web Soil Survey.

3.2 HYDROLOGY

The entire Project Site is located in the Schoharie watershed (USGS Hydrologic Unit 02020005). Most of the surface hydrology in the Project Site is generated by precipitation and surface water run-off from adjacent land. Total annual precipitation (from 2005 to 2019) averages 41.69 inches at the nearby Delanson, New York weather station (NOAA, 2019).

Based on review of mapped wetlands and streams, aerial imagery, and site-specific field investigations, the Project Site does not contain any named waterways. The closest mapped-waterway, Walker Brook, is located one half-mile north of the Project Site. The nearest major waterway in the vicinity of the Project Site is the Schoharie Creek, located approximately 1.5 miles north. Schoharie Creek flows north for approximately 18 miles before it empties into the Mohawk River Watershed. From this point, water enters the Mohawk River and flows east until it eventually empties into the Hudson River. The Hudson River carries the water south, eventually emptying into Upper Bay and the Atlantic Ocean (NYSDEC, 2019).

3.3 FEDERAL AND STATE MAPPED WETLANDS AND STREAMS

NWI mapping does not indicate any wetland features within or adjacent to the Project Site. (Figure 4). The closest mapped NWI waterbodies are a riverine feature approximately 700 feet west of the project site and a pond approximately 600 feet northwest of the Project Site. The on-site wetland delineation took place early in the growing season (early-April). Precipitation for the month of April, 2019 was high (4.32 inches) compared to the previous month of March (1.35 inches) and the monthly average for April 2000 to 2019 (3.01 inches).

Review of NYSDEC Freshwater Wetlands mapping indicates that no state-mapped wetlands exist or adjacent to in the Project Site. The closest NYSDEC-mapped wetland is Wetland G-104, located approximately 1,500 feet south of the Project Site. Based on available NYSDEC stream classification mapping, there are no NYSDEC-mapped streams within the Project Site. The closest NYSDEC-mapped stream is an unnamed Class C stream located approximately 700 feet west of the Project Site. This stream flows northeast and connects to Walker Brook.

4.0 ON-SITE WETLAND AND STREAM DELINEATION

4.1 METHODOLOGY

EDR personnel conducted field delineation of wetlands and streams on the Project Site on April 9, 2019. The identification of wetland boundaries was based on the methodology described in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987). Determination of wetland boundaries was also guided by the methodologies presented in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0* (USACE, 2012). Attention was given to the identification of potential hydrologic connections between wetlands and areas that could influence their jurisdictional status.

Wetland boundaries were marked in the field with sequentially-numbered pink surveyor's flagging, and were subsequently mapped using an EOS Positioning Systems Arrow 100 GPS unit with reported sub-meter accuracy. At each delineated wetland, data were collected from sample plots in representative wetland cover types, and recorded on USACE Routine Wetland Determination forms (Appendix B). The data collected at each wetland included dominant vegetation, hydrology indicators, and soils characteristics.

The Regional Supplement lists the following primary indicators of wetland hydrology: (A1) surface water, (A2) high water table, (A3) saturation, (B1) water marks, (B2) sediment deposits, (B3) drift deposits, (B4) algal mat or crust, (B5) iron deposits, (B7) inundation visible on aerial imagery, (B8) sparsely vegetated concave surface, (B9) water-stained leaves, (B13) aquatic fauna, (B15) marl deposits, (C1) hydrogen sulfide odor, (C3) oxidized rhizospheres on living roots, (C4) presence of reduced iron, (C6) recent iron reduction in tilled soils, and (C7) thick muck surface. Per the Regional Supplement, the presence of any one of these "primary" indicators is sufficient evidence that wetland hydrology is present. In addition, the Regional Supplement identifies the following secondary indicators which were also used by EDR personnel to determine wetland hydrology: (B6) surface soil cracks, (B10) drainage patterns, (B16) moss trim lines, (C2) dry-season water table, (C8) crayfish burrows, (C9) saturation visible on aerial imagery, (D1) stunted or stressed plants, (D2) geomorphic position, (D3) shallow aquitard, (D4) microtopographic relief, and (D5) FAC-neutral test. In accordance with the Regional Supplement, in the absence of a primary indicator, the presence of any two of these "secondary" indicators were considered a suitable indication of wetland hydrology.

Assessment of vegetation focused on the identification of dominant plant species in four categories: trees (>3" diameter at breast height), saplings/shrubs (<3.0" diameter at breast height and >3.2' tall), herbs (<3.2' tall), and woody vines. Dominance within each stratum was measured by visually estimating those species having the largest relative basal area (trees), greatest height (saplings/shrubs), greatest number of stems (woody vines), and greatest percentage of aerial coverage (herbaceous) by species. Wetland indicator status for dominant plant species was determined by reference to the National Wetland Plant List (Lichvar et al., 2019). Wetlands are indicated by a dominance of hydrophytic plant species.

Hydric soils are those that are poorly drained and are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part of the soil layer. The presence of hydric soils is indicative of the presence of wetlands (Environmental Laboratory, 1987). Hydric soil conditions were determined in the field through observation of composition, odor, color, and morphology. Soil data were collected by using a soil auger and tiling spade. Soil colors were determined using Munsell Soil Charts (Munsell Color, 2009). Information concerning soil series, color, texture, and matrix and mottle color was recorded for each delineated wetland and used to determine whether the soils displayed hydric characteristics.

Streams were identified according to the Cowardin Classification System (1979), and stream boundaries were determined based on the presence of ordinary high water line characteristics, including a "*clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris*"(CFR, 1986). Stream boundaries were defined and mapped in the field using the same method as described above for wetlands. Data regarding stream gradient (gentle, moderate, or steep), stream bank and channel width, water depth, stream bed substrate, in-stream cover, and flow regime (perennial, intermittent, or ephemeral) were collected and recorded on stream inventory forms (Appendix B).

Photographs were taken of each wetland and stream delineated within the Project Site. Representative photographs of the delineated areas are included in Appendix C.

4.2 RESULTS

EDR ecologists identified a total of four wetlands and one stream within the Project Site. Information pertaining to individual wetlands and watercourses is summarized in Table 2. Wetlands and streams were categorized as one or more of the following community types: emergent wetland (PEM), and intermittent stream (R4), in accordance with the Cowardin *et. al.* (1979) classification system. The wetlands and the stream within the Project Site are depicted in Figure 5, and described below.

Table 2: Delineated Wetlands

Delineation ID[1]	Latitude of Centroid	Longitude of Centroid	Wetland Type Acreage Within Wetland Project Site[2]				Total Wetland Acreage Within Wetland Project Site	Stream Type[3]	Linear Feet of Stream Within Project Site[4]	Federal Jurisdiction[4]	State Jurisdiction[4]
			PFO	PEM	PSS	POW					
A	42.7297	-74.2535	--	5.45	--	--	5.45	R4	640	Yes	No
B	42.7318	-74.2528	--	0.14	--	--	0.14	--	--	Yes	No
D	42.7275	-74.2538	--	1.98	--	--	1.98	--	--	Yes	No
E	42.7288	-74.2543	--	0.14	--	--	0.14	--	--	Yes	No

[1]Field ID assigned by EDR.
[2]Wetland community types are based upon the Cowardin et al. (1979) classification system: PSS = Palustrine Scrub-Shrub, PEM = Palustrine Emergent, POW = Palustrine Open Water, and PFO = Palustrine Forested.
[3] Stream types are based upon the Cowardin et al. (1979) classification system: R4 = Riverine Intermittent
[4] Based on visual observation of hydrologic connectivity in the field and review of available spatial data. Final jurisdictional determination to be made by the USACE.
[5]Based on existing NYSDEC mapping of freshwater wetlands and streams. Final determination to be made by NYSDEC.

4.2.1 Wetlands

Emergent Wetlands – Four of the wetlands identified within the Project Site are dominated by emergent vegetation. These wetlands are characterized by the dominance of erect rooted herbaceous wetland plants. Emergent wetlands delineated in the Project Site were dominated by herbaceous plants such as creeping jenny (*Lysimachia nummularia*), sedges (*Carex* sp.), and soft rush (*Juncus effuses*) (see representative Photos 1 through 3 in Appendix C). Evidence of wetland hydrology in the emergent wetlands identified within the Project Site included standing surface water, a high water table, saturated soils, and oxidized rhizospheres on living roots. Hydric soil conditions observed within emergent wetlands included low chroma matrix colors ranging from very dark brown to brown (10YR 2/1, 10YR 4/1, 10YR 5/1, 2.5Y 5/1) with redox concentrations (5Y 5/8, 10YR 4/6, 10YR 5/6, 7.5YR 5/8, 7.5YR 6/8) in the matrix. Hydric soil indicators in the wetland included Redox Dark Surface (F6) and Depleted Matrix (F3). The soils sampled within emergent wetlands were a silt clay loam.

Vegetation observed in the uplands adjacent to delineated emergent wetlands included Canada goldenrod (*Solidago canadensis*), gray dogwood (*Cornus racemosa*), timothy grass (*Phleum pretense*), and bentgrass (*Agrostis stolonifera*) (see representative Photos 4 and 5 in Appendix C). The uplands displayed some evidence of wetland hydrology including an elevated water table and soil saturation. The silt clay loam soils ranged from dark reddish brown to brown (2.5Y 5/1, 2.5Y 6/1, 10YR 3/2, 10YR 4/2) with mottles (2.5Y 6/4, 10R 4/6). One soil sample was indicative of hydric conditions (Depleted Below Dark Surface A11), but lacked indicators of hydrophytic vegetation and wetland hydrology.

4.2.2 Streams

As indicated in Table 2, EDR ecologists identified 1 intermittent stream within the Project Site. The stream within the Project Site was generally located within emergent and scrub-shrub areas that had recently been disturbed (see representative Photos 6 through 8 in Appendix C). Substrate within the stream most commonly consisted of cobbles and silt, and its banks were well defined. Observed water depths were between 0 and 10 inches.

5.0 CONCLUSIONS

EDR ecologists identified four emergent wetlands, totaling 7.71 acres, within the Project Site. Wetlands were identified based on the presence of hydrophytic vegetation, wetland hydrology, and hydric soils. EDR ecologists also identified one intermittent stream, totaling 640 linear feet, within the Project Site. All of the wetlands and stream on site appear to have surface water connections to other WOUS, and are therefore are expected to be considered jurisdictional by the USACE under Section 404 of the Clean Water Act. The wetlands are not expected to fall under state jurisdiction

pursuant to Article 24 of the ECL because they do not occur within, or have hydrologic connection to, wetlands included on the NYSDEC Freshwater Wetlands Maps. However, final determination of jurisdictional status of all waters delineated within the Project Site must be made by the USACE and NYSDEC.

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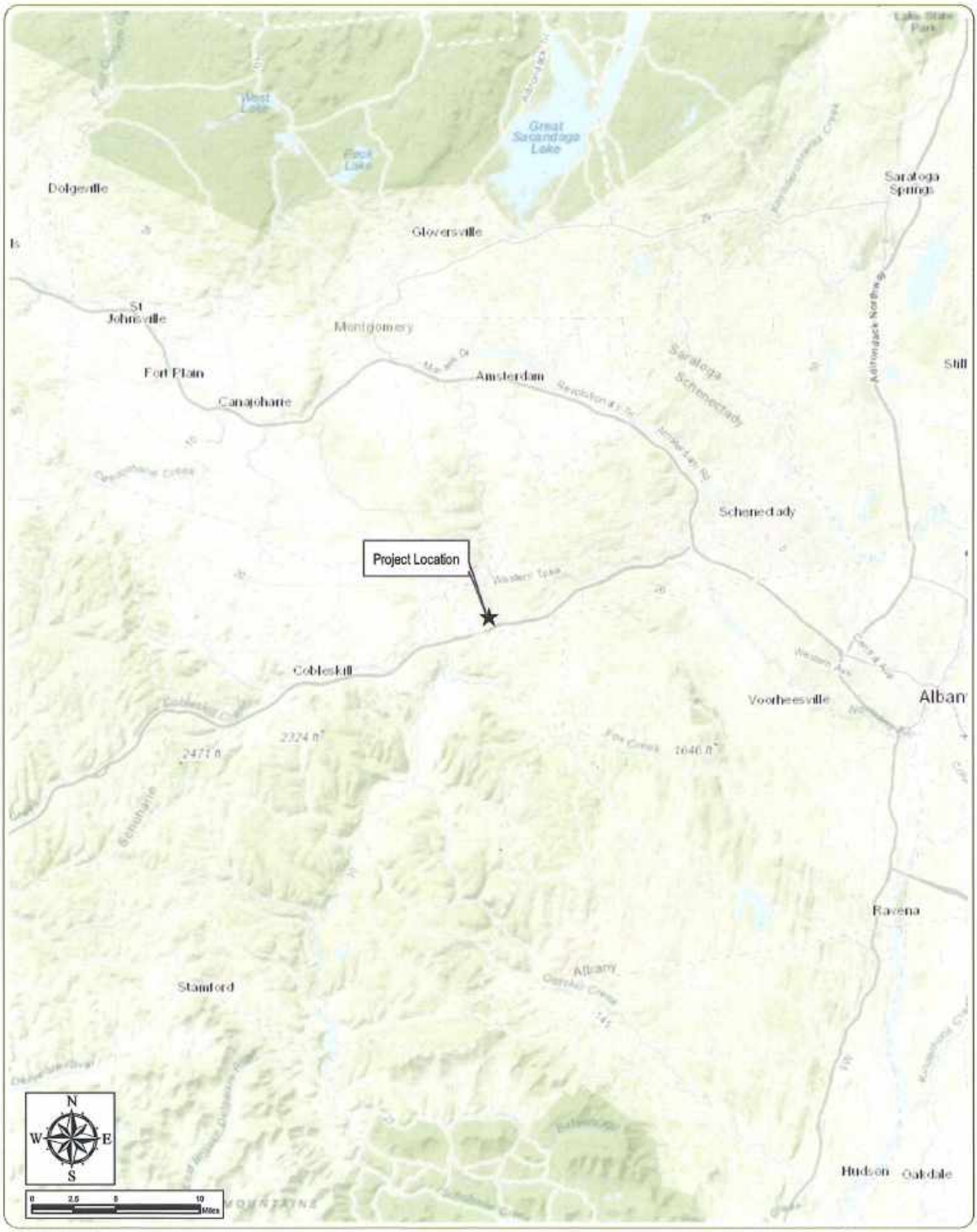
APPENDIX A

Figures



Oak Hill Solar

Parcel ID: 74.00-2-5

Town of Duanesburg, Schenectady County, New York

Figure 1: Regional Project Location

Notes: 1. Basemap: ESRI ArcGIS Online "World Topographic Map" map service. 2. This map was generated in ArcMap on July 19, 2019. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

Coordinates for Center of Project Site
Latitude: 42.729401
Longitude: -74.252744

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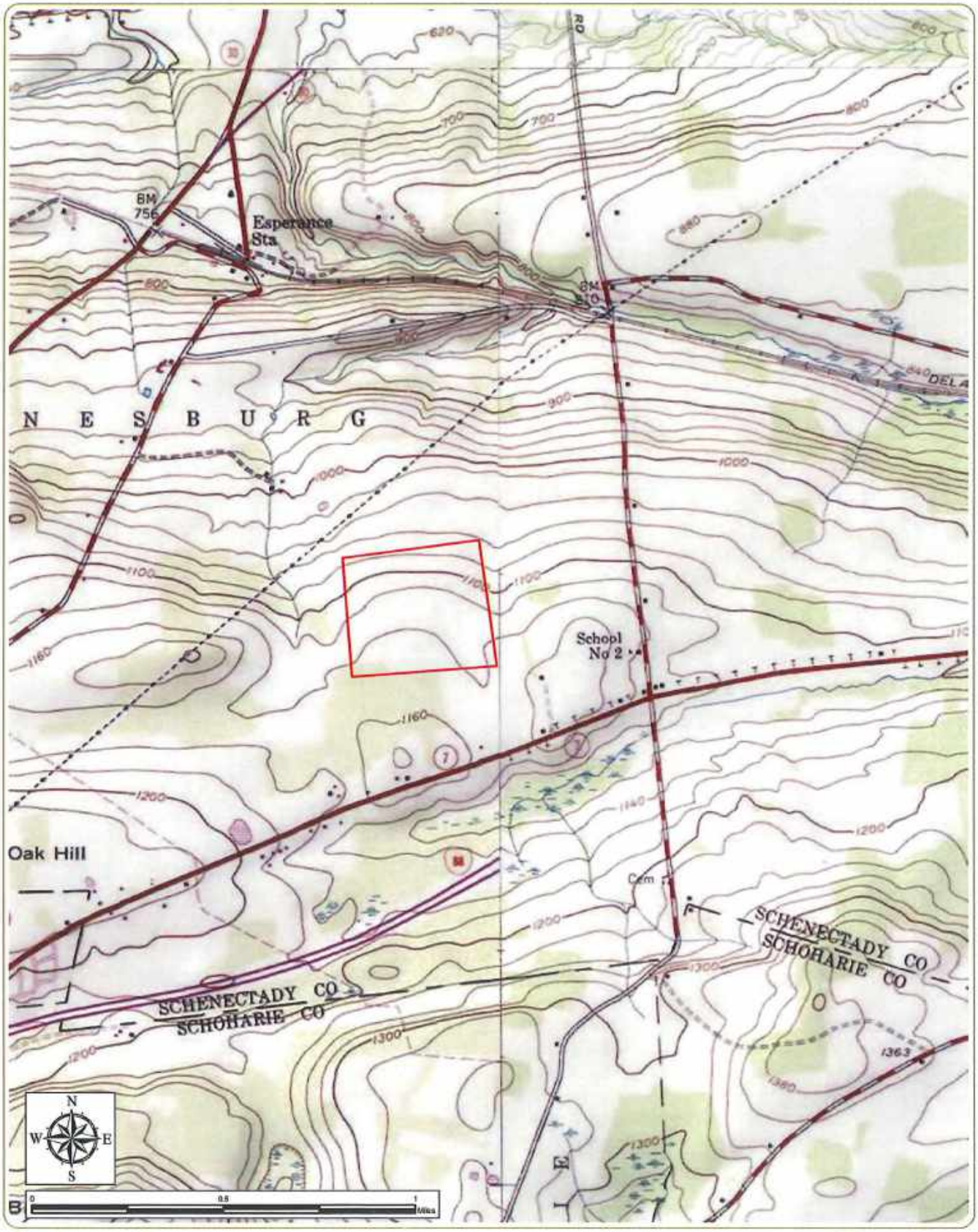

Oak Hill Solar

Parcel ID: 74.00-2-5

Town of Duanesburg, Schenectady County, New York

Figure 2: Topographic Mapping

Notes: 1. Basemap: ESRI ArcGIS Online "USA Topo Maps" map service. 2. This map was generated in ArcMap on July 19, 2019. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

Legend

Project Site

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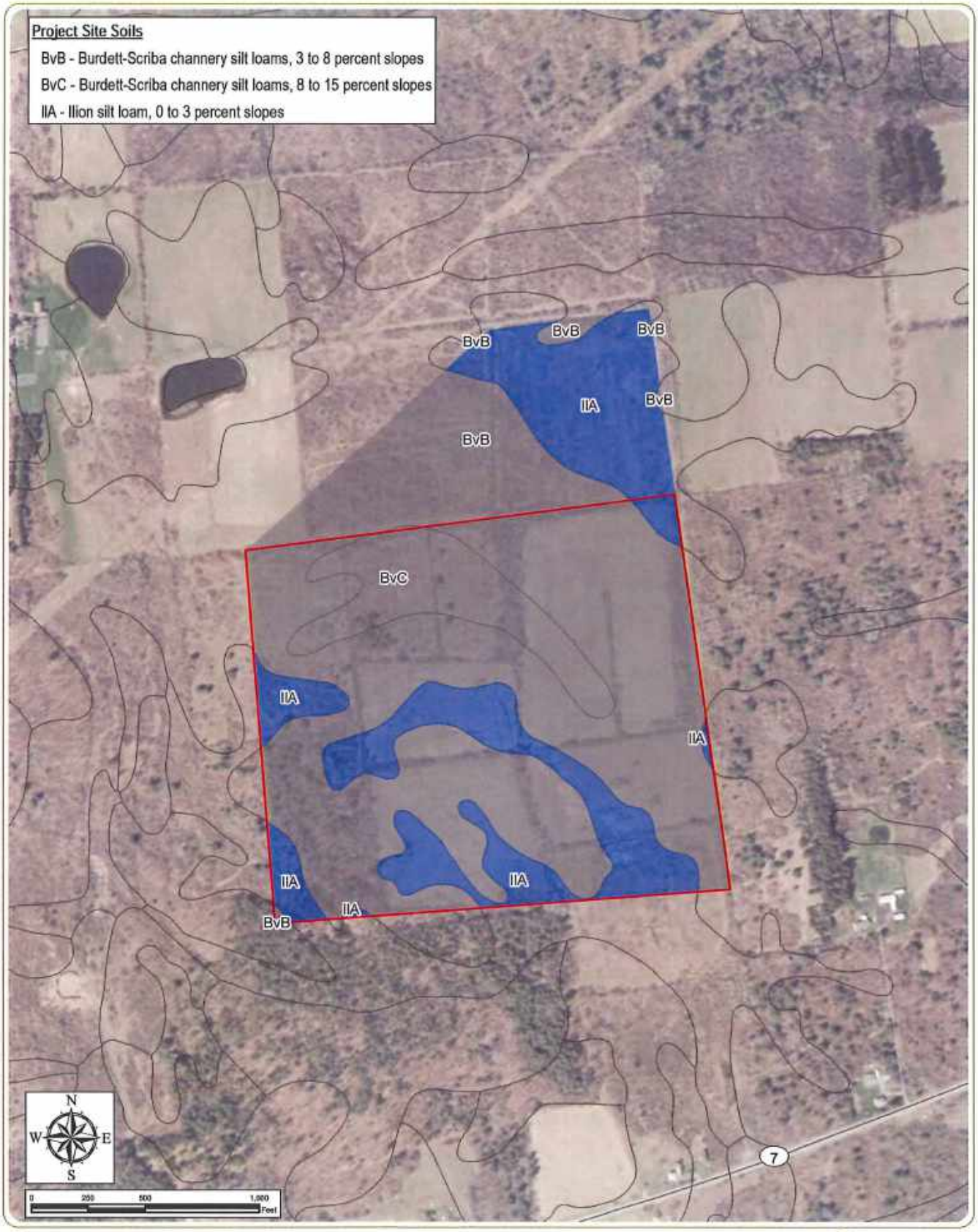

Oak Hill Solar

Parcel ID: 74.00-2-5

Town of Duanesburg, Schenectady County, New York

Figure 3: Project Site Soils

Notes: 1. Basemap: NYSDOP "2017" orthoimagery map service. 2. This map was generated in ArcMap on July 19, 2019. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

Legend

- Hydric Soil
- Not Hydric Soil
- Project Site

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Town of Duanesburg, Schenectady County, New York

Figure 4: Mapped Wetlands and Streams

Notes: 1. Basemap: NYSDOP "2017" orthoimagery map service.. 2. This map was generated in ArcMap on July 19, 2019. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

Legend

- NYSDEC Class C or D Stream
- NWI Mapped Pond/Riverine
- Project Site

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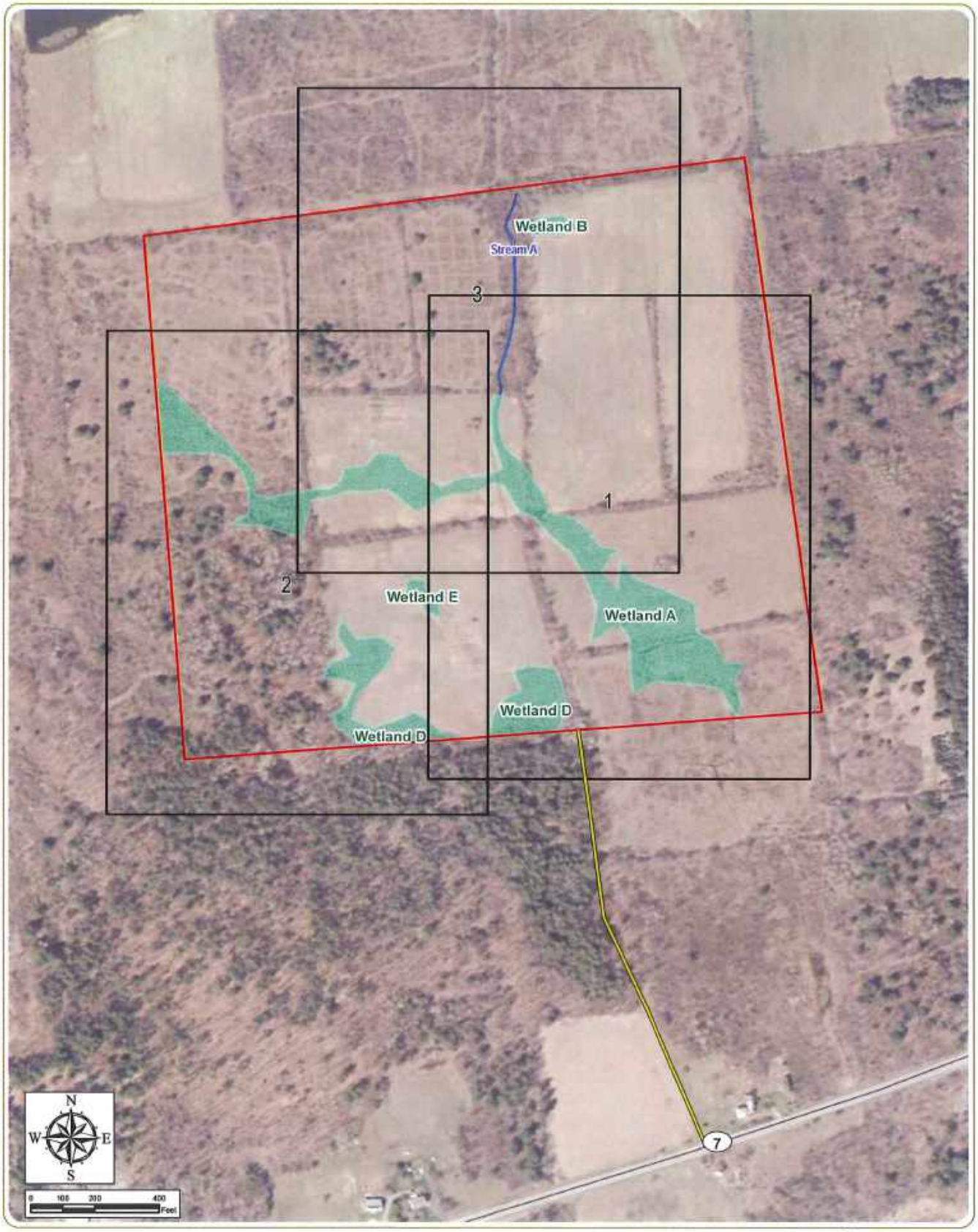

Oak Hill Solar

Parcel ID: 74.00-2-5

Town of Duanesburg, Schenectady County, New York

Figure 5: Delineated Wetlands and Streams - Index

Notes: 1. Basemap: NYSDOP "2017" orthoimagery map service. 2. This map was generated in ArcMap on July 19, 2019. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data. 4. Approximate location of existing farm road assumed to be

Legend

- Farm Road
- Project Site
- Delineated Stream
- Delineated Wetland

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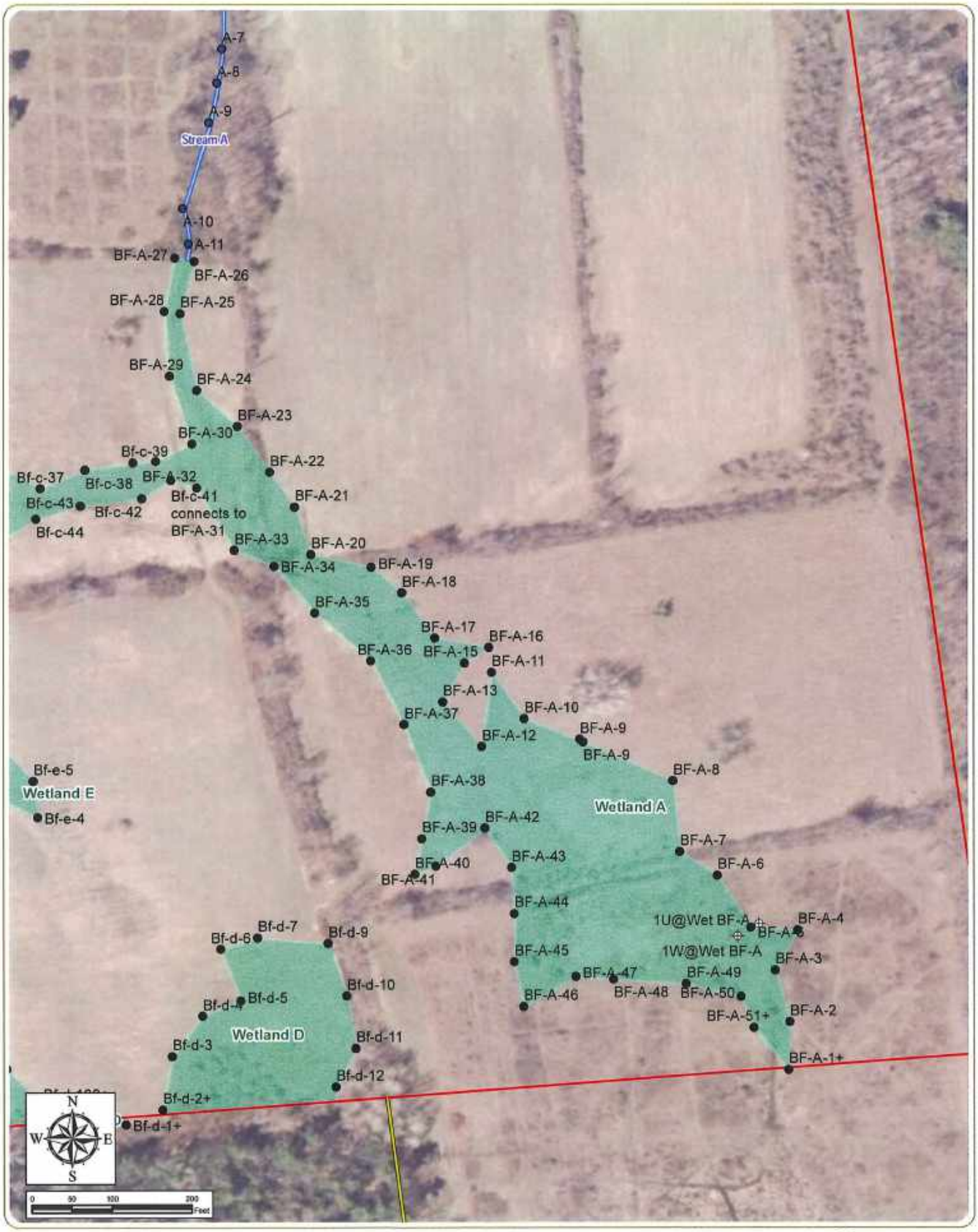

Oak Hill Solar

Parcel ID: 74.00-2-5

Town of Duanesburg, Schenectady County, New York

Figure 5: Delineated Wetlands and Streams - Sheet 1 of 3

Notes: 1. Basemap: NYSDOP "2017" orthoimagery map service. 2. This map was generated in ArcMap on July 19, 2019. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

J:\19058 Eden Renewables Oak Hill Solar

- Stream Flag
- Wetland Flag
- Wetland Datapoint
- Farm Road
- Delineated Waterway
- Delineated Wetland
- Project Site

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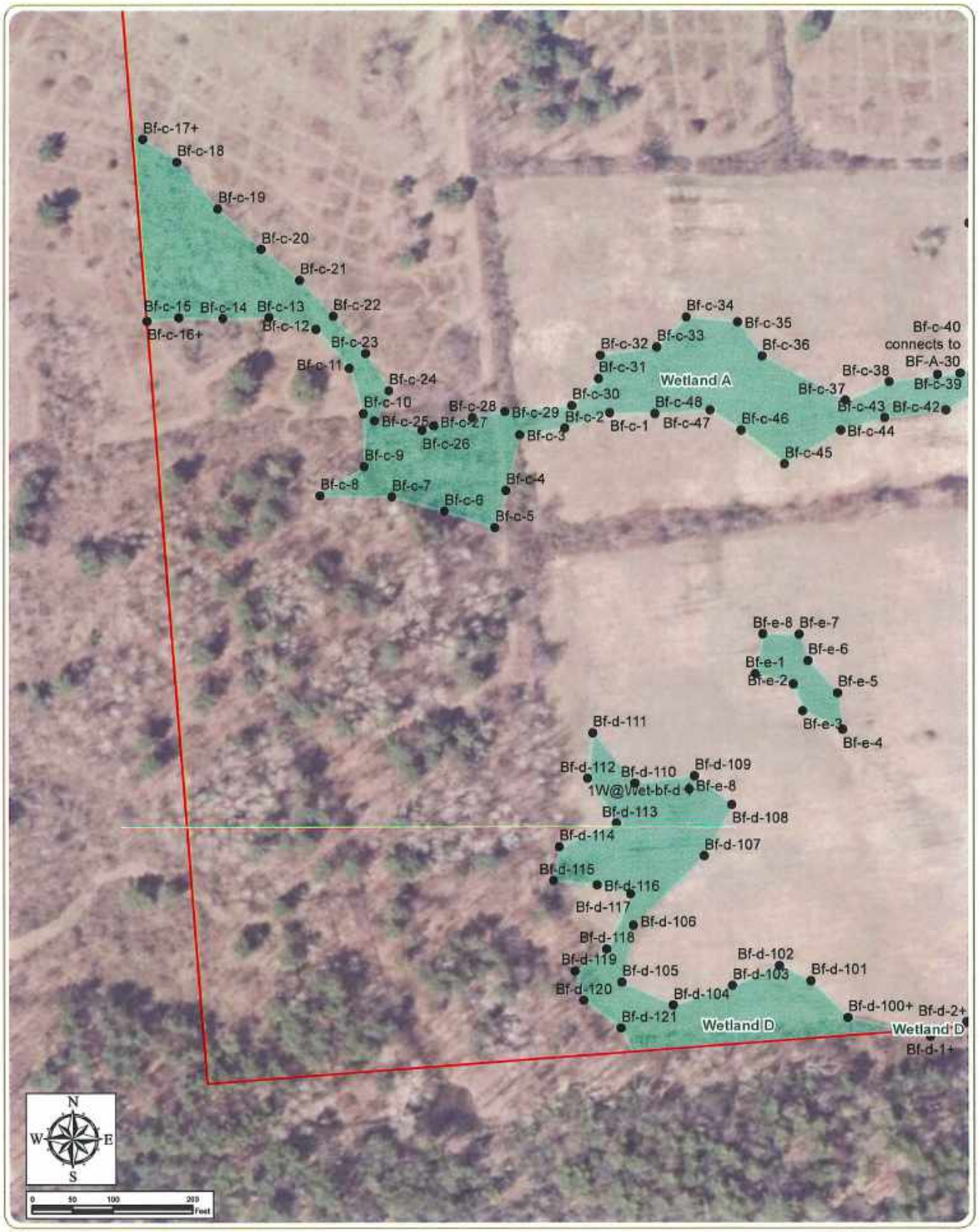

Oak Hill Solar

Parcel ID: 74.00-2-5

Town of Duanesburg, Schenectady County, New York

Figure 5: Delineated Wetlands and Streams - Sheet 2 of 3

Notes: 1. Basemap: NYSDOP "2017" orthoimagery map service. 2. This map was generated in ArcMap on July 19, 2019. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

J:\19058 Eden Renewables Oak Hill Solar

- Stream Flag
- Wetland Flag
- Wetland Datapoint
- Farm Road
- Delineated Waterway
- Delineated Wetland
- Project Site

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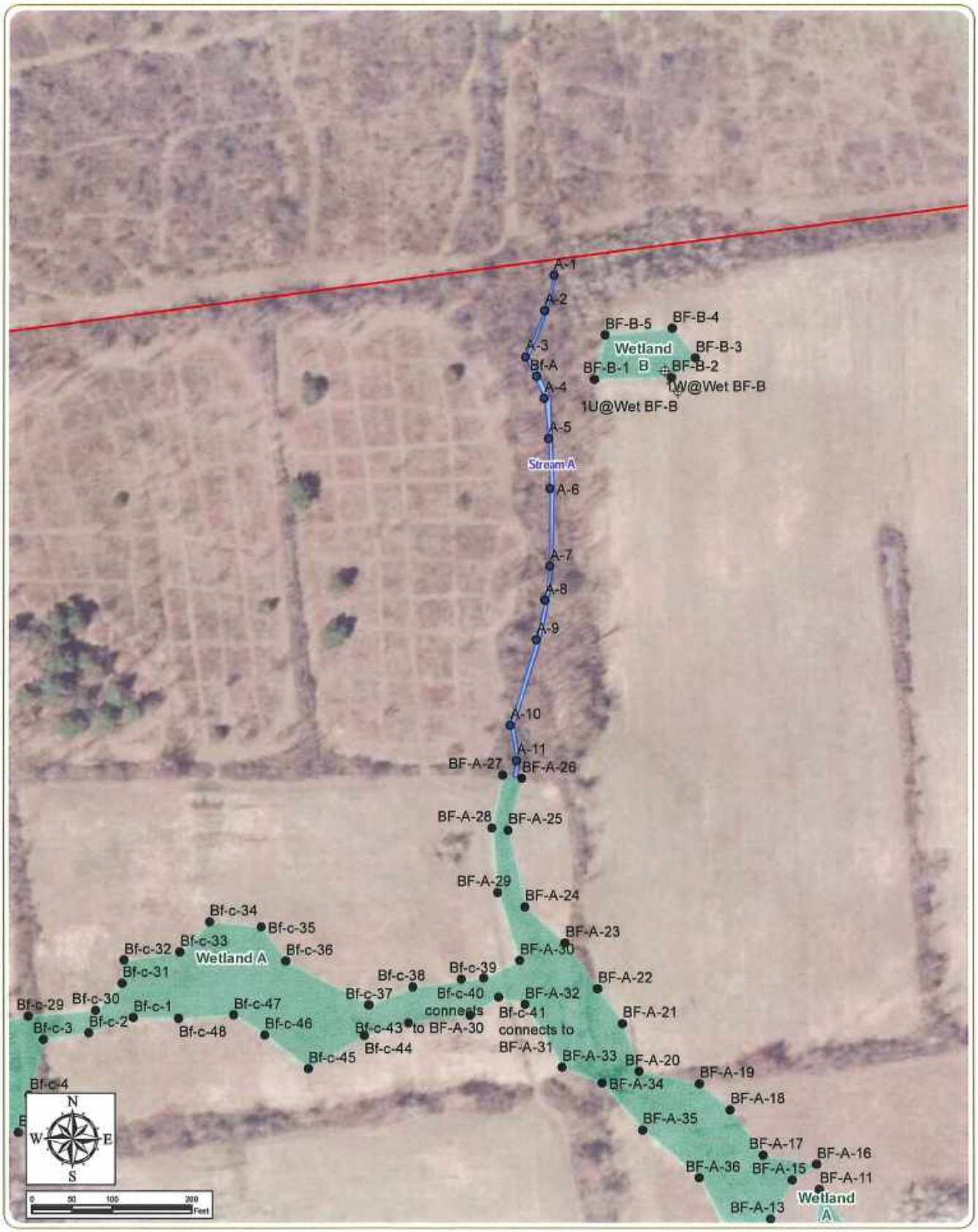

Oak Hill Solar

Parcel ID: 74.00-2-5

Town of Duanesburg, Schenectady County, New York

Figure 5: Delineated Wetlands and Streams - Sheet 3 of 3

Notes: 1. Basemap: NYSDOP "2017" orthoimagery map service. 2. This map was generated in ArcMap on July 19, 2019. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

J:\19058 Eden Renewables Oak Hill Solar

- Stream Flag
- Wetland Flag
- Wetland Datapoint
- Farm Road
- Delineated Waterway
- Delineated Wetland
- Project Site

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APPENDIX B

Routine Wetland Determination Data Sheets

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Oak Hill Solar City/County: Schenectady County Sampling Date: 04/23/2019

Applicant/Owner: Eden Renewables State: NY Sampling Point: 1U@Wet BF-A

Investigator(s): Krystal White, Ben Feinberg Section, Township, Range: Town of Duanesburg

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): none Slope %: 0-5

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 42.7282 Long: -74.2508 Datum: WGS84

Soil Map Unit Name: Ilion silt loam, 0 to 3 percent slopes NWI classification: UPL

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 X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

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)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes x	No ____	Depth (inches): 1
Saturation Present? (includes capillary fringe)	Yes x	No ____	Depth (inches): 4

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

SOIL

Sampling Point 1U@Wet BF-A

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/2	98	10R 4/6	2	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ 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**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: N/A

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

SOIL

Sampling Point 1w@Wet BF-A

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/1	95	5Y 6/8	5	C	M	Loamy/Clayey	Silt clay loam
12-18	10YR 4/1	95	10YR 6/8	5	C	M	Loamy/Clayey	Silt clay loam

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

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ 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)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: N/A

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** ___

Remarks:

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VEGETATION – Use scientific names of plants.

Sampling Point: 1w@Wet BF-A

Tree Stratum (Plot size: 30-foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size: 15-foot radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5-foot radius)			
1. *Lysimachia nummularia*	30	Yes	FACW
2. *Carex sp.*	10	Yes	
3. *Equisetum arvense*	2	No	FAC
4. *Juncus effusus*	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	47	=Total Cover	
Woody Vine Stratum (Plot size: 30-foot radius)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	30	x 2 =	60
FAC species	2	x 3 =	6
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	37 (A)		71 (B)

Prevalence Index = B/A = 1.92

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

X 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 X No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point 1U@Wet BF-B

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10R 3/2	100					Loamy/Clayey	Silty Clay Loam
12-18	2.5Y 5/1	80	2.5Y 6/4	20	C	M	Loamy/Clayey	Silty Clay Loam

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

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ 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**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: N/A

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

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VEGETATION – Use scientific names of plants.

Sampling Point: 1U@Wet BF-B

Tree Stratum (Plot size: 30-foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15-foot radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. *Phleum pratense*	80	Yes	FACU
2. *Agrostis stolonifera*	15	No	FACW
3. *Fragaria vesca*	1	No	UPL
4. *Galium aparine*	1	No	FACU
5. *Trifolium pratense*	1	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	98 =Total Cover		
Woody Vine Stratum (Plot size: 30-foot radius)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	82	x 4 =	328
UPL species	1	x 5 =	5
Column Totals:	98 (A)		363 (B)

Prevalence Index = B/A = 3.70

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 ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point 1w@Wet BF-B

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/1	95	10YR 5/6	5	C	M	Loamy/Clayey	Silty clay loam
8-16	2.5Y 5/1	60	10YR 4/6	40	C	M	Loamy/Clayey	Prominent redox concentrations

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

[2]Location: 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)
- ___ 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)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: N/A

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ____

Remarks:

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VEGETATION – Use scientific names of plants.

Sampling Point: 1w@Wet BF-B

Tree Stratum (Plot size: 30-foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size: 15-foot radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5-foot radius)			
1. *Juncus effusus*	20	Yes	OBL
2. *Carex sp.*	20	Yes	
3. *Agrostis stolonifera*	20	Yes	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60	=Total Cover	
Woody Vine Stratum (Plot size: 30-foot radius)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	40 (A)		60 (B)

Prevalence Index = B/A = 1.50

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 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 X No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point 1U@Wet BF-D

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/2	80	10YR 4/6	20	C	M	Loamy/Clayey	Silt Clay Loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ 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)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: N/A

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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VEGETATION – Use scientific names of plants.

Sampling Point: 1U@Wet BF-D

Tree Stratum (Plot size: 30-foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15-foot radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. *Phleum pratense*	80	Yes	FACU
2. *Trifolium pratense*	5	No	FACU
3. *Fragaria vesca*	5	No	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 =Total Cover		
Woody Vine Stratum (Plot size: 30-foot radius)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	85	x 4 =	340
UPL species	5	x 5 =	25
Column Totals:	90 (A)		365 (B)

Prevalence Index = B/A = 4.06

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 ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Oak Hill Solar City/County: Schenectady County Sampling Date: 04/23/2019

Applicant/Owner: Eden Renewables State: NY Sampling Point: WetBF-D

Investigator(s): Krystal White, Ben Feinberg Section, Township, Range: Town of Duanesburg

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope %: 0-5

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 42.7284 Long: -74.2549 Datum: WGS84

Soil Map Unit Name: Ilion silt loam, 0 to 3 percent slopes NWI classification: PEM

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 ____	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No ____	**within a Wetland?** **Yes** X **No** ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

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)
- X Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 1
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

SOIL

Sampling Point 1W@Wet-BF-D

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 5/1	90	7.5R 5/8	10	C	M	Loamy/Clayey	Prominent redox concentrations
10-18	10YR 5/1	60	7.5R 6/8	40	C	M	Loamy/Clayey	Prominent redox concentrations

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

[2]Location: 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)
- ___ 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)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: N/A

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

APPENDIX C

Photos of Representative Wetland Communities

Photo 1

Date: 4/24/2019
Latitude: 42.73182
Longitude: -74.25274
Representative Emergent Wetland

Photo 2

Date: 4/24/2019
Latitude: 42.72843
Longitude: -74.25487
Representative Emergent Wetland

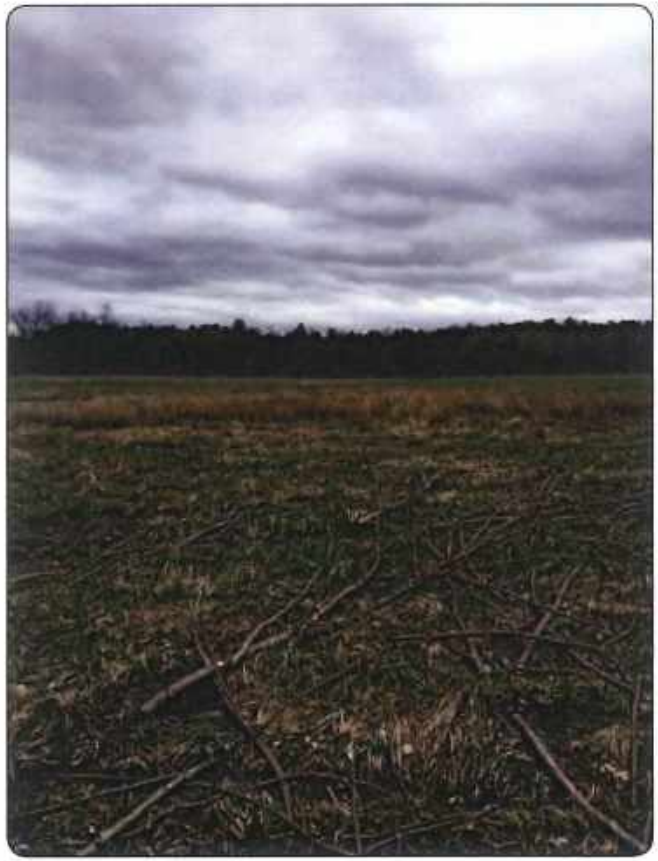


Photo 3

Date: 4/24/2019
Latitude: 42.73189
Longitude: -74.25311
Representative Emergent Wetland

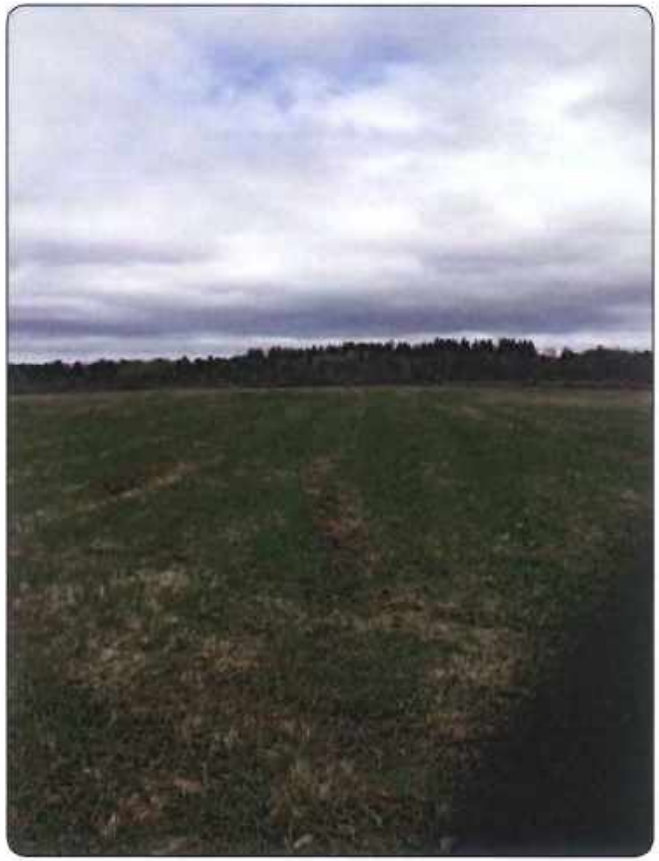


Photo 4

Date: 4/24/2019
Latitude: 42.72845
Longitude: -74.25484
Representative upland mowed area

Photo 5

Date: 4/24/2019
Latitude: 42.73137
Longitude: -74.25334
Representative upland shrub area

Photo 6

Date: 4/24/2019
Latitude: 42.73046
Longitude: -74.25352
Agricultural ditch forming near emergent wetlands

Photo 7

Date: 4/24/2019
Latitude: 42.73168
Longitude: -74.2533
Agricultural ditch forming near emergent wetland BF-A in the middle of the Project Site.

Photo 8

Date: 4/24/2019
Latitude: 42.73188
Longitude: -74.25341
Representative photo of agricultural ditch flowing north out of the Project Site.

Attachment B

Joint Application Form

NEW YORK STATE | Department of Environmental Conservation | Office of General Services | Department of State

US Army Corps of Engineers

JOINT APPLICATION FORM

For Permits for activities activities affecting streams, waterways, waterbodies, wetlands, coastal areas, sources of water, and endangered and threatened species.

You must separately apply for and obtain Permits from each involved agency before starting work. Please read all instructions.

1. **Applications To:**

>NYS Department of Environmental Conservation ☑ Check here to confirm you sent this form to NYSDEC.

Check all permits that apply:

- ☐ Stream Disturbance
- ☐ Excavation and Fill in Navigable Waters
- ☐ Docks, Moorings or Platforms
- ☐ Dams and Impoundment Structures
- ☒ 401 Water Quality Certification
- ☐ Freshwater Wetlands
- ☐ Tidal Wetlands
- ☐ Wild, Scenic and Recreational Rivers
- ☐ Coastal Erosion Management
- ☐ Water Withdrawal
- ☐ Long Island Well
- ☐ Incidental Take of Endangered / Threatened Species

>US Army Corps of Engineers ☑ Check here to confirm you sent this form to USACE.

Check all permits that apply: ☑ Section 404 Clean Water Act ☐ Section 10 Rivers and Harbors Act

Is the project Federally funded? ☐ Yes ☑ No

If yes, name of Federal Agency:

General Permit Type(s), if known: Nationwide Permits 12, 14 and/or 51

Preconstruction Notification: ☑ Yes ☐ No

>NYS Office of General Services ☐ Check here to confirm you sent this form to NYSOGS.

Check all permits that apply:

- ☐ State Owned Lands Under Water
- ☐ Utility Easement (pipelines, conduits, cables, etc.)
- ☐ Docks, Moorings or Platforms

>NYS Department of State ☐ Check here to confirm you sent this form to NYSDOS.

Check if this applies: ☐ Coastal Consistency Concurrence

2. **Name of Applicant**

Oak Hill Solar 1 LLC, Oak Hill Solar 2 LLC

Taxpayer ID (if applicant is NOT an individual)

82-4792162, 82-4803072

Mailing Address: 333 Broadway, Suite 460

Post Office / City: Troy

State: NY

Zip: 12180

Telephone: 518-326-0259

Email: Giovanni.maruca@edenrenewables.com

Applicant Must be (check all that apply): ☐ Owner ☐ Operator ☑ Lessee

3. **Name of Property Owner (if different than Applicant)**

Mailing Address

Post Office / City

State

Zip

Telephone

Email

For Agency Use Only	Agency Application Number:

4. Name of Contact / Agent

Brian Kirkpatrick

Mailing Address: EDR, 217 Montgomery Street, Suite 1000

Post Office / City: Syracuse

State: NY

Zip: 13202

Telephone: 315-471-0688 ext 606

Email: Bkirkpatrick@edrdpc.com

5. Project / Facility Name

Oak Hill Solar 1 and 2

Property Tax Map Section / Block / Lot Number: 74.00-2-5

Project Street Address, if applicable: 13590-13592 Duanesburg Road

Post Office / City: Delanson

State: NY

Zip: 12053

Provide directions and distances to roads, intersections, bridges and bodies of water

East side of Route 7/ Duanesburg Road

☑ Town ☐ Village ☐ City

Duanesburg

County: Schenectady

Stream/Waterbody Name: Unnamed Tributary Normans Kill

Project Location Coordinates: Enter Latitude and Longitude in degrees, minutes, seconds:

Latitude: 42 ° 43 ' 45.84 N "

Longitude: 74 ° 15 ' 9.88W "

6. Project Description: Provide the following information about your project. Continue each response and provide any additional information on other pages. **Attach plans on separate pages.**

a. Purpose of the proposed project:

The applicant proposes to construct two (2) 5.0 MW photo-voltaic solar arrays. The project purpose is to create 10.0 MW of renewable energy on the site.

b. Description of current site conditions:

The project site consists of a mixture of woodlands, early succession shrublands and actively managed hayfield. The portion of the site where development is proposed is largely developed consisting of hayfields

c. Proposed site changes:

Construction of access roads, trenching for utility lines, installation of photovoltaic arrays and fencing. Existing soils and vegetation will remain under the arrays

d. Type of structures and fill materials to be installed, and quantity of materials to be used (e.g., square feet of coverage, cubic yards of fill material, structures below ordinary/mean high water, etc.):

Structures in wetlands include at grade roads requiring less than 75 yards of fill below existing grade. Less than 25 cubic yards of bedding material is expected in wetlands for utility lines. Fill will consist of clean stone and other clean aggregates.. No fill above existing grades in anticipated

e. Area of excavation or dredging, volume of material to be removed, location of dredged material placement:

Less than 100 cubic yards of material is anticipated to be excavated for access roads and utilities. Material not used for back fill will be placed in uplands or removed from the site.

f. Is tree cutting or clearing proposed? ☐ Yes If Yes, explain below. ☑ No

Timing of the proposed cutting or clearing (month/year):

Number of trees to be cut:

Acreage of trees to be cleared:

g. Work methods and type of equipment to be used:

Light equipment such as pickup truck, vibratory cable laying equipment, excavators, small bulldozers, skid steers and small dump trucks will be used to construct the access road, racking system for the solar panels and install underground utilities

h. Describe the planned sequence of activities:

1) Install soil erosion and sediment control measures; 2) clear and grub road bed; 3) backfill road bed; 4) excavate trenches; 5) place bedding in trenches where required; 6) back fill trenches; 7) drive posts and install racking systems and panels; 8) revegetate disturbed area. Construction is expected to take approximately 12 months

i. Pollution control methods and other actions proposed to mitigate environmental impacts:

Sediment control measures will be installed to mitigate impacts associated with soil disturbance. Motor vehicles will meet current emissions standards. Renewable energy facility will eliminate greenhouse gas emissions for 10 MW electric generation

j. Erosion and silt control methods that will be used to prevent water quality impacts:

See attached site plans

k. Alternatives considered to avoid regulated areas. If no feasible alternatives exist, explain how the project will minimize impacts:

To achieve project avoidance of all wetlands impacts is not practicable. However, the project has been designed to minimize wetlands impacts to the extent practicable. Project implementation requires the permanent loss or temporary disturbance of less than 0.1 acre of wetlands for the construction of a limited use pervious access road. Installation of underground collection cables and underground closed caption television (CCTV) cables. All other construction activities have been designed to avoid discharge of fill in wetlands.

l. Proposed use: ☐ Private ☐ Public ☑ Commercial

m. Proposed Start Date: 9/2019 Estimated Completion Date: 10/2020

n. Has work begun on project? ☐ Yes If Yes, explain below. ☑ No

o. Will project occupy Federal, State, or Municipal Land? ☐ Yes If Yes, explain below. ☑ No

p. List any previous DEC, USACE, OGS or DOS Permit / Application numbers for activities at this location:

None

q. Will this project require additional Federal, State, or Local authorizations, including zoning changes?

☑ Yes If Yes, list below. ☐ No

Special Use Permit, NYSDOT - curb cut, OPRHP, NYSERDA, County Planning Board 239-M referral

7. **Signatures.**

Applicant and Owner (If different) must sign the application.
Append additional pages of this Signature section if there are multiple Applicants, Owners or Contact/Agents.

I hereby affirm that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief.

Permission to Inspect - I hereby consent to Agency inspection of the project site and adjacent property areas. Agency staff may enter the property without notice between 7:00 am and 7:00 pm, Monday - Friday. Inspection may occur without the owner, applicant or agent present. If the property is posted with "keep out" signs or fenced with an unlocked gate, Agency staff may still enter the property. Agency staff may take measurements, analyze site physical characteristics, take soil and vegetation samples, sketch and photograph the site. I understand that failure to give this consent may result in denial of the permit(s) sought by this application.

False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the NYS Penal Law. Further, the applicant accepts full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said project. In addition, Federal Law, 18 U.S.C., Section 1001 provides for a fine of not more than $10,000 or imprisonment for not more than 5 years, or both where an applicant knowingly and willingly falsifies, conceals, or covers up a material fact; or knowingly makes or uses a false, fictitious or fraudulent statement.

Signature of Applicant | Date: 8/16/2019

Applicant Must be (check all that apply): [ ] Owner [ ] Operator [x] Lessee

Printed Name: Giovanni Maruca | Title: Chief Development Officer

Signature of Owner (if different than Applicant) | Date:

Printed Name: | Title:

Signature of Contact / Agent | Date: 08/20/2019

Printed Name: Brian Kirkpatrick | Title: Director, Ecological Services

For Agency Use Only **DETERMINATION OF NO PERMIT REQUIRED**

Agency Application Number:

(Agency Name) has determined that No Permit is required from this Agency for the project described in this application.

Agency Representative:

Printed Name: | Title:

Signature: | Date:

Attachment C

Project Drawings

PROPOSED SITE PLAN FOR

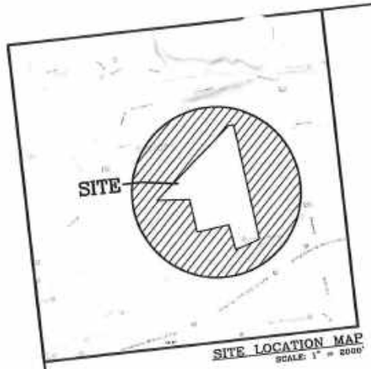
OAK HILL SOLAR 1&2

APPLICANT:

OAK HILL SOLAR 1, LLC & OAK HILL SOLAR 2, LLC

13950 DUANESBURG ROAD

TOWN OF DUANESBURG, SCHENECTADY COUNTY, NEW YORK



SITE LOCATION MAP
SCALE: 1" = 2000'

SITE STATISTICS

EXISTING ZONING	AGRICULTURAL AND RESIDENTIAL (R-2)
PARCEL AREA	
LOT 1	70.378 AC
LOT 2	70.353 AC
PROPOSED SOLAR FIELD SETBACK	
FRONT	OAK HILL 1: 100 FT OAK HILL 2: 100 FT
SIDE	OAK HILL 1: 40 FT OAK HILL 2: 40 FT
REAR	OAK HILL 1: 100 FT OAK HILL 2: 100 FT
ACCESS ROAD LENGTH	±2,740 FT
SCHOOL DISTRICT	DUANESBURG CENTRAL
FIRE DISTRICT	QUAKER ST. FIRE DEPARTMENT
OAK HILL SOLAR 1 PROPOSED COVERAGE	32.2± ACRES FENCED AREA
OAK HILL SOLAR 2 PROPOSED COVERAGE	33.0± ACRES FENCED AREA
PROPOSED DISTURBANCE	
ACCESS ROAD, ELECTRICAL TRENCHES, SPARE PARTS STORAGE, EQUIPMENT PADS	±0.88 AC ±0.06 AC (2,604 SF)

DRAWING INDEX

TOWN OF DUANESBURG PLANNING BOARD

RECORD OF WORK	DATE	BY
SUBMITTAL TO TOWN OF DUANESBURG PB	5/17/2019	TJM
RESUBMIT TO TOWN OF DUANESBURG PB	6/24/2019	TJM

PLANS PREPARED BY:

ENVIRONMENTAL DESIGN PARTNERSHIP, LLP.

PROPOSED SITE PLAN FOR
OAK HILL SOLAR 1&2
APPLICANT: OAK HILL SOLAR 1, LLC/ OAK HILL SOLAR 2, LLC
13950 DUANESBURG ROAD
TOWN OF DUANESBURG
SCHENECTADY COUNTY, NEW YORK

TAX MAP No. 74.00-2-5
FEBRUARY 8, 2019

SCALE: N.T.S.
NOT FOR CONSTRUCTION
SHEET TITLE: COVERSHEET
SHEET: 1 of 10

PROPOSED SITE PLAN FOR

OAK HILL SOLAR 1&2

APPLICANT: OAK HILL SOLAR 1, LLC/ OAK HILL SOLAR 2, LLC

13590 DUANESBURG ROAD
TOWN OF DUANESBURG
SCHENECTADY COUNTY, NEW YORK

TAX MAP No. 74.00-2-5
FEBRUARY 8, 2019

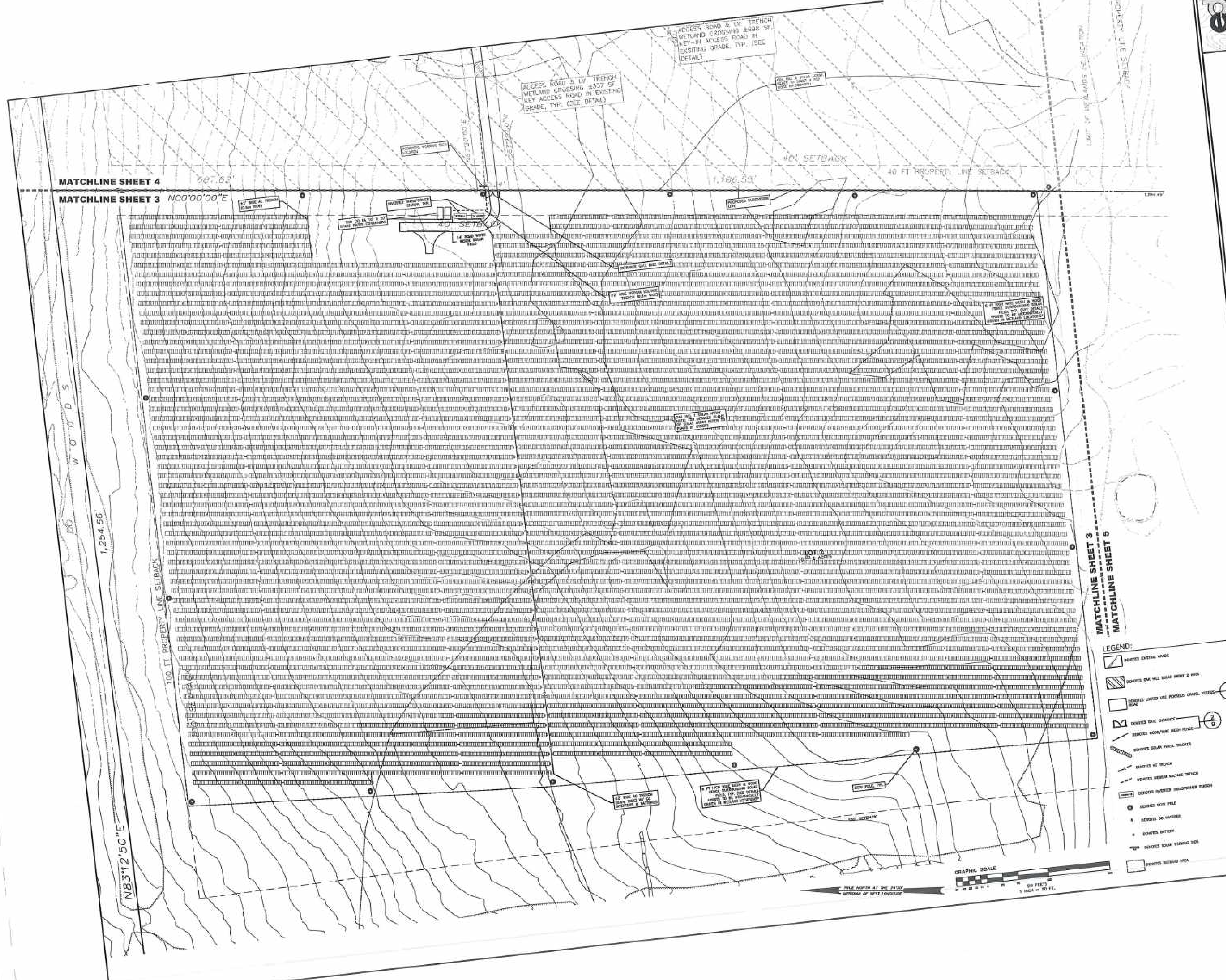
ENVIRONMENTAL DESIGN PARTNERSHIP, LLP.

SHEET:
2 of 10

SHEET TITLE:
EXISTING CONDITIONS

NOT FOR CONSTRUCTION

SCALE:
1"=150'



PROPOSED SITE PLAN FOR
OAK HILL SOLAR 1&2
APPLICANT: OAK HILL SOLAR 1, LLC/ OAK HILL SOLAR 2, LLC

13590 DUANESBURG ROAD
TOWN OF DUANESBURG
SCHENECTADY COUNTY, NEW YORK

TAX MAP No. 74.00-2-5
FEBRUARY 8, 2019

SCALE: 1"=50'

NOT FOR CONSTRUCTION

SHEET TITLE: SITE PLAN OAK HILL 1

SHEET: 3 of 10


AREA = 3.046±
MATCHLINE SHEET
WOODS
STONEWALL
S06°20'20"E
2,267.41'
1,012.75'
100 FT PROPERTY LINE SETBACK
S04°08'40"E
N16°30'10"W
237.63'
ACCESS ROAD & LV TRENCH WETLAND CROSSING ±337 SF. KEY ACCESS ROAD IN EXISTING GRADE, TYP. (SEE DETAIL)
ACCESS ROAD & LV TRENCH WETLAND CROSSING ±698 SF. KEY-IN ACCESS ROAD IN EXSITING GRADE, TYP. (SEE DETAIL)
MATCHLINE SHEET 4
MATCHLINE SHEET 3
687.62'
N00°00'00"E
1,106.53'
40' SETBACK
40 FT PROPERTY LINE SETBACK
LEGEND:
GRAPHIC SCALE
(IN FEET)
1 INCH = 50 FT.
ENVIRONMENTAL PARTNERS
PROPOSED SITE PLAN FOR
OAK HILL SOLAR 1&2
APPLICANT: OAK HILL SOLAR 1, LLC/ OAK HILL SOLAR 2, LLC
13590 DUANESBURG ROAD
TOWN OF DUANESBURG
SCHENECTADY COUNTY, NEW YORK
TAX MAP No. 74.00-2-5
FEBRUARY 8, 2019
SCALE: 1"=50'
NOT FOR CONSTRUCTION
SHEET TITLE: SITE PLAN OAK HILL 2
SHEET: 4 of 10

MATCHLINE SHEET 4

MATCHLINE SHEET 5

MATCHLINE SHEET 3

MATCHLINE SHEET 5

STONEWALL

FALLEN BOX WIRE FENCE

IPF

50' WIDE PROPOSED INGRESS/EGRESS UTILITY AND MAINTENANCE EASEMENT TO THE OWNER OF LOT 2 AREA=3.02± ACRES

WOODS

STONEWALL

GRAVEL FARM ROAD

893.68'

40' SETBACK

ASPHALT PAVEMENT

PROPOSED WARNING SIGN

PROPOSED ENTRANCE FROM DUANESBURG ROAD/ STATE HIGHWAY NY-7. CONNECT/ UPGRADE REQUIRED FROM TO BECOME CONFIGURATION

PROPOSED WARNING SIGN

STONEWALLS

100 FT PROPERTY LINE SETBACK

LIMIT OF WETLANDS DELINEATION

40 FT PROPERTY LINE SETBACK

S83°07'50"W

3,894.19'

40 FT PROPERTY LINE SETBACK

WOODS

100' SETBACK

CIRF (RDM)

N83°08'E, 6.1' TO LIPF

966.3' (DEED REFERENCE No. 1, PARCEL # 1)

STONEWALL

CIRF (RDM)

ASPHALT PAVEMENT

LEGEND:

DENOTES EXISTING GRADE

DENOTES LIMITED USE PERVIOUS GRAVEL ACCESS ROAD

DENOTES GATE ENTRANCE

DENOTES NYSC MESH/ WOOD FENCE

DENOTES SOLAR PANEL TRACKER

DENOTES AC TRENCH

DENOTES MEDIUM VOLTAGE TRENCH

DENOTES UTILITY POLE

DENOTES SOLAR WARNING SIGN

DENOTES WETLAND AREA

GRAPHIC SCALE

1 INCH = 50 FT.

edp

ENVIRONMENTAL DESIGN PARTNERSHIP, LLP.

PROPOSED SITE PLAN FOR

OAK HILL SOLAR 1&2

APPLICANT: OAK HILL SOLAR 1, LLC/ OAK HILL SOLAR 2, LLC

13590 DUANESBURG ROAD

TOWN OF DUANESBURG

SCHENECTADY COUNTY, NEW YORK

TAX MAP No. 74.00-2-5

FEBRUARY 8, 2019

REVISIONS	DATE	BY

SCALE: 1"=50'

NOT FOR CONSTRUCTION

SHEET TITLE: SITE PLAN ACCESS ROAD

SHEET: 5 of 10

DISTURBANCE CALCULATIONS

PROPOSED DISTURBANCE FEATURE	
LV UTILITY TRENCH	0.137 AC
AC TRENCH	0.127 AC
SPARE PARTS CONTAINERS (4)	0.020 AC
TRANSFORMER STATIONS	0.016 AC
ACCESS ROAD WIDENING/ MISC ROAD DISTURBANCE	0.577 AC
TOTAL DISTURBANCE	0.877 AC

WETLAND DISTURBANCES

PROPOSED DISTURBANCE FEATURE	
ACCESS ROAD/LV UTILITY TRENCH	1,035 SF
AC TRENCH	548 SF
CCTV UTILITY TRENCH	1,021 SF
TOTAL DISTURBANCE	2,604 SF (0.0598 AC)

GRAPHIC SCALE

(IN FEET)
1 INCH = 50 FT.

LEGEND:

ENVIRONMENTAL DESIGN PARTNERSHIP, LLP.

PROPOSED SITE PLAN FOR
OAK HILL SOLAR 1&2
APPLICANT: OAK HILL SOLAR 1, LLC/ OAK HILL SOLAR 2, LLC

13590 DUANESBURG ROAD
TOWN OF DUANESBURG
SCHENECTADY COUNTY, NEW YORK

TAX MAP No. 74.00-2-6
FEBRUARY 8, 2019

SCALE: 1"=50'

NOT FOR CONSTRUCTION

SHEET TITLE: EROSION & SEDIMENT CONTROL PLAN OAK HILL 1

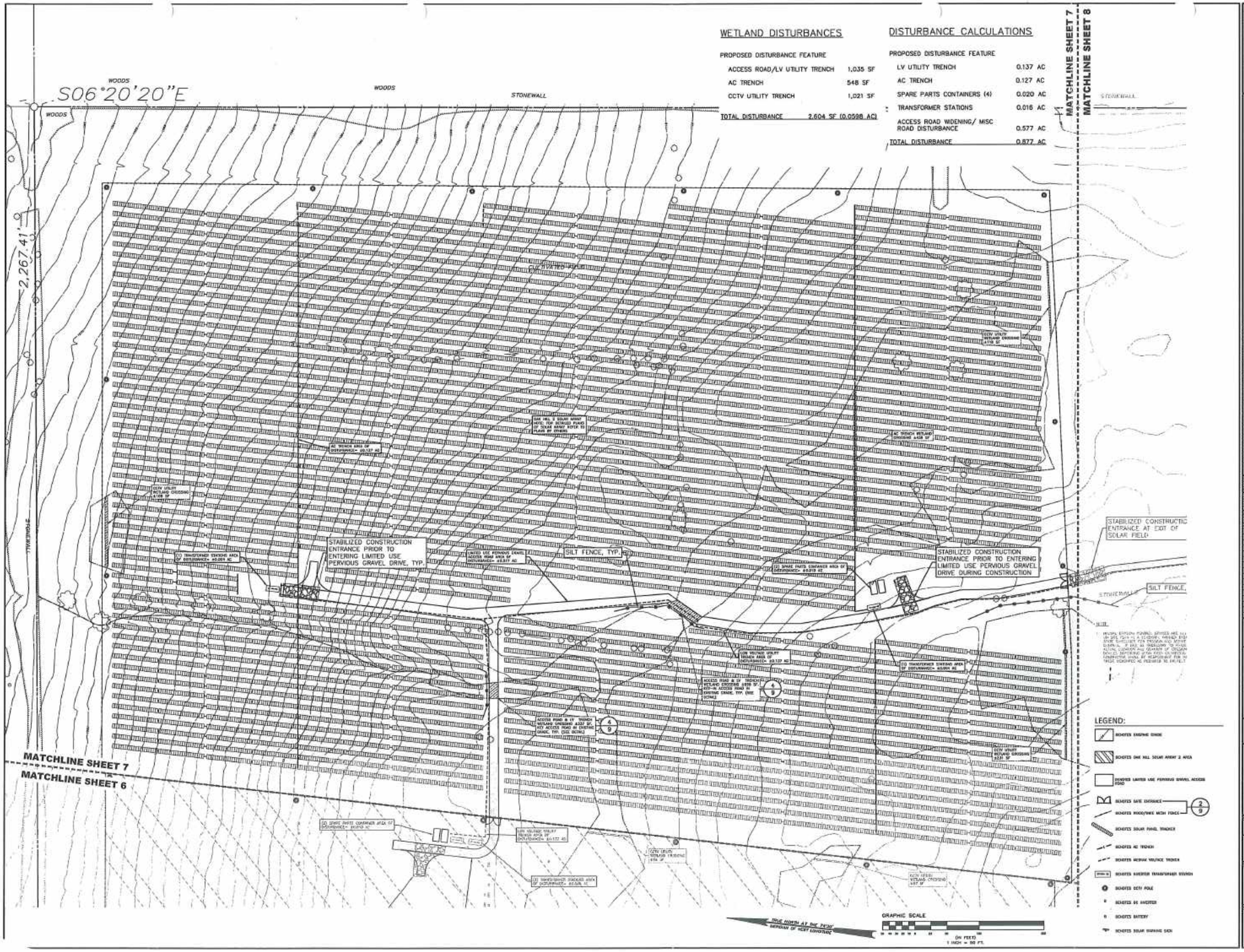
SHEET: 6 of 10

WETLAND DISTURBANCES

PROPOSED DISTURBANCE FEATURE	
ACCESS ROAD/LV UTILITY TRENCH	1,035 SF
AC TRENCH	548 SF
CCTV UTILITY TRENCH	1,021 SF
TOTAL DISTURBANCE	2,604 SF (0.0598 AC)

DISTURBANCE CALCULATIONS

PROPOSED DISTURBANCE FEATURE	
LV UTILITY TRENCH	0.137 AC
AC TRENCH	0.127 AC
SPARE PARTS CONTAINERS (4)	0.020 AC
TRANSFORMER STATIONS	0.016 AC
ACCESS ROAD WIDENING/ MISC ROAD DISTURBANCE	0.577 AC
TOTAL DISTURBANCE	0.877 AC



ENVIRONMENTAL DESIGN PARTNERSHIP, LLP

PROPOSED SITE PLAN FOR OAK HILL SOLAR 1&2

APPLICANT: OAK HILL SOLAR 1, LLC/ OAK HILL SOLAR 2, LLC

13590 DUANESBURG ROAD
TOWN OF DUANESBURG
SCHENECTADY COUNTY, NEW YORK

TAX MAP No. 74.00-2-5
FEBRUARY 8, 2019

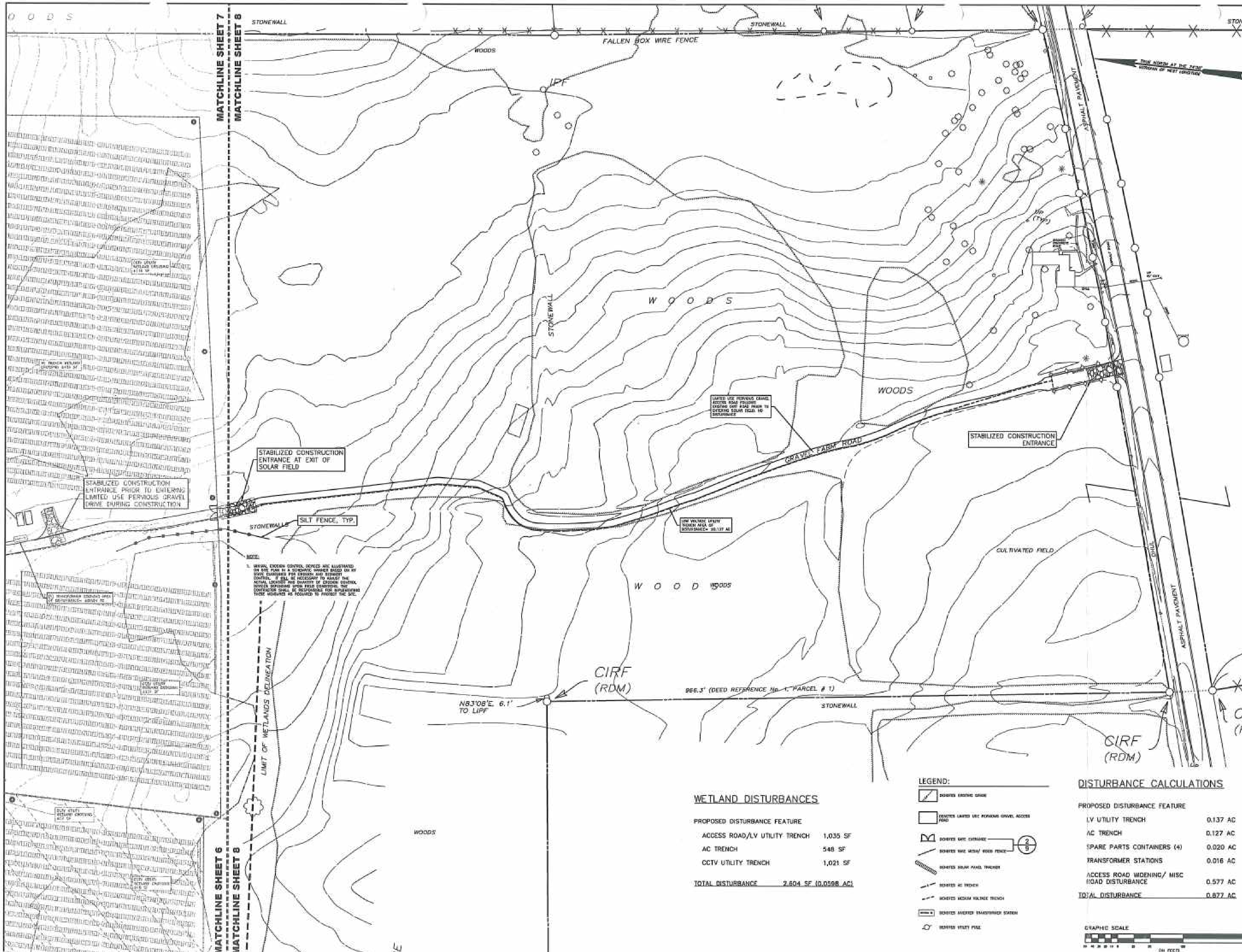
REVISIONS	DATE	BY

SCALE: 1"=50'

NOT FOR CONSTRUCTION

SHEET TITLE: EROSION & SEDIMENT CONTROL PLAN OAK HILL 2

SHEET: 7 of 10



WETLAND DISTURBANCES

PROPOSED DISTURBANCE FEATURE	
ACCESS ROAD/LV UTILITY TRENCH	1,035 SF
AC TRENCH	548 SF
CCTV UTILITY TRENCH	1,021 SF
TOTAL DISTURBANCE	2,604 SF (0.0598 AC)

LEGEND:

DISTURBANCE CALCULATIONS

PROPOSED DISTURBANCE FEATURE	
LV UTILITY TRENCH	0.137 AC
AC TRENCH	0.127 AC
SPARE PARTS CONTAINERS (4)	0.020 AC
TRANSFORMER STATIONS	0.016 AC
ACCESS ROAD WIDENING/ MISC ROAD DISTURBANCE	0.577 AC
TOTAL DISTURBANCE	0.877 AC

ENVIRONMENTAL DESIGN PARTNERSHIP, LLP

PROPOSED SITE PLAN FOR
OAK HILL SOLAR 1&2
APPLICANT: OAK HILL SOLAR 1, LLC/ OAK HILL SOLAR 2, LLC

13590 DUANESBURG ROAD
TOWN OF DUANESBURG
SCHENECTADY COUNTY, NEW YORK

TAX MAP No. 74.00-2-5
FEBRUARY 8, 2019

SCALE: 1"=50'

NOT FOR CONSTRUCTION

SHEET TITLE: EROSION & SEDIMENT CONTROL PLAN ACCESS ROAD

SHEET: 8 of 10

GENERAL NOTES:

THE ENVIRONMENTAL DESIGN PARTNERSHIP IS NOT RESPONSIBLE FOR ANY DESIGN WORK PERFORMED PRIOR TO FINAL APPROVAL OF ALL PLANS AND SECURING OF ALL PERMITS AND FILING OF ALL MAPS.

CONTRACTOR TO ARRANGE A PRECONSTRUCTION CONFERENCE WITH THE ENVIRONMENTAL DESIGN PARTNERSHIP AND MUNICIPALITY PRIOR TO CONSTRUCTION.

FIELD ADJUSTMENTS MUST BE APPROVED BY THE ENVIRONMENTAL DESIGN PARTNERSHIP AND THE MUNICIPALITY'S ENGINEER PRIOR TO CONSTRUCTION.

CONTRACTOR IS TO VERIFY THAT ALL NECESSARY WORK PERMITS AND EASEMENTS ARE IN PLACE PRIOR TO COMMENCEMENT OF WORK.

THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS AND TAKE ALL SPECIAL TEMPORARY AND PERMANENT PRECAUTIONS NECESSARY TO ENSURE A STABLE AND SECURE JOB.

THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY TOWN, COUNTY OR STATE HIGHWAY CUT PERMITS.

THE CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS AND EASEMENTS PRIOR TO CONSTRUCTION AND BECOME FAMILIAR WITH THE CONDITIONS OF EACH PERMIT.

THE CONTRACTOR SHALL PROTECT AND SUSTAIN IN NORMAL SERVICE ALL EXISTING UTILITIES, STRUCTURES, EQUIPMENT, ROADWAYS, AND DRIVEWAYS.

THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES AND RIGHT-OF-WAY PROPERTY LINES PRIOR TO CONSTRUCTION.

THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES SUCH AS GAS, POWER, TELEPHONE, CABLE TV, WATER, SEWER, ETC. PRIOR TO COMMENCEMENT OF CONSTRUCTION.

AS PER NYS INDUSTRIAL CODE 53, CONTRACTOR TO CALL DIG SAFELY NEW YORK, INC. AT 1-800-962-7962 TO LOCATE BURIED CABLES OR OTHER UNDERGROUND UTILITIES NO LESS THAN TWO OR MORE THAN TEN WORKING DAYS PRIOR TO DIGGING, DRILLING, EXCAVATING, DRIVING POSTS, ETC.

CONTRACTOR MUST VERIFY THE ACCEPTABILITY OF ALL CONSTRUCTION MATERIALS WITH MUNICIPALITY'S ENGINEER PRIOR TO ORDERING.

ANY EXISTING STORM SEWERS AND UNDERGROUND UTILITIES ARE SHOWN IN THEIR RELATIVE POSITION AND FOR INFORMATION ONLY. THE CONTRACTOR SHALL HAVE THEIR EXACT LOCATION CHECKED AT THE SITE BEFORE CONSTRUCTION BEGINS.

CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING PIPE INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. ANY DISCREPANCIES WHICH RESULT MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, GRADES, PIPE INVERTS AND ELEVATIONS AND REVIEW WITH CONSULTANT BEFORE CONSTRUCTION.

ALL EXCAVATION TO MEET OSHA AND NYS DOT SAFETY REGULATIONS AND STANDARDS.

THE CONTRACTOR SHALL FILL IN, AND RE-EXCAVATE, AS NECESSARY TO RESUME WORK, ANY EXCAVATIONS OR TRENCHES AT LOCATIONS AND AS OFTEN AS MAY BE REQUIRED TO ENSURE PROTECTION OF THE WORK, ANY ADJACENT EXISTING FACILITIES, OR THE PUBLIC.

THE CONTRACTOR SHALL CLEAN UP THE JOB SITE DAILY BEFORE LEAVING THE JOBSITE. ALL RUBBISH MUST BE CLEANED UP AND CONSTRUCTION EQUIPMENT MUST BE PROPERLY TAKEN CARE OF AND STORED AT THE END OF THE DAY.

CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL AND SAFETY DURING CONSTRUCTION.

THE CONTRACTOR SHALL FURNISH ALL FLAGMEN AND SIGNS, DELINEATORS, BARRIERS, AND DEVICES NECESSARY FOR TRAFFIC CONTROL DURING ANY EARTH-MOVING OPERATION OR OTHER CONSTRUCTION ACTIVITY WHICH INVOLVES PUBLIC HIGHWAYS.

ALL TRAFFIC SIGNS, CONTROL DEVICES AND INFORMATIONAL ITEMS, IF DISTURBED DURING CONSTRUCTION WITHIN CONTRACT LIMIT LINES, SHALL BE RELOCATED AS PER APPROVAL OF MUNICIPALITY.

RESTORATION OF PAVEMENT IS THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL REPLACE AND RESTORE PAVEMENT WITH MATERIAL TO A CONDITION EQUAL TO OR BETTER THAN PRECONSTRUCTION CONDITIONS. ALL PAVEMENT AND RIGHT-OF-WAY RESTORATION WORK TO BE DONE TO THE SATISFACTION OF THE STATE, COUNTY OR LOCAL MUNICIPAL HIGHWAY DEPARTMENTS.

CONTRACTOR SHALL RESTORE ALL LAWNS, DRIVEWAYS, WALKS, WALLS, CURBS, FENCES, ETC. TO A CONDITION AT LEAST AS GOOD AS THEY WERE BEFORE BEING DISTURBED.

BOX ALL TREES AND HOUSE ALL SHRUBS AND HEDGES BEFORE PLACING EARTH AGAINST OR NEAR THEM. SHRUBS AND HEDGES THAT MUST BE REMOVED DURING CONSTRUCTION SHALL BE HEALED OR REPLANTED IN AS GOOD A CONDITION AS THEY WERE BEFORE THEIR REMOVAL. ANY DAMAGED ITEMS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

POSTS, MAILBOXES, ETC. SHALL BE PROTECTED, OR REMOVED AND REPLACED EXACTLY AS THEY WERE BEFORE BEING DISTURBED. DAMAGED ITEMS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

IT MAY BE NECESSARY TO TIE OR HOLD BACK UTILITY POLES DURING CONSTRUCTION. THIS SHOULD BE ACCOMPLISHED IN COOPERATION WITH UTILITY COMPANIES.

NO WORK, STORAGE OR TRESPASS SHALL BE PERMITTED BEYOND THE BOUNDARIES OF ANY EASEMENTS OR R.O.W. AS SHOWN.

CONTRACTOR TO COMPLY WITH ALL OSHA AND OTHER STATE AND LOCAL SAFETY REQUIREMENTS DURING CONSTRUCTION (PROPER SHORING, ETC.).

SIDE SLOPES GREATER THAN 1:3 WILL REQUIRE GUIDE RAILS (1-FOOT VERTICAL, 3-FOOT HORIZONTAL).

ALL SITE WORK SHALL BE SMOOTHLY AND EVENLY BLENDED INTO EXISTING CONDITIONS. WHERE ACCESS OR WORK OUTSIDE OF PROPERTY BOUNDARY IS NECESSARY, THE PERMISSION OF ADJOINING PROPERTY OWNER MUST FIRST BE OBTAINED.

SITE SURVEYOR TO VERIFY ELEVATIONS OF EXISTING ROAD CENTERLINE AND SHOULDER PRIOR TO COMMENCING WORK. CONTRACTOR IS TO CONFIRM THIS WITH SITE SURVEYOR.

WHERE APPROPRIATE, SITE LAYOUT AND GRADING WORK SHALL BE COMPLETED BY A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR. LANDSCAPE ARCHITECT SHALL APPROVE ALL LAYOUT WORK PRIOR TO CONSTRUCTION.

CONTRACTOR TO NOTIFY ENGINEER AFTER ROUGH GRADING IS COMPLETED. FINISH GRADES TO BE ADJUSTED IN THE FIELD AFTER INITIAL GRADING IS COMPLETED. ALL CHANGES IN PROPOSED GRADES TO BE APPROVED BY OWNER AND ENGINEER.

ALL AREAS OF THE SITE WHICH ARE DISTURBED AND NOT PAVED SHALL BE TOPSOILED AND SEEDED.

ALL VERTICAL GRADE CHANGES GREATER THAN 30 INCHES SHALL BE PROVIDED WITH SAFETY BARRIERS AS PER NYS BUILDING CODE (FENCES, RAILINGS, ETC. PER OWNER).

SPECIFICATIONS FOR STREET/SITE LIGHTING ARE PER TOWN REQUIREMENTS/QUALIFIED PHOTOMETRIC ENGINEER RETAINED BY OWNER.

PRELIMINARY PAVEMENT AND SIDEWALK DESIGN SPECIFICATIONS ASSUME EXISTING SUBGRADE CONSISTS OF CLEAN, GRANULAR MATERIAL (SAND & GRAVEL) AND THAT THERE IS NO WATER TABLE INTERFERENCE. PRIOR TO CONSTRUCTION, THE PROJECT OWNER SHALL HAVE THE EXISTING SUBGRADE CONDITIONS EVALUATED BY A GEOTECHNICAL ENGINEER, WHO SHALL DETERMINE FINAL PAVEMENT AND SIDEWALK DESIGN SPECIFICATIONS. THE OWNER ASSUMES ALL RESPONSIBILITY FOR PAVEMENTS AND SIDEWALKS CONSTRUCTED WITHOUT A FINAL DESIGN, SHOULD HE CHOOSE NOT TO HIRE A GEOTECHNICAL ENGINEER.

FILL AREAS SHALL BE STRIPPED OF SOD, TOPSOIL AND UNSUITABLE MATERIAL AND BE MECHANICALLY COMPACTED TO THE SATISFACTION OF THE ENGINEER IN ACCORDANCE WITH NYSDOT 203-3.09

FILLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH NYSDOT 230-3.10, EMBANKMENTS. COMPACTION AND LIFT THICKNESS SHALL BE IN ACCORDANCE WITH NYSDOT 230-3.12.

EMBANKMENT SUBGRADE AREA (TWO FEET BELOW SUBGRADE ELEVATION) SHALL BE CONSTRUCTED IN ACCORDANCE WITH NYSDOT 330-2.02B., SELECT BORROW AND SELECT FILL, COMPACTED PER 203-3.12.

ALL AREAS OF THE SUBGRADE SURFACE WITHIN THE ROADWAY OR OTHER PAVEMENT AREA LIMITS SHALL BE PROOF-ROLLED, WITH UNSTABLE AREAS CORRECTED TO THE SATISFACTION OF THE ENGINEER, PRIOR TO PLACEMENT OF SUBBASE MATERIALS, BOTH EMBANKMENT AND CUT AREAS, IN ACCORDANCE WITH NYSDOT 203-3.116 203-3.14.

THE INFORMATION REPRESENTED WITHIN THESE DOCUMENTS DOES NOT IMPLY ANY CONTRACT WITH, OR OBLIGATION FOR, PERFORMING ANY OR ALL TOWN, COUNTY, OR STATE REQUIRED INSPECTIONS DURING THE COURSE OF CONSTRUCTION OR PURSUANT TO OBTAINING CERTIFICATE OF OCCUPANCY. SUCH INSPECTION SERVICES, IF PERFORMED BY THIS OFFICE, SHALL BE ESTABLISHED BY SEPARATE CONTRACT.

IN THE EVENT THAT THE CONSTRUCTION STAKEOUT AND INSPECTION OF THE WORK IS NOT PERFORMED BY THE ENVIRONMENTAL DESIGN PARTNERSHIP (EDP), EDP WILL NOT BE HELD RESPONSIBLE FOR ANY ERRORS, OMISSIONS, COSTS, EXPENSES OR LIABILITY OF WHATEVER KIND AND NATURE RESULTING FROM FIELD CHANGES AND/OR ERRORS WHICH EDP WOULD OTHERWISE HAVE HAD AN OPPORTUNITY TO CHECK AND CORRECT WERE THEY IN A POSITION TO CONTROL THE PROJECT THROUGH STAKEOUT AND INSPECTION.

CLAIMS MADE AGAINST CONSULTANT FOR SURVEY STAKEOUT ERRORS WILL BE HONORED ONLY IF CONSULTANT IS NOTIFIED FOR VERIFICATION OF THE ERROR IMMEDIATELY UPON DISCOVERY AND BEFORE ANY CONTROL STAKES ARE DISTURBED. IF, AFTER VERIFICATION, IT IS DETERMINED THAT NO STAKEOUT ERROR OCCURRED, THE CLIENT SHALL REIMBURSE THE CONSULTANT FOR ADDITIONAL EXPENSES INCURRED FOR SUCH VERIFICATION.

ALL ERRORS, OMISSIONS AND DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE ENVIRONMENTAL DESIGN PARTNERSHIP IMMEDIATELY UPON DISCOVERY, OTHERWISE, THE ENVIRONMENTAL DESIGN PARTNERSHIP WILL ACCEPT NO RESPONSIBILITY.

INSPECTION SERVICES BY THE ENVIRONMENTAL DESIGN PARTNERSHIP ARE NOT SUPERVISORY. ACCORDINGLY, THE ENVIRONMENTAL DESIGN PARTNERSHIP CAN NEITHER GUARANTEE THE PERFORMANCE OF THE CONSTRUCTION CONTRACTS BY CONTRACTORS NOR ASSUME RESPONSIBILITY FOR THE CONTRACTOR'S FAILURE TO FURNISH AND PERFORM WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

CONTROLLED FILL AREAS: CONTROLLED, RELATIVELY CLEAN (10% MAX PASSING #200 SIEVE), GRANULAR FILL SHALL BE SPREAD IN LIFTS NOT EXCEEDING 12" IN LOOSE THICKNESS. THESE MATERIALS SHALL BE COMPACTED TO A MINIMUM 95% OF THE MAXIMUM ASTM SPECIFICATION D 1557-91 DENSITY, MODIFIED PROCTOR. ALL CONTROLLED FILL SHALL BE FREE OF ORGANIC AND/OR FROZEN MATERIALS.

NOTE:

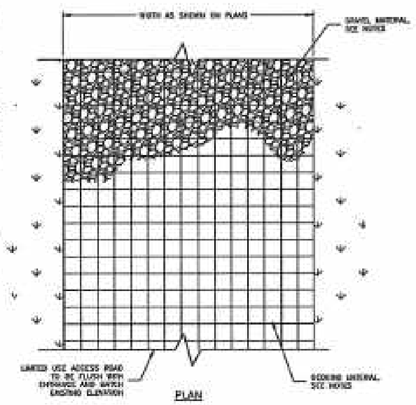
FOR ADDITIONAL SITE DETAILS AND PLANS PERTAINING TO THE SOLAR PANEL SYSTEM SUCH AS CONDUIT RUNS, EQUIPMENT PAD/ UTILITY DETAILS REFER TO PLANS BY BY OTHERS

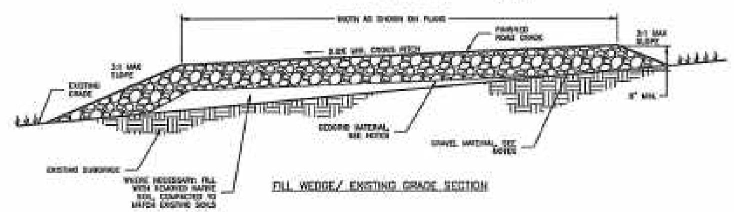
GENERAL NOTES:

1. LIMITED USE PERVIOUS ACCESS ROAD IS LIMITED TO LOW IMPACT IRREGULAR MAINTENANCE ACCESS ASSOCIATED WITH RENEWABLE ENERGY PROJECTS IN NEW YORK STATE.
2. REMOVE STUMPS, ROCKS AND DEBRIS AS NECESSARY, FILL ROOTS TO MATCH EXISTING NATIVE SOILS AND COMPACTION LEVEL.
3. THE LIMITED USE PERVIOUS ACCESS ROAD CROSS SLOPE SHALL BE 2% IN MOST CASES AND SHOULD NOT EXCEED 5%. THE LONGITUDINAL SLOPE OF THE ACCESS DRIVE SHOULD NOT EXCEED 15%.
4. TO ENSURE THAT SOIL IS NOT TRACKED ONTO THE LIMITED USE PERVIOUS ACCESS ROAD, IT SHALL NOT BE USED BY CONSTRUCTION VEHICLES TRANSPORTING SOIL, FILL MATERIAL, ETC. IF THE LIMITED USE PERVIOUS ACCESS IS COMPLETED DURING THE INITIAL PHASES OF CONSTRUCTION, A STANDARD NEW YORK STATE STABILIZED CONSTRUCTION ACCESS SHALL BE CONSTRUCTED AND UTILIZED TO REMOVE SEDIMENT FROM CONSTRUCTION VEHICLES AND EQUIPMENT PRIOR TO ENTERING THE LIMITED USE PERVIOUS ACCESS ROAD FROM ANY LOCATION ON, OR OFF SITE. MAINTENANCE OF THE PERVIOUS ACCESS ROAD WILL BE REQUIRED IF SEDIMENT IS OBSERVED WITHIN THE CLEAN STONE.
5. THE LIMITED USE PERVIOUS ACCESS ROAD SHALL NOT BE CONSTRUCTED OR USED UNTIL ALL AREAS SUBJECT TO RUNOFF ONTO THE PERVIOUS ACCESS HAVE ACHIEVED FINAL STABILIZATION.

GEOGRID MATERIAL NOTES:

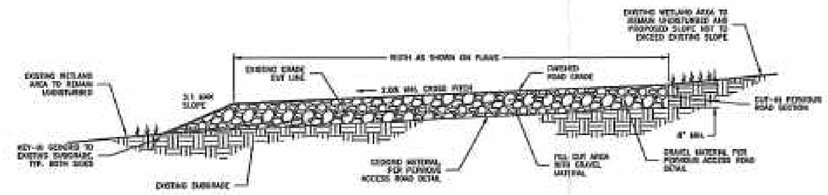
1. GRAVEL FILL MATERIAL SHALL CONSIST OF 1-4" CLEAN, DURABLE, SHARP-ANGLED CRUSHED STONE OF UNIFORM QUALITY, MEETING THE SPECIFICATIONS OF NYSDOT ITEM 703-02, SIZE DESIGNATION 2-5 OF TABLE 703-4. STONE MAY BE PLACED IN FRONT OF, AND SPREAD WITH, A TRACKED VEHICLE. GRAVEL SHALL NOT BE COMPACTED.
2. GEOGRID SHALL BE MIRAFI BXG110 OR APPROVED EQUAL. GEOGRID SHALL BE DESIGNED BASED ON EXISTING SOIL CONDITIONS AND PROPOSED MAX. ROAD SLOPES.
3. IF MORE THAN ONE ROLL WIDTH IS REQUIRED, ROLLS SHOULD OVERLAP A MINIMUM OF SIX INCHES.
4. REFER TO MANUFACTURER'S SPECIFICATION FOR PROPER TYING AND CONNECTIONS.
5. LIMITED USE PERVIOUS ACCESS ROAD SHALL BE TOP DRESSED AS REQUIRED WITH ONLY 1-4" CRUSHED STONE MEETING NYSDOT ITEM 703-02 SPECIFICATIONS.



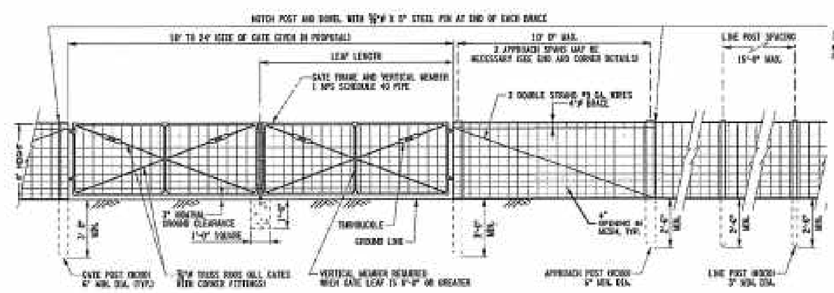


FILL WEDGE/ EXISTING GRADE SECTION

(1/9) LIMITED USE PERVIOUS SOLAR ACCESS ROAD
NOT TO SCALE



(4/9) LIMITED USE PERVIOUS ACCESS ROAD WETLAND CROSSING
NOT TO SCALE



NOTE:
POSTS TO BE MECHANICALLY DRIVEN IN WETLAND AREAS

(2/9) SOLAR FIELD FENCE
NOT TO SCALE

EROSION AND SEDIMENT CONTROL AND STABILIZATION MEASURES, MAINTENANCE AND INSPECTION PRACTICES:

1. THE FOLLOWING IS A LIST OF EROSION AND SEDIMENT CONTROLS TO BE USED ON THIS SITE DURING CONSTRUCTION:

   A) STABILIZATION PRACTICES FOR THIS SITE INCLUDE:
   - LAND CLEARING ACTIVITIES SHALL BE DONE ONLY IN AREAS WHERE EARTHWORK WILL BE PERFORMED AND SHALL PROGRESS AS EARTHWORK IS NEEDED
   - FREQUENT WATERING OF EXCAVATION AND FILL AREAS TO MINIMIZE WIND EROSION DURING CONSTRUCTION.
   - USE OF STABILIZATION FABRIC FOR ALL SLOPES HAVING A SLOPE OF 1V:3H OR GREATER AND FILL SLOPES 1V:3H OR GREATER.
   - PERMANENT SEEDING AND PLANTING OF ALL UNPAVED AREAS USING THE HYDROMULCHING GRASS SEEDING TECHNIQUE.

   B) STRUCTURAL PRACTICES FOR THIS SITE INCLUDE:
   - PERIMETER PROTECTION USING SILT FENCES
   - INLET PROTECTION AND OUTLET PROTECTION USING SILT FENCES
   - STORM SEWER, CURBS AND GUTTERS
   - STABILIZED CONSTRUCTION EXIT POINTS
   - STORMWATER DETENTION PONDS (WHICH MAY ALSO SERVE AS A TEMPORARY SEDIMENT BASIN)

2. THE FOLLOWING INSPECTION AND MAINTENANCE PRACTICES WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS AND STABILIZATION MEASURES:
   A) ALL CONTROL MEASURES WILL BE INSPECTED AT LEAST WEEKLY.
   B) ALL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF REPAIRS ARE FOUND TO BE NECESSARY, THEY WILL BE INITIATED WITHIN 24 HOURS OF REPORT.
   C) BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCES / STRAW BARRIERS WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE.
   D) SILT FENCES / STRAW BARRIERS WILL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, ETC., TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE SECURELY IN THE GROUND.
   E) THE SEDIMENT BASIN, IF PRESENT, WILL BE INSPECTED FOR DEPTH OF SEDIMENT, AND BUILT UP SEDIMENT WILL BE REMOVED WHEN IT REACHES 20 PERCENT OF THE DESIGN CAPACITY.
   F) TEMPORARY AND PERMANENT SEEDING AND ALL OTHER STABILIZATION MEASURES WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.
   G) A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION. COPIES OF THE REPORT FORMS TO BE COMPLETED BY THE INSPECTOR ARE INCLUDED IN THIS SWPPP.
   H) THE JOB SITE SUPERINTENDENT WILL BE RESPONSIBLE FOR SELECTING AND TRAINING THE INDIVIDUALS WHO WILL BE RESPONSIBLE FOR THESE INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING OUT INSPECTION AND MAINTENANCE REPORTS.
   I) PERSONNEL SELECTED FOR THE INSPECTION AND MAINTENANCE RESPONSIBILITIES WILL RECEIVE APPROPRIATE INSTRUCTION FROM THE JOB SITE SUPERINTENDENT. THEY WILL BE TRAINED IN ALL THE INSPECTION AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE EROSION AND SEDIMENT CONTROLS THAT ARE USED ONSITE IN GOOD WORKING ORDER. THEY WILL ALSO BE TRAINED IN THE COMPLETION OF, INITIATION OF ACTIONS REQUIRED BY, AND THE FILING OF THE INSPECTION FORMS. DOCUMENTATION OF THIS PERSONNEL TRAINING WILL BE KEPT ON SITE WITH THE SWPPP.
   J) DISTURBED AREAS AND MATERIALS STORAGE AREAS WILL BE INSPECTED FOR EVIDENCE OF OR POTENTIAL FOR POLLUTANTS ENTERING STORMWATER SYSTEMS.
   K) REPORT TO THE NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION WITHIN 24 HOURS ANY NONCOMPLIANCE WITH THE SWPPP THAT WILL ENDANGER PUBLIC HEALTH OR THE ENVIRONMENT. FOLLOW UP WITH A WRITTEN REPORT WITHIN 5 DAYS OF THE NONCOMPLIANCE EVENT.

ADDITIONAL EROSION CONTROL AND GRADING NOTES:

1. MINIMAL EROSION CONTROL DEVICES ARE ILLUSTRATED ON SITE PLAN IN A SCHEMATIC MANNER BASED ON NY STATE GUIDELINES FOR EROSION AND SEDIMENT CONTROL. IT WILL BE NECESSARY TO ADJUST THE ACTUAL LOCATION AND QUANTITY OF EROSION CONTROL DEVICES DEPENDING UPON FIELD CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING THESE MEASURES AS REQUIRED TO PROTECT THE SITE.
2. SLOPES SHALL TYPICALLY BE GRADED AT A MAXIMUM OF 3:1 (3 HORIZ. 1 VERT.) WITHIN ALL CUT OR FILL AREAS, UNLESS OTHERWISE DESIGNATED ON PLANS.
3. SEED SHALL BE A COMMERCIALLY AVAILABLE MIXTURE OF PERENNIAL RYE AND UTILITY GRADE FESCUE. PERCENTAGE OF PERENNIAL RYE SHALL NOT EXCEED 50%.
4. SEEDED AREAS SHALL BE FULLY COVERED WITH A LEAN STRAW OR MULCH MATERIAL. IF ORDERED BY THE ENGINEER OR MUNICIPALITY, A BIODEGRADABLE NETTING (E.G., EXCELSIOR BLANKET, COIR GEOTEXTILE) SHALL BE ANCHORED OVER SEEDED AREAS WHICH DEMONSTRATE "RILLING" OR OTHER EROSION PROCESSES.
5. TOPSOIL AND SEED SHALL BE REAPPLIED TO ANY AREAS WHICH FAIL TO ESTABLISH AS A RESULT OF INITIAL APPLICATION.
6. SILT FENCE BARRIERS SHALL BE PLACED WITHIN ALL AREAS OF EXPOSED SLOPES TO CONTROL SOIL EROSION DURING AND AFTER CONSTRUCTION.
7. ALL STORM OUTFALLS SHALL RECEIVE RIP RAP IMMEDIATELY UPON INSTALLATION (AS PER PLAN).
8. EROSION CONTROL (ERO-MAT) OR APPROVED EQUAL, SHALL BE INSTALLED ON ALL 3:1 SLOPES. AN ORGANIC FIBER PROTECTIVE MAT, HALF INCH LAYER OF CHOPPED STRAW, KNITTED INTO A RUGGED MAT WITH A THIN NETTING OF PHOTODEGRADABLE POLYPROPYLENE. SECURE MAT TO SLOPE WITH 6" STEEL U-SHAPED STAPLES, 2 STAPLES PER SQUARE YARD, OR AS PER MANUFACTURER'S INSTRUCTIONS.
9. STREAM REACHES ON-SITE AND DOWNSTREAM OF CONSTRUCTION SHALL NOT HAVE SUBSTANTIAL VISIBLE CONTRAST RELATIVE TO COLOR, TASTE, ODOR, TURBIDITY AND SEDIMENT DEPOSITION FROM THE REACHES UPSTREAM OF THE CONSTRUCTION ACTIVITY.
10. VEHICULAR ACCESS POINTS SHALL BE MONITORED AND INSPECTED AT THE SAME FREQUENCY AS EROSION CONTROL FEATURES TO INSURE THAT DEPOSITS OF SAND, SILT OR OTHER MATERIAL IS NOT BEING DEPOSITED ON PUBLIC ROADWAYS. IN THE EVENT ANY SIGNIFICANT DEPOSITS OCCUR THEY SHALL BE CLEANED UP IMMEDIATELY.
11. KEEP ALL CONSTRUCTION EQUIPMENT, TOPSOIL STOCKPILES AND ANY TEMPORARY/PERMANENT GRAVEL AREAS OFF FUTURE SEPTIC AREAS.

DISTURBANCE NOTE: [illegible]

SEQUENCE OF CONSTRUCTION ACTIVITIES:

1. CONSTRUCT TEMPORARY CONSTRUCTION EXITS AT LOCATIONS SHOWN.
2. INSTALL PERIMETER SILT FENCES AND TEMPORARY SEDIMENT BASIN IN THE LOCATIONS SHOWN AND OTHER LOCATIONS AS NECESSARY TO STABILIZE THE SITE.
3. BEGIN CLEARING AND GRUBBING OPERATIONS. CLEARING AND GRUBBING SHALL BE DONE ONLY IN AREAS WHERE EARTHWORK WILL BE PERFORMED AND ONLY IN AREAS WHERE BUILDING IS PLANNED TO COMMENCE WITHIN 14 DAYS AFTER CLEARING AND GRUBBING.
4. FREQUENT WATERING OF THE EXCAVATION AND FILL AREAS SHALL BE DONE TO MINIMIZE WIND EROSION.
5. COMMENCE SITE GRADING AND CONSTRUCTION.
6. DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS CEASED FOR MORE THAN 14 DAYS SHALL BE TEMPORARILY SEEDED AND WATERED.
7. INSTALL PROTECTIVE SILT FENCES / BARRIERS AT THE LOCATIONS OF ALL GRATE INLETS, CURB INLETS, AND AT THE ENDS OF ALL EXPOSED STORM SEWER PIPES.
8. FINALIZE PAVEMENT SUBGRADE PREPARATION.
9. CONSTRUCT ALL CURB AND GUTTER, GUTTER INLETS, ARCH INLETS, AND STORM SEWER MANHOLES, AS SHOWN ON THE PLANS. INLET PROTECTION HAY BALES MAY BE REMOVED TEMPORARILY FOR THIS CONSTRUCTION. PLACE REQUIRED RIPRAP AT LOCATIONS SHOWN ON THE PLANS.
10. REMOVE SILT FENCES / STRAW BARRIERS AROUND INLETS AND MANHOLES NO MORE THAN 48 HOURS PRIOR TO PLACING STABILIZED BASE COURSE.
11. INSTALL BASE MATERIAL AS REQUIRED FOR PAVEMENT.
12. CARRY OUT FINAL GRADING AND SEEDING AND PLANTING
13. REMOVE SILT FENCING / STRAW BARRIERS ONLY AFTER ALL PAVING IS COMPLETE AND EXPOSED SURFACES ARE STABILIZED.
14. REMOVE TEMPORARY CONSTRUCTION EXITS ONLY PRIOR TO PAVEMENT CONSTRUCTION IN THESE AREAS (THESE AREAS ARE TO BE PAVED LAST).

SOIL RESTORATION:

AS PER CHAPTER 5 OF THE NEW YORK STATE STORMWATER MANAGEMENT DESIGN MANUAL, SOIL RESTORATION IS REQUIRED ON THIS SITE IN ALL NON-IMPERVIOUS AREAS ONCE FINAL SUBGRADE ELEVATION IS ACHIEVED, IN AREAS OF CUT OR FILL THE SOILS SHALL BE AERATED AND 6 INCHES OF TOPSOIL SHALL BE APPLIED. IN AREAS OF HEAVY CONSTRUCTION TRAFFIC (ESPECIALLY IN AREAS 5 TO 25 FEET FROM BUILDING, BUT NOT WITHIN 5 FEET OF FOUNDATION WALLS) THE FOLLOWING RESTORATION MUST BE APPLIED:

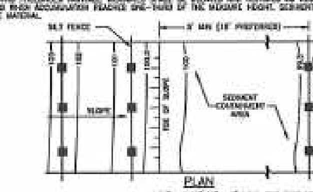
1. APPLY 3 INCHES OF COMPOST OVER SUBSOIL.
2. TILL COMPOST INTO SUBSOIL TO A DEPTH OF AT LEAST 12 INCHES USING A CAT-MOUNTED RIPPER, TRACTOR-MOUNTED DISC, OR TILLER, MIXING, AND CIRCULATING AIR AND COMPOST INTO SOIL.
3. ROCK-PICK UNTIL UPLIFTED STONE/ROCK MATERIALS OF 4 INCHES AND LARGER SIZE ARE CLEANED OFF THE SITE.
4. APPLY TOPSOIL TO A DEPTH OF 6 INCHES
5. VEGETATE AS REQUIRED BY APPROVED PLAN.

SILT FENCE GENERAL NOTES:

1. SILT FENCE SHALL BE PLACED A MINIMUM OF 5 FT. FROM TOE OF SLOPE, 10 FT. PREFERRED, TO PROVIDE ADEQUATE AREA FOR SEDIMENT STORAGE AND FACILITATE MAINTENANCE OF SEDIMENT CONTAINMENT AREA.
2. POSTS MAY BE 1.25"x1.25" (MINIMUM) HARDWOOD, TYPICALLY. FOR WIRE MESH BACK USE 2"x2" NOM. HARDWOOD, OR STEEL "T" OR "U" POSTS (1 lb per ft). SILT FENCE SHALL BE WOVEN GEOTEXTILE FABRIC(MIRAFI X130 OR EQUAL).
3. SILT FENCE ASSEMBLIES MAY HAVE 4 FT. OR 8 FT. POST SPACING, AND MAY OR MAY NOT HAVE MESH REINFORCEMENT. SENSITIVE AREAS TO BE PROTECTED MAY NEED TO BE REINFORCED BY USING HEAVY WIRE FENCING FOR ADDED SUPPORT TO PREVENT COLLAPSE.
4. THE BOTTOM EDGE OF SILT FENCE SHALL BE BURIED A MINIMUM OF 8" BELOW GROUND. THE FENCE SHALL BE INSTALLED WITH THE POSTS ON THE DOWNSTREAM SIDE OF THE FABRIC.
5. MAXIMUM ALLOWABLE SLOPE LENGTHS CONTRIBUTING RUNOFF TO A SILT FENCE PLACED ON A SLOPE ARE:

SLOPE STEEPNESS	MAXIMUM LENGTH (FT)
2:1	25
3:1	50
4:1	75
5:1 OR FLATTER	100

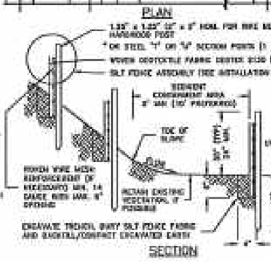
6. MAXIMUM DRAINAGE AREA FOR OVERLAND FLOW TO A SILT FENCE SHALL NOT EXCEED ½ ACRE PER 100 FEET OF FENCE, WITH MAXIMUM PONDING DEPTH OF 1.5 FEET BEHIND THE FENCE; AND EROSION WOULD OCCUR IN THE FORM OF SHEET EROSION; AND THERE IS NO CONCENTRATION OF WATER FLOWING TO THE BARRIER.
7. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS, AFTER EACH RAINFALL OF .5" OR MORE WITHIN A 12 HOUR PERIOD, OR DAILY DURING PROLONGED RAINFALL. MEASURES SHALL BE CLEANED AND REPAIRED AS REQUIRED.
8. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-THIRD OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.



PLAN

SILT FENCE INSTALLATION NOTES:

1. GEOTEXTILE FABRIC AND WOVEN WIREMESH TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES, FOLDED AND STAPLED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

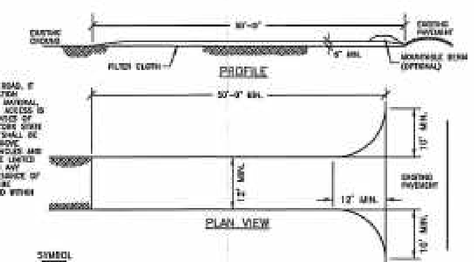


SECTION

(3/9) SILT FENCE
NOT TO SCALE

NOTE:

1. WHEN UTILIZING PERVIOUS ACCESS ROAD, IT SHALL NOT BE USED BY CONSTRUCTION VEHICLES TRANSPORTING SOIL, FILL MATERIAL, ETC. IF THE LIMITED USE PERVIOUS ACCESS IS COMPLETED DURING THE INITIAL PHASES OF CONSTRUCTION, A STANDARD NEW YORK STATE STABILIZED CONSTRUCTION ACCESS SHALL BE CONSTRUCTED AND UTILIZED TO REMOVE SEDIMENT FROM CONSTRUCTION VEHICLES AND EQUIPMENT PRIOR TO ENTERING THE LIMITED USE PERVIOUS ACCESS ROAD FROM ANY LOCATION ON, OR OFF SITE. MAINTENANCE OF THE PERVIOUS ACCESS ROAD WILL BE REQUIRED IF SEDIMENT IS OBSERVED WITHIN THE CLEAN STONE.



PROFILE

PLAN VIEW

SYMBOL

CONSTRUCTION SPECIFICATIONS

1. STONE SIZE – USE 2" CRUSHED STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH – AS EFFECTIVE BUT NOT LESS THAN 50 FEET.
3. THICKNESS – NOT LESS THAN SIX(6) INCHES.
4. WIDTH – TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. FILTER CLOTH – WILL BE PLACED OVER ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. WASHING – WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE THROUGH USE OF SAND BAGS, GRAVEL, BOARDS OR OTHER APPROVED METHODS.
8. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

(5/9) STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

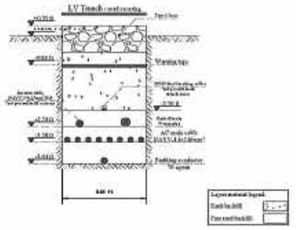
ENVIRONMENTAL DESIGN PARTNERSHIP, LLP.

PROPOSED SITE PLAN FOR
OAK HILL SOLAR 1&2
APPLICANT: OAK HILL SOLAR 1, LLC/ OAK HILL SOLAR 2, LLC
13590 DUANESBURG ROAD
TOWN OF DUANESBURG
SCHENECTADY COUNTY, NEW YORK
TAX MAP No. 74.00-2-5
FEBRUARY 8, 2019

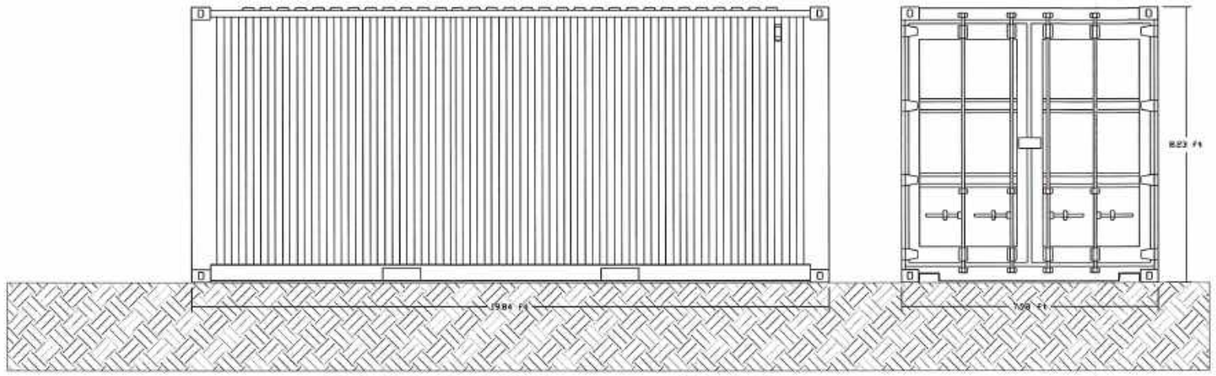
SCALE: N.T.S.

NOT FOR CONSTRUCTION

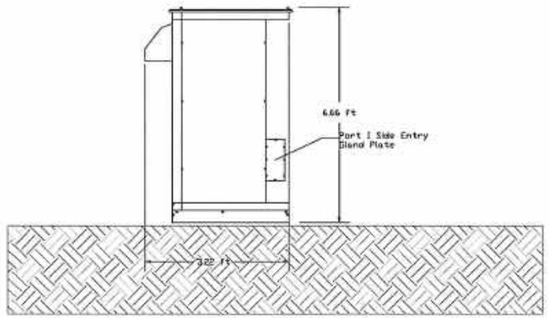
SHEET TITLE: SITE DETAILS



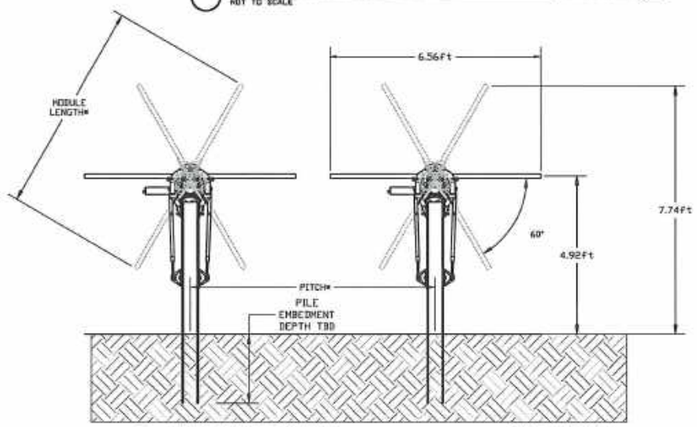
TRENCH CROSS SECTION (BY OTHERS)
NOT TO SCALE



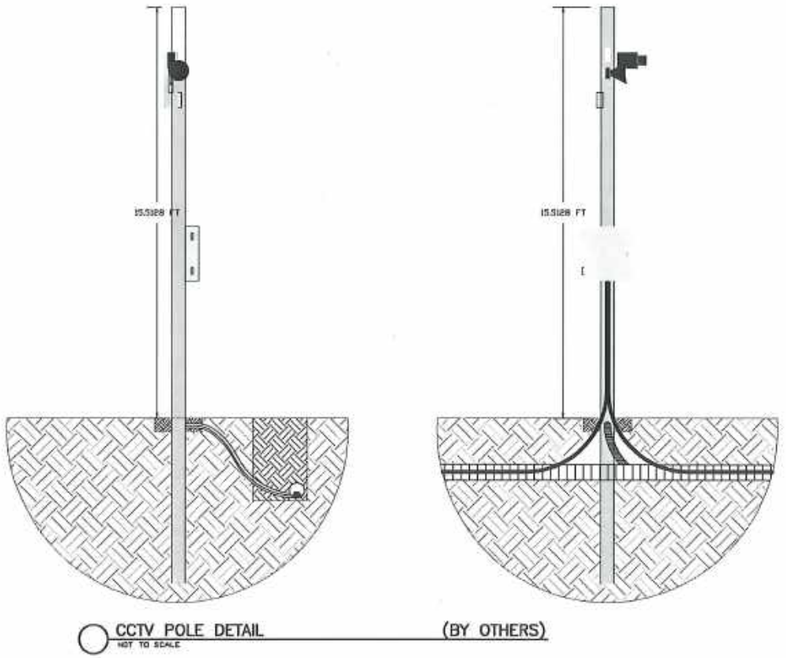
SPARE PART CONTAINER (BY OTHERS)
NOT TO SCALE



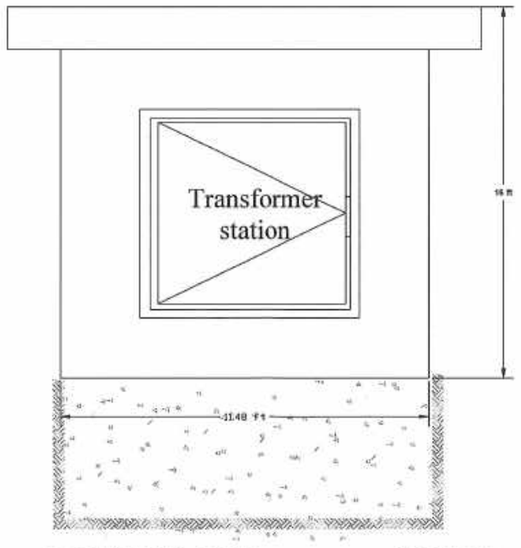
DC TO DC CONVERTER (BY OTHERS)
NOT TO SCALE



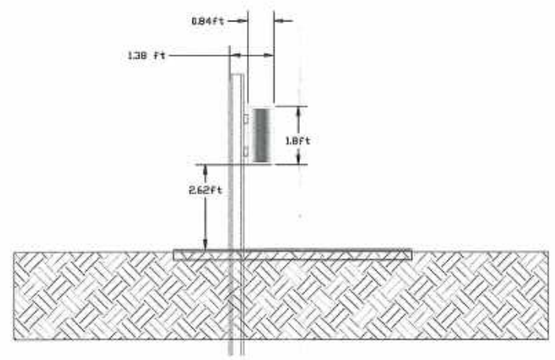
PV TRACKER SYSTEM (BY OTHERS)
NOT TO SCALE



CCTV POLE DETAIL (BY OTHERS)
NOT TO SCALE



TRANSFORMER STATION (BY OTHERS)
NOT TO SCALE



INVERTER ON POLES (BY OTHERS)
NOT TO SCALE

edp
ENVIRONMENTAL DESIGN PARTNERSHIP, LLP

PROPOSED SITE PLAN FOR
OAK HILL SOLAR 1&2
APPLICANT: OAK HILL SOLAR 1, LLC/ OAK HILL SOLAR 2, LLC
13590 DUANESBURG ROAD
TOWN OF DUANESBURG
SCHENECTADY COUNTY, NEW YORK

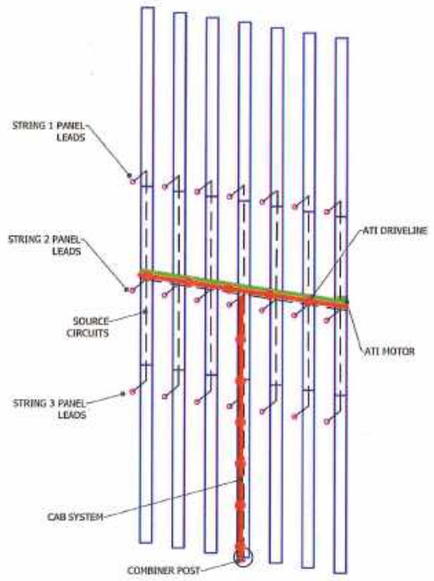
TAX MAP No. 74.00-2-5
FEBRUARY 6, 2019

SCALE: N.T.S.

NOT FOR CONSTRUCTION

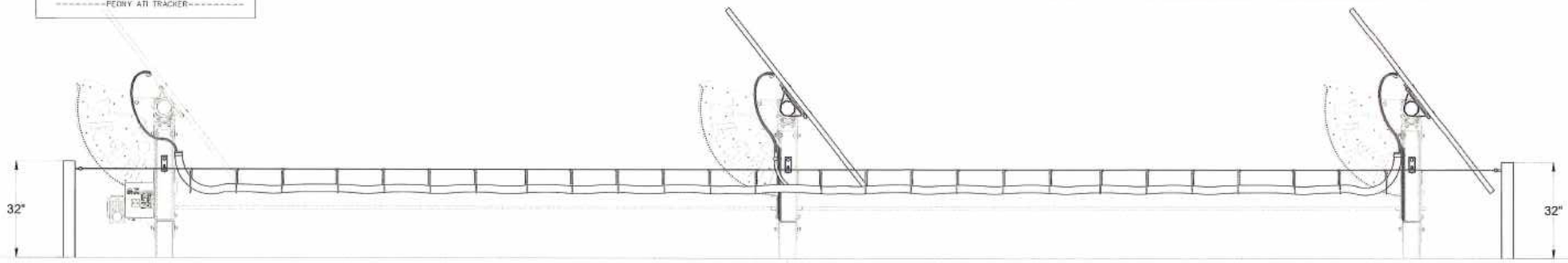
SHEET TITLE: DETAILS BY OTHERS

SHEET: 10 of 10



CAB SYSTEM ELEVATIONS

REV 1	MARTIN HILL	01/26/17
---------PEONY ATI TRACKER---------		



PLUG N PLAY EAST TO WEST DETAIL (BY OTHERS)

NOT TO SCALE

ENVIRONMENTAL DESIGN PARTNERSHIP, LLP.
900 Route 146 Clifton Park, New York 12065
(518) 371-7621
edpllp.com

SOLAR FARM DETAILS FOR
OAK HILL SOLAR

13590 DUANESBURG RD
TOWN OF DUANESBURG TAX MAP. NO. 74.00-2-5
SCHENECTADY COUNTY AUGUST 8, 2019

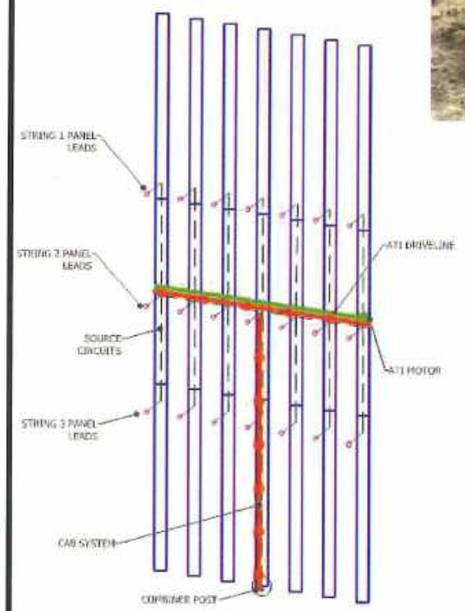
REVISION	DATE	BY

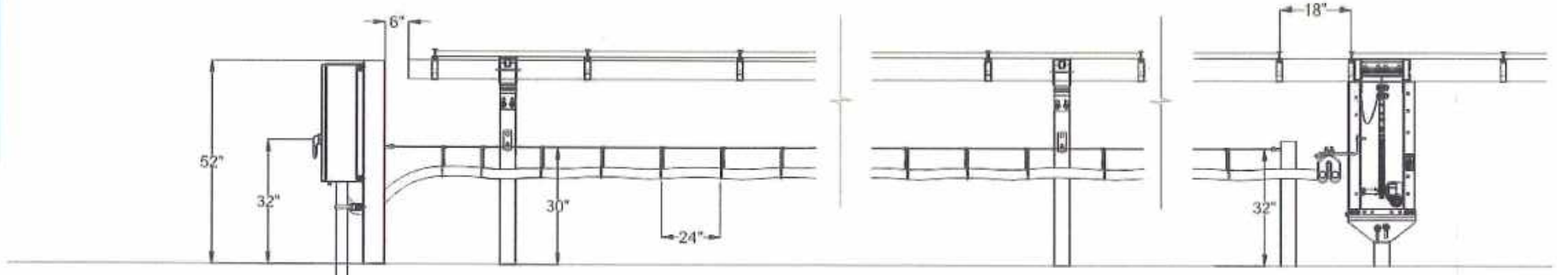
SCALE: AS NOTED

SHEET TITLE: ABOVE GROUND WIRING DETAILS

SHEET NO. 1 of 2

Q:\SCHENECTADY\Duanesburg\Duanesburg Road (Route 7)\13590 Duanesburg Road\05-dwg\Detailed Plans\ADDENDUM_WIRING DETAILS.dwg Aug 08, 2019 02:39:53PM,





PLUG N PLAY NORTH TO SOUTH DETAIL (BY OTHERS)

NOT TO SCALE

CAB SYSTEM ELEVATIONS

REV. 1 MARTIN HILL 01/28/17

---------PEDRY ATI TRACKER---------

ENVIRONMENTAL DESIGN PARTNERSHIP, LLP.
900 Route 146 Clifton Park, New York 12065
(518) 371-7621 edpllp.com

SOLAR FARM DETAILS FOR

OAK HILL SOLAR

13590 DUANESBURG RD
TOWN OF DUANESBURG
SCHENECTADY COUNTY

TAX MAP. NO. 74.00-2-5

AUGUST 8, 2019

REVISION	DATE	BY

SCALE: AS NOTED

SHEET TITLE: ABOVE GROUND WIRING DETAILS

SHEET NO. 2 of 2

Q:\SCHENECTADY\Duanesburg\Duanesburg Road (Route 7)\13590 Duanesburg Road\05-dwg\Detailed Plans\ADDENDUM_WIRING DETAILS.dwg Aug 08, 2019 02:39:53PM,

Attachment D

SHPO Correspondence

NEW YORK STATE OF OPPORTUNITY.

Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ERIK KULLESEID
Acting Commissioner

June 04, 2019

Mr. Paul Olund
R.L.A.
Environmental Design Partnership
900 Route 146
Clifton Park, NY 12065

Re: USACE
Eden Renewables Solar Farm Project
13590 Duanesburg Rd., Duanesburg, NY
18PR02968

Dear Mr. Olund:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the submitted materials in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York State Environmental Conservation Law Article 8).

We have reviewed the report entitled "Phase I Archaeological Investigation, Oak Hill Solar Farms, NY-7 / Duanesburg Road, Town of Duanesburg, Schenectady County, New York" (May 2019). No archaeological resources were identified during the survey. SHPO has no concerns regarding the project's potential to affect historic architectural resources. Therefore, it is the opinion of the New York SHPO that no historic properties, including archaeological and/or historic resources, will be affected by this undertaking.

If further correspondence is required regarding this project, please refer to the SHPO Project Review (PR) number noted above. If you have any questions I can be reached at 518-268-2186.

Sincerely,

Tim Lloyd, Ph.D., RPA
Scientist - Archaeology
timothy.lloyd@parks.ny.gov

via e-mail only

cc: G. Maruca, J. Divirgilio, and J. Geraghty

Attachment E

Endangered Species Consultation

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
http://www.fws.gov/northeast/nyfo/es/section7.htm

In Reply Refer To:
Consultation Code: 05E1NY00-2019-SLI-2864
Event Code: 05E1NY00-2019-E-08942
Project Name: Oak Hill Solar 1 and Oak Hill Solar 2

August 02, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/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 (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. 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 ESA, 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 ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: http://www.fws.gov/northeast/nyfo/es/section7.htm

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/

eagle_guidance.html). Additionally, wind energy projects should follow the Services wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

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 ESA. Please include the Consultation Tracking Number 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

Consultation Code: 05E1NY00-2019-SLI-2864

Event Code: 05E1NY00-2019-E-08942

Project Name: Oak Hill Solar 1 and Oak Hill Solar 2

Project Type: POWER GENERATION

Project Description: Installation of a land based renewable energy facility

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.72961306699949N74.25300086498007W

Counties: Schenectady, NY

Endangered Species Act Species

There is a total of 1 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 Fisheries[1], 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 *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

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