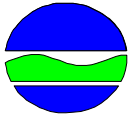


Appendix C
NOI and DEC
Acknowledgement Letter

NOTICE OF INTENT



**New York State Department of Environmental Conservation
 Division of Water
 625 Broadway, 4th Floor
 Albany, New York 12233-3505**

NYR
 (For DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-20-001
 All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

- IMPORTANT -
RETURN THIS FORM TO THE ADDRESS ABOVE
OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)

B o r r e g o S o l a r S y s t e m s

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

Owner/Operator Contact Person First Name

Owner/Operator Mailing Address

3 0 C e n t u r y H i l l D r i v e

City

L a t h a m

State

N Y

Zip

1 2 1 1 0 -

Phone (Owner/Operator)

- -

Fax (Owner/Operator)

- -

Email (Owner/Operator)

FED TAX ID

- (not required for individuals)

Project Site Information

Project/Site Name

2621 Route 5S Solar

Street Address (NOT P.O. BOX)

2621 Route 5S

Side of Street

North South East West

City/Town/Village (THAT ISSUES BUILDING PERMIT)

Town of Glen

State

N Y

Zip

12072

-

County

Montgomery

DEC Region

4

Name of Nearest Cross Street

Auriesville Road

Distance to Nearest Cross Street (Feet)

800

Project In Relation to Cross Street

North South East West

Tax Map Numbers

Section-Block-Parcel

53.3-1-13

Tax Map Numbers

1. Provide the Geographic Coordinates for the project site. To do this, go to the NYSDEC Stormwater Interactive Map on the DEC website at:

<https://gisservices.dec.ny.gov/gis/stormwater/>

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located the centroid of your project site, go to the bottom right hand corner of the map for the X, Y coordinates. Enter the coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting)

-7 4 . 3 1 2

Ex. -73.749

Y Coordinates (Northing)

4 2 . 9 2 9

Ex. 42.652

2. What is the nature of this construction project?

New Construction

Redevelopment with increase in impervious area

Redevelopment with no increase in impervious area

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? Yes No Unknown

16. What is the name of the municipality/entity that owns the separate storm sewer system?

NYS Department of Transportation

17. Does any runoff from the site enter a sewer classified as a Combined Sewer? Yes No Unknown

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law? Yes No

19. Is this property owned by a state authority, state agency, federal government or local government? Yes No

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.) Yes No

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)? Yes No

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)? Yes No
If No, skip questions 23 and 27-39.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual? Yes No

Post-construction Stormwater Management Practice (SMP) Requirements

Important: Completion of Questions 27-39 is not required if response to Question 22 is No.

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

- Preservation of Undisturbed Areas
- Preservation of Buffers
- Reduction of Clearing and Grading
- Locating Development in Less Sensitive Areas
- Roadway Reduction
- Sidewalk Reduction
- Driveway Reduction
- Cul-de-sac Reduction
- Building Footprint Reduction
- Parking Reduction

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

- All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).
- Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout).

Total WQv Required

0.29 . acre-feet

29. Identify the RR techniques (Area Reduction), RR techniques (Volume Reduction) and Standard SMPs with RRv Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required(#28).

Also, provide in Table 1 the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use Tables 1 and 2 to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

Table 1 - Runoff Reduction (RR) Techniques and Standard Stormwater Management Practices (SMPs)

<u>RR Techniques (Area Reduction)</u>	<u>Total Contributing Area (acres)</u>		<u>Total Contributing Impervious Area(acres)</u>	
<input type="radio"/> Conservation of Natural Areas (RR-1) ...	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<input checked="" type="radio"/> Sheetflow to Riparian Buffers/Filters Strips (RR-2)	<input type="text"/>	<input type="text"/>	and/or	1.06 <input type="text"/>
<input type="radio"/> Tree Planting/Tree Pit (RR-3)	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<input type="radio"/> Disconnection of Rooftop Runoff (RR-4) ..	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<u>RR Techniques (Volume Reduction)</u>				
<input type="radio"/> Vegetated Swale (RR-5)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Rain Garden (RR-6)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Stormwater Planter (RR-7)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Rain Barrel/Cistern (RR-8)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Porous Pavement (RR-9)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Green Roof (RR-10)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<u>Standard SMPs with RRv Capacity</u>				
<input type="radio"/> Infiltration Trench (I-1)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Infiltration Basin (I-2)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Dry Well (I-3)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Underground Infiltration System (I-4)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Bioretention (F-5)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Dry Swale (O-1)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<u>Standard SMPs</u>				
<input type="radio"/> Micropool Extended Detention (P-1)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Wet Pond (P-2)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Wet Extended Detention (P-3)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Multiple Pond System (P-4)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Pocket Pond (P-5)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Surface Sand Filter (F-1)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Underground Sand Filter (F-2)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Perimeter Sand Filter (F-3)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Organic Filter (F-4)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Shallow Wetland (W-1)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Extended Detention Wetland (W-2)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Pond/Wetland System (W-3)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Pocket Wetland (W-4)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Wet Swale (O-2)	<input type="text"/>	<input type="text"/>		<input type="text"/>

33. Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv(=Total WQv Required in 28 - Total RRv Provided in 30).

Also, provide in Table 1 and 2 the total impervious area that contributes runoff to each practice selected.

Note: Use Tables 1 and 2 to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question 29.

WQv Provided
 0.29 . acre-feet

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - RRv provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a). 0.36

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)? **Yes** **No**

If Yes, go to question 36.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv) required and provided or select waiver (36a), if applicable.

CPv Required . **acre-feet** **CPv Provided** . **acre-feet**

36a. The need to provide channel protection has been waived because:

- Site discharges directly to tidal waters or a fifth order or larger stream.
- Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (37a), if applicable.

Total Overbank Flood Control Criteria (Qp)

Pre-Development 0.59 **CFS** **Post-development** 0.59 **CFS**

Total Extreme Flood Control Criteria (Qf)

Pre-Development 19.62 **CFS** **Post-development** 19.62 **CFS**

Appendix D

Blank NOT Form

**New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505
*(NOTE: Submit completed form to address above)***

**NOTICE OF TERMINATION for Storm Water Discharges Authorized
under the SPDES General Permit for Construction Activity**

Please indicate your permit identification number: NYR _____

I. Owner or Operator Information

1. Owner/Operator Name: Borrego Solar

2. Street Address:

3. City/State/Zip:

4. Contact Person:

4a. Telephone:

4b. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

III. Reason for Termination

9a. All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP. ***Date final stabilization completed** (month/year): _____

9b. Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR _____
(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. Other (Explain on Page 2)

IV. Final Site Information:

10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? yes no (If no, go to question 10f.)

10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? yes no (If no, explain on Page 2)

10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

**NOTICE OF TERMINATION for Storm Water Discharges Authorized under the
SPDES General Permit for Construction Activity - continued**

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? yes no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

- Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.
- Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).
- For post-construction stormwater management practices that are privately owned, a mechanism is in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the owner or operator's deed of record.
- For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university or hospital), government agency or authority, or public utility; policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____
(acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? yes
 no
(If Yes, complete section VI - "MS4 Acceptance" statement

V. Additional Information/Explanation:
(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:

Title/Position:

Signature:

Date:

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the
SPDES General Permit for Construction Activity - continued

VII. Qualified Inspector Certification - Final Stabilization:

I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:

Title/Position:

Signature:

Date:

VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):

I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:

Title/Position:

Signature:

Date:

IX. Owner or Operator Certification

I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:

Title/Position:

Signature:

Date:

Appendix E

Emergency Contact List

Emergency Contacts

Borrego Solar Operations [post-construction]

Joe Busch, Director of Operations
55 Technology Drive, Suite 102
Lowell, MA 01851
Mobile: (978) 602-0630
Office: (978) 513-2637
jbusch@borregosolar.com

Municipal Emergency Agencies

Department: Municipal Building

Address: 10 E. Main St, Fonda NY

Emergency Number: Dial 911

Local Number: (518) 853-4555

Contact Person:

County Sheriff/Police Authority

Department: Montgomery County Sheriff

Address: 200 Clark Dr, Fultonville, NY 12072

Emergency Number: Dial 911

Local Number: (518) 853-5500

Contact Person:

New York Department of Environmental Protection

Regional Office Number: Region 4; (518) 357-2068

Contact Person:

United States Environmental Protection Agency

Phone Number: (617) 918-1111

Contact Person:

Appendix F

Construction Site Notice

Construction Site Notice

Job Superintendent Contact Name, Title & Phone Number:

T.B.D.

Location of SWPPP: Construction Office

SPDES Project Number: TBD

Project Description:

Phase 1 includes the preparation of the site for construction and consists of erosion control measures such as silt fence, stabilized construction exit(s), and haybales. Phase I also includes clearing and grubbing of trees, earthwork, construction of temporary sedimentation basins.

Phase II includes the installation of solar module racking and electrical conduit trenching as well as excavation for concrete equipment pads. The pouring of concrete is also included in Phase II.

Phase III includes installation of perimeter fences, gates and gravel access aisles. Final stabilization (hand grading and hydroseeding) along with removal of erosion and sedimentation control measures is included.

* A copy of the NOFs, NOC's and this Construction Site Notice must be posted in a conspicuous location near the main entrance of the construction site. The notice must include the SPDES Permit number and a contact phone number for obtaining permit information. The notice must be made visible from a public road that is nearest to the active part of the construction site, and it must use a font large enough to be viewed from a public road.

Appendix G

Subcontractor Certifications

SUBCONTRACTOR CERTIFICATION
STORMWATER POLLUTION PREVENTION PLAN

SPDES Project Number: TBD

Project Title: 2621 State Highway 5S - Glen
2621 NYS-5S, Fultonville, NY 12072

Operator: PV Engineers, PC

As a subcontractor, you are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that you perform on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System (“SPDES”) general permit for stormwater *discharges* from *construction activities* and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment of knowing violations.

This certification is hereby signed in reference to the above-named project:

Company: _____

Address: _____

Telephone Number: _____

Description of Work: _____

Trained Contractor’s Signature: _____

Title: _____

Date: _____

Appendix H

**Blank Construction Site Log Book
Forms**

**STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM
FOR CONSTRUCTION ACTIVITIES**

CONSTRUCTION SITE LOG BOOK

Table of Contents

- I. Pre-Construction Meeting Documents.
 - a. Preamble to Site Assessment and Inspections
 - b. Operator's Certification
 - c. Qualified Professional's Credentials & Certification
 - d. Pre-Construction Site Assessment Checklist
- a. II. Construction Duration Inspections
 - a. Directions
 - b. Modification to the SWPPP
- III. Monthly Summary Reports
- IV. Monitoring, Reporting, and Three-Month Status Reports
 - a. Operator's Compliance Response Form
- a.

Properly completing forms such as those contained in this document meet the inspection requirement of NYSDEC SPDES GP for Construction Activities. Completed forms shall be kept on site at all times and made available to authorities upon request.

I. PRE-CONSTRUCTION MEETING DOCUMENTS

Project Name 2621 Route 5S, Town of Glen

Permit No. _____ **Date of Authorization** _____

Name of Operator _____

Prime Contractor _____

a. Preamble to Site Assessment and Inspections -The Following Information To Be Read By All Person’s Involved in The Construction of Stormwater Related Activities:

The Operator agrees to have a qualified professional¹ conduct an assessment of the site prior to the commencement of construction² and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State’s standards and meets all Federal, State and local erosion and sediment control requirements.

When construction starts, site inspections shall be conducted by the qualified professional at least every 7 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater (Construction Duration Inspections). The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request. The Operator shall post at the site, in a publicly accessible location, a summary of the site inspection activities on a monthly basis (Monthly Summary Report).

The operator shall also prepare a written summary of compliance with this general permit at a minimum frequency of every three months (Operator’s Compliance Response Form), while coverage exists. The summary should address the status of achieving each component of the SWPPP.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified professional perform a final site inspection. The qualified professional shall certify that the site has undergone final stabilization³ using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 “Qualified Professional means a person knowledgeable in the principles and practice of erosion and sediment controls, such as a Certified Professional in Erosion and Sediment Control (CPESC), soil scientist, licensed engineer or someone working under the direction and supervision of a licensed engineer (person must have experience in the principles and practices of erosion and sediment control).

2 “Commencement of construction” means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.

3 “Final stabilization” means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

b. Operators Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. Further, I hereby certify that the SWPPP meets all Federal, State, and local erosion and sediment control requirements. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law. "

Name (please print): _____

Title _____ Date: _____

Address: _____

Phone: _____ Email: _____

Signature: _____

c. Qualified Professional's Credentials & Certification

" I hereby certify that I meet the criteria set forth in the General Permit to conduct site inspections for this project and that the appropriate erosion and sediment controls described in the SWPPP and as described in the following Pre-construction Site Assessment Checklist have been adequately installed or implemented, ensuring the overall preparedness of this site for the commencement of construction."

Name (please print): _____

Title _____ Date: _____

Address: _____

Phone: _____ Email: _____

Signature: _____

d. Pre-construction Site Assessment Checklist (NOTE: Provide comments below as necessary)

1. Notice of Intent, SWPPP, and Contractors Certification:

Yes No NA

Has a Notice of Intent been filed with the NYS Department of Conservation?

Is the SWPPP on-site? Where? _____

Is the Plan current? What is the latest revision date? _____

Is a copy of the NOI (with brief description) onsite? Where? _____

Have all contractors involved with stormwater related activities signed a contractor's certification?

Pre-construction Site Assessment Checklist (continued)

2. Resource Protection

Yes No NA

- Are construction limits clearly flagged or fenced?
- Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.
- Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection

Yes No NA

- Clean stormwater runoff has been diverted from areas to be disturbed.
- Bodies of water located either on site or in the vicinity of the site have been identified and protected.
- Appropriate practices to protect on-site or downstream surface water are installed.
- Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Entrance

Yes No NA

- A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
- Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
- Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Perimeter Sediment Controls

Yes No NA

- Silt fence material and installation comply with the standard drawing and specifications.
- Silt fences are installed at appropriate spacing intervals
- Sediment/detention basin was installed as first land disturbing activity.
- Sediment traps and barriers are installed.

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

- The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
- The plan is contained in the SWPPP on page _____
- Appropriate materials to control spills are onsite. Where? _____

II. CONSTRUCTION DURATION INSPECTIONS

a. Directions:

Inspection Forms will be filled out during the entire construction phase of the project.

Required Elements:

(1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;

(2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;

(3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;

Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);

(5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and

(6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.

SITE PLAN/SKETCH

Inspector (print name)

Date of Inspection

Qualified Professional (print name)

Qualified Professional Signature

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Maintaining Water Quality

Yes No NA

- Is there an increase in turbidity causing a substantial visible contrast to natural conditions?
- Is there residue from oil and floating substances, visible oil film, or globules or grease?
- All disturbance is within the limits of the approved plans.
- Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions

Yes No NA

- Is construction site litter and debris appropriately managed?
- Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
- Is construction impacting the adjacent property?
- Is dust adequately controlled?

2. Temporary Stream Crossing

Yes No NA

- Maximum diameter pipes necessary to span creek without dredging are installed.
- Installed non-woven geotextile fabric beneath approaches.
- Is fill composed of aggregate (no earth or soil)?
- Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

Runoff Control Practices

1. Excavation Dewatering

Yes No NA

- Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
- Clean water from upstream pool is being pumped to the downstream pool.
- Sediment laden water from work area is being discharged to a silt-trapping device.
- Constructed upstream berm with one-foot minimum freeboard.

2. Level Spreader

Yes No NA

- Installed per plan.
- Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.
- Flow sheets out of level spreader without erosion on downstream edge.

3. Interceptor Dikes and Swales

Yes No NA

- Installed per plan with minimum side slopes 2H:1V or flatter.
- Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
- Sediment-laden runoff directed to sediment trapping structure

CONSTRUCTION DURATION INSPECTIONS
Runoff Control Practices (continued)

4. Stone Check Dam

Yes No NA

- Is channel stable? (flow is not eroding soil underneath or around the structure).
- Check is in good condition (rocks in place and no permanent pools behind the structure).
- Has accumulated sediment been removed?.

5. Rock Outlet Protection

Yes No NA

- Installed per plan.
- Installed concurrently with pipe installation.

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA

- Stockpiles are stabilized with vegetation and/or mulch.
- Sediment control is installed at the toe of the slope.

2. Revegetation

Yes No NA

- Temporary seedings and mulch have been applied to idle areas.
- 4 inches minimum of topsoil has been applied under permanent seedings

Sediment Control

1. Stabilized Construction Entrance

Yes No NA

- Stone is clean enough to effectively remove mud from vehicles.
- Installed per standards and specifications?
- Does all traffic use the stabilized entrance to enter and leave site?
- Is adequate drainage provided to prevent ponding at entrance?

2. Silt Fence

Yes No NA

- Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
 - Joints constructed by wrapping the two ends together for continuous support.
 - Fabric buried 6 inches minimum.
 - Posts are stable, fabric is tight and without rips or frayed areas.
- Sediment accumulation is ___% of design capacity.

Sediment Control (continued)

3. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated practices)

Yes No NA

- Installed concrete blocks lengthwise so open ends face outward, not upward.
 - Placed wire screen between No. 3 crushed stone and concrete blocks.
 - Drainage area is 1 acre or less.
 - Excavated area is 900 cubic feet.
 - Excavated side slopes should be 2:1.
 - 2" x 4" frame is constructed and structurally sound.
 - Posts 3-foot maximum spacing between posts.
 - Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
 - Posts are stable, fabric is tight and without rips or frayed areas.
- Sediment accumulation ___% of design capacity.

4. Temporary Sediment Trap

Yes No NA

- Outlet structure is constructed per the approved plan or drawing.
 - Geotextile fabric has been placed beneath rock fill.
- Sediment accumulation is ___% of design capacity.

5. Temporary Sediment Basin

Yes No NA

- Basin and outlet structure constructed per the approved plan.
 - Basin side slopes are stabilized with seed/mulch.
 - Drainage structure flushed and basin surface restored upon removal of sediment basin facility.
- Sediment accumulation is ___% of design capacity.

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design.
Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

Appendix I

Misc. Forms

Is this project subject to Chapter 10 of the NYS Design Manual (i.e. WQv is equal to post-development 1 year runoff volume)?.....

Design Point:	POA 1	
P=	1.00	inch

Breakdown of Subcatchments						
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft ³)	Description
1	51.55	1.06	2%	0.07	12,822	
2						
3						
4						
5						
6						
7						
8						
9						
10						
Subtotal (1-30)	51.55	1.06	2%	0.07	12,822	Subtotal 1
Total	51.55	1.06	2%	0.07	12,822	Initial WQv

0.29	af
------	----

Identify Runoff Reduction Techniques By Area			
Technique	Total Contributing Area	Contributing Impervious Area	Notes
	(Acre)	(Acre)	
Conservation of Natural Areas	0.00	0.00	minimum 10,000 sf
Riparian Buffers	51.55	1.06	maximum contributing length 75 feet to 150 feet
Filter Strips	0.00	0.00	
Tree Planting	0.00	0.00	Up to 100 sf directly connected impervious area may be subtracted per tree
Total	51.55	1.06	

Recalculate WQv after application of Area Reduction Techniques					
	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Runoff Coefficient Rv	WQv (ft ³)
"<<Initial WQv"	51.55	1.06	2%	0.07	12,822
Subtract Area	-51.55	-1.06			
WQv adjusted after Area Reductions	0.00	0.00	0%	0.05	0
Disconnection of Rooftops		0.00			
Adjusted WQv after Area Reduction and Rooftop Disconnect	0.00	0.00	0%	0.05	0
WQv reduced by Area Reduction techniques					12,822

0.00	af
0.29	af

Total Water Quality Volume Calculation

$$WQv(\text{acre-feet}) = [(P)(Rv)(A)] / 12$$

All Subcatchments						
Catchment	Total Area (Acres)	Impervious Cover (Acres)	Percent Impervious %	Runoff Coefficient <i>Rv</i>	WQv (<i>ft</i> ³)	Description
1	51.55	1.06	0.02	0.07	12822.07	
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

Runoff Reduction Volume and Treated volumes						
	Runoff Reduction Techniques/Standard SMPs		Total Contributing Area	Total Contributing Impervious Area	WQv Reduced (RRv)	WQv Treated
			(acres)	(acres)	cf	cf
Area/Volume Reduction	Conservation of Natural Areas	RR-1	0.00	0.00		
	Sheetflow to Riparian Buffers/Filter Strips	RR-2	51.55	1.06		
	Tree Planting/Tree Pit	RR-3	0.00	0.00		
	Disconnection of Rooftop Runoff	RR-4		0.00		
	Vegetated Swale	RR-5	0.00	0.00	0	
	Rain Garden	RR-6	0.00	0.00	0	
	Stormwater Planter	RR-7	0.00	0.00	0	
	Rain Barrel/Cistern	RR-8	0.00	0.00	0	
	Porous Pavement	RR-9	0.00	0.00	0	
	Green Roof (Intensive & Extensive)	RR-10	0.00	0.00	0	
Standard SMPs w/RRV Capacity	Infiltration Trench	I-1	0.00	0.00	0	0
	Infiltration Basin	I-2	0.00	0.00	0	0
	Dry Well	I-3	0.00	0.00	0	0
	Underground Infiltration System	I-4				
	Bioretention & Infiltration Bioretention	F-5	0.00	0.00	0	0
	Dry swale	O-1	0.00	0.00	0	0
Standard SMPs	Micropool Extended Detention (P-1)	P-1				
	Wet Pond (P-2)	P-2				
	Wet Extended Detention (P-3)	P-3				
	Multiple Pond system (P-4)	P-4				
	Pocket Pond (p-5)	P-5				
	Surface Sand filter (F-1)	F-1				
	Underground Sand filter (F-2)	F-2				
	Perimeter Sand Filter (F-3)	F-3				
	Organic Filter (F-4)	F-4				
	Shallow Wetland (W-1)	W-1				
	Extended Detention Wetland (W-2)	W-2				
	Pond/Wetland System (W-3)	W-3				
	Pocket Wetland (W-4)	W-4				
Wet Swale (O-2)	O-2					
Totals by Area Reduction →			51.55	1.06	12822	
Totals by Volume Reduction →			0.00	0.00	0	
Totals by Standard SMP w/RRV →			0.00	0.00	0	0
Totals by Standard SMP →			0.00	0.00		0
Totals (Area + Volume + all SMPs) →			51.55	1.06	12,822	0
	Impervious Cover √	okay				
	Total Area √	okay				

Minimum RRv

Enter the Soils Data for the site

Soil Group	Acres	S
A	30.09	55%
B	13.67	40%
C	0.00	30%
D	7.78	20%
Total Area	51.547	

Calculate the Minimum RRv

S =	0.46	
Impervious =	1.06	<i>acre</i>
Precipitation	1	<i>in</i>
Rv	0.95	
Minimum RRv	1,673	<i>ft3</i>
	0.04	<i>af</i>

NOI QUESTIONS

#	NOI Question	Reported Value	
		cf	af
28	Total Water Quality Volume (WQv) Required	12822	0.294
30	Total RRV Provided	12822	0.294
31	Is RRV Provided \geq WQv Required?	Yes	
32	Minimum RRV	1673	0.038
32a	Is RRV Provided \geq Minimum RRV Required?	Yes	
33a	Total WQv Treated	0	0.000
34	Sum of Volume Reduced & Treated	12822	0.294
34	Sum of Volume Reduced and Treated	12822	0.294
35	Is Sum RRV Provided and WQv Provided \geq WQv Required?	Yes	

100.00%

Apply Peak Flow Attenuation			
36	Channel Protection	C_{pv}	
37	Overbank	Q_p	
37	Extreme Flood Control	Q_f	
	Are Quantity Control requirements met?		

Planning

Practice	Description	Application
Preservation of Undisturbed Areas	Delineate and place into permanent conservation undisturbed forests, native vegetated areas, riparian corridors, wetlands, and natural terrain.	Considered & Applied
Preservation of Buffers	Define, delineate and preserve naturally vegetated buffers along perennial streams, rivers, shorelines and wetlands.	Considered & Applied
Reduction of Clearing and Grading	Limit clearing and grading to the minimum amount needed for roads, driveways, foundations, utilities and stormwater management facilities.	Considered & Applied
Locating Development in Less Sensitive Areas	Avoid sensitive resource areas such as floodplains, steep slopes, erodible soils, wetlands, mature forests and critical habitats by locating development to fit the terrain in areas that will create the least impact.	Considered & Not Applied
Open Space Design	Use clustering, conservation design or open space design to reduce impervious cover, preserve more open space and protect water resources.	N/A
Soil Restoration	Restore the original properties and porosity of the soil by deep till and amendment with compost to reduce the generation of runoff and enhance the runoff reduction performance of post construction practices.	Considered & Applied
Roadway Reduction	Minimize roadway widths and lengths to reduce site impervious area	Considered & Applied
Sidewalk Reduction	Minimize sidewalk lengths and widths to reduce site impervious area	N/A
Driveway Reduction	Minimize driveway lengths and widths to reduce site impervious area	Considered & Applied
Cul-de-sac Reduction	Minimize the number of cul-de-sacs and incorporate landscaped areas to reduce their impervious cover.	N/A
Building Footprint Reduction	Reduce the impervious footprint of residences and commercial buildings by using alternate or taller buildings while maintaining the same floor to area ratio.	N/A
Parking Reduction	Reduce imperviousness on parking lots by eliminating unneeded spaces, providing compact car spaces and efficient parking lanes, minimizing stall dimensions, using porous pavement surfaces in overflow parking areas, and using multi-storied parking decks where appropriate.	N/A

Riparian Buffer

Design Point:	POA 1						
Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft ³)	Precipitation (in)	Description
1	51.55	1.06	0.02	0.07	12822.07	1.00	
Design Elements							
Is another area based practice applied to this area?			No				
Undisturbed Soil and Natural Vegetation? (Y/N)			Yes				
Outside the limits of disturbance?			Yes				
Protected by ESC during Construction?			Yes				
Adjacent to Stream Buffer or Forest Conservaton Area?			Yes				
Boundary Spreader?			Yes			GD at top of buffer	
Boundary Zone?			Yes			10 feet of level grass	
Specify how sheet flow will be ensured			spreader			level spreader shall be used for buffer slopes ranging from 3-15%	
Slope of first 10 feet of buffer			>4	%		4% maximum	
Overall Slope				%		6% maximum	
Contributing Length of Pervious Areas (PC)			150	ft		150 ft maximum	
Contributing Length of Impervious areas (IC)			20	ft		75 ft maximum	
Maximum PC Contributing Length for combination of PC & IC			130	ft		Okay	
Soil Group (HSG)			A				
Buffer Width			100	ft		50 ft minimum for slopes 0-8% 75 ft minimum for slopes 8-12% 100 ft minimum for slopes 12-15% HSG C or D increase by 15-20%	
Are All Criteria for Riparian Buffers in Section 5.3.2 met?			Yes				
Area Reduction Adjustments							
Subtract			51.55	<i>from total Area</i>			
Subtract			1.06	<i>from total Impervious Area</i>			

Appendix J
Endangered Species
Documentation



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:

December 21, 2020

Consultation Code: 05E1NY00-2021-SLI-0814

Event Code: 05E1NY00-2021-E-02490

Project Name: 2621 State Highway 5S-Glen

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: 05E1NY00-2021-SLI-0814

Event Code: 05E1NY00-2021-E-02490

Project Name: 2621 State Highway 5S-Glen

Project Type: POWER GENERATION

Project Description: Solar Power Generation

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/42.925614677005555N74.31361590284628W>



Counties: Montgomery, NY

Endangered Species Act Species

There is a total of 0 threatened, endangered, or candidate species on this species list.

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

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

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

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

Critical habitats

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

Appendix K
HydroCAD Output

NOT FOR CONSTRUCTION

IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER ANY DOCUMENT WHICH BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

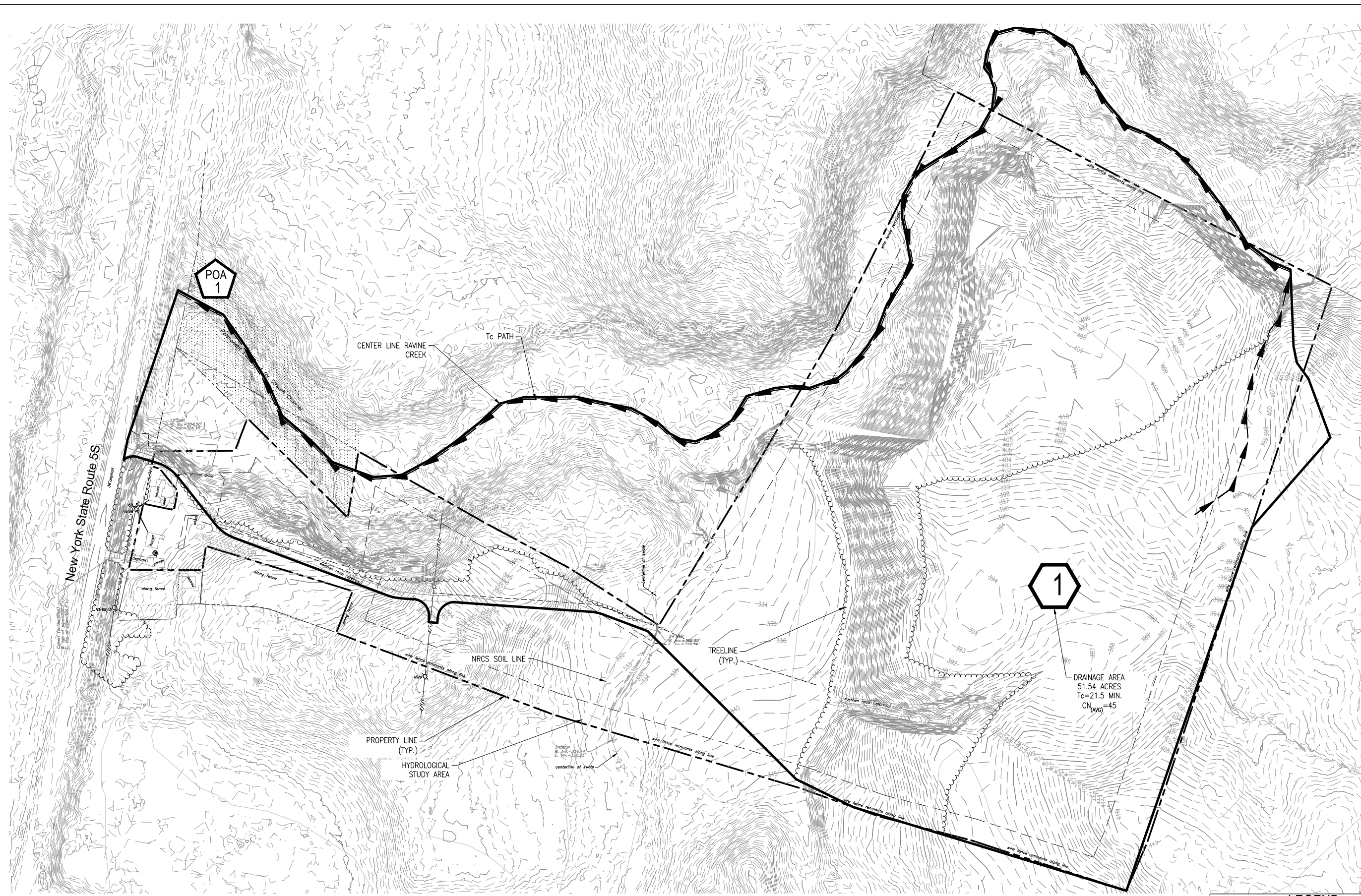
NYSDOT SUBMISSION
 NYSERDA SUBMISSION
 2621 STATE HIGHWAY 5S SOLAR PROJECT
 2621 STATE HIGHWAY 5S, FULTONVILLE, NY, 12072

PROJECT NUMBER:
108-4862

DATE	REV	DESCRIPTION
2/10/21	DC	DC
04/05/21	DC	DC
04/09/21	DC	DC
06/10/21	DC	DC

SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED ARCH D 24" X 36"

W-1.0
PRE-DEVELOPMENT PLAN



DRAINAGE AREA
51.54 ACRES
Tc=21.5 MIN.
CN(AVG)=45

LEGEND

- SUBCATCHMENT LINE
- SUBCATCHMENT AREA
- POINT OF ANALYSIS
- TC PATH

PRE-DEVELOPMENT PLAN

SCALE: 1" = 100'

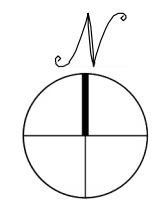


TABLE OF CONTENTS

Project Reports

- 1 Routing Diagram
- 2 Rainfall Events Listing (selected events)
- 3 Area Listing (all nodes)
- 4 Ground Covers (all nodes)

1-Year Event

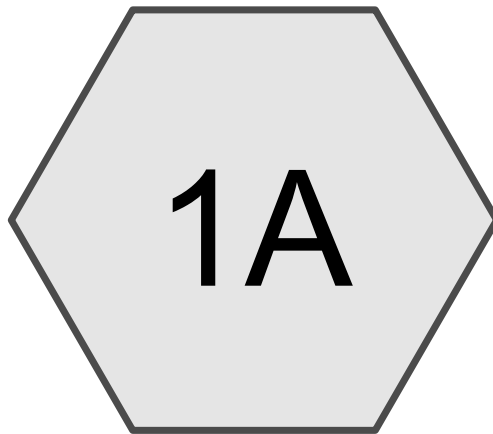
- 5 Subcat 1: Subcat 1

10-Year Event

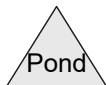
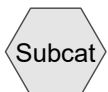
- 6 Subcat 1: Subcat 1

100-Year Event

- 7 Subcat 1: Subcat 1



Subcat 1



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Page 2

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Year	NRCC 24-hr	B	Default	24.00	1	2.16	2
2	10-Year	NRCC 24-hr	B	Default	24.00	1	3.50	2
3	100-Year	NRCC 24-hr	B	Default	24.00	1	5.77	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.418	55	Grassed roads, HSG A (1A)
0.012	91	Gravel roads, HSG D (1A)
7.452	30	Meadow, non-grazed, HSG A (1A)
8.710	58	Meadow, non-grazed, HSG B (1A)
4.590	78	Meadow, non-grazed, HSG D (1A)
22.222	30	Woods, Good, HSG A (1A)
4.962	55	Woods, Good, HSG B (1A)
3.182	77	Woods, Good, HSG D (1A)
51.548	45	TOTAL AREA

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Prepared by ARICO

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Page 4

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.418	0.000	0.000	0.000	0.000	0.418	Grassed roads	1A
0.000	0.000	0.000	0.012	0.000	0.012	Gravel roads	1A
7.452	8.710	0.000	4.590	0.000	20.752	Meadow, non-grazed	1A
22.222	4.962	0.000	3.182	0.000	30.366	Woods, Good	1A
30.092	13.672	0.000	7.784	0.000	51.548	TOTAL AREA	

Summary for Subcatchment 1A: Subcat 1

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 NRCC 24-hr B 1-Year Rainfall=2.16"

Area (ac)	CN	Description
* 0.418	55	Grassed roads, HSG A
0.012	91	Gravel roads, HSG D
7.452	30	Meadow, non-grazed, HSG A
8.710	58	Meadow, non-grazed, HSG B
4.590	78	Meadow, non-grazed, HSG D
22.222	30	Woods, Good, HSG A
4.962	55	Woods, Good, HSG B
3.182	77	Woods, Good, HSG D
51.548	45	Weighted Average
51.548		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	100	0.1200	0.35		Sheet Flow, Range n= 0.130 P2= 2.50"
4.3	520	0.0846	2.04		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
12.4	3,714		5.00		Direct Entry,
21.5	4,334	Total			

Summary for Subcatchment 1A: Subcat 1

Runoff = 0.59 cfs @ 13.49 hrs, Volume= 0.253 af, Depth> 0.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 NRCC 24-hr B 10-Year Rainfall=3.50"

Area (ac)	CN	Description
* 0.418	55	Grassed roads, HSG A
0.012	91	Gravel roads, HSG D
7.452	30	Meadow, non-grazed, HSG A
8.710	58	Meadow, non-grazed, HSG B
4.590	78	Meadow, non-grazed, HSG D
22.222	30	Woods, Good, HSG A
4.962	55	Woods, Good, HSG B
3.182	77	Woods, Good, HSG D
51.548	45	Weighted Average
51.548		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	100	0.1200	0.35		Sheet Flow, Range n= 0.130 P2= 2.50"
4.3	520	0.0846	2.04		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
12.4	3,714		5.00		Direct Entry,
21.5	4,334	Total			

Summary for Subcatchment 1A: Subcat 1

Runoff = 19.62 cfs @ 12.41 hrs, Volume= 2.593 af, Depth> 0.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 NRCC 24-hr B 100-Year Rainfall=5.77"

Area (ac)	CN	Description
* 0.418	55	Grassed roads, HSG A
0.012	91	Gravel roads, HSG D
7.452	30	Meadow, non-grazed, HSG A
8.710	58	Meadow, non-grazed, HSG B
4.590	78	Meadow, non-grazed, HSG D
22.222	30	Woods, Good, HSG A
4.962	55	Woods, Good, HSG B
3.182	77	Woods, Good, HSG D
51.548	45	Weighted Average
51.548		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	100	0.1200	0.35		Sheet Flow, Range n= 0.130 P2= 2.50"
4.3	520	0.0846	2.04		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
12.4	3,714		5.00		Direct Entry,
21.5	4,334	Total			

TABLE OF CONTENTS

Project Reports

- 1 Routing Diagram
- 2 Rainfall Events Listing (selected events)
- 3 Area Listing (all nodes)
- 4 Ground Covers (all nodes)

1-Year Event

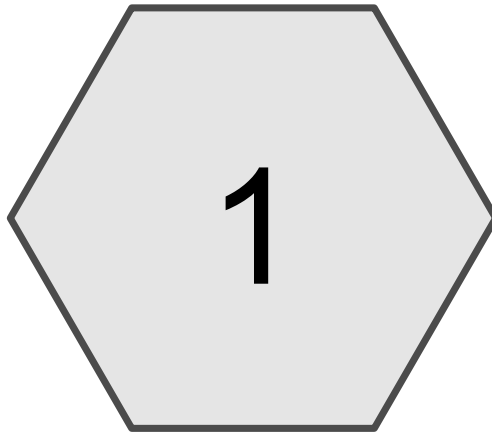
- 5 Subcat 1A: Subcat 1

10-Year Event

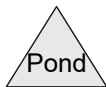
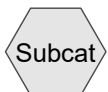
- 6 Subcat 1A: Subcat 1

100-Year Event

- 7 Subcat 1A: Subcat 1



Subcat 1



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Page 2

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Year	NRCC 24-hr	B	Default	24.00	1	2.16	2
2	10-Year	NRCC 24-hr	B	Default	24.00	1	3.50	2
3	100-Year	NRCC 24-hr	B	Default	24.00	1	5.77	2

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Page 3

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.812	76	Gravel roads, HSG A (1)
0.018	85	Gravel roads, HSG B (1)
0.167	91	Gravel roads, HSG D (1)
0.002	96	Gravel surface, HSG A (1)
0.062	96	Gravel surface, HSG B (1)
10.349	30	Meadow, non-grazed, HSG A (1)
11.073	58	Meadow, non-grazed, HSG B (1)
7.359	78	Meadow, non-grazed, HSG D (1)
18.928	30	Woods, Good, HSG A (1)
2.519	55	Woods, Good, HSG B (1)
0.258	77	Woods, Good, HSG D (1)
51.547	45	TOTAL AREA

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Page 4

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.812	0.018	0.000	0.167	0.000	0.997	Gravel roads	1
0.002	0.062	0.000	0.000	0.000	0.064	Gravel surface	1
10.349	11.073	0.000	7.359	0.000	28.781	Meadow, non-grazed	1
18.928	2.519	0.000	0.258	0.000	21.705	Woods, Good	1
30.091	13.672	0.000	7.784	0.000	51.547	TOTAL AREA	

Summary for Subcatchment 1: Subcat 1

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 NRCC 24-hr B 1-Year Rainfall=2.16"

Area (ac)	CN	Description
0.812	76	Gravel roads, HSG A
0.018	85	Gravel roads, HSG B
0.167	91	Gravel roads, HSG D
0.002	96	Gravel surface, HSG A
0.062	96	Gravel surface, HSG B
10.349	30	Meadow, non-grazed, HSG A
11.073	58	Meadow, non-grazed, HSG B
7.359	78	Meadow, non-grazed, HSG D
18.928	30	Woods, Good, HSG A
2.519	55	Woods, Good, HSG B
0.258	77	Woods, Good, HSG D
51.547	45	Weighted Average
51.547		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	100	0.1200	0.35		Sheet Flow, Range n= 0.130 P2= 2.50"
4.3	520	0.0846	2.04		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
12.4	3,714		5.00		Direct Entry,
21.5	4,334	Total			

Summary for Subcatchment 1: Subcat 1

Runoff = 0.59 cfs @ 13.49 hrs, Volume= 0.253 af, Depth> 0.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 NRCC 24-hr B 10-Year Rainfall=3.50"

Area (ac)	CN	Description
0.812	76	Gravel roads, HSG A
0.018	85	Gravel roads, HSG B
0.167	91	Gravel roads, HSG D
0.002	96	Gravel surface, HSG A
0.062	96	Gravel surface, HSG B
10.349	30	Meadow, non-grazed, HSG A
11.073	58	Meadow, non-grazed, HSG B
7.359	78	Meadow, non-grazed, HSG D
18.928	30	Woods, Good, HSG A
2.519	55	Woods, Good, HSG B
0.258	77	Woods, Good, HSG D
51.547	45	Weighted Average
51.547		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	100	0.1200	0.35		Sheet Flow, Range n= 0.130 P2= 2.50"
4.3	520	0.0846	2.04		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
12.4	3,714		5.00		Direct Entry,
21.5	4,334	Total			

Summary for Subcatchment 1: Subcat 1

Runoff = 19.62 cfs @ 12.41 hrs, Volume= 2.593 af, Depth> 0.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 NRCC 24-hr B 100-Year Rainfall=5.77"

Area (ac)	CN	Description
0.812	76	Gravel roads, HSG A
0.018	85	Gravel roads, HSG B
0.167	91	Gravel roads, HSG D
0.002	96	Gravel surface, HSG A
0.062	96	Gravel surface, HSG B
10.349	30	Meadow, non-grazed, HSG A
11.073	58	Meadow, non-grazed, HSG B
7.359	78	Meadow, non-grazed, HSG D
18.928	30	Woods, Good, HSG A
2.519	55	Woods, Good, HSG B
0.258	77	Woods, Good, HSG D
51.547	45	Weighted Average
51.547		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	100	0.1200	0.35		Sheet Flow, Range n= 0.130 P2= 2.50"
4.3	520	0.0846	2.04		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
12.4	3,714		5.00		Direct Entry,
21.5	4,334	Total			

Appendix L

Soil Data and Phase I ESA



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

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

Custom Soil Resource Report for Montgomery County, New York



Preface

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

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

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

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

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

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

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Contents

Preface	2
How Soil Surveys Are Made	5
Soil Map	8
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	11
Map Unit Descriptions.....	11
Montgomery County, New York.....	14
CFL—Cut and fill land.....	14
FL—Fluvaquents, loamy.....	15
Fr—Fredon silt loam.....	16
HrB—Howard gravelly silt loam, 3 to 8 percent slopes.....	18
HrD—Howard gravelly silt loam, 15 to 25 percent slopes.....	20
HTF—Howard soils, very steep.....	21
LaB—Lansing silt loam, 3 to 8 percent slopes.....	22
LaC—Lansing silt loam, 8 to 15 percent slopes.....	24
LaD—Lansing silt loam, 15 to 25 percent slopes.....	26
PmC—Palmyra gravelly silt loam, 8 to 15 percent slopes.....	28
PpB—Phelps gravelly loam, 3 to 8 percent slopes.....	29
PsB—Plainfield loamy sand, 3 to 10 percent slopes.....	31
References	33

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

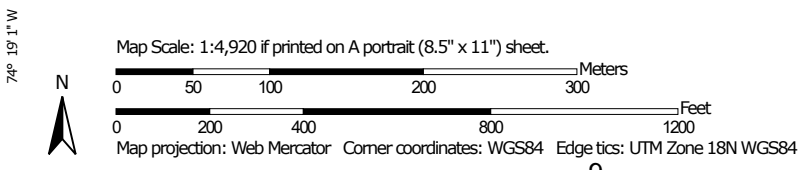
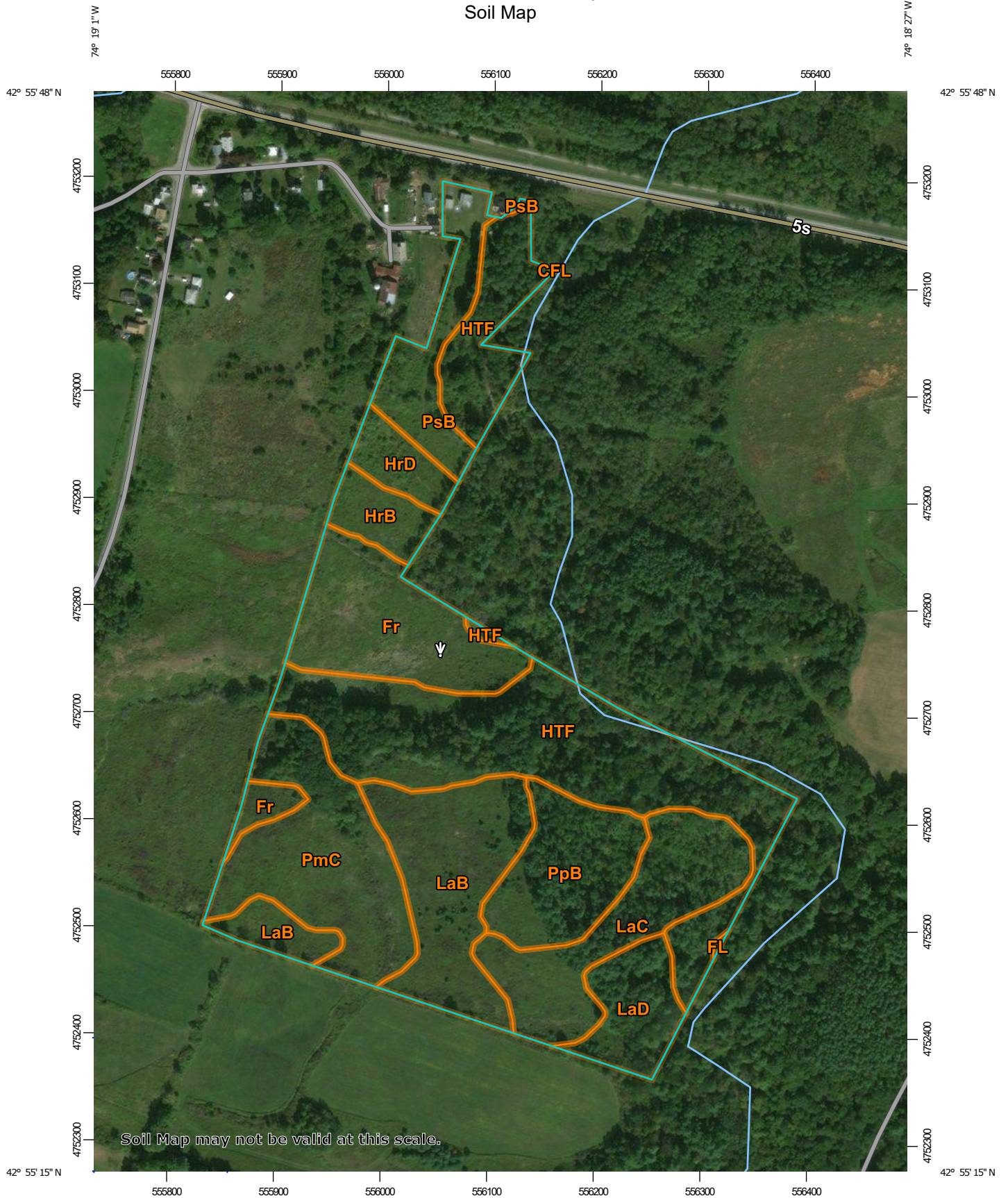
Custom Soil Resource Report

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

Soil Map

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

Custom Soil Resource Report Soil Map



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)


Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit


 Clay Spot


 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water


 Perennial Water

 Rock Outcrop


 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole

 Slide or Slip


 Sodic Spot


 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals


Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Montgomery County, New York
 Survey Area Data: Version 18, Jun 11, 2020

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

Date(s) aerial images were photographed: Oct 7, 2013—Nov 9, 2016

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CFL	Cut and fill land	0.0	0.0%
FL	Fluvaquents, loamy	0.0	0.0%
Fr	Fredon silt loam	5.3	11.2%
HrB	Howard gravelly silt loam, 3 to 8 percent slopes	1.3	2.7%
HrD	Howard gravelly silt loam, 15 to 25 percent slopes	1.2	2.6%
HTF	Howard soils, very steep	13.5	28.3%
LaB	Lansing silt loam, 3 to 8 percent slopes	6.5	13.5%
LaC	Lansing silt loam, 8 to 15 percent slopes	4.9	10.3%
LaD	Lansing silt loam, 15 to 25 percent slopes	2.2	4.7%
PmC	Palmyra gravelly silt loam, 8 to 15 percent slopes	6.2	13.0%
PpB	Phelps gravelly loam, 3 to 8 percent slopes	3.7	7.9%
PsB	Plainfield loamy sand, 3 to 10 percent slopes	2.8	5.8%
Totals for Area of Interest		47.6	100.0%

Map Unit Descriptions

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

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

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a

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

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

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

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

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

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

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

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

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

Custom Soil Resource Report

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

Montgomery County, New York

CFL—Cut and fill land

Map Unit Setting

National map unit symbol: 9tp6
Elevation: 180 to 1,380 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 70 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Typical profile

H1 - 0 to 4 inches: gravelly loam
H2 - 4 to 70 inches: very gravelly loam

Properties and qualities

Slope: 0 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high
(0.06 to 5.95 in/hr)
Depth to water table: About 36 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water capacity: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Sun

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Angola

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

Illion

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Raynham

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

Hudson

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

Alton

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

FL—Fluvaquents, loamy

Map Unit Setting

National map unit symbol: 9tpl
Elevation: 300 to 1,800 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Fluvaquents

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Alluvium with highly variable texture

Typical profile

H1 - 0 to 5 inches: gravelly silt loam
H2 - 5 to 70 inches: very gravelly silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 19.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: FrequentNone
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 15 percent

Custom Soil Resource Report

Available water capacity: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: B/D

Hydric soil rating: Yes

Minor Components

Wayland

Percent of map unit: 5 percent

Landform: Flood plains

Hydric soil rating: Yes

Granby

Percent of map unit: 5 percent

Landform: Depressions

Hydric soil rating: Yes

Teel

Percent of map unit: 5 percent

Hydric soil rating: No

Hamlin

Percent of map unit: 5 percent

Hydric soil rating: No

Saprists

Percent of map unit: 3 percent

Landform: Swamps, marshes

Hydric soil rating: Yes

Aquents

Percent of map unit: 2 percent

Landform: Flood plains

Hydric soil rating: Yes

Fr—Fredon silt loam

Map Unit Setting

National map unit symbol: 9tpp

Elevation: 250 to 1,200 feet

Mean annual precipitation: 38 to 44 inches

Mean annual air temperature: 45 to 48 degrees F

Frost-free period: 110 to 170 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Fredon, poorly drained, and similar soils: 50 percent

Fredon, somewhat poorly drained, and similar soils: 25 percent

Minor components: 25 percent

Custom Soil Resource Report

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

Description of Fredon, Poorly Drained

Setting

Landform: Depressions

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Across-slope shape: Linear

Parent material: Loamy over sandy and gravelly glaciofluvial deposits

Typical profile

Ap - 0 to 9 inches: silt loam

B21 - 9 to 19 inches: gravelly silt loam

B22 - 19 to 31 inches: very gravelly loam

2C - 31 to 45 inches: stratified very gravelly sand

3C - 45 to 60 inches: stratified silt loam to very fine sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 1.98 in/hr)

Depth to water table: About 0 to 6 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Available water capacity: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: B/D

Hydric soil rating: Yes

Description of Fredon, Somewhat Poorly Drained

Setting

Landform: Depressions

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Across-slope shape: Linear

Parent material: Loamy over sandy and gravelly glaciofluvial deposits

Typical profile

Ap - 0 to 9 inches: silt loam

B21 - 9 to 19 inches: gravelly silt loam

B22 - 19 to 31 inches: very gravelly loam

2C - 31 to 45 inches: stratified very gravelly sand

3C - 45 to 60 inches: stratified silt loam to very fine sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Somewhat poorly drained

Custom Soil Resource Report

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 1.98 in/hr)

Depth to water table: About 6 to 18 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Available water capacity: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: B/D

Hydric soil rating: No

Minor Components

Ilion

Percent of map unit: 5 percent

Landform: Depressions

Hydric soil rating: Yes

Madalin

Percent of map unit: 5 percent

Landform: Depressions

Hydric soil rating: Yes

Phelps

Percent of map unit: 5 percent

Hydric soil rating: No

Howard

Percent of map unit: 5 percent

Hydric soil rating: No

Raynham

Percent of map unit: 5 percent

Hydric soil rating: No

HrB—Howard gravelly silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9tq2

Elevation: 210 to 1,030 feet

Mean annual precipitation: 38 to 44 inches

Mean annual air temperature: 45 to 48 degrees F

Frost-free period: 110 to 170 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Howard and similar soils: 75 percent

Minor components: 25 percent

Custom Soil Resource Report

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

Description of Howard

Setting

Landform: Terraces, valley trains

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Tread

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Gravelly loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, containing significant amounts of limestone

Typical profile

H1 - 0 to 9 inches: gravelly silt loam

H2 - 9 to 19 inches: very gravelly sandy loam

H3 - 19 to 60 inches: very gravelly sandy loam

H4 - 60 to 64 inches: stratified very gravelly loamy sand

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Available water capacity: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: A

Hydric soil rating: No

Minor Components

Palmyra

Percent of map unit: 5 percent

Hydric soil rating: No

Colonie

Percent of map unit: 5 percent

Hydric soil rating: No

Alton

Percent of map unit: 5 percent

Hydric soil rating: No

Unnamed soils

Percent of map unit: 5 percent

Hydric soil rating: No

Phelps

Percent of map unit: 5 percent

Hydric soil rating: No

HrD—Howard gravelly silt loam, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 9tq4
Elevation: 230 to 790 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Howard

Setting

Landform: Terraces, valley trains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Gravelly loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, containing significant amounts of limestone

Typical profile

H1 - 0 to 9 inches: gravelly silt loam
H2 - 9 to 19 inches: very gravelly sandy loam
H3 - 19 to 60 inches: very gravelly sandy loam
H4 - 60 to 64 inches: stratified very gravelly loamy sand

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water capacity: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Colonie

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

Palmyra

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

Alton

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

Phelps

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

Lansing

Percent of map unit: 3 percent
Hydric soil rating: No

Mohawk

Percent of map unit: 2 percent
Hydric soil rating: No

HTF—Howard soils, very steep

Map Unit Setting

National map unit symbol: 9tpt
Elevation: 230 to 1,030 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Howard

Setting

Landform: Terraces, valley trains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Gravelly loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, containing significant amounts of limestone

Custom Soil Resource Report

Typical profile

- H1 - 0 to 9 inches: gravelly silt loam*
- H2 - 9 to 19 inches: very gravelly sandy loam*
- H3 - 19 to 60 inches: very gravelly sandy loam*
- H4 - 60 to 64 inches: stratified very gravelly loamy sand*

Properties and qualities

- Slope: 25 to 70 percent*
- Depth to restrictive feature: More than 80 inches*
- Drainage class: Well drained*
- Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)*
- Depth to water table: More than 80 inches*
- Frequency of flooding: None*
- Frequency of ponding: None*
- Calcium carbonate, maximum content: 15 percent*
- Available water capacity: Low (about 5.4 inches)*

Interpretive groups

- Land capability classification (irrigated): None specified*
- Land capability classification (nonirrigated): 7e*
- Hydrologic Soil Group: A*
- Hydric soil rating: No*

Minor Components

Mohawk

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

Palmyra

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

Nunda

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

Phelps

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

Lansing

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

LaB—Lansing silt loam, 3 to 8 percent slopes

Map Unit Setting

- National map unit symbol: 2w3mg*
- Elevation: 330 to 1,970 feet*
- Mean annual precipitation: 31 to 57 inches*

Custom Soil Resource Report

Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

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

Description of Lansing

Setting

Landform: Till plains, drumlins, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 8 inches: silt loam
E - 8 to 13 inches: gravelly silt loam
Bt/E - 13 to 21 inches: gravelly silt loam
Bt1 - 21 to 28 inches: gravelly silt loam
Bt2 - 28 to 39 inches: gravelly silt loam
C - 39 to 79 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Available water capacity: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F101XY012NY - Till Upland
Hydric soil rating: No

Minor Components

Conesus

Percent of map unit: 8 percent
Landform: Till plains, drumlins, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex
Across-slope shape: Convex

Custom Soil Resource Report

Hydric soil rating: No

Kendaia

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

Appleton

Percent of map unit: 2 percent
Landform: Drumlins, till plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Palatine

Percent of map unit: 1 percent
Landform: Benches, ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest, tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Danley

Percent of map unit: 1 percent
Landform: Till plains, drumlinoid ridges, hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

LaC—Lansing silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w3mh
Elevation: 330 to 2,130 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lansing and similar soils: 85 percent
Minor components: 15 percent

Custom Soil Resource Report

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

Description of Lansing

Setting

Landform: Till plains, drumlins, hills

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Crest, side slope

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 8 inches: silt loam

E - 8 to 13 inches: gravelly silt loam

Bt/E - 13 to 21 inches: gravelly silt loam

Bt1 - 21 to 28 inches: gravelly silt loam

Bt2 - 28 to 39 inches: gravelly silt loam

C - 39 to 79 inches: gravelly loam

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 40 percent

Available water capacity: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Ecological site: F101XY012NY - Till Upland

Hydric soil rating: No

Minor Components

Conesus

Percent of map unit: 8 percent

Landform: Till plains, drumlins, hills

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Crest

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

Kendaia

Percent of map unit: 3 percent

Landform: Till plains, drumlins

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Custom Soil Resource Report

Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Appleton

Percent of map unit: 2 percent
Landform: Drumlins, till plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Danley

Percent of map unit: 1 percent
Landform: Hills, till plains, drumlinoid ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Wassaic

Percent of map unit: 1 percent
Landform: Till plains, benches, ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

LaD—Lansing silt loam, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2w3mf
Elevation: 660 to 1,740 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Lansing

Setting

Landform: Till plains, drumlins, hills
Landform position (two-dimensional): Backslope

Custom Soil Resource Report

Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 8 inches: silt loam
E - 8 to 13 inches: gravelly silt loam
Bt/E - 13 to 21 inches: gravelly silt loam
Bt1 - 21 to 28 inches: gravelly silt loam
Bt2 - 28 to 39 inches: gravelly silt loam
C - 39 to 79 inches: gravelly loam

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Available water capacity: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: F101XY012NY - Till Upland
Hydric soil rating: No

Minor Components

Conesus

Percent of map unit: 9 percent
Landform: Till plains, drumlins, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Wassaic

Percent of map unit: 3 percent
Landform: Till plains, benches, ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Kendaia

Percent of map unit: 2 percent
Landform: Till plains, drumlins

Custom Soil Resource Report

Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Appleton

Percent of map unit: 1 percent
Landform: Till plains, drumlins
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

PmC—Palmyra gravelly silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9trl
Elevation: 330 to 660 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

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

Description of Palmyra

Setting

Landform: Outwash plains, terraces, deltas
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy over sandy and gravelly glaciofluvial deposits, derived mainly from limestone and other sedimentary rocks

Typical profile

H1 - 0 to 9 inches: gravelly silt loam
H2 - 9 to 21 inches: gravelly loam
H3 - 21 to 60 inches: stratified very gravelly sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained

Custom Soil Resource Report

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Available water capacity: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: A

Hydric soil rating: No

Minor Components

Phelps

Percent of map unit: 5 percent

Hydric soil rating: No

Howard

Percent of map unit: 5 percent

Hydric soil rating: No

Hamlin

Percent of map unit: 5 percent

Hydric soil rating: No

Unadilla

Percent of map unit: 5 percent

Hydric soil rating: No

Alton

Percent of map unit: 5 percent

Hydric soil rating: No

PpB—Phelps gravelly loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9trn

Elevation: 250 to 750 feet

Mean annual precipitation: 38 to 44 inches

Mean annual air temperature: 45 to 48 degrees F

Frost-free period: 110 to 170 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Phelps and similar soils: 75 percent

Minor components: 25 percent

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

Description of Phelps

Setting

Landform: Terraces, valley trains

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Across-slope shape: Convex

Parent material: Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, containing significant amounts of limestone

Typical profile

H1 - 0 to 7 inches: gravelly loam

H2 - 7 to 13 inches: gravelly silt loam

H3 - 13 to 25 inches: gravelly silt loam

H4 - 25 to 35 inches: gravelly silt loam

H5 - 35 to 60 inches: stratified very gravelly sand

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)

Depth to water table: About 18 to 24 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Available water capacity: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B/D

Hydric soil rating: No

Minor Components

Copake

Percent of map unit: 5 percent

Hydric soil rating: No

Palmyra

Percent of map unit: 5 percent

Hydric soil rating: No

Howard

Percent of map unit: 5 percent

Hydric soil rating: No

Teel

Percent of map unit: 5 percent

Hydric soil rating: No

Scio

Percent of map unit: 5 percent

Hydric soil rating: No

PsB—Plainfield loamy sand, 3 to 10 percent slopes

Map Unit Setting

National map unit symbol: 9trr
Elevation: 720 to 1,150 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Plainfield

Setting

Landform: Outwash plains, terraces, deltas
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy glaciofluvial or deltaic deposits

Typical profile

H1 - 0 to 8 inches: loamy sand
H2 - 8 to 32 inches: coarse sand
H3 - 32 to 78 inches: coarse sand

Properties and qualities

Slope: 3 to 10 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 3.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Minor Components

Otisville

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

Colonie

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

Alton

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

Elnora

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

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