Site Plan Application

Town of Lansing, NY
Application #: SITE-25-9

By: Cayuga Operating Company, LLC
228 Cayuga Dr., Lansing NY 14882

Contact : Fred DelFavero
Email: fdelfavero@beowulfed.com
Phone : 607-252-0722

Table of Contents

Section 1
Site Plan & Survey

BEOWULF: LANSING, NY

PHASE 1 SITE PLAN

This image highlights the first datacenter building to be constructed, located at the northernmost point of the lower terrace. By constructing this initial building in the northern position, future buildings on the terrace can be developed progressively, moving away from the substation and switchgear yards, thus minimizing disruption to critical infrastructure.

Regrading for the entire lower terrace will be completed during this phase, which will facilitate campus circulation and the operation of the first building while the remaining two buildings are under construction. This strategic approach ensures efficiency and smooth operational workflow, setting the stage for subsequent developments on the lower terrace.

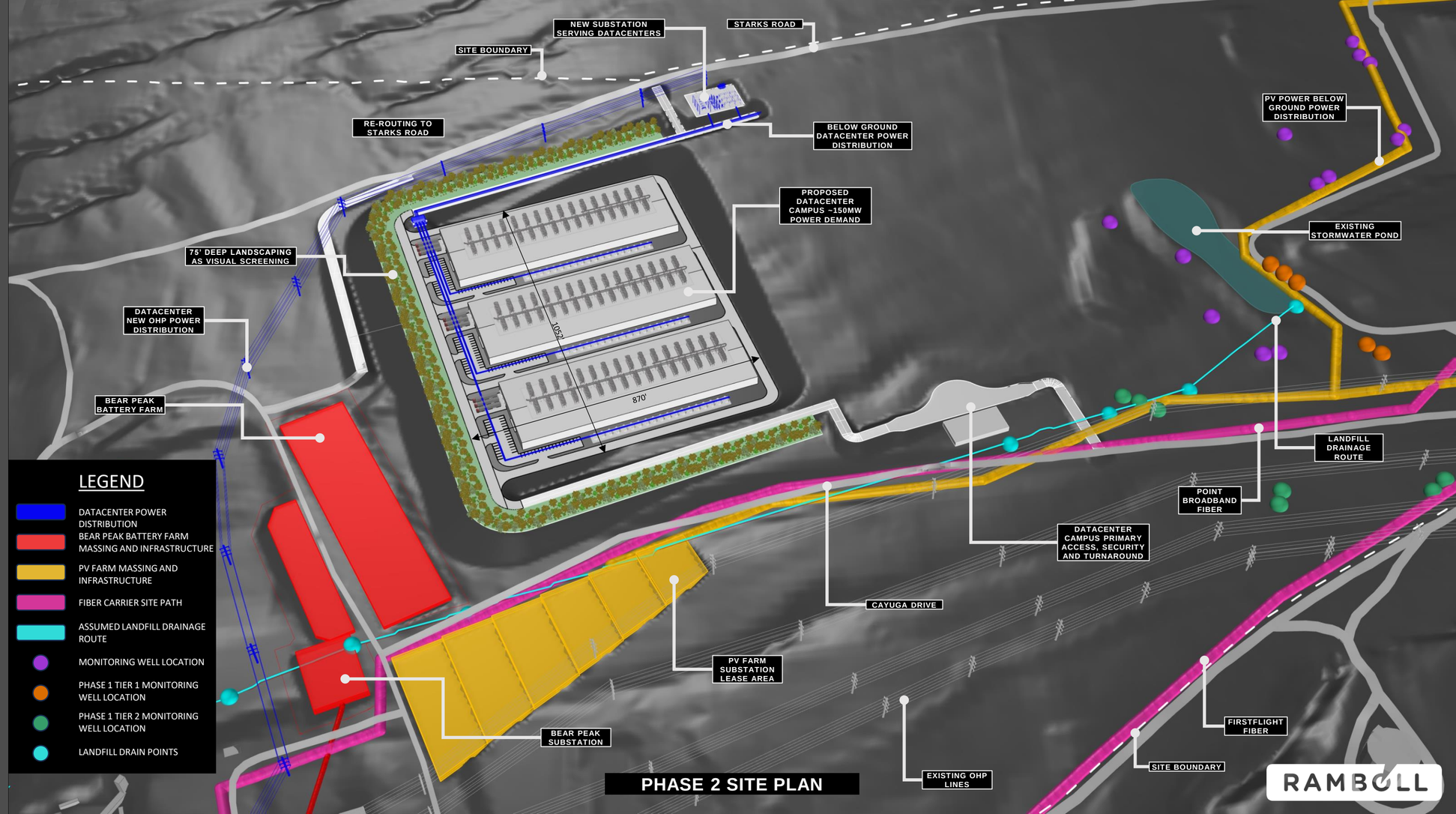
CAYUGA: LANSING, NY

PHASE 2 SITE PLAN

This zoomed-in view of the datacenter campus provides a detailed general arrangement of the three datahall buildings. The infrastructure for both overhead and below-grade power distribution is depicted in blue, demonstrating the comprehensive integration of essential facilities. To ensure visual screening and enhance aesthetics, a 75-foot wide vegetation buffer encircles the campus. The primary access to the datacenter site, along with security and turnaround provisions, is strategically located to the south, off Cayuga Drive.

The masterplan includes preliminary regrading efforts that work harmoniously with the existing sloped topography.This ensures an efficient and functional layout while accommodating the natural land contours. Starks Road is carefully rerouted around the northwest corner of the campus to provide ample space for the buildings, roads, and other critical features. Coordination will be essential during subsequent design stages as the regrading at the southwest of the campus slightly overlaps with the proposed regrading extents of the Bear Peak Battery farm.

Power Demand for the datacenter campus is approximately 150MW.



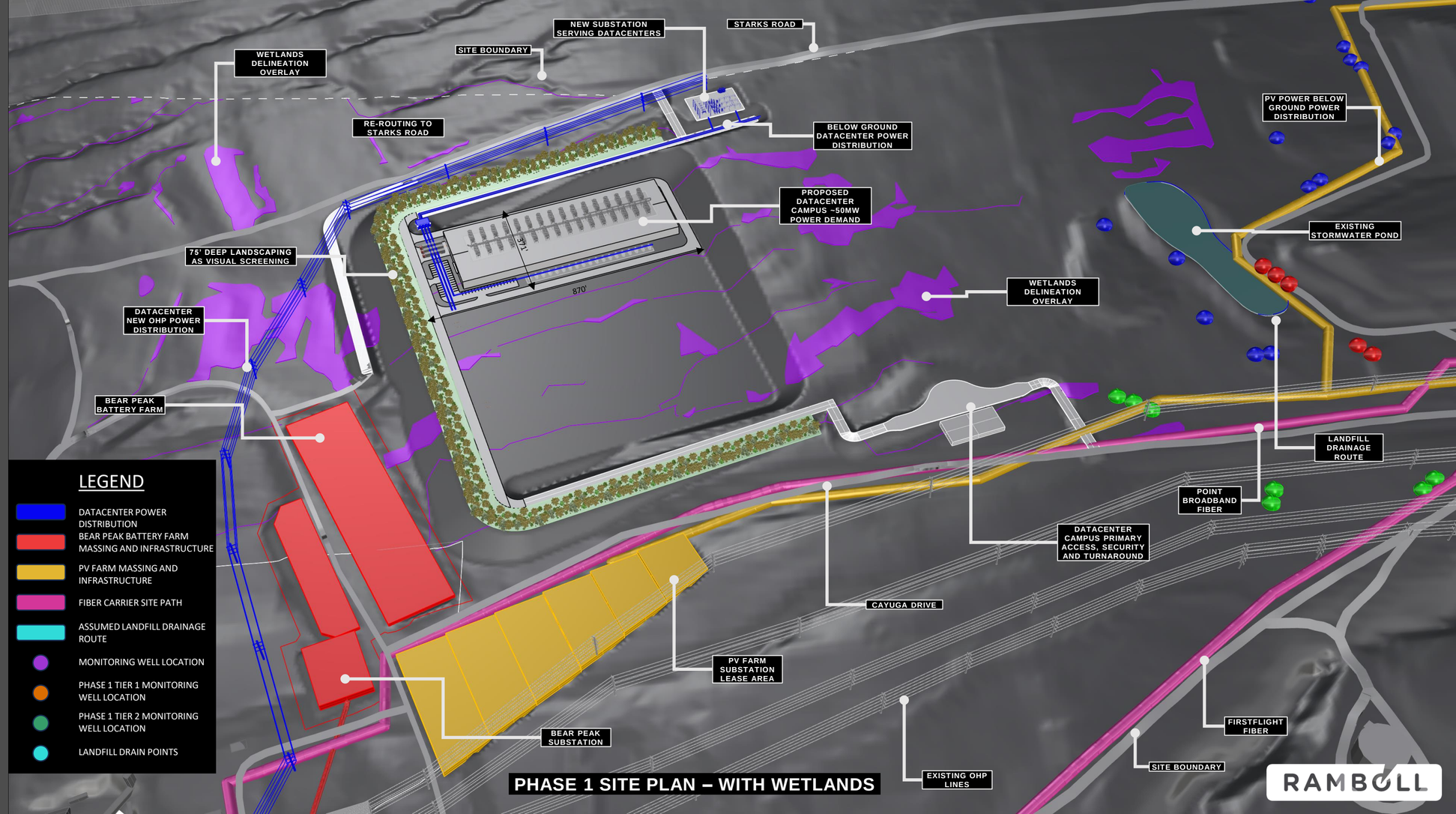
BEOWULF: LANSING, NY

PHASE 1 WITH WETLANDS

This image highlights the first datacenter building to be constructed, located at the northernmost point of the lower terrace. By constructing this initial building in the northern position, future buildings on the terrace can be developed progressively, moving away from the substation and switchgear yards, thus minimizing disruption to critical infrastructure.

Regrading for the entire lower terrace will be completed during this phase, which will facilitate campus circulation and the operation of the first building while the remaining two buildings are under construction. This strategic approach ensures efficiency and smooth operational workflow, setting the stage for subsequent developments on the lower terrace.

The wetlands delineation is integrated into this masterplan, highlighting the wetlands affected by the new construction. All necessary agencies will be involved for the wetland mitigation process.



PHASE 1 SITE PLAN – WITH WETLANDS

RAMBOLL

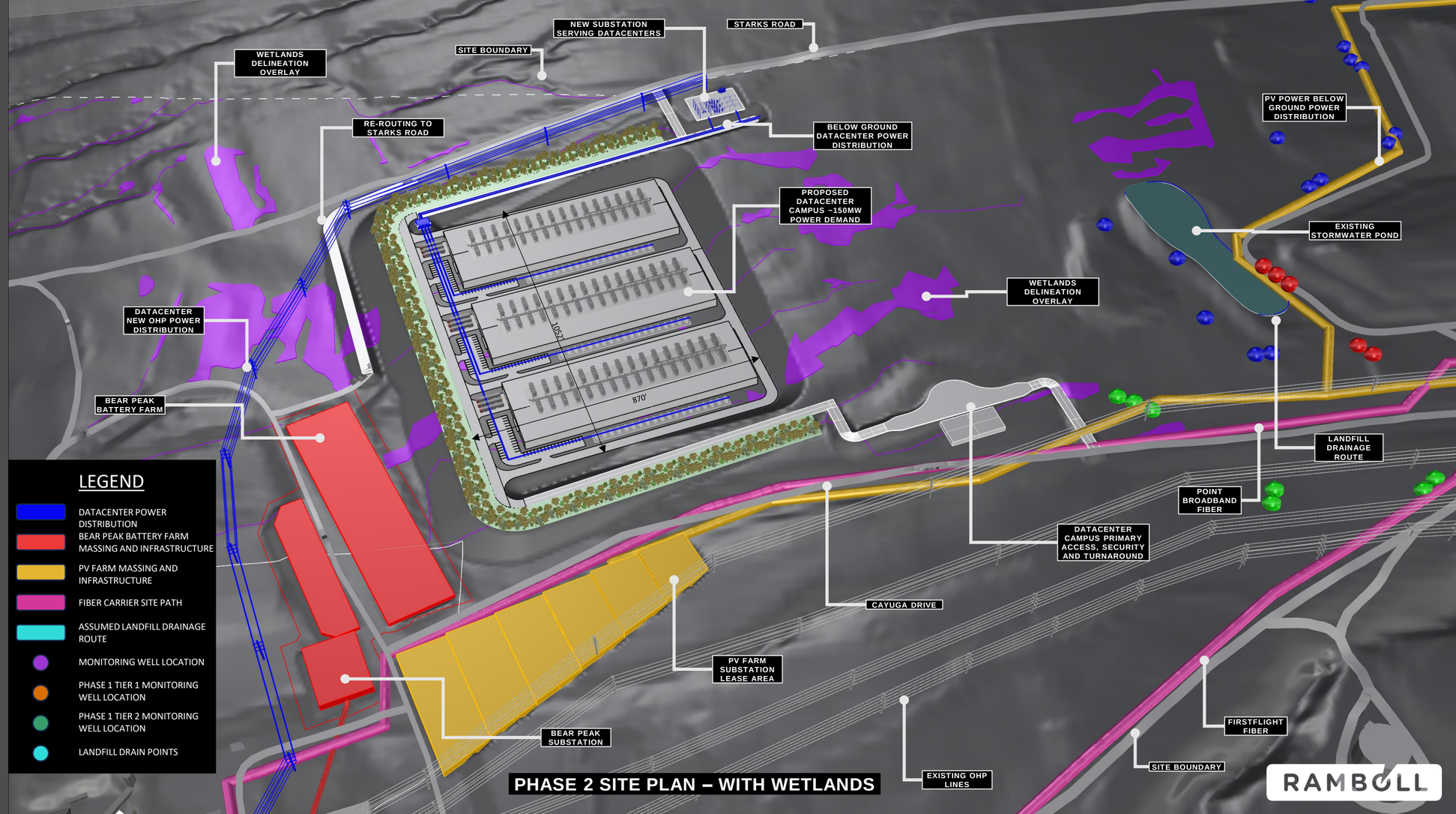
CAYUGA: LANSING, NY

PHASE 2 WITH WETLANDS

This zoomed-in view of the datacenter campus provides a detailed general arrangement of the three datahall buildings. The infrastructure for both overhead and below-grade power distribution is depicted in blue, demonstrating the comprehensive integration of essential facilities. To ensure visual screening and enhance aesthetics, a 75-foot wide vegetation buffer encircles the campus. The primary access to the datacenter site, along with security and turnaround provisions, is strategically located to the south, off Cayuga Drive.

The masterplan includes preliminary regrading efforts that work harmoniously with the existing sloped topography.This ensures an efficient and functional layout while accommodating the natural land contours. Starks Road is carefully rerouted around the northwest corner of the campus to provide ample space for the buildings, roads, and other critical features. Coordination will be essential during subsequent design stages as the regrading at the southwest of the campus slightly overlaps with the proposed regrading extents of the Bear Peak Battery farm.

The wetlands delineation is integrated into this masterplan, highlighting the wetlands affected by the new construction. All necessary agencies will be involved for the wetland mitigation process. Power Demand for the datacenter campus is approximately 150MW.



PHASE 2 SITE PLAN – WITH WETLANDS

RAMBOLL

FLOOD ZONE

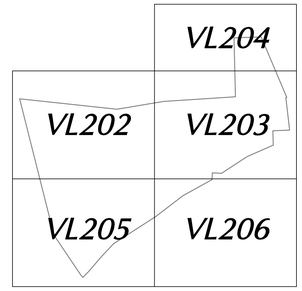
TABLE A ITEM 3

PER THE MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, TOWN OF LANSING, NEW YORK, TOMPKINS COUNTY, PANEL 31 OF 45, MAP NUMBER 3608520031C, EFFECTIVE DATE: OCTOBER 15, 1985", THE ENTIRE SUBJECT PROPERTY LIES WITHIN ZONE C, AREA OF MINIMAL FLOODING (NO SHADING).

PROJECT LOCATION MAP

SCALE: N.T.S.

SOURCE: MICROSOFT CORPORATION



KEY MAP

GENERAL NOTES

1. THE MERIDIAN OF THIS SURVEY IS REFERENCED TO THE NEW YORK CENTRAL STATE PLANE COORDINATE SYSTEM NAD 83 (2011) DERIVED USING SURVEY-GRADE GNSS.
2. ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) DERIVED USING SURVEY-GRADE GNSS.
3. STREET NAMES, RIGHT OF WAY WIDTHS, BLOCK AND LOT NUMBERS ARE SHOWN IN ACCORDANCE WITH THE TOWN TAX MAPS.
4. TOPOGRAPHIC INFORMATION SHOWN HEREON BASED ON AERIAL PHOTOGRAPHY DATED SEPTEMBER 5, 2023 AND AERIAL MAPPING PREPARED BY KEYSTONE AERIAL SURVEYS. DATA SHOWN MEETS NATIONAL MAP ACCURACY STANDARDS.
5. PLANIMETRIC INFORMATION SHOWN HEREON HAS BEEN OBTAINED FROM GROUND SURVEYS BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC. DURING AUGUST 2023.
6. OFFSETS (IF SHOWN) ARE FOR SURVEY REFERENCES ONLY AND SHOULD NOT BE USED IN CONSTRUCTION OF ANY TYPE. LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC. RECOMMENDS THE PLACEMENT OF SURVEY MARKERS.
7. WETLANDS, ENVIRONMENTAL AND/OR HAZARDOUS MATERIALS LOCATION, IF ANY, NOT COVERED UNDER THIS CONTRACT.
8. UNLESS SPECIFICALLY NOTED HEREON, STORM AND SANITARY SEWER INFORMATION (INCLUDING PIPE INVERT, PIPE MATERIAL, AND PIPE SIZE) WAS OBSERVED AND MEASURED AT FIELD LOCATED STRUCTURES (MANHOLES/CATCH BASINS, ETC.). CONDITIONS MAY VARY FROM THOSE ENCOUNTERED AT THE TIMES WHEN AND THE LOCATIONS WHERE DATA WAS OBTAINED, DESPITE MEETING THE REQUIRED STANDARD OF CARE THE SURVEYOR CANNOT AND DOES NOT WARRANT THAT PIPE MATERIAL AND/OR PIPE SIZE THROUGHOUT THE PIPE RUN ARE THE SAME AS THOSE OBSERVED AT EACH STRUCTURE, OR THAT THE PIPE RUN IS STRAIGHT BETWEEN THE LOCATED STRUCTURES.

   ADDITIONAL UTILITY (WATER, GAS, ELECTRIC ETC...) DATA MAY BE SHOWN FROM FIELD LOCATED SURFACE MARKINGS (BY OTHERS), EXISTING STRUCTURES, AND/OR FROM EXISTING DRAWINGS,

   UNLESS SPECIFICALLY NOTED HEREON THE SURVEYOR HAS NOT EXCAVATED TO PHYSICALLY LOCATE THE UNDERGROUND UTILITIES. THE SURVEYOR MAKES NO GUARANTEES THAT THE SHOWN UNDERGROUND UTILITIES ARE EITHER IN SERVICE, ABANDONED OR SUITABLE FOR USE, NOR ARE IN THE EXACT LOCATION OR CONFIGURATION INDICATED HEREON.

   PRIOR TO ANY DESIGN OR CONSTRUCTION THE PROPER UTILITY AGENCIES MUST BE CONTACTED FOR VERIFICATION OF UTILITY TYPE AND FOR FIELD LOCATIONS

   UNLESS NOTED BELOW SUPPLEMENTAL DOCUMENTS WERE NOT USED TO COMPILE THE SUBSURFACE UTILITY INFORMATION SHOWN HEREON
9. THIS PLAN NOT VALID UNLESS EMBOSSED WITH THE SEAL OF THE PROFESSIONAL.
10. IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE OR SHE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, LAND SURVEYOR OR GEOLOGIST, TO ALTER THIS ITEM IN ANY WAY.

SURVEYOR'S CERTIFICATION

CERTIFIED TO:

1. XXX
2. XXX
3. XXX

"I HEREBY STATE THAT THIS PLAN IS BASED ON A FIELD SURVEY MADE BY ME OR UNDER MY IMMEDIATE SUPERVISION IN ACCORDANCE WITH NYSPLS CODE OF PRACTICE FOR LAND SURVEYS, AND TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION AND BELIEF, AND, IN MY PROFESSIONAL OPINION, ACCURATELY REPRESENTS THE CONDITIONS FOUND ON THE DATE OF THE FIELD SURVEY AT THE SUBJECT PROPERTY", AND

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 5, 6(b), 7(a-1) 8, 10, 11(a), 11(b), 12, 13, 14, 16, 17, 18 AND 19 OF TABLE A THEREOF.
THE FIELDWORK WAS COMPLETED ON AUGUST 18, 2023

DRAFT

THOMAS J. REEVES
PROFESSIONAL LAND SURVEYOR
NY Lic. No. 051146-01
TREEVES@LANGAN.COM

MAP REFERENCES

THIS SURVEY IS BASED UPON EXISTING PHYSICAL CONDITIONS FOUND AT THE SUBJECT SITE, AND THE FOLLOWING REFERENCES:

A. MAP TITLED "SUBDIVISION PLAT, THE FINGER LAKES LAND TRUST, INC., LOCATED ON LAKE RIDGE ROAD, TOWN OF LANSING, TOMPKINS COUNTY, NEW YORK," PREPARED BY WILLIAMS & EDSALL, DATED NOVEMBER 11, 2022, FILED IN THE TOMPKINS COUNTY DEPARTMENT OF ASSESSMENT ON DECEMBER 29, 2022 AS MAP NO. 2022-14057.
B. MAP TITLED "SURVEY FOR THE FINGER LAKES LAND TRUST, INC., LOCATED ON LAKE RIDGE ROAD, TOWN OF LANSING, TOMPKINS COUNTY, NEW YORK," PREPARED BY WILLIAMS & EDSALL, DATED FEBRUARY 1, 2022, FILED IN THE TOMPKINS COUNTY DEPARTMENT OF ASSESSMENT AS MAP NO. 2022-05633.
C. MAP TITLED "MAP OF CASPER FENNER 54.7 ACRES ON LOT 42, TOWN OF LANSING, N.Y.," PREPARED BY CARL CRANDALL, CE, DATED NOVEMBER 17, 1952.
D. MAP TITLED "N.Y. STATE ELECTRIC & GAS CORPORATION, MAP OF FENNER-TOWNSEND-SOVOCOOL PROPERTIES AT LAKE RIDGE, TOWN OF LANSING, TOMPSKIN COUNTY, N.Y.," PREPARED BY CARL CRANDALL, CE, DATED FEBRUARY 23, 1953.
E. MAP TITLED "SURVEY MAP OF LANDS OF JOSEPHINE CRIM ON NORTH SIDE OF HEDDENS-LAKE RIDGE ROAD ON LOT 51, TOWN OF LANSING, TOMPKINS, N.Y.," PREPARED BY CARL CRANDALL, CE, DATED MAY 26, 1951 AND FILED IN TOMPKINS COUNTY AS CABINET B, DRAWER 4.
F. MAP TITLED "SURVEY MAP SHOWING LANDS OF CORNELL UNIVERSITY TO BE SUBDIVIDED BY ROGER B. SOVOCOOL, MILLKEN RIDGE ROAD, TOWN OF LANSING, TOMPKINS COUNTY, NEW YORK, " PREPARED BY T.G. MILLER PC, DATED DECEMBER 10, 1993 AND FILED WITH TOMPKINS COUNTY AS DRAWER X, 30.
G. MAP TITLED "SURVEY MAP SHOWING LANDS OF CORNELL UNIVERSITY TO BE SUBDIVIDED BY ROGER B. SOVOCOOL, MILLKEN RIDGE ROAD, TOWN OF LANSING, TOMPKINS COUNTY, NEW YORK," PREPARED BY T.G. MILLER, PC, DATED OCTOBER 10, 1993 AND LAST REVISED JUNE 24, 1999 AND FILED WITH TOMPKINS COUNTY AS DRAWER LL, 47.
H. MAP TITLED "SURVEY MAP OF PORTION OF CHARLES STARKS FARM ON LOT 42, TOWN OF LANSING, TOMPKINS COUNTY, N.Y.," PREPARED BY CARL CRANDALL, CE, DATED JUNE 18, 1951.
I. MAP TITLED "LANDS OF MARIAN PURCELL," PREPARED BY E.D. CRUMB, DATED APRIL 26, 1956, FILED WITH TOMPKINS COUNTY AS BOOK E2, PAGES 48-49.
J. MAP TITLED "PROPERTY CONVEYED TO NGE GENERATION, INC., BY NEW YORK STATE ELECTRIC & GAS CORPORATION, TOWN OF LANSING, TOMPKINS COUNTY, NEW YORK STATE," PREPARED BY HAWK ENGINEERING, PC., DATED JULY 30, 1998 AND LAST REVISED APRIL 14, 1999 AND FILED WITH TOMPKINS COUNTY AS DRAWER LL, 27.

LEGEND OF SYMBOLS & ABBREVIATIONS

HYDRANT, STREET LIGHT, AREA LIGHT, SIGNAL POLE, POLE, GUY WIRE, ANCHOR POLE, MANHOLE, MANHOLE (DRAINAGE), MANHOLE (SANITARY SEWER), MANHOLE (ELECTRIC), MANHOLE (WATER), MANHOLE (NATURAL GAS), MANHOLE (TELEPHONE), MANHOLE (FORCE MAIN), MANHOLE (STEAM), MANHOLE (UNKNOWN UTILITY), WATER VALVE, GAS VALVE, SHRUB, CATCH BASIN, CLEAN OUT, TREE, SIGN

BOLLARD, PEDESTRIAN WALK SIGNAL, DOOR, DOUBLE DOOR, OVERHEAD DOOR, PARKING METER, METAL COVER, ELECTRIC BOX, SOIL BORING, MONITORING WELL, TEST PIT, BENCHMARK, ROOF DRAIN, SPOT ELEVATION, CONCRETE CURB, CONCRETE, DETECTABLE PAD, DROP CURB, BROKEN WHITE STRIPE, SINGLE YELLOW STRIPE, DOUBLE YELLOW STRIPE, SINGLE WHITE STRIPE, REINFORCED CONCRETE PIPE, DUCTILE IRON PIPE, CORRUGATED METAL PIPE, NO VISIBLE PIPE, EDGE OF PAVEMENT, LANDSCAPED AREA, SURVEY BEARING & DISTANCE, DEED BEARING & DISTANCE

STORM DRAIN, SANITARY LINE, COMBINED UTILITY LINE, UNKNOWN UTILITY LINE, GAS LINE, WATER LINE, ELECTRIC LINE, TELEPHONE LINE, CABLE TV LINE, STEAM LINE, FORCE MAIN, FIBER OPTIC, REFERENCED UTILITY LINE (TYPE AS NOTED) BASED ON RECORD MAPPING, OVERHEAD WIRE, GUIDE RAIL(TYPE AS NOTED), CHAIN LINK FENCE, WOOD/STOCKADE FENCE, WIRE FENCE, IRON FENCE, TREE LINE, EASEMENT LINE, PROPERTY LINE, RIGHT-OF-WAY LINE, CONTOUR LINE

SEE SHEETS VL202-VL206 FOR BOUNDARY AND TOPOGRAPHIC DETAILS

250 0 125 250
SCALE IN FEET
(1" = 250')

Date	Description	No.
Revisions		

LANGAN
Langan Engineering, Environmental, Surveying, Landscape Architecture, and Geology, D.P.C.
One North Broadway, Suite 910
White Plains, NY 10601
T: 914.323.7400 F: 914.323.7401 www.langan.com

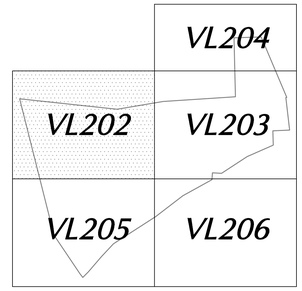
Project: CAYUGA SOLAR PROJECT
TAX MAP NO(S). 11.-1-3.212-3.212 & 3.23
TOWN OF LANSING
TOMPKINS COUNTY NEW YORK

Drawing Title: ALTA/NSPS LAND TITLE SURVEY

Project No. 190091601
Date August 29, 2023
Drawn By KEC
Checked By TR

Drawing No. VL201
Sheet 1 of 6

Date: 7/26/2024 Time: 12:55 User: mchudnow Style Table: Langan.stb Layout: VL201 Document Code: 190091601-0401-VL101-0201



KEY MAP

LEGEND OF SYMBOLS & ABBREVIATIONS

HYDRANT	BOLLARD	STORM DRAIN	
STREET LIGHT	PEDESTRIAN WALK SIGNAL	SANITARY LINE	
AREA LIGHT	DOUBLE DOOR	COMBINED UTILITY LINE	
SIGNAL POLE	OVERHEAD DOOR	UNKNOWN UTILITY LINE	
POLE	WARNING METER	GAS LINE	
GUY WIRE	METAL COVER	WATER LINE	
ANCHOR POLE	UTILITY BOX	ELECTRIC LINE	
MANHOLE	SOIL BORING	TELEPHONE LINE	
MANHOLE (DRAINAGE)	MONITORING WELL	CABLE TV LINE	
MANHOLE (SANITARY SEWER)	TEST PIT	STEAM LINE	
MANHOLE (ELECTRIC)	BENCHMARK	FORCE MAIN	
MANHOLE (WATER)	SPOT ELEVATION	FIBER OPTIC	
MANHOLE (NATURAL GAS)	CONCRETE CURB	REFERENCED UTILITY LINE (TYPE AS NOTED) BASED ON FIELD SURVEY	
MANHOLE (TELEPHONE)	DETECTABLE PAD	OVERHEAD WIRE	
MANHOLE (FORCE MAIN)	DROP CURB	GUIDE RAIL(TYPE AS NOTED)	
MANHOLE (STEAM)	BROKEN WHITE STRIPE	CHAIN LINK FENCE	
MANHOLE (UNKNOWN UTILITY)	SINGLE YELLOW STRIPE	WOOD/STOCKADE FENCE	
WATER VALVE	DOUBLE YELLOW STRIPE	WIRE FENCE	
GAS VALVE	SINGLE WHITE STRIPE	IRON FENCE	
SHRUB	REINFORCED CONCRETE PIPE	TREE LINE	
CATCH BASIN	DUCTILE IRON PIPE	EASEMENT LINE	
CLEAN OUT	CORRUGATED METAL PIPE	PROPERTY LINE	
TREE	NO VISIBLE PIPE	RIGHT-OF-WAY LINE	
SIGN	END OF PAVEMENT	CONTOUR LINE	
	LANDSCAPED AREA		
	SURVEY BEARING & DISTANCE (S)		
	DEED BEARING & DISTANCE (D)		

SCALE IN FEET (1" = 100')

Date	Description	No.
Revisions		

LANGAN
Langan Engineering, Environmental, Surveying, Landscape Architecture, and Geology, D.P.C.
One North Broadway, Suite 910
White Plains, NY 10601
T: 914.323.7400 F: 914.323.7401 www.langan.com

Project
CAYUGA SOLAR PROJECT
TAX MAP NO(S).
11.-1-3.212 & 3.23
TOWN OF LANSING
TOMPKINS COUNTY NEW YORK

Drawing Title
ALTA/NSPS LAND TITLE SURVEY

Project No. 190091601
Date NOVEMBER 2, 2023
Drawn By KEC
Checked By TR

Drawing No. VL202
Sheet 2 of 6

SHEET VL204
SHEET VL203
TAX MAP NO. 1.-1-16.2 n/f THE FINGER LAKES LAND TRUST, INC. INSTRUMENT #2022-05626
KRAUSE TO NYSEG 01/15/1968 L. 473, P. 527
CARLTON TO NYSEG 02/19/1968 L. 473, P. 1032
SMITH TO NYSEG 04/01/1968 L. 474, P. 543
Pin & Cap Fnd. 0.4' W
Rin & Cap Fnd. 0.5' W
N 85°27'28" E (S) N 85°27'44" E (D) 170.25'
N 87°42'36" E (S) N 87°42'52" E (D) 398.52'
FORMERLY STARKS ROAD
N 87°57'43" E (S) N 87°57'59" E (D) 1234.97'
S 85°30'16" W (S) S 85°30'32" W (D) 24.71'
Rebar Fnd. 0.2' S 0.3' W
Rebar Fnd. 0.3' W
P.O.B.
RIGHT(S)-OF-WAY SHOWN ARE SUBJECT TO THE RIGHTS OF THE PUBLIC IN, OVER AND ACROSS SAID ROAD(S)
LAKE RIDGE ROAD
TAX LOT NO. 2.-1-12.2 n/f TOLEN INSTRUMENT #532231-001
S 06°42'37" E (S) 817.60'
Iron Pipe Fnd. 0.8' W
TAX LOT NO. 2.-1-13 n/f MACK LIBER 864 PAGE 138
8" Rebar Fnd.
TAX LOT NO. 2.-1-15 n/f BALOG LIBER 611 PAGE 463
STARKS/STARK TO NYSEG 02/13/1968 L. 473, P. 966
STUART TO NYSEG 06/27/1968 L. 476, P. 67
HARVEY TO NYSEG 06/18/1968 L. 475, P. 905
SALTONSTALL, LAWRENCE TO NYSEG 01/24/1968 L. 473, P. 672
Monitoring Well (TYP)
TAX MAP NO. 11.-1-9 n/f TRENHOLM INSTRUMENT #513268-001
4" Iron Rod Fnd. 0.6' W 0.7' S
4" Iron Rod Fnd. 0.4' W 0.2' S
S 87°59'08" W (S) S 87°59'24" W (D) 421.89'
TAX MAP NO. 11.-1-8 n/f REEVES INSTRUMENT #2013-13119
S 02°11'17" E (S) 358.43'
TRACT LINE (TYP)
12.5' ACCESS EASEMENT (25' TOTAL WIDTH) PER LIBER 356 PAGE 145 LIBER 357 PAGE 205 AND REFERENCED IN LIBER 473 PAGE 992
FENNER TO NYSEG 02/15/1968 L. 473, P. 992
TAX MAP NO. 11.-1-3.211 & 3.212 n/f CAYUGA OPERATING COMPANY, LLC (PARCEL III) INSTRUMENT # 594334-006 AREA = 17,802,422 S.F. OR 408.68738 (MINUS EXCEPTION PARCEL)
S 73°58'51" W (S) S 73°59'07" W (D) 118.96'
S 68°24'26" W (S) S 68°24'42" W (D) 274.77'
4" Iron Rod Fnd. 0.4' SW
TAX MAP NO. 11.-1-10
S 61°34'20" W (S) S 61°34'36" W (D) 315.82'
S 58°34'42" W (S) S 58°34'58" W (D) 114.45'
MILLIKEN ROAD
TAX MAP NO. 11.-1-11.2
RIGHT(S)-OF-WAY SHOWN ARE SUBJECT TO THE RIGHTS OF THE PUBLIC IN, OVER AND ACROSS SAID ROAD(S)
APPROXIMATE AREA OF PERMANENT ROAD EASEMENT PER LIBER 782, PAGE 312
654.22'
TAX MAP NO. 11.-1-3.1
FENNER TO NYSEG 02/26/1953 L. 356, P. 145
Pin & Cap Fnd. 0.2' S 0.5' W
Pin & Cap Fnd. 0.5' W
N 84°42'23" W (S) N 84°42'07" W (D) 226.88'
S 56°02'24" W (S) S 56°02'40" W (D)
FENNER TO NYSEG 03/28/1953 L. 357, P. 205
MILLIKEN POWER PLANT ACCESS ROAD (PRIVATE)
CAYUGA DRIVE
ACCESS EASEMENT PER LIBER 752 PAGE 178
S 04°20'33" W (S) S 04°20'49" W (D) 171.75'
Pin & Cap Fnd. 0.6' SW
S 60°35'23" W (S) S 60°35'39" W (D) 276.49'
S 61°12'40" W (S) S 61°12'56" W (D) 548.78'
TRANSMISSION CORRIDOR EASEMENT PER MAP REFERENCE 2
TAX MAP NO. 11.-1-3.1
SHEET VL202
SHEET VL203
SHEET VL203
SHEET VL206
SITE
PROJECT LOCATION MAP
SCALE: N.T.S.
SOURCE: MICROSOFT CORPORATION
VL204
VL202
VL203
VL205
VL206
KEY MAP
LEGEND OF SYMBOLS & ABBREVIATIONS
SCALE IN FEET (1" = 100')

Date	Description	No.
	Revisions	

LANGAN

Langan Engineering, Environmental, Surveying, Landscape Architecture, and Geology, D.P.C.

One North Broadway, Suite 910
White Plains, NY 10601

T: 914.323.7400 F: 914.323.7401 www.langan.com

Project: CAYUGA SOLAR PROJECT
TAX MAP NO(S). 11.-1-3.212-3.212 & 3.23
TOWN OF LANSING
TOMPKINS COUNTY NEW YORK

Drawing Title: ALTA/NSPS LAND TITLE SURVEY

Project No. 190091601
Date NOVEMBER 2, 2023
Drawn By KEC
Checked By TR

Drawing No. VL203

Sheet 3 of 6

© 2024 Langan

Date: 7/26/2024 Time: 12:55 User: mchudnow Style Table: Langan.stb Layout: VL203 Document Code: 190091601-0401-VL101-0201

Date	Description	No.
Revisions		

LANGAN
Langan Engineering, Environmental, Surveying, Landscape Architecture, and Geology, D.P.C.
One North Broadway, Suite 910
White Plains, NY 10601
T: 914.323.7400 F: 914.323.7401 www.langan.com

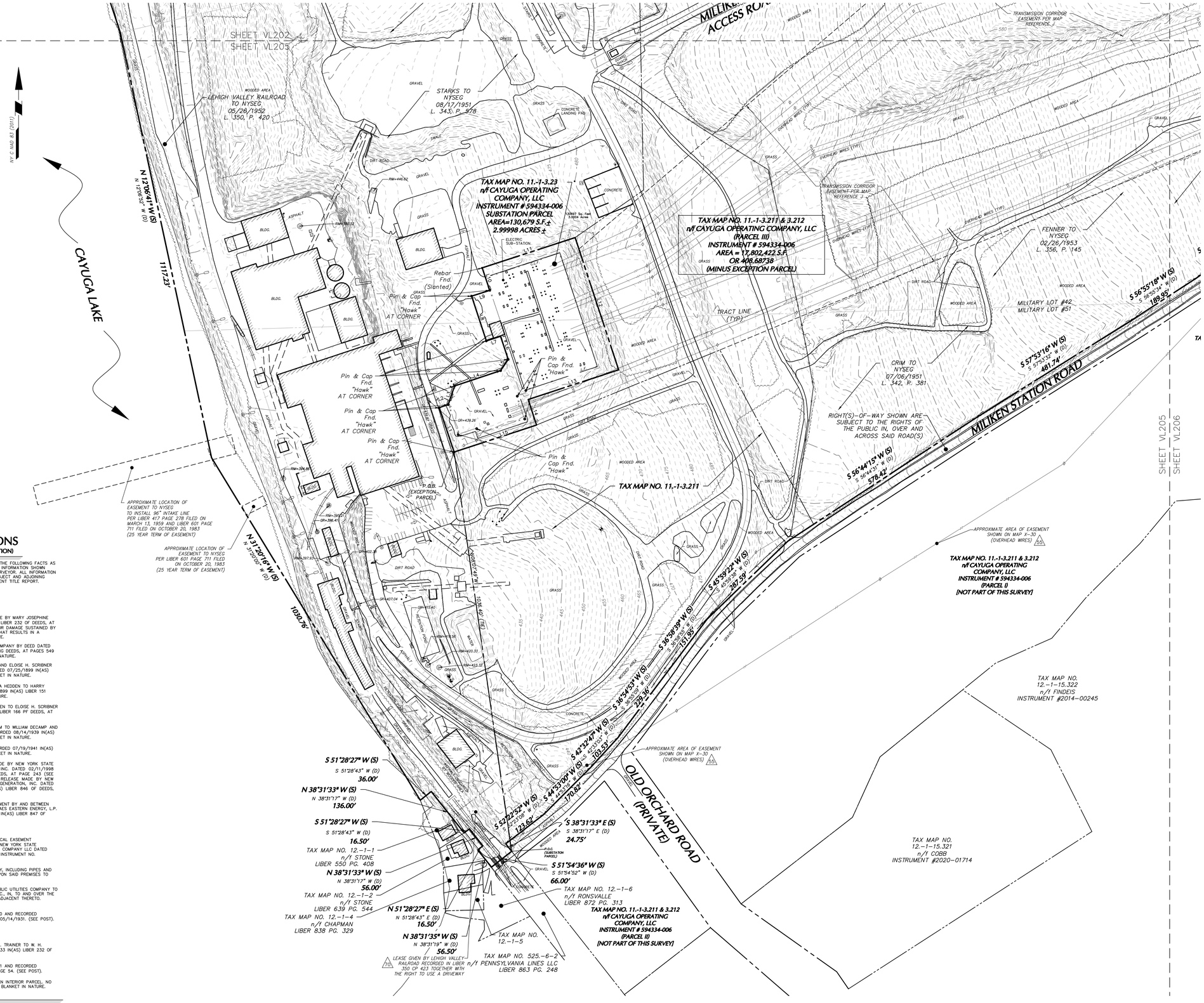
Project
CAYUGA SOLAR PROJECT
TAX MAP NO(S).
11.-1-3.212 & 3.23
TOWN OF LANSING
TOMPKINS COUNTY NEW YORK

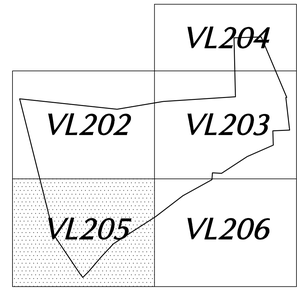
Drawing Title
ALTA/NSPS LAND TITLE SURVEY

Project No. 190091601
Date NOVEMBER 2, 2023
Drawn By KEC
Checked By TR

Drawing No. VL204
Sheet 4 of 6

Date: 7/26/2024 Time: 12:56 User: mchudnow Style Table: Langan.stb Layout: VL204 Document Code: 190091601-0401-VL101-0201





KEY MAP

LEGEND OF SYMBOLS & ABBREVIATIONS

TITLE EXCEPTIONS
PARCEL 11.-1-3.23 (SUBSTATION)

THE SURVEYED PROPERTY IS SUBJECT BUT NOT LIMITED TO THE FOLLOWING FACTS AS REVEALED BY THE HEREON REFERENCED INFORMATION. THE INFORMATION SHOWN HEREON DOES NOT CONSTITUTE A TITLE SEARCH BY THE SURVEYOR. ALL INFORMATION THAT MAY AFFECT THE QUALITY OF TITLE TO BOTH THE SUBJECT AND ADJOINING PARCELS SHOULD BE VERIFIED BY AN ACCURATE AND CURRENT TITLE REPORT.

TITLE REPORT
BY: FIRST AMERICAN TITLE INSURANCE COMPANY
TITLE NO.: NCS-1030105N18-NRG
DATE: NOVEMBER 8, 2023

20. COVENANTS AND RESTRICTIONS CONTAINED IN DEED MADE BY MARY JOSEPHINE CRIM TO CHARLES O. DRAKE DATED 05/01/1933 IN(AS) LIBER 232 OF DEEDS, AT PAGE 107. (SEE POST) POLICY INSURES AGAINST LOSS OR DAMAGE SUSTAINED BY THE INSURED BY REASON OF ANY VIOLATION THEREOF THAT RESULTS IN A FORFEITURE OR REVERSION OF TITLE. BLANKET IN NATURE.

21. RIGHT OF WAY GRANTED TO CAYUGA LAKE RAILROAD COMPANY BY DEED DATED 04/20/1872 BAND RECORDED IN(AS) BOOK 2 OF LANSING DEEDS, AT PAGES 549 AND 555. (BEING FURTHER INVESTIGATED). BLANKET IN NATURE.

22. EASEMENTS RECITED IN DEED MADE BY LOESA HEDDEN AND ELOISE H. SCRIBNER TO EDGAR H. BUCKLIN DATED 07/25/1899 AND RECORDED 07/25/1899 IN(AS) LIBER 153 OF DEEDS, AT PAGE 285. (SEE POST). BLANKET IN NATURE.

23. RIGHT OF WAY MADE BY ELOISE H. SCRIBNER AND LOESA HEDDEN TO HARRY S. BROOKS DATED 08/19/1899 AND RECORDED 10/20/1899 IN(AS) LIBER 151 OF DEEDS, AT PAGE 297. (SEE POST). BLANKET IN NATURE.

24. RIGHT OF WAYS RECITED IN DEED MADE BY LOESA HEDDEN TO ELOISE H. SCRIBNER DATED 09/13/1907 AND RECORDED 11/09/1907 IN(AS) LIBER 166 PF DEEDS, AT PAGE 413. (SEE POST). BLANKET IN NATURE.

25. EASEMENT CONTAINED IN DEED MADE BY JOSEPHINE CRIM TO WILLIAM DECAMP AND BELLE DECAMP, HIS WIFE, DATED 06/16/1939 AND RECORDED 08/14/1939 IN(AS) LIBER 251 OF DEEDS, AT PAGE 358. (SEE POST). BLANKET IN NATURE.

26. UTILITY COMPANY EASEMENT CONTAINED IN GRANT RECORDED 07/19/1941 IN(AS) LIBER 254 OF DEEDS, AT PAGE 329. (SEE POST). BLANKET IN NATURE.

27. RESERVATIONS AND EASEMENT CONTAINED IN DEED MADE BY NEW YORK STATE ELECTRIC & GAS CORPORATION TO NGE GENERATION, INC. DATED 02/11/1998 AND RECORDED 02/13/1998 IN(AS) LIBER 813 OF DEEDS, AT PAGE 243 (SEE POST) AS CORRECTED BY DEED OF CORRECTION AND RELEASE MADE BY NEW YORK STATE ELECTRIC & GAS CORPORATION TO NGE GENERATION, INC. DATED AS OF 05/01/1999 AND RECORDED 05/20/1999 IN(AS) LIBER 846 OF DEEDS, AT PAGE 248 (SEE POST). BLANKET IN NATURE.

28. AMENDED AND RESTATED RECIPROCAL EASEMENT AGREEMENT BY AND BETWEEN NEW YORK STATE ELECTRIC & GAS CORPORATION, AND AES EASTERN ENERGY, L.P. DATED AS OF 05/01/1999 AND RECORDED 05/20/1999 IN(AS) LIBER 847 OF DEEDS, AT PAGE 46. (SEE POST). BLANKET IN NATURE.

WITH REAGARD THERETO:

(a) AMENDMENT TO AMENDED AND RESTATED RECIPROCAL EASEMENT AGREEMENT MILLIKEN STATION) MADE BY AND BETWEEN NEW YORK STATE ELECTRIC & GAS CORPORATION AND CAYUGA OPERATING COMPANY LLC DATED AS OF 06/29/2012 AND RECORDED 07/16/2012 IN(AS) INSTRUMENT NO. 594334-007. (SEE POST). BLANKET IN NATURE

29. UNDERGROUND ENCROACHMENTS AND EASEMENTS, IF ANY, INCLUDING PIPES AND DRAINS AND SUCH RIGHTS AS MAY EXIST FOR ENTRY UPON SAID PREMISES TO MAINTAIN AND REPAIR THE SAME. BLANKET IN NATURE.

30. RIGHTS AND EASEMENTS, IF ANY, ACQUIRED BY ANY PUBLIC UTILITIES COMPANY TO MAINTAIN ITS POLES AND OPERATE ITS WIRES, LINES, ETC., IN, TO AND OVER THE PREMISES HEREIN AND IN, TO AND OVER THE STREETS ADJACENT THERETO. BLANKET IN NATURE.

31. OIL AND GAS LEASE TO J.E. TRAINER DATED 07/30/1930 AND RECORDED 05/14/1931 IN LIBER 224 OF DEEDS, AT PAGE 264 ON 05/14/1931. (SEE POST). BLANKET IN NATURE.

WITH REGARD THERETO:

(a) ASSIGNMENT OF OIL AND GAS LEASE MADE BY J.E. TRAINER TO W. H. WORKMAN DATED 01/19/1932 AND RECORDED 08/05/1933 IN(AS) LIBER 232 OF DEEDS, AT PAGE 451. (SEE POST)

(b) AFFIDAVIT OF CHARLES STARKS DATED 08/17/1951 AND RECORDED 08/20/1951 IN(AS) LIBER 10 OF MISCELLANEOUS, AT PAGE 54. (SEE POST).

32. THE PREMISES DESCRIBED IN SCHEDULE "A" HEREIN IS AN INTERIOR PARCEL. NO RIGHT OF ACCESS TO AND FROM THE LAND IS INSURED. BLANKET IN NATURE.

100 0 50 100
SCALE IN FEET
(1" = 100')

Revisions		
07/26/24	ADDED TITLE EXCEPTIONS	1
Date	Description	No.

LANGAN
Langan Engineering, Environmental, Surveying, Landscape Architecture, and Geology, D.P.C.
One North Broadway, Suite 910
White Plains, NY 10601
T: 914.323.7400 F: 914.323.7401 www.langan.com

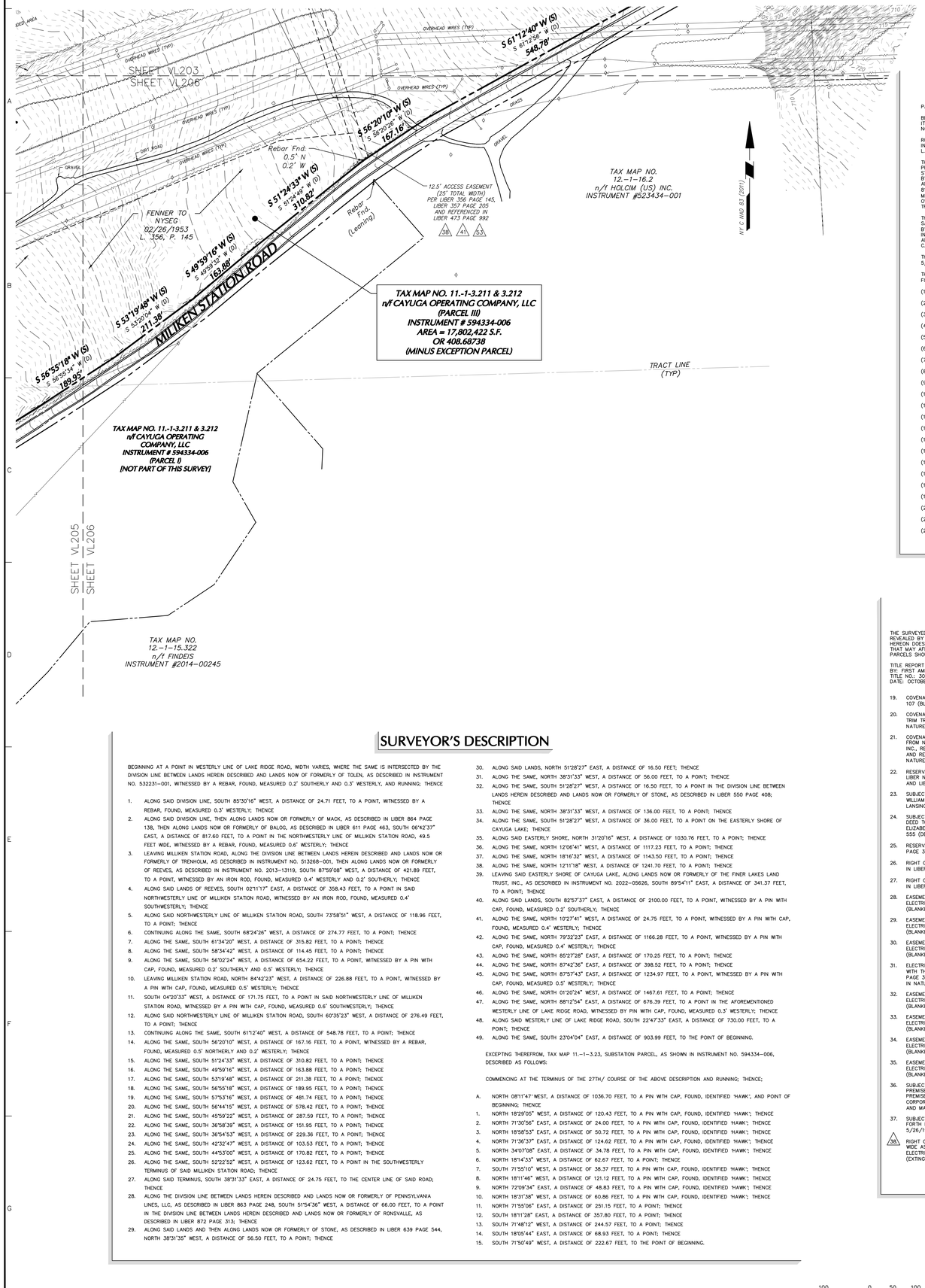
Project
CAYUGA SOLAR PROJECT
TAX MAP NO(S).
11.-1-3.212-3.212 & 3.23
TOWN OF LANSING
TOMPKINS COUNTY NEW YORK

Drawing Title
ALTA/NSPS LAND TITLE SURVEY

Project No. 190091601
Date NOVEMBER 2, 2023
Drawn By KEC
Checked By TR

Drawing No. VL205
Sheet 5 of 6

Date: 7/26/2024 Time: 12:56 User: mchudnow Style Table: Langan.stb Layout: VL205 Document Code: 190091601-0401-VL101-0201



PROJECT LOCATION MAP

SCALE: N.T.S.

SOURCE:
MICROSOFT CORPORATION

KEY MAP

LEGEND OF SYMBOLS & ABBREVIATIONS

RECORD DESCRIPTION

PARCEL III (FOR INFORMATION ONLY: TAX PARCEL 11-1-3.212 AND PART OF 11-1-3.211)

BEGINNING AT A FOUND 1-¼ INCH BOLT ON THE EXISTING SOUTHWESTERLY ROAD BOUNDARY OF LAKE RIDGE ROAD AT ITS INTERSECTION WITH THE DIVISION LINE BETWEEN THE PROPERTY OWNED BY AES EASTERN ENERGY, L.P. ON THE NORTH AND THE PROPERTY NOW OR FORMERLY OWNED BY HENRY TOLEN ON THE SOUTH;

RUNNING THENCE SOUTH 85° 30' 32" WEST ALONG SAID DIVISION LINE, A DISTANCE OF 24.71 FEET TO A FOUND 5/8 INCH REBAR AT ITS INTERSECTION WITH THE DIVISION LINE BETWEEN SAID PROPERTY OWNED BY AES EASTERN ENERGY, L.P. ON THE WEST AND SAID PROPERTY NOW OR FORMERLY OWNED BY HENRY TOLEN ON THE EAST;

THENCE SOUTH 06° 42' 21" EAST ALONG THE LAST MENTIONED DIVISION LINE, ALONG THE DIVISION LINE BETWEEN SAID PROPERTY OWNED BY AES EASTERN ENERGY, L.P. ON THE WEST AND THE PROPERTY NOW OR FORMERLY OWNED BY STEPHEN JAMES AND DOREEN M. MACK ON THE EAST, AND ALONG THE DIVISION LINE BETWEEN SAID PROPERTY OWNED BY AES EASTERN ENERGY, L.P. ON THE WEST AND THE PROPERTY NOW OR FORMERLY OWNED BY CHARLES D. BALOG SR. AND JOLAN E. BALOG ON THE EAST, A DISTANCE OF 817.60 FEET TO A FOUND 5/8 INCH REBAR IN CONCRETE WITH "MACNEILL" CAP ON THE NORTHEASTERLY BOUNDARY OF MILLIKEN STATION ROAD (COUNTY ROAD 156) AT ITS INTERSECTION WITH THE DIVISION LINE BETWEEN SAID PROPERTY OWNED BY AES EASTERN ENERGY, L.P. ON THE NORTH AND THE PROPERTY NOW OR FORMERLY OWNED BY SARAH TRENHOLM AND ROBERT MEZZANOTTE ON THE SOUTH;

THENCE SOUTH 87° 59' 24" WEST ALONG THE LAST MENTIONED DIVISION LINE AND ALONG THE DIVISION LINE BETWEEN SAID PROPERTY OWNED BY AES EASTERN ENERGY, L.P. ON THE NORTH AND THE PROPERTY NOW OR FORMERLY OWNED BY RICHARD C. JONES, JR. ON THE SOUTH, A DISTANCE OF 421.89 FEET TO A FOUND 5/8 INCH REBAR AT ITS INTERSECTION WITH THE DIVISION LINE BETWEEN SAID PROPERTY OWNED BY AES EASTERN ENERGY, L.P. ON THE WEST AND SAID PROPERTY NOW OR FORMERLY OWNED BY RICHARD C. JONES, JR. ON THE EAST;

THENCE SOUTH 02° 11' 01" EAST ALONG THE LAST MENTIONED DIVISION LINE, A DISTANCE OF 358.43 FEET TO A FOUND 5/8 INCH REBAR AT ITS INTERSECTION WITH THE NORTHWESTERLY BOUNDARY OF MILLIKEN STATION ROAD;

THENCE ALONG THE LAST MENTIONED BOUNDARY AND ALONG MILLIKEN STATION ROAD (COUNTY ROAD 156), THE FOLLOWING TWENTY-THREE (23) COURSES AND DISTANCES:

(1) SOUTH 73° 59' 07" WEST, A DISTANCE OF 118.96 FEET TO A POINT;

(2) THENCE SOUTH 68° 24' 42" WEST, A DISTANCE OF 274.77 FEET TO A POINT;

(3) THENCE SOUTH 61° 34' 36" WEST, A DISTANCE OF 315.82 FEET TO A POINT;

(4) THENCE SOUTH 58° 34' 58" WEST, A DISTANCE OF 114.45 FEET TO A POINT;

(5) THENCE SOUTH 56° 02' 40" WEST, A DISTANCE OF 654.22 FEET TO FOUND A 5/8 INCH REBAR WITH "HAWK" CAP;

(6) THENCE NORTH 84° 42' 07" WEST, A DISTANCE OF 226.88 FEET TO A FOUND 5/8 INCH REBAR WITH "HAWK" CAP;

(7) THENCE SOUTH 04° 20' 49" WEST, A DISTANCE OF 171.75 FEET TO A FOUND 5/8 INCH REBAR WITH "HAWK" CAP;

(8) THENCE SOUTH 60° 35' 39" WEST, A DISTANCE OF 276.49 FEET TO A POINT;

(9) THENCE SOUTH 61° 12' 56" WEST, A DISTANCE OF 548.78 FEET TO A POINT;

(10) THENCE SOUTH 56° 20' 26" WEST, A DISTANCE OF 167.16 FEET TO A FOUND 5/8 INCH REBAR;

(11) THENCE SOUTH 51° 24' 49" WEST, A DISTANCE OF 310.82 FEET TO A POINT;

(12) THENCE SOUTH 49° 59' 32" WEST, A DISTANCE OF 163.88 FEET TO A POINT;

(13) THENCE SOUTH 53° 20' 04" WEST, A DISTANCE OF 211.38 FEET TO A POINT;

(14) THENCE SOUTH 56° 55' 34" WEST, A DISTANCE OF 189.95 FEET TO A POINT;

(15) THENCE SOUTH 57° 53' 32" WEST, A DISTANCE OF 481.74 FEET TO A POINT;

(16) THENCE SOUTH 56° 44' 31" WEST, A DISTANCE OF 578.42 FEET TO A POINT;

(17) THENCE SOUTH 45° 59' 38" WEST, A DISTANCE OF 287.59 FEET TO A POINT;

(18) THENCE SOUTH 36° 58' 55" WEST, A DISTANCE OF 151.95 FEET TO A POINT;

(19) THENCE SOUTH 36° 55' 09" WEST, A DISTANCE OF 229.36 FEET TO A POINT;

(20) THENCE SOUTH 42° 33' 03" WEST, A DISTANCE OF 103.53 FEET TO A POINT;

(21) THENCE SOUTH 44° 53' 16" WEST, A DISTANCE OF 170.82 FEET TO A POINT; AES EASTERN ENERGY, L.P.

(22) THENCE SOUTH 52° 23' 08" WEST, A DISTANCE OF 123.62 FEET TO A POINT;

(23) THENCE SOUTH 38° 31' 17" EAST, A DISTANCE OF 24.75 FEET TO A POINT AT ITS INTERSECTION WITH THE DIVISION LINE BETWEEN SAID PROPERTY OWNED BY AES EASTERN ENERGY, L.P. ON THE NORTH AND THE PROPERTY NOW OR FORMERLY OWNED BY PENNSYLVANIA LINES LLC ON THE SOUTH;

THENCE SOUTH 51° 54' 52" WEST, ALONG THE LAST MENTIONED DIVISION LINE, A DISTANCE OF 66.00 FEET TO POINT AT ITS INTERSECTION WITH THE DIVISION LINE BETWEEN SAID PROPERTY OWNED BY AES EASTERN ENERGY, L.P. ON THE NORTHEAST AND THE PROPERTY NOW OR FORMERLY OWNED BY HERITAGE PARK TOWNHOUSES, INC. ON THE SOUTHWEST;

THENCE ALONG THE LAST MENTIONED DIVISION LINE, ALONG THE DIVISION LINE BETWEEN SAID PROPERTY OWNED BY AES EASTERN ENERGY, L.P. ON THE NORTHEAST AND THE PROPERTY NOW OR FORMERLY OWNED BY FRED J. AND SHIRLEY D. STONE ON THE SOUTHWEST, AND ALONG THE DIVISION LINE BETWEEN SAID PROPERTY OWNED BY AES EASTERN ENERGY, L.P. ON THE NORTHEAST AND THE PROPERTY NOW OR FORMERLY OWNED BY FRED J. STONE AND SHIRLEY DEEB STONE ON THE SOUTHWEST; THE FOLLOWING SIX (6) COURSES AND DISTANCES:

(1) NORTH 38° 31' 19" WEST, A DISTANCE OF 56.50 FEET TO A POINT;

(2) THENCE NORTH 51° 28' 43" EAST, A DISTANCE OF 16.50 FEET TO A POINT;

(3) THENCE NORTH 38° 31' 17" WEST, A DISTANCE OF 56.00 FEET TO A POINT;

(4) THENCE SOUTH 51° 28' 43" WEST, A DISTANCE OF 16.50 FEET TO A POINT;

(5) THENCE NORTH 38° 31' 17" WEST, A DISTANCE OF 136.00 FEET TO A FOUND 5/8 INCH REBAR WITH "HAWK" CAP;

(6) THENCE SOUTH 51° 28' 43" WEST, A DISTANCE OF 36.00 FEET TO A POINT AT ITS INTERSECTION WITH THE EXISTING SHORELINE OF CAYUGA LAKE;

THENCE GENERALLY NORTHERLY ALONG SAID SHORELINE, A DISTANCE OF 4,711 FEET, MORE OR LESS, DEFINED BY THE FOLLOWING FOUR (4) COURSES AND DISTANCES:

(1) NORTH 31° 20' 00" WEST, A DISTANCE OF 1,030.76 FEET TO A POINT;

(2) THENCE NORTH 12° 06' 25" WEST, A DISTANCE OF 1,117.23 FEET TO A POINT;

(3) THENCE NORTH 18° 16' 16" WEST, A DISTANCE OF 1,143.50 FEET TO A POINT;

(4) THENCE NORTH 12° 11' 02" WEST, A DISTANCE OF 1,241.70 FEET TO A POINT AT ITS INTERSECTION WITH THE DIVISION LINE BETWEEN SAID PROPERTY OWNED BY AES EASTERN ENERGY, L.P. ON THE SOUTH AND THE PROPERTY NOW OR FORMERLY OWNED BY NEW YORK STATE ELECTRIC & GAS CORPORATION ON THE NORTH;

THENCE ALONG THE LAST MENTIONED DIVISION LINE THE FOLLOWING SEVEN (7) COURSES AND DISTANCES:

(1) SOUTH 89° 53' 55" EAST, A DISTANCE OF 341.37 FEET TO A FOUND 5/8 INCH REBAR WITH "HAWK" CAP;

(2) THENCE SOUTH 82° 57' 21" EAST, A DISTANCE OF 2,100.00 FEET TO A POINT;

(3) THENCE NORTH 10° 27' 25" WEST, A DISTANCE OF 24.75 FEET TO A FOUND 5/8 INCH REBAR WITH "HAWK" CAP;

(4) THENCE NORTH 79° 32' 39" EAST, A DISTANCE OF 1,166.28 FEET TO A FOUND 5/8 INCH REBAR WITH "HAWK" CAP;

(5) THENCE NORTH 85° 27' 44" EAST, A DISTANCE OF 170.25 FEET TO A POINT;

(6) THENCE NORTH 87° 42' 52" EAST, A DISTANCE OF 398.52 FEET TO A POINT;

(7) THENCE NORTH 87° 57' 59" EAST, A DISTANCE OF 1,234.97 FEET TO A FOUND 5/8 INCH REBAR WITH "HAWK" CAP AT ITS INTERSECTION WITH THE DIVISION LINE BETWEEN SAID PROPERTY OWNED BY AES EASTERN ENERGY, L.P. ON THE EAST AND SAID PROPERTY NOW OF FORMERLY OWNED BY NEW YORK STATE ELECTRIC & GAS CORPORATION ON THE WEST;

THENCE NORTH 01° 20' 08" WEST ALONG THE LAST MENTIONED DIVISION LINE, A DISTANCE OF 1,467.61 FEET TO A FOUND 5/8 INCH REBAR WITH "HAWK" CAP AT ITS INTERSECTION WITH THE DIVISION LINE BETWEEN SAID PROPERTY OWNED BY AES EASTERN ENERGY, L.P. ON THE SOUTH AND SAID PARCEL NOW OR FORMERLY OWNED BY NEW YORK STATE ELECTRIC & GAS CORPORATION ON THE NORTH;

THENCE NORTH 88° 13' 10" EAST, ALONG THE LAST MENTIONED DIVISION LINE, A DISTANCE OF 676.39 FEET TO A FOUND 5/8 INCH REBAR WITH "HAWK" CAP AT ITS INTERSECTION WITH THE ABOVE FIRST MENTIONED ROAD BOUNDARY;

THENCE ALONG SAID FIRST MENTIONED ROAD BOUNDARY THE FOLLOWING TWO (2) COURSES AND DISTANCES:

(1) SOUTH 22° 47' 17" EAST, A DISTANCE OF 730.30 FEET TO A POINT;

(2) THENCE SOUTH 23° 03' 52" EAST, A DISTANCE OF 903.69 FEET TO THE POINT OR PLACE OF BEGINNING.

TITLE EXCEPTIONS

REMAINING PARCELS

THE SURVEYED PROPERTY IS SUBJECT BUT NOT LIMITED TO THE FOLLOWING FACTS AS REVEALED BY THE HEREON REFERENCED INFORMATION. THE INFORMATION SHOWN HEREON DOES NOT CONSTITUTE A TITLE SEARCH BY THE SURVEYOR. ALL INFORMATION THAT MAY AFFECT THE QUALITY OF TITLE TO BOTH THE SUBJECT AND ADJOINING PARCELS SHOULD BE VERIFIED BY AN ACCURATE AND CURRENT TITLE REPORT.

TITLE REPORT
BY: FIRST AMERICAN TITLE INSURANCE COMPANY
TITLE NO.: 3020-1030105NY1
DATE: OCTOBER 16, 2020

19. COVENANTS AND RESTRICTIONS CONTAINED IN DEED RECORDED IN LIBER 232 CP 107 (BLANKET IN NATURE).

20. COVENANTS AND RESTRICTIONS, AND EASEMENTS TOGETHER WITH THE RIGHT TO TRIM TREES, CONTAINED IN DEED RECORDED IN LIBER 740 CP 216 (BLANKET IN NATURE).

21. COVENANTS AND RESTRICTIONS, TOGETHER WITH EASEMENTS RESERVED IN DEED FROM NEW YORK STATE ELECTRIC & GAS CORPORATION TO NGE GENERATION, INC., RECORDED 2/13/1998 IN LIBER 813 CP 243 AND IN DEED OF CORRECTION AND RELEASE RECORDED 5/20/1999 IN LIBER 846 CP 248 (BLANKET IN NATURE).

22. RESERVATION FOR RIGHT OF WAY RECITED IN A DEED RECORDED 4/14/1840 IN LIBER NN OF DEEDS, PAGE 458, AS REPEATED IN LIBER PP OF DEEDS, PAGE 102 AND LIBER 65 OF DEEDS, PAGE 29 (BLANKET IN NATURE).

23. SUBJECT TO ALL RIGHTS CONVEYED TO CAYUGA LAKE RAILROAD COMPANY BY WILLIAM MCGUFFIE AND OTHERS BY DEED RECORDED 5/1/1876 IN LIBER 2 OF LANSING DEEDS AT PAGE 549 (DEED ILLEGIBLE).

24. SUBJECT TO ALL RIGHTS OF THE LEHIGH VALLEY RAILROAD COMPANY IN THE DEED TO THE CAYUGA LAKE RAILROAD COMPANY FROM H.B. PERRY AND E. ELIZABETH PERRY RECORDED 5/1/1876 IN LIBER 2 OF LANSING DEEDS AT PAGE 555 (DEED ILLEGIBLE).

25. RESERVATION RECITED IN A DEED RECORDED 9/30/1892 IN LIBER 139 OF DEEDS, PAGE 366 (BLANKET IN NATURE).

26. RIGHT OF WAY CONVEYED TO HARRY S. BROOKS IN DEED RECORDED 10/20/1899 IN LIBER 151 CP 297 AS REPEATED IN LIBER 152 CP 105 (BLANKET IN NATURE).

27. RIGHT OF WAY CONVEYED TO EDGAR H. BUCKLIN IN DEED RECORDED 7/25/1899 IN LIBER 153 CP 285 (BLANKET IN NATURE).

28. EASEMENT, TOGETHER WITH THE RIGHT TO TRIM TREES, TO NEW YORK STATE ELECTRIC & GAS CORPORATION RECORDED 2/25/1931 IN LIBER 225 CP 145 (BLANKET IN NATURE).

29. EASEMENT, TOGETHER WITH THE RIGHT TO TRIM TREES, TO NEW YORK STATE ELECTRIC & GAS CORPORATION RECORDED 2/25/1931 IN LIBER 225 CP 150 (BLANKET IN NATURE).

30. EASEMENT, TOGETHER WITH THE RIGHT TO TRIM TREES, TO NEW YORK STATE ELECTRIC & GAS CORPORATION RECORDED 2/25/1931 IN LIBER 225 CP 153 (BLANKET IN NATURE).

31. ELECTRIC, TELEPHONE AND COMMUNICATION EASEMENT AGREEMENT, TOGETHER WITH THE RIGHT TO TRIM TREES, RECORDED 6/25/1941 IN LIBER 254 OF DEEDS, PAGE 325 AND AS SUPPLEMENTED BY LIBER 464 OF DEEDS, PAGE 96 (BLANKET IN NATURE).

32. EASEMENT, TOGETHER WITH THE RIGHT TO TRIM TREES, TO NEW YORK STATE ELECTRIC & GAS CORPORATION RECORDED 6/25/1941 IN LIBER 254 CP 328 (BLANKET IN NATURE).

33. EASEMENT, TOGETHER WITH THE RIGHT TO TRIM TREES, TO NEW YORK STATE ELECTRIC & GAS CORPORATION RECORDED 6/25/1941 IN LIBER 254 CP 329 (BLANKET IN NATURE).

34. EASEMENT, TOGETHER WITH THE RIGHT TO TRIM TREES, TO NEW YORK STATE ELECTRIC & GAS CORPORATION RECORDED 3/11/1942 IN LIBER 259 CP 417 (BLANKET IN NATURE).

35. EASEMENT, TOGETHER WITH THE RIGHT TO TRIM TREES, TO NEW YORK STATE ELECTRIC & GAS CORPORATION RECORDED 3/11/1942 IN LIBER 259 CP 422 (BLANKET IN NATURE).

36. SUBJECT TO ANY RIGHTS OF THE STATE OF NEW YORK TO A PORTION OF THE PREMISES WHICH MIGHT BE INCLUDED WITHIN THE WESTERN BOUNDARIES OF THE PREMISES AS SET FORTH IN A DEED TO NEW YORK STATE ELECTRIC AND GAS CORPORATION DATED 7/5/1951 AND RECORDED 7/6/1951 IN LIBER 342 CP 381, AND MAP FILED IN CABINET B, DRAWER 4 (BLANKET IN NATURE).

37. SUBJECT TO ANY RIGHTS OF ADJOINING OWNERS TO CROSS THE PREMISES SET FORTH IN DEED TO NEW YORK STATE ELECTRIC AND GAS CORPORATION DATED 5/26/1952 AND RECORDED 7/5/1952 IN LIBER 350 CP 420 (UNABLE TO PLOT).

38. RIGHT OF WAY FOR INGRESS AND EGRESS OVER A STRIP OF LAND 12½ FEET WIDE AS RESERVED IN DEED FROM CASPER L. FENNER TO NEW YORK STATE ELECTRIC & GAS CORPORATION RECORDED 2/26/1953 IN LIBER 356 CP 145 (EXTINGUISHED BY UNITY OF TITLE – SHOWN ON SURVEY).

39. EASEMENT, TOGETHER WITH THE RIGHT TO TRIM TREES, FROM CASPER L. FENNER TO NEW YORK STATE ELECTRIC & GAS CORPORATION RECORDED 4/28/1953 IN LIBER 357 CP 201 (BLANKET IN NATURE).

40. EASEMENT, TOGETHER WITH THE RIGHT TO TRIM TREES, FROM CASPER L. FENNER TO NEW YORK STATE ELECTRIC & GAS CORPORATION RECORDED 4/28/1953 IN LIBER 357 CP 203 (BLANKET IN NATURE).

41. RIGHT OF WAY FOR INGRESS AND EGRESS OVER A STRIP OF LAND 12½ FEET WIDE AS RESERVED IN DEED FROM CASPER L. FENNER TO NEW YORK STATE ELECTRIC & GAS CORPORATION RECORDED 4/28/1953 IN LIBER 357 CP 205 (EXTINGUISHED BY UNITY OF TITLE – SHOWN ON SURVEY).

42. ELECTRIC, TELEPHONE AND COMMUNICATION EASEMENT AGREEMENT, TOGETHER WITH THE RIGHT TO TRIM TREES, RECORDED 7/3/1953 IN LIBER 359 OF DEEDS, PAGE 248 (BLANKET IN NATURE).

43. EASEMENT, TOGETHER WITH THE RIGHT TO TRIM TREES, TO NEW YORK STATE ELECTRIC & GAS CORPORATION RECORDED 7/30/1953 IN LIBER 359 CP 249 (BLANKET IN NATURE).

44. EASEMENT, TOGETHER WITH THE RIGHT TO TRIM TREES, TO NEW YORK STATE ELECTRIC & GAS CORPORATION RECORDED 7/1953 IN LIBER 359 CP 272 (BLANKET IN NATURE).

45. EASEMENT FOR RAILROAD EMBANKMENT RECORDED 9/4/1953 IN LIBER 361 OF DEEDS, PAGE 297 (UNABLE TO PLOT CORRECT LOCATION).

46. OBLIGATION TO MAINTAIN FENCES RECITED IN DEED RECORDED 11/29/1953 IN LIBER 364 CP 404 (UNABLE TO PLOT CORRECT LOCATION).

47. PERMIT TO DISCHARGE SEWAGE OR WASTES INTO THE WATERS OF THE STATE RECORDED 1/9/1954 IN LIBER 12 MISCELLANEOUS RECORDS PAGE 226 (BLANKET IN NATURE).

48. EASEMENT, TOGETHER WITH THE RIGHT TO TRIM TREES, TO NEW YORK STATE ELECTRIC & GAS CORPORATION RECORDED 10/7/1955 IN LIBER 382 CP 311 (BLANKET IN NATURE).

49. EASEMENT, TOGETHER WITH THE RIGHT TO TRIM TREES, TO NEW YORK STATE ELECTRIC & GAS CORPORATION RECORDED 12/4/1957 IN LIBER 402 CP 281 (BLANKET IN NATURE).

50. EASEMENT, TOGETHER WITH THE RIGHT TO TRIM TREES, TO NEW YORK TELEPHONE COMPANY RECORDED 9/1/1959 IN LIBER 420 CP 304 (BLANKET IN NATURE).

51. EASEMENT, TOGETHER WITH THE RIGHT TO TRIM TREES, TO NEW YORK STATE ELECTRIC & GAS CORPORATION RECORDED 6/29/1962 IN LIBER 440 CP 735 (BLANKET IN NATURE).

52. EASEMENT TO NEW YORK STATE ELECTRIC & GAS CORPORATION RECORDED 1/24/1968 IN LIBER 473 CP 672 (BLANKET IN NATURE).

53. EASEMENT TO NEW YORK STATE ELECTRIC & GAS CORPORATION RECORDED 2/15/1968 IN LIBER 473 CP 992 (EXTINGUISHED BY UNITY OF TITLE – SHOWN ON SURVEY).

54. ELECTRIC, TELEPHONE AND COMMUNICATION EASEMENT AGREEMENT RECORDED 6/30/1971 IN LIBER 493 OF DEEDS, PAGE 386 (BLANKET IN NATURE).

55. OVERHEAD ELECTRIC WIRES SHOWN ON MAP FILED 12/10/1993 IN MAP DRAWER X-30 (OFF SITE – SHOWN ON SURVEY)

56. EASEMENTS CONTAINED IN DEED FROM NEW YORK STATE ELECTRIC & GAS CORPORATION TO TOMPKINS COUNTY RECORDED 6/28/1995 IN LIBER 752 CP 178 (SHOWN ON SURVEY).

57. PERMANENT ROADWAY EASEMENT RECORDED 10/11/1996 IN LIBER 782 OF DEEDS, PAGE 312 (SHOWN ON SURVEY).

58. AMENDED AND RESTATED RECIPROCAL EASEMENT AGREEMENT (MILLIKEN STATION) BETWEEN NEW YORK STATE ELECTRIC & GAS CORPORATION AND AES EASTERN ENERGY, L.P., DATED AS OF 5/1/1999 AND RECORDED 5/20/1999 IN LIBER 847 OF DEEDS, PAGE 46. AMENDMENT TO AMENDED AND RESTATED RECIPROCAL EASEMENT AGREEMENT (MILLIKEN STATION) BY AND BETWEEN NEW YORK STATE ELECTRIC & GAS CORPORATION AND CAYUGA OPERATING COMPANY LLC DATED AS OF 6/29/2012 AND RECORDED 7/16/2012 AS INSTRUMENT NO. 594334-007 (BLANKET IN NATURE).

59. SUBJECT TO COVENANTS AND RESTRICTIONS RUNNING WITH THE LAND AS SET FORTH IN A PERMIT ISSUED BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION PROHIBITING NEW YORK STATE ELECTRIC & GAS CORPORATION, ITS SUCCESSORS AND ASSIGNS FROM GROWING OR CULTIVATING FOOD CROPS ON ANY PORTION OF THE ABOVE-DESCRIBED PREMISES USED AT ANY TIME AS A FLY ASH DISPOSAL FACILITY RECORDED 02/13/1998 IN LIBER 813, PAGE 243 (BLANKET IN NATURE).

60. SUBJECT TO A LICENSE AGREEMENT BETWEEN NEW YORK STATE ELECTRIC & GAS CORPORATION AND ROBIN FARMS, INC., DATED 2/7/1995 GRANTING ROBIN FARMS A LICENSE TO USE A PORTION OF THE PREMISES FOR AGRICULTURAL PURPOSES (OFF SITE – LOT 16.2).

61. A PERMANENT RIGHT OF WAY AND EASEMENT TO THE TOWN OF LANSING TO LAY, CONSTRUCT, OPERATE, MAINTAIN, ALTER, REPAIR, REMOVE, REPLACE OR CHANGE THE SIZE OF A WATER MAIN WITH APPURTENANCES ACROSS A PORTION OF THE PREMISES (OFF SITE – LOT 3.1).

62. INDUCEMENT RESOLUTION RECORDED 3/6/2009 AS INSTRUMENT NO. 538683-004 (BLANKET IN NATURE).

63. RIGHT OF FIRST REFUSAL AGREEMENT RECORDED 7/16/2012 AS INSTRUMENT NO. 594334-008 (BLANKET IN NATURE).

64. TERMS, CONDITIONS AND PROVISIONS CONTAINED IN THE UNRECORDED THIRD AMENDED AND RESTATED PAYMENT-IN-LIEU-OF-TAX AGREEMENT MADE BY AND BETWEEN THE TOMPKINS COUNTY INDUSTRIAL DEVELOPMENT AGENCY AND CAYUGA OPERATING COMPANY, LLC DATED AS OF 7/17/2015, AS SET FORTH IN THE MORTGAGE SET FORTH BELOW. COLLATERAL SECURITY MORTGAGE, SECURITY AGREEMENT, ASSIGNMENT OF LEASES AND RENTS AND FIXTURE FILING MADE BY AND BETWEEN CAYUGA OPERATING COMPANY, LLC, TOMPKINS COUNTY INDUSTRIAL DEVELOPMENT AGENCY AND MUFG UNION BANK, N.A., AS COLLATERAL AGENT, DATED AS OF 9/1/2016 AND RECORDED 9/16/2016 AS INSTRUMENT NO. 2016-11094 (BLANKET IN NATURE).

65. ELECTRIC AND COMMUNICATION EASEMENT AGREEMENT RECORDED 1/12/2017 AS INSTRUMENT NO. 2017-00421 (SHOWN ON SURVEY).

66. SUBJECT TO ANY RIGHTS, IF ANY, OF THE LEHIGH VALLEY RAILROAD COMPANY IN THE PREMISES (BLANKET IN NATURE).

67. OIL AND GAS LEASE TO J.E. TRAINER DATED 7/30/1930 AND RECORDED IN LIBER 224 OF DEEDS, AT PAGE 195 ON 5/14/1931 FOR A TERM OF TEN YEARS AND SO LONG THEREAFTER AS OIL OR GAS IS PRODUCED FROM THE LANDS LEASED AND ROYALTY AND RENTAL PAID BY LESSEE THEREFOR, AS ASSIGNED TO WILLIAM H. WORKMAN BY ASSIGNMENT OF LEASE RECORDED 8/5/1933 IN LIBER 232 OF DEEDS, PAGE 451 (BLANKET IN NATURE).

68. OIL AND GAS LEASE TO J.E. TRAINER DATED 7/30/1930 AND RECORDED IN LIBER 224 OF DEEDS, AT PAGE 264 ON 5/14/1931 FOR A TERM OF TEN YEARS AND SO LONG THEREAFTER AS OIL OR GAS IS PRODUCED FROM THE LANDS LEASED AND ROYALTY AND RENTAL PAID BY LESSEE THEREFOR, AS ASSIGNED TO WILLIAM H. WORKMAN BY ASSIGNMENT OF LEASE RECORDED 8/5/1933 IN LIBER 232 OF DEEDS, PAGE 451 (BLANKET IN NATURE).

69. TERMS, COVENANTS, CONDITIONS AND AGREEMENTS CONTAINED IN AN UNRECORDED LEASE MADE BY AND BETWEEN HENRY THOMPSON, LESSOR, AND JOHNATHAN BOTHWELL AND CHARLES SOBERS, LESSEE, REFERRED TO IN THE DEED AS SET FORTH BELOW. WITH REGARD THERETO: DEED BY AND BETWEEN HENRY THOMPSON AND HARIET S. THOMPSON, WIFE OF HENRY THOMPSON AND ALBERT H. THOMPSON, DATED 9/12/1892 AND RECORDED ON 9/30/1892 IN (AS) LIBER 139 OF DEEDS, PAGE 366 (BLANKET IN NATURE).

70. LEASE GIVEN BY LEHIGH VALLEY RAILROAD COMPANY, LESSOR, TO DERK BUNK AND SUSIE BUNK, LESSEE, DATED 5/5/1950 AND ASSIGNMENT OF LEASE FROM LEHIGH VALLEY RAILROAD COMPANY TO NEW YORK STATE ELECTRIC AND GAS CORPORATION DATED 6/20/1952, COLLECTIVELY RECORDED ON 7/5/1952 IN LIBER 350 CP 423 TOGETHER WITH THE RIGHT TO USE A DRIVEWAY SHOWN ON A MAP ENTITLED "LEHIGH VALLEY RAILROAD BUFFALO DIVISION A&I BRANCH MAP" (SHOWN ON SURVEY).

71. TERMS, COVENANTS, CONDITIONS AND AGREEMENTS CONTAINED IN A MEMORANDUM OF LEASE (COMPANY TO AGENCY) MADE BY AND BETWEEN AES EASTERN ENERGY, L.P., LESSOR, AND TOMPKINS COUNTY INDUSTRIAL DEVELOPMENT AGENCY , LESSEE, A MEMORANDUM OF WHICH DATED AS OF 2/27/2009 WAS RECORDED ON 3/6/2009 IN (AS) INSTRUMENT NO. 538683-001 (TERM COMMENCED 2/27/2009 AND TERMINATES 2/1/2029, NO EXTENSIONS OR RENEWALS) (BLANKET IN NATURE). WITH REGARD THERETO: (A) MEMORANDUM OF AMENDED AND RESTATED LEASE (COMPANY TO AGENCY) MADE BY AND BETWEEN AES EASTERN ENERGY, L.P. AND TOMPKINS COUNTY INDUSTRIAL DEVELOPMENT AGENCY DATED AS OF 6/1/2012 AND RECORDED ON 7/16/2012 IN (AS) INSTRUMENT NO. 594334-002 (BLANKET IN NATURE).

72. TERMS, COVENANTS, CONDITIONS AND AGREEMENTS CONTAINED IN A MEMORANDUM OF LEASEBACK (AGENCY TO COMPANY) MADE BY AND BETWEEN TOMPKINS COUNTY INDUSTRIAL DEVELOPMENT AGENCY , LESSOR, AND AES EASTERN ENERGY, L.P., LESSEE, A MEMORANDUM OF WHICH DATED AS OF 2/27/2009 WAS RECORDED ON 3/6/2009 IN (AS) INSTRUMENT NO. 538683-002 (TERM COMMENCED 2/27/2009 AND TERMINATES 2/1/2029, NO EXTENSIONS OR RENEWALS).WITH REGARD THERETO: (A) MEMORANDUM OF AMENDED AND RESTATED LEASEBACK (AGENCY TO COMPANY) MADE BY AND BETWEEN TOMPKINS COUNTY INDUSTRIAL DEVELOPMENT AGENCY AND AES EASTERN ENERGY, L.P. DATED AS OF 6/1/2012 AND RECORDED ON 7/16/2012 IN (AS) INSTRUMENT NO. 594334-003 (BLANKET IN NATURE).

SURVEYOR'S DESCRIPTION

BEGINNING AT A POINT IN WESTERLY LINE OF LAKE RIDGE ROAD, WIDTH VARIES, WHERE THE SAME IS INTERSECTED BY THE DIVISION LINE BETWEEN LANDS HEREIN DESCRIBED AND LANDS NOW OF FORMERLY OF TOLEN, AS DESCRIBED IN INSTRUMENT NO. 532231-001, WITNESSED BY A REBAR, FOUND, MEASURED 0.2' SOUTHERLY AND 0.3' WESTERLY, AND RUNNING; THENCE

1. ALONG SAID DIVISION LINE, SOUTH 85°30'16" WEST, A DISTANCE OF 24.71 FEET, TO A POINT, WITNESSED BY A REBAR, FOUND, MEASURED 0.3' WESTERLY; THENCE
2. ALONG SAID DIVISION LINE, THEN ALONG LANDS NOW OR FORMERLY OF MACK, AS DESCRIBED IN LIBER 864 PAGE 138, THEN ALONG LANDS NOW OR FORMERLY OF BALOG, AS DESCRIBED IN LIBER 611 PAGE 463, SOUTH 06°42'37" EAST, A DISTANCE OF 817.60 FEET, TO A POINT IN THE NORTHWESTERLY LINE OF MILLIKEN STATION ROAD, 49.5 FEET WIDE, WITNESSED BY A REBAR, FOUND, MEASURED 0.6' WESTERLY; THENCE
3. LEAVING MILLIKEN STATION ROAD, ALONG THE DIVISION LINE BETWEEN LANDS HEREIN DESCRIBED AND LANDS NOW OR FORMERLY OF TRENHOLM, AS DESCRIBED IN INSTRUMENT NO. 513268-001, THEN ALONG LANDS NOW OR FORMERLY OF REEVES, AS DESCRIBED IN INSTRUMENT NO. 2013-13119, SOUTH 87°59'08" WEST, A DISTANCE OF 421.89 FEET, TO A POINT, WITNESSED BY AN IRON ROD, FOUND, MEASURED 0.4' WESTERLY AND 0.2' SOUTHERLY; THENCE
4. ALONG SAID LANDS OF REEVES, SOUTH 02°11'17" EAST, A DISTANCE OF 358.43 FEET, TO A POINT IN SAID NORTHWESTERLY LINE OF MILLIKEN STATION ROAD, WITNESSED BY AN IRON ROD, FOUND, MEASURED 0.4' SOUTHWESTERLY; THENCE
5. ALONG SAID NORTHWESTERLY LINE OF MILLIKEN STATION ROAD, SOUTH 73°58'51" WEST, A DISTANCE OF 118.96 FEET, TO A POINT; THENCE
6. CONTINUING ALONG THE SAME, SOUTH 68°24'26" WEST, A DISTANCE OF 274.77 FEET, TO A POINT; THENCE
7. ALONG THE SAME, SOUTH 61°34'20" WEST, A DISTANCE OF 315.82 FEET, TO A POINT; THENCE
8. ALONG THE SAME, SOUTH 58°34'42" WEST, A DISTANCE OF 114.45 FEET, TO A POINT; THENCE
9. ALONG THE SAME, SOUTH 56°02'24" WEST, A DISTANCE OF 654.22 FEET, TO A POINT, WITNESSED BY A PIN WITH CAP, FOUND, MEASURED 0.2' SOUTHERLY AND 0.5' WESTERLY; THENCE
10. LEAVING MILLIKEN STATION ROAD, NORTH 84°42'23" WEST, A DISTANCE OF 226.88 FEET, TO A POINT, WITNESSED BY A PIN WITH CAP, FOUND, MEASURED 0.5' WESTERLY; THENCE
11. SOUTH 04°20'33" WEST, A DISTANCE OF 171.75 FEET, TO A POINT IN SAID NORTHWESTERLY LINE OF MILLIKEN STATION ROAD, WITNESSED BY A PIN WITH CAP, FOUND, MEASURED 0.6' SOUTHWESTERLY; THENCE
12. ALONG SAID NORTHWESTERLY LINE OF MILLIKEN STATION ROAD, SOUTH 60°35'23" WEST, A DISTANCE OF 276.49 FEET, TO A POINT; THENCE
13. CONTINUING ALONG THE SAME, SOUTH 61°12'40" WEST, A DISTANCE OF 548.78 FEET, TO A POINT; THENCE
14. ALONG THE SAME, SOUTH 56°20'10" WEST, A DISTANCE OF 167.16 FEET, TO A POINT, WITNESSED BY A REBAR, FOUND, MEASURED 0.5' NORTHERLY AND 0.2' WESTERLY; THENCE
15. ALONG THE SAME, SOUTH 51°24'33" WEST, A DISTANCE OF 310.82 FEET, TO A POINT; THENCE
16. ALONG THE SAME, SOUTH 49°59'16" WEST, A DISTANCE OF 163.88 FEET, TO A POINT; THENCE
17. ALONG THE SAME, SOUTH 53°19'48" WEST, A DISTANCE OF 211.38 FEET, TO A POINT; THENCE
18. ALONG THE SAME, SOUTH 56°55'18" WEST, A DISTANCE OF 189.95 FEET, TO A POINT; THENCE
19. ALONG THE SAME, SOUTH 57°53'16" WEST, A DISTANCE OF 481.74 FEET, TO A POINT; THENCE
20. ALONG THE SAME, SOUTH 56°44'15" WEST, A DISTANCE OF 578.42 FEET, TO A POINT; THENCE
21. ALONG THE SAME, SOUTH 45°59'22" WEST, A DISTANCE OF 287.59 FEET, TO A POINT; THENCE
22. ALONG THE SAME, SOUTH 36°58'39" WEST, A DISTANCE OF 151.95 FEET, TO A POINT; THENCE
23. ALONG THE SAME, SOUTH 36°54'53" WEST, A DISTANCE OF 229.36 FEET, TO A POINT; THENCE
24. ALONG THE SAME, SOUTH 42°32'47" WEST, A DISTANCE OF 103.53 FEET, TO A POINT; THENCE
25. ALONG THE SAME, SOUTH 44°53'00" WEST, A DISTANCE OF 170.82 FEET, TO A POINT; THENCE
26. ALONG THE SAME, SOUTH 52°22'52" WEST, A DISTANCE OF 123.62 FEET, TO A POINT IN THE SOUTHWESTERLY TERMINUS OF SAID MILLIKEN STATION ROAD; THENCE
27. ALONG SAID TERMINUS, SOUTH 38°31'33" EAST, A DISTANCE OF 24.75 FEET, TO THE CENTER LINE OF SAID ROAD; THENCE
28. ALONG THE DIVISION LINE BETWEEN LANDS HEREIN DESCRIBED AND LANDS NOW OR FORMERLY OF PENNSYLVANIA LINES, LLC, AS DESCRIBED IN LIBER 863 PAGE 248, SOUTH 51°54'36" WEST, A DISTANCE OF 66.00 FEET, TO A POINT IN THE DIVISION LINE BETWEEN LANDS HEREIN DESCRIBED AND LANDS NOW OR FORMERLY OF RONSVALLE, AS DESCRIBED IN LIBER 872 PAGE 313; THENCE
29. ALONG SAID LANDS AND THEN ALONG LANDS NOW OR FORMERLY OF STONE, AS DESCRIBED IN LIBER 639 PAGE 544, NORTH 38°31'35" WEST, A DISTANCE OF 56.50 FEET, TO A POINT; THENCE
30. ALONG SAID LANDS, NORTH 51°28'27" EAST, A DISTANCE OF 16.50 FEET; THENCE
31. ALONG THE SAME, NORTH 38°31'33" WEST, A DISTANCE OF 56.00 FEET, TO A POINT; THENCE
32. ALONG THE SAME, SOUTH 51°28'27" WEST, A DISTANCE OF 16.50 FEET, TO A POINT IN THE DIVISION LINE BETWEEN LANDS HEREIN DESCRIBED AND LANDS NOW OR FORMERLY OF STONE, AS DESCRIBED IN LIBER 550 PAGE 408; THENCE
33. ALONG THE SAME, NORTH 38°31'33" WEST, A DISTANCE OF 136.00 FEET, TO A POINT; THENCE
34. ALONG THE SAME, SOUTH 51°28'27" WEST, A DISTANCE OF 36.00 FEET, TO A POINT ON THE EASTERLY SHORE OF CAYUGA LAKE; THENCE
35. ALONG SAID EASTERLY SHORE, NORTH 31°20'16" WEST, A DISTANCE OF 1030.76 FEET, TO A POINT; THENCE
36. ALONG THE SAME, NORTH 12°06'41" WEST, A DISTANCE OF 1117.23 FEET, TO A POINT; THENCE
37. ALONG THE SAME, NORTH 18°16'32" WEST, A DISTANCE OF 1143.50 FEET, TO A POINT; THENCE
38. ALONG THE SAME, NORTH 12°11'18" WEST, A DISTANCE OF 1241.70 FEET, TO A POINT; THENCE
39. LEAVING SAID EASTERLY SHORE OF CAYUGA LAKE, ALONG LANDS NOW OR FORMERLY OF THE FINER LAKES LAND TRUST, INC., AS DESCRIBED IN INSTRUMENT NO. 2022-05626, SOUTH 89°54'11" EAST, A DISTANCE OF 341.37 FEET, TO A POINT; THENCE
40. ALONG SAID LANDS, SOUTH 82°57'37" EAST, A DISTANCE OF 2100.00 FEET, TO A POINT, WITNESSED BY A PIN WITH CAP, FOUND, MEASURED 0.2' SOUTHERLY; THENCE
41. ALONG THE SAME, NORTH 10°27'41" WEST, A DISTANCE OF 24.75 FEET, TO A POINT, WITNESSED BY A PIN WITH CAP, FOUND, MEASURED 0.4' WESTERLY; THENCE
42. ALONG THE SAME, NORTH 79°32'23" EAST, A DISTANCE OF 1166.28 FEET, TO A POINT, WITNESSED BY A PIN WITH CAP, FOUND, MEASURED 0.4' WESTERLY; THENCE
43. ALONG THE SAME, NORTH 85°27'28" EAST, A DISTANCE OF 170.25 FEET, TO A POINT; THENCE
44. ALONG THE SAME, NORTH 87°42'36" EAST, A DISTANCE OF 398.52 FEET, TO A POINT; THENCE
45. ALONG THE SAME, NORTH 87°57'43" EAST, A DISTANCE OF 1234.97 FEET, TO A POINT, WITNESSED BY A PIN WITH CAP, FOUND, MEASURED 0.5' WESTERLY; THENCE
46. ALONG THE SAME, NORTH 01°20'24" WEST, A DISTANCE OF 1467.61 FEET, TO A POINT; THENCE
47. ALONG THE SAME, NORTH 88°12'54" EAST, A DISTANCE OF 676.39 FEET, TO A POINT IN THE AFOREMENTIONED WESTERLY LINE OF LAKE RIDGE ROAD, WITNESSED BY PIN WITH CAP, FOUND, MEASURED 0.3' WESTERLY; THENCE
48. ALONG SAID WESTERLY LINE OF LAKE RIDGE ROAD, SOUTH 22°47'33" EAST, A DISTANCE OF 730.00 FEET, TO A POINT; THENCE
49. ALONG THE SAME, SOUTH 23°04'04" EAST, A DISTANCE OF 903.99 FEET, TO THE POINT OF BEGINNING.

EXCEPTING THEREFROM, TAX MAP 11.-1-3.23, SUBSTATION PARCEL, AS SHOWN IN INSTRUMENT NO. 594334-006, DESCRIBED AS FOLLOWS:

COMMENCING AT THE TERMINUS OF THE 27TH/ COURSE OF THE ABOVE DESCRIPTION AND RUNNING; THENCE;

A. NORTH 08°11'47" WEST, A DISTANCE OF 1036.70 FEET, TO A PIN WITH CAP, FOUND, IDENTIFIED "HAWK", AND POINT OF BEGINNING; THENCE
1. NORTH 18°29'05" WEST, A DISTANCE OF 120.43 FEET, TO A PIN WITH CAP, FOUND, IDENTIFIED "HAWK"; THENCE
2. NORTH 71°30'56" EAST, A DISTANCE OF 24.00 FEET, TO A PIN WITH CAP, FOUND, IDENTIFIED "HAWK"; THENCE
3. NORTH 18°58'53" EAST, A DISTANCE OF 50.72 FEET, TO A PIN WITH CAP, FOUND, IDENTIFIED "HAWK"; THENCE
4. NORTH 71°36'37" EAST, A DISTANCE OF 124.62 FEET, TO A PIN WITH CAP, FOUND, IDENTIFIED "HAWK"; THENCE
5. NORTH 34°07'08" EAST, A DISTANCE OF 34.78 FEET, TO A PIN WITH CAP, FOUND, IDENTIFIED "HAWK"; THENCE
6. NORTH 18°14'33" WEST, A DISTANCE OF 62.67 FEET, TO A POINT; THENCE
7. SOUTH 71°55'10" WEST, A DISTANCE OF 38.37 FEET, TO A PIN WITH CAP, FOUND, IDENTIFIED "HAWK"; THENCE
8. NORTH 18°11'46" WEST, A DISTANCE OF 121.12 FEET, TO A PIN WITH CAP, FOUND, IDENTIFIED "HAWK"; THENCE
9. NORTH 72°09'34" EAST, A DISTANCE OF 48.83 FEET, TO A PIN WITH CAP, FOUND, IDENTIFIED "HAWK"; THENCE
10. NORTH 18°31'38" WEST, A DISTANCE OF 60.86 FEET, TO A PIN WITH CAP, FOUND, IDENTIFIED "HAWK"; THENCE
11. NORTH 71°55'06" EAST, A DISTANCE OF 251.15 FEET, TO A POINT; THENCE
12. SOUTH 18°11'28" EAST, A DISTANCE OF 357.80 FEET, TO A POINT; THENCE
13. SOUTH 71°48'12" WEST, A DISTANCE OF 244.57 FEET, TO A POINT; THENCE
14. SOUTH 18°05'44" EAST, A DISTANCE OF 68.93 FEET, TO A POINT; THENCE
15. SOUTH 71°50'49" WEST, A DISTANCE OF 222.67 FEET, TO THE POINT OF BEGINNING.

SUBSTATION PARCEL

LINE	BEARING	DISTANCE
L1	N 18°29'05" W	120.43'
L2	N 71°30'56" E	24.00'
L3	N 18°58'53" E	50.72'
L4	N 71°36'37" E	124.62'
L5	N 34°07'08" E	34.78'
L6	N 18°14'33" W	62.67'
L7	S 71°55'10" W	38.37'
L8	N 18°11'46" W	121.12'
L9	N 72°09'34" E	48.83'
L10	N 18°31'38" W	60.86'
L11	N 71°55'06" E	251.15'
L12	S 18°11'28" E	357.80'
L13	S 71°48'12" W	244.57'
L14	S 18°05'44" E	68.93'
L15	S 71°50'49" W	222.67'

100 0 50 100
SCALE IN FEET
(1" = 100')

Date	Description	No.
Revisions		

LANGAN
Langan Engineering, Environmental, Surveying, Landscape Architecture, and Geology, D.P.C.
One North Broadway, Suite 910
White Plains, NY 10601
T: 914.323.7400 F: 914.323.7401 www.langan.com

Project
CAYUGA SOLAR PROJECT
TAX MAP NO(S).
11.-1-3.212-3.212 & 3.23
TOWN OF LANSING
TOMPKINS COUNTY NEW YORK

Drawing Title
ALTA/NSPS LAND TITLE SURVEY

Project No. 190091601
Date NOVEMBER 2, 2023
Drawn By KEC
Checked By TR

Drawing No.
VL206
Sheet 6 of 6

Section 1a
Wetland Delineation Assessment

RAMBOLL

ENVIRONMENT
& HEALTH

MEMO

Project name	**Cayuga Concept Engineering (CCE) Wetland Delineation, Lansing, NY**
Project no.	**1940113922-001**
Client	**Cayuga Concept Engineering**
Memo no.	**INTERNAL DRAFT**
Version	
To	**File**
From	**Ron Chiarello, Christopher Nack**
Copy to	**Hunter Alderman, Erik Lanahan**

List of Figures

List of Attachments

Date November 26, 2024

Ramboll
333 West Washington Street
Syracuse, NY 13202
USA

T315-956-6100
F315-463-7554
https://ramboll.com

Ramboll performed a wetland delineation in June 2025 for the Cayuga Operating Company facility at 228 Cayuga Dr, Lansing, NY 14882 (**Figure 01**). The Site is approximately 194.1± acres (See **Figure 01**) and consists of inactive agricultural land, industrial property, and undeveloped woodland. The Site was evaluated for the potential presence of wetlands and waters, as regulated by the U.S Army Corps of Engineers (USACE) and the New York State Department of Environmental Conservation (NYSDEC). The delineation was conducted by Ramboll wetland biologists trained in wetlands identification and delineation, between June 5 and June 13, 2025.

Methodology

The USACE and U.S. Environmental Protection Agency (USEPA) jointly define wetlands as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions [33 Code of Federal Regulation (CFR) 328.3(b), 40 CFR 230.3(t)]. Environmental criteria for wetlands, as defined by the USACE, include:

the dominant vegetation is hydrophytic (water tolerant).
the soils present have been classified as hydric or possess reducing soil characteristics.
the area is either permanently or periodically inundated at mean water depths less than or equal to 6.6 feet, or the soil is permanently or periodically saturated to the surface during the growing season.

To make a positive wetland determination, a minimum of one wetland indicator from each criterion (vegetation, soil and hydrology) must be found. The Routine Determination Method outlined in USACE (1987) was used in conjunction with procedures outlined in the Regional Supplement to assess the presence/absence of wetlands at the proposed project location.

Routine determinations involve rapidly applied methods that result in sufficient qualitative data for identifying wetland and non-wetland areas. The Routine Determination Method consists of a combination of off-site data review and on-site investigation. Off-site activities included an evaluation of available information regarding environmental conditions at the proposed project location. On-site activities consisted of collecting the field data required to identify and delineate wetland boundaries. Field data were gathered at sampling points chosen in potential wetland areas as well as in upland areas.

The wetlands survey efforts for this project included the following:

A desktop review of the Site using information obtained from the United States Fish and Wildlife Service (USFWS), United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey, Federal Emergency Management Agency (FEMA) and NYSDEC.
A site reconnaissance survey for the presence or absence of natural resources of concern (wetlands, waters of the United States, floodplains) and delineation of wetlands that meet the federal criteria outlined in USACE 1987 and 2012.

Desktop Review

Data and information obtained as part of the desktop review included the following:

National Wetland Inventory (NWI) Maps, as presented in the NWI Wetland Mapper. https://www.fws.gov/wetlands/Data/Mapper.html (USFWS 2024)

New York State Freshwater Wetland (NYSFW) Maps and mapped streams, as presented in the NYSDEC Environmental Resource Mapper (ERM). http://www.dec.ny.gov/gis/erm/ (NYSDEC 2024)

Custom Web Soil Survey obtained from the U.S. Department of Agriculture National Resources Conservation Service (USDA-NRCS). http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx (USDA-NRCS 2024).

FEMA Flood Rate Insurance Map (FIRM) for Clay, NY. https://msc.fema.gov/portal/search#searchresultsanchor (FEMA 2024)

Historical Aerial Photograph Imagery obtained from United States Geological Survey (USGS) Earth Explorer (USGS 2024) https://eathexplorer.usgs.gov/.

Based on the review of the NWI Mapping for the Site (**Attachment 4**), one riverine habitat (R4SBC) is located on the northwest corner of the property. Based on the review of the NYSDEC ERM (**Attachment 4**), two streams were identified within the Site boundaries:

- Tributary of Cayuga Lake, Water Index Number Ont. 66-12-P 296 (Trib. 45), a NYS Class C stream. Trib. 45 corresponds with the NWI riverine habitat (R4SBC) noted above.
- Tributary of Cayuga Lake, Water Index Number Ont. 66-12-P 296 (Trib. 45a), a NYS Class C stream.

Based on the review of the NYSDEC ERM (**Attachment 4**), no previously mapped wetlands were located on the Site. However, the Informational Freshwater Wetland Mapping layer of the ERM indicates 31 informational wetlands on the Site. The Informational Freshwater Wetland Mapping layer is intended to be used for informational purposes in identifying the general location and extent of potential freshwater wetlands. As mapped, informational wetlands do not represent state of federally regulated wetlands. However, informational wetlands require further desktop and field investigation to determine jurisdictional standing

Based on the FEMA FIRM mapping for the Site (**Attachment 5**), the Site is not located within a 100- or 500-year mapped flood zone.

Review of mapped soil descriptions from the Web Soil Survey (USDA-NRCS 2024) indicated that soils within the Site were dominated by Hudson, Hudson-Cayuga and Ovid soils, which are non-hydric. See **Attachment 3** for a complete list of soils identified within the Site.

On-Site Investigation

Ramboll biologists performed the field activities associated with wetland presence/absence survey between June 5 and June 13, 2025. On-site activities included the evaluation of vegetative communities, the soil substrate, and hydrologic characteristics to identify the presence/absence of wetlands. Field data were gathered at several locations within the parcel boundaries (see **Figure 02**). Wetlands were identified based on the presence of each of the following three parameters pursuant to the USACE methodology: hydric soils; a vegetative community dominated by hydrophytes; and inundated or saturated soil conditions, and/or indicators of hydrologic patterns.

Vegetative, soil, and hydrologic conditions were recorded on Wetland Data Forms for the USACE-delineation methodology specified in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*. These forms are included as **Attachment 1**. A description of the vegetative, soil and hydrologic conditions is provided in the following sections and photograph logs documenting field activities are included as **Attachment 2**.

Soils
Observed soil characteristics were compared to the mapped soil descriptions from the Web Soil Survey (USDA-NRCS 2024) and evaluated for hydric soil indicators as described in USACE (1987 and 2012). Soil physical characteristics were evaluated during the investigation by excavating to a depth needed to evaluate potential hydric soil indicators below ground surface (generally 18 inches, unless refusal occurred). Soil color was evaluated using Munsell Soil Color Charts (Munsell 2000). Soils that exhibit hydric soil characteristics, such as low chroma colors and/or evidence of reducing conditions (e.g., presence of redox concentrations/depletions or gleying), met the hydric soil criterion per USACE (1987 and 2012).

Site soils observed during excavations generally consisted of variable depths of loamy clay with and without gravel/shale. Soils from excavations within wetlands exhibited conditions consistent with depleted matrix criteria within their profiles. Characteristics observed at each sampling point are summarized on the Wetland Data Forms included as **Attachment 1**.

Vegetation
The criterion for wetland vegetation is a dominance of hydrophytic species. A species is considered hydrophytic per USACE (1987 and 2012) if it is classified per the National Wetland Plant List (USACE 2022) as obligate (OBL), facultative wet (FACW) or facultative (FAC). A dominance of hydrophytes requires that more than 50% of the vegetative species in an area are classified as hydrophytic.

In accordance with USACE (1987 and 2012), observations of vegetation focus on dominant vegetative species in four categories: trees (minimum 3-inch diameter at breast height), saplings/shrubs (less than 3-inch diameter and greater than 3.28 feet tall), herbs and woody vines. Observed vegetative species and their associated indicator statuses are listed in the Wetland Data Forms (**Attachment 1**). The Site wetland vegetation ranged from emergent species (grasses, wildflowers and sedges), shrub species (dogwoods, buckthorn and tree samplings) and trees (ash, elms and hickories).

Hydrology
The Site was examined for field indicators of wetland hydrology. According to USACE (1987 and 2012), wetland hydrology consists of permanent or periodic inundation, drainage patterns or soil saturation to the surface during the growing season. If these indicators were present within the sampling points, the hydrology criterion for wetlands was met.

Generally, the Site's wetlands receive hydrologic input from overland flow from adjacent upland areas. Hydrology moved generally from east to west, towards Cayuga Lake. The Site is not within a 100- or 500-year mapped flood zone. Hydrologic indicators observed within the sampling points were recorded on Wetland Data Forms (**Attachment 1**). As previously discussed, two tributaries to Cayuga Lake were identified during the desktop review, with flows generally to the west. Tributary 45 (CCE-PS1) was delineated at the northwest corner of the Site as shown in **Figure 02**. Tributary 45a is mapped within a previously disturbed area and no channel associated with the tributary was identified during the delineation efforts. Two perennial, 4 intermittent and 18 ephemeral streams were identified within the

site boundaries with flow generally to the west towards Cayuga Lake (**Figure 02**). In addition, 8 roadside ditches were identified. Total linear feet for each stream and ditch feature delineated are provided in **Table 1**.

Table 1. Total linear feet (lf) for each stream delineation and total lf for each stream type within the Site.

STREAM ID	EPHEMERAL LF	INTERMITTENT LF	PERENNIAL LF
CCE-EP1	532.89	--	--
CCE-EP1A	11.61	--	--
CCE-EP2	225.91	--	--
CCE-EP3	296.92	--	--
CCE-EP4	835.01	--	--
CCE-EP5	859.64	--	--
CCE-EP6	1,835.63	--	--
CCE-EP7	439.68	--	--
CCE-EP8	1,020.73	--	--
CCE-EP9	279.82	--	--
CCE-EP10	176.79	--	--
CCE-EP11	873.69	--	--
CCE-EP12	794.50	--	--
CCE-EP13	1,728.08	--	--
CCE-EP14	1,056.80	--	--
CCE-EP15	654.78	--	--
CCE-EP16	594.42	--	--
CCE-EP17	294.16	--	--
CCE-EP18	294.16	--	--
CCE-IS1	--	729.98	--
CCE-IS2	--	1,133.57	--
CCE-IS2	--	1,042.44	--
CCE-PS1	--	--	173.74
CCE-PS2	--	--	--
TOTAL	12,511.05	2,905.99	173.74

Observed Wetlands
Sampling points were identified as wetland when all three wetland criteria (hydric soils, dominance of hydrophytes and wetland hydrology) were met in the area represented. The wetland boundary and sampling point locations were surveyed by Ramboll using a hand-held Global Positioning System (GPS) unit with points subsequently corrected to provide sub-meter accuracy. The delineated wetland boundaries were flagged in the field with flagging tape and recorded digitally using the sub-meter accurate GPS. Electronic files of these points are available for use during field verification.

Figure 01 illustrates the limits of wetland boundaries identified within the Site. 24 wetland habitats (palustrine forested, or PFO; palustrine scrub-shrub or PSS; palustrine emergent, or PEM) were identified (see **Figure 02**). The total acreage of wetland identified within the Site corridor is 9.83 acres (**Table 2**). In addition to the delineated wetlands, 4 wetland areas identified on the NYSDEC's ERM information wetland layer were identified but not delineated. These wetlands are indicated in **Figure 02**.

Table 2. Total and cover type acreages for each wetland delineation and total wetland acreage withing the Site.

WETLAND ID	ACREAGE	PEM ACREAGE	PSS ACREAGE	PFO ACREAGE
W1	0.03	--	--	0.03
W2	0.02	--	--	0.02
W3	0.05	--	0.05	--
W4	0.05	--	0.05	--
W5	1.06	0.70	0.36	--
W6	0.02	0.02	--	--
W7	0.05	--	0.05	--
W8	0.03	--	--	0.03
W9	0.17	--	0.17	--
W10	0.01	--	0.01	--
W11	0.04	--	0.04	--
W12	1.37	--	0.77	0.60
W13	0.36	0.36	--	--
W14	0.18	--	0.18	--
W15	0.03	--	0.03	--
W16	0.06	--	0.06	--
W17	0.10	--	0.10	--
W18	0.07	--	0.07	--
W19	0.71	0.04	0.67	--
W20	0.18	--	0.18	--
W21	0.45	--	0.45	--
W22	0.12	0.12	--	--
W23	1.32	1.32	--	--
W30	3.36	1.64	1.71	--

TOTAL	9.83	4.20	4.95	0.68

The following is a brief description of the species and general hydrologic conditions associated with each wetland habitat delineated within the Site:

W1–W1 (**Figure 02**) is 0.03 acres and is located on the northeast corner of the Site, north of CCE-EP1. W1 consists of PFO habitat (**Figure 02**). Hydrologic flow of W1 is generally to the south towards CCE-EP1, which ultimately flows to Cayuga Lake. Species associated with W1 habitats include (soil boring – SB-CCE-01):

Rhamnus cathartica - European Buckthorn – FAC
Tilia americana - American Basswood – FACU
Carya ovata - Shag-Bark Hickory – FACU
Impatiens capensis - Spotted Touch-Me-Not – FACW

W2 – W2 (**Figure 02**) is 0.02 acres and is located northeast portion of the Site, south of CCE-EP1. W2 consists of PFO habitat (**Figure 02**). Hydrologic flow of W2 is generally to the north towards CCE-EP1, which ultimately flows to Cayuga Lake. Species associated with W2 habitats include (soil boring – SB-CCE-02):

Rhamnus cathartica - European Buckthorn – FAC
Carya ovata - Shag-Bark Hickory – FACU
Equisetum arvense - Field Horsetail - FAC

W3 – W3 (**Figure 02**) is 0.05 acres and is a linear wetland located in the northern portion of the Site. W3 consists of PSS habitats (**Figure 02**) and is located in the downstream portion of Ditch 2. Hydrologic flow of W3 is generally to the west, though the wetland appears to be isolated. Species associated with W3 habitats include (soil boring – SB-CCE-04):

Acer rubrum - Red Maple – FAC
Quercus rubra - Northern Red Oak – FACU
Rhamnus cathartica - European Buckthorn – FAC

W4 – W4 (**Figure 02**) is 0.05 acres and is a linear wetland located in the northern portion of the Site. W4 consists of PSS habitats (**Figure 02**) and is located at the west end of Ditch 3. Hydrologic flow of W4 is generally to the west, though the wetland appears to be isolated. Species associated with W4 habitats include (soil boring – SB-CCE-05):

Juglans nigra - Black Walnut – FACU
Rhamnus cathartica - European Buckthorn – FAC
Teucrium canadense - American Germander - FACW

W5 – W5 (**Figure 02**) is 1.06 acres and is located in the western portion of the Site. W5 consists of 0.70 acres of PEM and 0.36 acres of PSS habitats (**Figure 02**). Hydrologic flow of W5 is generally to the west, discharging to CCE-EP5. Species associated with W5 habitats include (soil boring – SB-CCE-11):

Agrostis gigantea - Black Bent – FACW

Scirpus atrovirens - Dark-Green Bulrush – OBL

W6 – W6 (**Figure 02**) is 0.02 acres and is located in the western portion of the Site downstream of W5 on CCE-EP5. W6 consists of 0.02 acres of PEM habitat (**Figure 02**). Hydrologic flow of W6 is generally to the west, discharging to CCE-EP5. Species associated with W6 habitats include (soil boring – SB-CCE-07):

Impatiens capensis - Spotted Touch-Me-Not – FACW
Lycopus americanus - Cut-Leaf Water-Horehound - OBL
Lemna minor - Common Duckweed – OBL
Rhamnus cathartica - European Buckthorn – FAC

W7 – W7 (**Figure 02**) is 0.02 acres and is located in the western portion of the Site downstream of W5 on the edge of CCE-EP5. W7 consists of 0.05 acres of PSS habitat (**Figure 02**). Hydrologic flow of W7 is generally to the north, discharging to CCE-EP5. Wetland area appears to be impacted from previous activities. Species associated with W7 habitats include (soil boring – SB-CCE-08):

Rhamnus cathartica - European Buckthorn – FAC
Bidens frondosa - Devil's-Pitchfork – FACW
Solidago rugosa - Wrinkle-Leaf Goldenrod - FAC

W8 – W8 (**Figure 02**) is 0.03 acres and is located in the western portion of the Site north of CCE-EP5. W8 consists of 0.02 acres of PFO habitat (**Figure 02**). Hydrologic flow of W8 is generally to the west. W8 is positioned at the base of a berm and appears to be isolated. Species associated with W8 habitats include (soil boring – SB-CCE-09):

Salix nigra - Black Willow – OBL
Rhamnus cathartica - European Buckthorn – FAC

W9 – W9 (**Figure 02**) is 0.17 acres and is located in the southeastern portion of the Site and consists of PSS habitat (**Figure 02**). Hydrologic flow of W9 is generally to the west where it flows into CCE-EP6. Species associated with W9 habitats include (soil boring – SB-CCE-13):

Fraxinus pennsylvanica - Green Ash – FACW
Rhamnus cathartica - European Buckthorn – FAC
Onoclea sensibilis - Sensitive Fern – FACW
Equisetum arvense - Field Horsetail - FAC

W10 & W11– W10 (**Figure 02**) is 0.01 acres and W11 is 0.04 acres. These wetlands are located along CCE-EP8. Both wetlands consist of PSS habitat (**Figure 02**). Hydrologic flow of these wetlands is generally to the west to CCE-EP8. Species associated with these wetland habitats include (soil boring – SB-CCE-14 & SB-CCE-15):

Fraxinus pennsylvanica - Green Ash – FACW
Rhamnus cathartica - European Buckthorn – FAC
Onoclea sensibilis - Sensitive Fern – FACW

W12 – W12 (**Figure 02**) is 1.37 acres and is located in the eastern portion of the Site at the upstream end of CCE-EP8 and consists of 0.77 acres of PSS and 0.60 acres of PFO habitat (**Figure 02**). Hydrologic flow of W12 is generally to the west where it flows into CCE-EP8. Species associated with W12 habitats include (soil boring – SB-CCE-16):

Fraxinus pennsylvanica - Green Ash – FACW
Rhamnus cathartica - European Buckthorn – FAC
Onoclea sensibilis - Sensitive Fern – FACW
Equisetum arvense - Field Horsetail – FAC

W13 – W13 (**Figure 02**) is 0.36 acres and is located in the central portion of the Site downhill of the terminal end of CCE-EP10 and consists of PEM habitat (**Figure 02**). Hydrologic flow of W13 is generally to the west towards CCE-IS4. Species associated with W13 habitats include (soil boring – SB-CCE-17):

Eleocharis palustris - Common Spike-Rush – OBL
Rhamnus cathartica - European Buckthorn – FAC
Carex vulpinoidea - Common Fox Sedge – OBL
Agrostis gigantea - Black Bent - FACW

W14 & W15– W14 (**Figure 02**) is 0.18 acres and W15 is 0.03 acres. These wetlands are adjacent to CCE-EP11. Both wetlands consist of PSS habitat (**Figure 02**). Hydrologic flow of these wetlands is generally to the south towards CCE-EP11. Species associated with these wetland habitats include (soil boring – SB-CCE-19):

Fraxinus pennsylvanica - Green Ash – FACW
Rhamnus cathartica - European Buckthorn – FAC
Onoclea sensibilis - Sensitive Fern – FACW

W16 & W17– W16 (**Figure 02**) is 0.06 acres and W17 is 0.10 acres. W16 is located along CCE-EP12 and W17 is downhill of the terminal point of CCE-EP12. Both wetlands consist of PSS habitat (**Figure 02**). Hydrologic flow of these wetlands is generally to the west towards CCE-IS4. Species associated with these wetland habitats include (soil boring – SB-CCE-20 & SB-CCE-21):

Eleocharis acicularis - Needle Spike-Rush – OBL
Rhamnus cathartica - European Buckthorn – FAC
Agrostis gigantea - Black Bent – FACW
Onoclea sensibilis - Sensitive Fern – FACW

W18 & W19– W18 (**Figure 02**) is 0.07 acres and W19 is 0.71 acres. These wetlands are located along CCE-EP13. W18 consists of only PSS habitat (**Figure 02**), while W19 consists of 0.04 acres of PEM and 0.67 acres of PSS habitat. Hydrologic flow of these wetlands is generally to the west along CCE-EP13. Species associated with these wetland habitats include (soil boring – SB-CCE-23 & SB-CCE-33):

Matteuccia struthiopteris - Ostrich Fern – FAC
Rhamnus cathartica - European Buckthorn – FAC
Epilobium coloratum- Purple-Leaf Willowherb – OBL

W20 & W21– W20 (**Figure 02**) is 0.18 acres and W21 is 0.45 acres. These wetlands are located upstream of CCE-EP14. Both wetlands consist of PSS habitat (**Figure 02**). Hydrologic flow of these wetlands is generally to the west along CCE-EP14. W21 flows directly into CCE-EP14, while W20 appears to flow towards W21. Species associated with these wetland habitats include (soil boring – SB-CCE-24 & SB-CCE-25):

Eleocharis palustris - Common Spike-Rush – OBL
Rhamnus cathartica - European Buckthorn – FAC
Carex vulpinoidea - Common Fox Sedge – OBL

W22 & W23– W22 (**Figure 02**) is 0.12 acres and W23 is 1.32 acres. These wetlands are located in an inactive agricultural field located on the northeastern portion of the Site. Both wetlands consist of PEM habitat (**Figure 02**). Hydrologic flow of these wetlands is generally to the west and down gradient with discharge from these wetlands occurring as overland flow. Both of these wetlands are in a portion of the agricultural field that appears to have been scraped of topsoil based on the soil characteristics observed (very gravelly); changes in topography along the edges of the field and wetlands; grounds scars observed that are consistent with apparent use of construction equipment; and evidence of ground scarring on aerial photographs. Species associated with these wetland habitats include (soil boring – SB-CCE-24 & SB-CCE-25):

Juncus tenuis – Path rush – FAC
Phalaris arundinacea – Reed canary grass – FACW
Carex vulpinoidea - Common Fox Sedge – OBL

W30 – W30 (**Figure 02**) is 3.36 acres and is located in the western portion of the Site uphill of CCE-EP17 and consists of 1.64 acres of PEM and 1.71 acres of PSS habitat (**Figure 02**). Hydrologic flow of W30 is generally to the west where it flows into CCE-EP17. The area appears to be previously disturbed and soil in some areas appeared to be scrapped. Species associated with W30 habitats include (soil boring – SB-CCE-41):

Eleocharis tenuis - Slender Spike-Rush – FACW
Rhamnus cathartica - European Buckthorn – FAC
Euthamia graminifolia - Flat-Top Goldentop – FAC
Fraxinus pennsylvanica - Green Ash - FACW

Summary

Ramboll biologists performed a wetlands presence/absence survey between June 5 and June 13, 2024 within the approximately 194.1 acre Site associated with the Cayuga Operating Company facility at 228 Cayuga Dr, Lansing, NY 14882 (**Figure 01**). **Figure 02** of this memorandum illustrates the limits of habitats delineated within the Site. Twenty-four (24) wetland habitats totaling 9.83 acres were identified within the Site. The Cowardin cover types of each wetland identified during the wetland delineation and consisted of palustrine forested (0.68 acres), palustrine scrub-shrub (4.95 acres) and palustrine emergent (4.20 acres) habitats. In addition, approximately 12,511 linear feet (lf) of ephermeral, 2,906 lf of intermittent and 174 lf of perennial stream habitat was delineated.

References

Munsell Color. 2000. *Munsell Soil Color Charts*. Gretag Macbeth. New Windsor, New York.

New York State Department of Environmental Conservation (NYSDEC). 2024. Environmental Resource Mapper. http://www.dec.ny.gov/gis/erm /.

U.S. Army Corps of Engineers (USACE). 2022. National Wetland Plant List, version 3.6 https://wetland-plants.sec.usace.army.mil/

USACE. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*. ERDC/EL TR-09-19. USACE's Engineer Research and Development Center, Vicksburg, MS. October.

USACE. 2007. Jurisdictional Determination Form Instructional Guidebook. May 30, 2007.

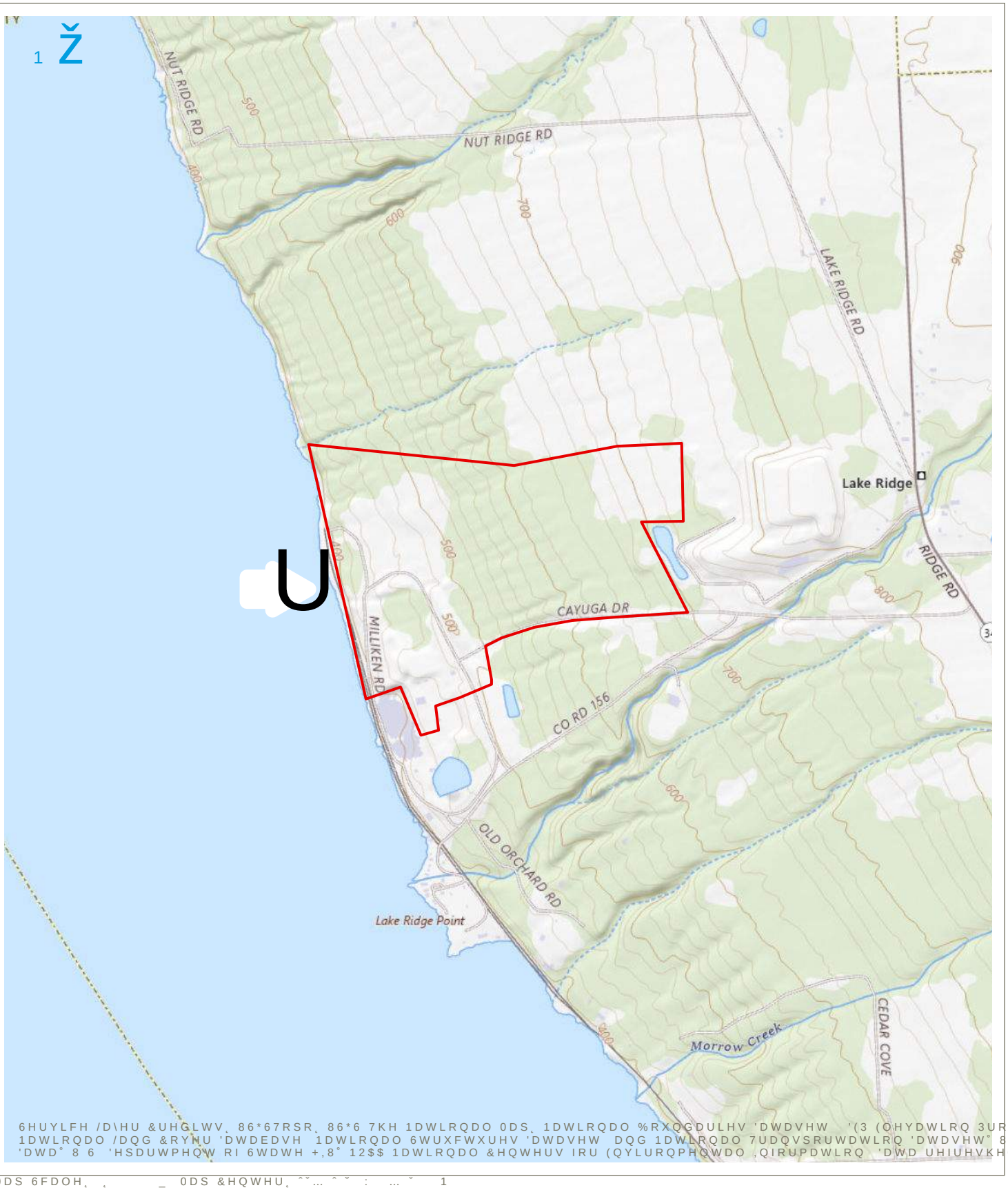
USACE. 1987. *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

U.S. Department of Agriculture Natural Resources Conservation Service (USDA-NRCS). 2024. Web Soil Survey. http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

U.S. Fish and Wildlife Service (USFWS). 2024. National Wetlands Inventory. Wetlands Mapper. http://www.fws.gov/wetlands/Data/Mapper.html .

USACE (United States Army Corps of Engineers). 1999. The Highway Methodology Workbook Supplement: Wetlands Functions and Values, a Descriptive Approach. NAEEP-360-1-30a. New England District

FIGURES



6HUYLFH /D\HU &UHGLWV, 86*67RSR, 86*6 7KH 1DWLRQDO 0DS, 1DWLRQDO %RXQGDULHV 'DWDVHW '(3 (OHYDWLRQ 3URJUD
1DWLRQDO /DQG &RYHU 'DWDEDVH 1DWLRQDO 6WUXFWXUHV 'DWDVHW DQG 1DWLRQDO 7UDQVSRUWDWLRQ 'DWDVHW, 86*6
'DWD, 8 6 'HSDUWPHQW RI 6WDWH +,8, 12$$ 1DWLRQDO &HQWHUV IRU (QYLURQPHQWDO ,QIRUPDWLRQ 'DWD UHIUHVKHG)H

0DS 6FDOH, 1 _ 0DS &HQWHU,

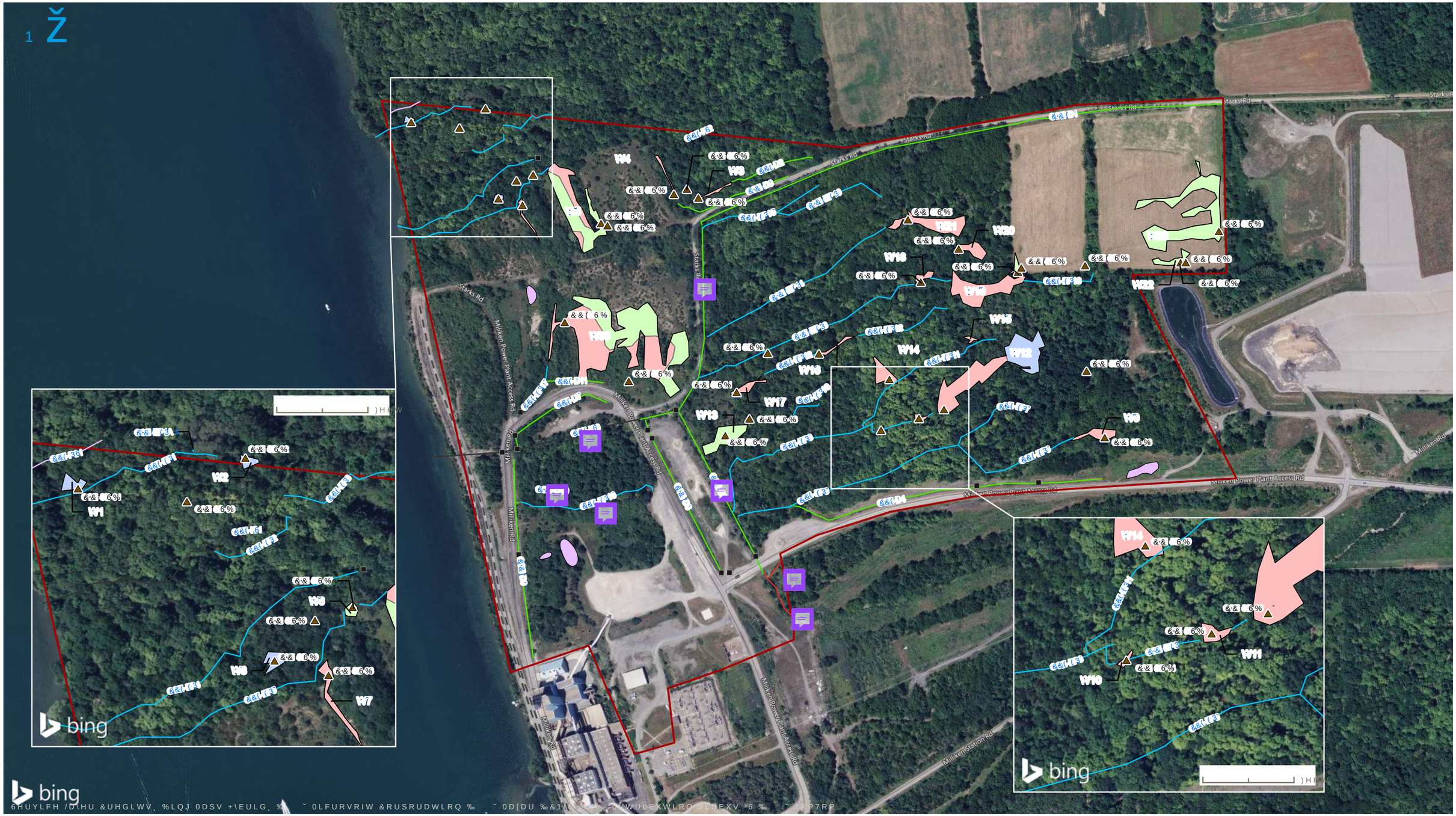
6,7(/2&$7,21),*85(

5$0%2// $0(5,&$6
(1*,1((5,1* 62/87,216 ,1
$ 5$0%2// &203$1<

&D\XJD 2SHUDWLQJ &RPSDQ\
&D\XJD 'U
/DQVLQJ 1<

.(< 0$3 QRW WR VFDOH)HHW

RAMBOLL



1RWHV
3RWHQWLDO ZHWODQGV ZHUH REVHUYHG LQ WKH ILHOG EXW QRW GHOLQHDWHG

'(/,1($7(' :(7/$1'6
$1' 675($06

),*85(

5$0%2// $0(5,&$6
(1*,1((5,1* 62/87,216 ,1
$ 5$0%2// &203$1<

&D\XJD 2SHUDWLQJ &RPSDQ\
&D\XJD 'U
/DQVLQJ 1<

RAMBOLL

ATTACHMENT 1
WETLAND DATA FORMS

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering | City/County: Lansing/Tompkins | Sampling Date: 6/4/2025
Applicant/Owner: Beowulf | State: NY | Sampling Point: CCE-SB-01
Investigator(s): Nathan Turk | Christopher Nack | Section, Township, Range:
Landform (hillside, terrace, etc.): Upper hill slope | Local relief (concave, convex, none): concave | Slope %: 3
Subregion (LRR or MLRA): LRR L, MLRA 101 | Lat: 42.61058395 | Long: -76.63815644 | Datum: NAD 83
Soil Map Unit Name: Hudson-Cayuga silt loams, 2 to 6 percent slopes | NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than usual Spring season.
Wet boring for CCE-W1. Upper slope position saturated area upstream of channelized feature running downslope into Cayuga Lake.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 1.5
Water Table Present?	Yes X	No ____	Depth (inches): 1
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 1

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: CCE-SB-01

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Rhamnus cathartica*	30	Yes	FAC
2. *Tilia americana*	15	Yes	FACU
3. *Carya ovata*	10	No	FACU
4.			
5.			
6.			
7.			
	55	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	10	Yes	FAC
2. *Carya ovata*	5	Yes	FACU
3. *Quercus rubra*	1	No	FACU
4.			
5.			
6.			
7.			
	16	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Impatiens capensis*	45	Yes	FACW
2. *Melissa officinalis*	10	No	UPL
3. *Carex grisea*	10	No	FAC
4. *Tridens flavus*	10	No	UPL
5. *Ranunculus acris*	3	No	FAC
6. *Rhamnus cathartica*	2	No	FAC
7. *Alliaria petiolata*	2	No	FACU
8. *Solidago lepida*	2	No	FACU
9. *Rumex crispus*	2	No	FAC
10. *Carex intumescens*	2	No	FACW
11.			
12.			
	88	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1. *Vitis labrusca*	2	No	FACU
2.			
3.			
4.			
	2	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	47	x 2 =	94
FAC species	57	x 3 =	171
FACU species	35	x 4 =	140
UPL species	20	x 5 =	100
Column Totals:	159	(A)	505 (B)

Prevalence Index = B/A = 3.18

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: CCE-SB-01

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 5	10YR 4/1	0					Loamy/Clayey	
5 - 12	10YR 4/2	98	10YR 4/6	2	C	M	Loamy/Clayey	
12 - 18	10YR 4/1	95	10YR 4/6	5	C	M	Loamy/Clayey	

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing/Tompkins. Sampling Date: 6/4/2025

Applicant/Owner: Beowulf State: NY Sampling Point: SB-CCE-02

Investigator(s): Nathan Turk|Christopher Nack Section, Township, Range:

Landform (hillside, terrace, etc.): Lake plain Local relief (concave, convex, none): concave Slope %: 2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.61076873 Long: -76.6367922 Datum: NAD 83

Soil Map Unit Name: Hudson-Cayuga silt loams, 2 to 6 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Wet boring for CCE-W2. Wet area upslope of EP1.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 0.5
Water Table Present?	Yes X	No ____	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SB-CCE-02

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Rhamnus cathartica*	60	Yes	FAC
2. *Carya ovata*	5	No	FACU
3.			
4.			
5.			
6.			
7.			
	65	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	15	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Equisetum arvense*	20	Yes	FAC
2. *Parthenocissus quinquefolia*	15	Yes	FACU
3. *Carex grayi*	10	No	FACW
4. *Agrostis gigantea*	10	No	FACW
5. *Geum canadense*	5	No	FAC
6. *Impatiens capensis*	5	No	FACW
7.			
8.			
9.			
10.			
11.			
12.			
	65	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	25	x 2 =	50
FAC species	100	x 3 =	300
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	145 (A)		430 (B)

Prevalence Index = B/A = 2.97

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: SB-CCE-02

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 4	10YR 4/1	100					Loamy/Clayey	
4 - 18	10YR 4/2	95	10YR 5/6	5	C	M	Loamy/Clayey	

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing/Cayuga Sampling Date: 6/4/2025

Applicant/Owner: State: NY Sampling Point: SB-CCE-03

Investigator(s): Nathan Turk|Christopher Nack|Alan Gorski|Adam Go Section, Township, Range:

Landform (hillside, terrace, etc.): Lake plain Local relief (concave, convex, none): none Slope %: 2

Subregion (LRR or MLRA): Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SB-CCE-03

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharum*	70	Yes	FACU
2. *Pinus strobus*	30	Yes	FACU
3. *Juniperus virginiana*	10	No	FACU
4.			
5.			
6.			
7.			
	110	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Acer saccharum*	10	Yes	FACU
2. *Quercus alba*	5	Yes	FACU
3. *Rhamnus cathartica*	3	No	FAC
4.			
5.			
6.			
7.			
	18	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Fragaria virginiana*	3	Yes	FACU
2. *Ilex opaca*	2	Yes	FACU
3. *Quercus alba*	2	Yes	FACU
4. *Rhamnus cathartica*	2	Yes	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	9	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 12.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	132	x 4 =	528
UPL species	0	x 5 =	0
Column Totals:	137 (A)		543 (B)

Prevalence Index = B/A = 3.96

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ___ No X

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

SOIL

Sampling Point: SB-CCE-03

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 4	10YR 4/4	100					Loamy/Clayey	
4 - 18	10YR 5/4	100					Loamy/Clayey	

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing Sampling Date: 6/5/2025
Applicant/Owner: State: NY Sampling Point: SB-CCE-04
Investigator(s): Nathan Turk|Christopher Nack Section, Township, Range:
Landform (hillside, terrace, etc.): Lake plain Local relief (concave, convex, none): concave Slope %: 5
Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.60955979 Long: -76.63288698 Datum: NAD 83
Soil Map Unit Name: Hudson-Cayuga silt loams, 6 to 12 percent slopes, eroded NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Wet boring for CCE-W3.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 0.5
Water Table Present?	Yes X	No ____	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SB-CCE-04

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	10	Yes	FAC
2. *Quercus rubra*	10	Yes	FACU
3. *Juglans nigra*	5	Yes	FACU
4.			
5.			
6.			
7.			
	50	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	10	Yes	FAC
2. *Fraxinus pennsylvanica*	5	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	30	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Solidago gigantea*	5	Yes	FACW
2. *Eupatorium perfoliatum*	5	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	20	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71.4% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	20	x 3 =	60
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	50 (A)		150 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: SB-CCE-04

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 16	10YR 3/1	100					Muck	
16 - 18								

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing / Tompkins Sampling Date: 6/5/2025
Applicant/Owner: Beowulf State: NY Sampling Point: SB-CCE-05
Investigator(s): Nathan Turk Section, Township, Range:
Landform (hillside, terrace, etc.): Lake plain Local relief (concave, convex, none): concave Slope %: 2
Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.6096105 Long: -76.63333601 Datum: NAD 83
Soil Map Unit Name: Hudson silty clay loam, 2 to 6 percent slopes NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Wet boring for W4

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SB-CCE-05

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juglans nigra*	15	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	15	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	15	Yes	FAC
2. *Fraxinus pennsylvanica*	5	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	20	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Parthenocissus quinquefolia*	30	Yes	FACU
2. *Teucrium canadense*	30	Yes	FACW
3. *Phalaris arundinacea*	10	No	FACW
4. *Bidens frondosa*	10	No	FACW
5. *Solidago gigantea*	5	No	FACW
6. *Geum canadense*	5	No	FAC
7. *Alliaria petiolata*	3	No	FACU
8.			
9.			
10.			
11.			
12.			
	93	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1. *Toxicodendron radicans*	10	Yes	FAC
2. *Vitis labrusca*	5	Yes	FACU
3.			
4.			
	15	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 42.9% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	60	x 2 =	120
FAC species	20	x 3 =	60
FACU species	48	x 4 =	192
UPL species	0	x 5 =	0
Column Totals:	128	(A)	372 (B)

Prevalence Index = B/A = 2.91

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** X

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

SOIL INDICATORS FLAGGED FOR QAQC

SOIL

Sampling Point: SB-CCE-05

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 3	10YR 4/1	100					Loamy/Clayey	
3 - 10	10YR 4/1	97	10YR 5/6	3	C	PL	Loamy/Clayey	
10 - 18	10YR 4/2	100					Loamy/Clayey	Gravelly shale present

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing Sampling Date: 6/5/2025
Applicant/Owner: State: NY Sampling Point: SB-CCE-06
Investigator(s): Nathan Turk|Christopher Nack Section, Township, Range:
Landform (hillside, terrace, etc.): Lake plain Local relief (concave, convex, none): none Slope %: 2
Subregion (LRR or MLRA): Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

UPL boring for wetlands 3 and 4

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SB-CCE-06

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Carya ovata*	30	Yes	FACU
2. *Quercus rubra*	10	Yes	FACU
3. *Quercus alba*	5	No	FACU
4. *Juniperus virginiana*	5	No	FACU
5.			
6.			
7.			
	50	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Fragaria virginiana*	20	Yes	FACU
2. *Parthenocissus quinquefolia*	5	Yes	FACU
3. *Fraxinus pennsylvanica*	5	Yes	FACW
4. *Rosa multiflora*	5	Yes	FACU
5. *Solidago altissima*	5	Yes	FACU
6. *Rubus occidentalis*	3	No	ubus occidentalis
7. ~~*Solidago rugosa*~~	~~3~~	~~No~~	~~FAC~~
8. ~~*Carex cephalophora*~~	~~2~~	~~No~~	~~FACU~~
9. ~~*Oxalis stricta*~~		~~No~~	~~FACU~~
10.			
11.			
12.			
	48	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	13	x 3 =	39
FACU species	87	x 4 =	348
UPL species	0	x 5 =	0
Column Totals:	105 (A)		397 (B)

Prevalence Index = B/A = 3.78

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ___ No X

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

SOIL

Sampling Point: SB-CCE-06

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 3	10YR 4/3	100					Loamy/Clayey	
3 - 10	10YR 4/6	100					Loamy/Clayey	
10 - 18	10YR 6/3	100					Sandy	Shale gravel present

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing Sampling Date: 6/5/2025
Applicant/Owner: Beowulf State: NY Sampling Point: CCE-SB-07
Investigator(s): Christopher Nack|Nathan Turk Section, Township, Range:
Landform (hillside, terrace, etc.): Lake plain Local relief (concave, convex, none): concave Slope %: 2
Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.60987019 Long: -76.63591804 Datum: NAD 83
Soil Map Unit Name: Rock outcrop NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Wet boring for W6

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 0.5
Water Table Present?	Yes X	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: CCE-SB-07

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	40	Yes	FAC
2. *Fraxinus pennsylvanica*	10	No	FACW
3. *Juniperus virginiana*	5	No	FACU
4. *Rosa multiflora*	5	No	FACU
5.			
6.			
7.			
	60 =Total Cover		
Herb Stratum (Plot size: 5)			
1. *Lemna minor*	35	Yes	OBL
2. *Lycopus americanus*	10	No	OBL
3. *Impatiens capensis*	10	No	FACW
4. *Bidens frondosa*	5	No	FACW
5. *Solidago altissima*	5	No	FACU
6. *Bromus inermis*	5	No	UPL
7.			
8.			
9.			
10.			
11.			
12.			
	70 =Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	25	x 2 =	50
FAC species	40	x 3 =	120
FACU species	15	x 4 =	60
UPL species	5	x 5 =	25
Column Totals:	130 (A)		300 (B)

Prevalence Index = B/A = 2.31

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: CCE-SB-07

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 4/1	95	10YR 5/6	5	C	M	Loamy/Clayey	
6 - 18	10YR 5/4	100					Loamy/Clayey	

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering | City/County: Lansing / Tompkins | Sampling Date: 6/5/2025
Applicant/Owner: Beowulf | State: NY | Sampling Point: CCE-SB-08
Investigator(s): Christopher Nack|Nathan Turk | Section, Township, Range:
Landform (hillside, terrace, etc.): Lake plain | Local relief (concave, convex, none): concave | Slope %: 2
Subregion (LRR or MLRA): LRR L, MLRA 101 | Lat: 42.60946083 | Long: -76.63611337 | Datum: NAD 83
Soil Map Unit Name: Hudson-Cayuga silt loams, 2 to 6 percent slopes | NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Wetland boring for W7

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 0.5
Water Table Present?	Yes X	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: CCE-SB-08

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Rhamnus cathartica*	35	Yes	FAC
2. *Fraxinus pennsylvanica*	5	No	FACW
3.			
4.			
5.			
6.			
7.			
	40	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	50	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	50	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Bidens frondosa*	5	Yes	FACW
2. *Solidago rugosa*	5	Yes	FAC
3. *Eupatorium perfoliatum*	3	Yes	FACW
4. *Fraxinus pennsylvanica*	3	Yes	FACW
5. *Scirpus atrovirens*	3	Yes	OBL
6. *Eleocharis palustris*	2	No	OBL
7.			
8.			
9.			
10.			
11.			
12.			
	21	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	16	x 2 =	32
FAC species	90	x 3 =	270
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	111 (A)		307 (B)

Prevalence Index = B/A = 2.77

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: CCE-SB-08

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 5/1	95	10YR 5/6	5	C	M	Loamy/Clayey	
6 - 8	10YR 5/1	100					Loamy/Clayey	Refusal at 8”

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing / Tompkins Sampling Date: 6/5/2025

Applicant/Owner: Beowulf State: NY Sampling Point: CCE-SB-08

Investigator(s): Nathan Turk|Christopher Nack Section, Township, Range:

Landform (hillside, terrace, etc.): Lake plain Local relief (concave, convex, none): concave Slope %: 2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.60954798 Long: -76.63655383 Datum: NAD 83

Soil Map Unit Name: Rock outcrop NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

wet boring for W8

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 0.5
Water Table Present?	Yes X	No ____	Depth (inches): 2
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: CCE-SB-08

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Rhamnus cathartica*	60	Yes	FAC
2. *Salix nigra*	10	No	OBL
3.			
4.			
5.			
6.			
7.			
	70	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	40	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	40	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Vincetoxicum rossicum*	30	Yes	incetoxicum rossicum
2. ~~*Agrostis gigantea*~~	~~5~~	~~No~~	~~FACW~~
3. ~~*Rosa multiflora*~~	~~5~~	~~No~~	~~FACU~~
4. ~~*Geum canadense*~~	~~5~~	~~No~~	~~FAC~~
5. ~~*Toxicodendron radicans*~~	~~5~~	~~No~~	~~FAC~~
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	5	x 2 =	10
FAC species	110	x 3 =	330
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	130 (A)		370 (B)

Prevalence Index = B/A = 2.85

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: CCE-SB-08

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 4/1	100					Loamy/Clayey	
6 - 12	10YR 6/2	95	10YR 5/6	5	C	M	Loamy/Clayey	
12 - 18	10YR 6/3	60	10YR 5/6	10	C	M	Loamy/Clayey	
	10YR 4/2	30						

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing Sampling Date: 6/5/2025
Applicant/Owner: State: NY Sampling Point: SB-CCE-10
Investigator(s): Nathan Turk|Christopher Nack Section, Township, Range:
Landform (hillside, terrace, etc.): Lake plain Local relief (concave, convex, none): none Slope %: 3
Subregion (LRR or MLRA): Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SB-CCE-10

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juglans nigra*	20	Yes	FACU
2. *Rhamnus cathartica*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	30	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	70	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	70	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Fraxinus pennsylvanica*	10	Yes	FACW
2. *Lonicera morrowii*	10	Yes	FACU
3. *Rosa multiflora*	3	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	23	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	80	x 3 =	240
FACU species	33	x 4 =	132
UPL species	0	x 5 =	0
Column Totals:	123 (A)		392 (B)

Prevalence Index = B/A = 3.19

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: SB-CCE-10

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 10	10YR 4/4	100					Loamy/Clayey	Refusal at 10". Shale and gravel at 10".

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing / Tompkins Sampling Date: 6/5/2025

Applicant/Owner: Beowulf State: NY Sampling Point: SB-CCE-11

Investigator(s): Nathan Turk|Christopher Nack Section, Township, Range:

Landform (hillside, terrace, etc.): Lake plain Local relief (concave, convex, none): concave Slope %: 2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.60921448 Long: -76.63467229 Datum: NAD 83

Soil Map Unit Name: Hudson-Cayuga silt loams, 2 to 6 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

wet boring for W5

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 0.5
Water Table Present?	Yes X	No ____	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SB-CCE-11

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Herb Stratum (Plot size: 5)			
1. *Agrostis gigantea*	50	Yes	FACW
2. *Scirpus atrovirens*	20	Yes	OBL
3. *Solidago rugosa*	10	Yes	FAC
4. *Fraxinus pennsylvanica*	10	Yes	FACW
5. *Eleocharis acicularis*	5	Yes	OBL
6. *Carex pellita*	2	Yes	OBL
7.			
8.			
9.			
10.			
11.			
12.			
	194 =Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	27	x 1 =	27
FACW species	60	x 2 =	120
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	97 (A)		177 (B)

Prevalence Index = B/A = 1.82

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: SB-CCE-11

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 4/2	100					Loamy/Clayey	
6 - 18	10YR 4/3	95	10YR 5/6	5	C	M	Loamy/Clayey	Shale/gravel in second soil horizon

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing Sampling Date: 6/5/2025
Applicant/Owner: State: Sampling Point: SB-CCE-12
Investigator(s): Christopher Nack|Nathan Turk Section, Township, Range:
Landform (hillside, terrace, etc.): Lake plain Local relief (concave, convex, none): none Slope %: 2
Subregion (LRR or MLRA): Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Upland boring outside W5

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SB-CCE-12

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juniperus virginiana*	20	Yes	FACU
2. *Juglans nigra*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	25	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Juniperus virginiana*	10	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Agrostis gigantea*	30	Yes	FACW
2. *Dactylis glomerata*	25	Yes	FACU
3. *Carex pellita*	3	No	OBL
4. *Vicia caroliniana*		No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	58	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x 1 =	3
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	93 (A)		303 (B)

Prevalence Index = B/A = 3.26

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL

Sampling Point SB-CCE-12

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 10	10YR 4/3	100					Loamy/Clayey	
10 - 18	10YR 4/3	98	10YR 5/6	2	C	M	Loamy/Clayey	

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Sampling Date: 6/6/2025
Applicant/Owner: State: NY Sampling Point: CCE-SB-13
Investigator(s): Nathan Turk Section, Township, Range:
Landform (hillside, terrace, etc.): Lake plain Local relief (concave, convex, none): concave Slope %: 2
Subregion (LRR or MLRA): Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No	Depth (inches): 0.5
Water Table Present?	Yes X	No	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches): 0

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: CCE-SB-13

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	10	Yes	FACW
2. *Juglans nigra*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	15	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	40	Yes	FAC
2. *Fraxinus pennsylvanica*	15	Yes	FACW
3. *Lonicera morrowii*	5	No	FACU
4. *Rosa multiflora*	5	No	FACU
5.			
6.			
7.			
	65	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Onoclea sensibilis*	45	Yes	FACW
2. *Equisetum arvense*	30	Yes	FAC
3. *Agrostis gigantea*	15	No	FACW
4. *Parthenocissus quinquefolia*	10	No	FACU
5. *Solidago rugosa*	5	No	FAC
6. *Euthamia graminifolia*	5	No	FAC
7. *Ranunculus acris*	3	No	FAC
8.			
9.			
10.			
11.			
12.			
	113	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	85	x 2 =	170
FAC species	83	x 3 =	249
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	193 (A)		519 (B)

Prevalence Index = B/A = 2.69

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL INDICATORS FLAGGED FOR QAQC

SOIL

Sampling Point: CCE-SB-13

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 3	10YR 4/1	100					Loamy/Clayey	
3 - 10	10YR 4/2	95	10YR 5/6	5	C	M	Loamy/Clayey	
10 - 18	10YR 4/3	90	10YR 5/6	10	C	M	Loamy/Clayey	

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing/Tompkins Sampling Date: 6/9/2025

Applicant/Owner: Beowulf State: NY Sampling Point: CCE-SB-14

Investigator(s): Nathan Turk|Christopher Nack Section, Township, Range: Lansing

Landform (hillside, terrace, etc.): Hillside Local relief (concave, convex, none): concave Slope %: 2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.60641 Long: -76.62953 Datum: NAD 83

Soil Map Unit Name: Hudson-Cayuga silt loam 6 to 12 percent slope, eroded NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 1
Water Table Present?	Yes X	No ____	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: CCE-SB-14

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Acer rubrum*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Carex vulpinoidea*	30	Yes	OBL
2. *Bidens frondosa*	10	No	FACW
3. *Scirpus atrovirens*	10	No	OBL
4. *Solidago rugosa*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	55	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	10	x 2 =	20
FAC species	25	x 3 =	75
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		135 (B)

Prevalence Index = B/A = 1.80

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: CCE-SB-14

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 3	10YR 4/1	95	10YR 5/6	5	C	M	Mucky Loam/Clay	
3 - 10	10YR 4/2	90	10YR 5/6	10	C	M	Loamy/Clayey	
10 - 18	10YR 4/3	85	10YR 5/6	15	C	M	Loamy/Clayey	

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing/Topkins Sampling Date: 6/9/2025

Applicant/Owner: Beowulf State: NY Sampling Point: CCE-SB-15

Investigator(s): Nathan Turk|Christopher Nack Section, Township, Range: Lansing

Landform (hillside, terrace, etc.): Hillside Local relief (concave, convex, none): concave Slope %: 2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.60657 Long: -76.62884 Datum: NAD 83

Soil Map Unit Name: Hudson-Cayuga silt loam, 6 to 12 percent, eroded NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Wet boring for W11

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 1
Water Table Present?	Yes X	No ____	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: CCE-SB-15

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	25	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	25 =Total Cover		
Herb Stratum (Plot size: 5)			
1. *Parthenocissus inserta*	20	Yes	FACU
2. *Onoclea sensibilis*	20	Yes	FACW
3. *Carex vulpinoidea*	15	Yes	OBL
4. *Bidens frondosa*	10	No	FACW
5. *Impatiens capensis*	10	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75 =Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	40	x 2 =	80
FAC species	25	x 3 =	75
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	100 (A)		250 (B)

Prevalence Index = B/A = 2.50

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: CCE-SB-15

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 3	10YR 4/1	95	10YR 5/6	5	C	M	Mucky Loam/Clay	
3 - 10	10YR 4/2	90	10YR 5/6	10	C	M	Loamy/Clayey	
10 - 18	10YR 4/3	85	10YR 5/6	15	C	M	Loamy/Clayey	

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing Sampling Date: 6/9/2025
Applicant/Owner: State: NY Sampling Point: CCE-SB-16
Investigator(s): Nathan Turk|Christopher Nack Section, Township, Range:
Landform (hillside, terrace, etc.): Lake plain Local relief (concave, convex, none): concave Slope %: 2
Subregion (LRR or MLRA): Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 0.5
Water Table Present?	Yes X	No ____	Depth (inches): 14
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: CCE-SB-16

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Fraxinus pennsylvanica*	5	Yes	FACW
2. *Rhamnus cathartica*	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	10 =Total Cover		
Herb Stratum (Plot size: 5)			
1. *Bidens frondosa*	10	Yes	FACW
2. *Onoclea sensibilis*	10	Yes	FACW
3. *Parthenocissus quinquefolia*	10	Yes	FACU
4. *Solidago rugosa*	10	Yes	FAC
5. *Scirpus atrovirens*	10	Yes	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50 =Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 85.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	25	x 2 =	50
FAC species	15	x 3 =	45
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	60 (A)		145 (B)

Prevalence Index = B/A = 2.42

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL INDICATORS FLAGGED FOR QAQC

SOIL

Sampling Point: CCE-SB-16

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 3	10YR 4/1	95	10YR 5/6	5	C	M	Mucky Loam/Clay	
3 - 10	10YR 4/2	90	10YR 5/6	10	C	M	Loamy/Clayey	
10 - 18	10YR 4/3	85	10YR 5/6	15	C	M	Loamy/Clayey	

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing Sampling Date: 6/9/2025
Applicant/Owner: State: NY Sampling Point: CCE-SB-117
Investigator(s): Nathan Turk Section, Township, Range:
Landform (hillside, terrace, etc.): Lake plain Local relief (concave, convex, none): concave Slope %: 2
Subregion (LRR or MLRA): Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No	Depth (inches): 0.5
Water Table Present?	Yes	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches): 0

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: CCE-SB-117

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Eleocharis palustris*	20	Yes	OBL
2. *Solidago altissima*	20	Yes	FACU
3. *Equisetum arvense*	10	Yes	FAC
4. *Galium mollugo*	10	Yes	FACU
5. *Vicia caroliniana*	10	Yes	UPL
6. *Carex vulpinoidea*	10	Yes	OBL
7. *Agrostis gigantea*	10	Yes	FACW
8.		No	
9.			
10.			
11.			
12.			
	90	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 62.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	10	x 2 =	20
FAC species	20	x 3 =	60
FACU species	30	x 4 =	120
UPL species	10	x 5 =	50
Column Totals:	100 (A)		280 (B)

Prevalence Index = B/A = 2.80

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL INDICATORS FLAGGED FOR QAQC

SOIL

Sampling Point: CCE-SB-117

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 4/2	98	10YR 5/6	2	C	M	Loamy/Clayey	
6 - 15	10YR 4/3	90	10YR 5/6	10	C	M	Loamy/Clayey	
15 - 18	10YR 4/3	85	10YR 5/6	15	C	M	Loamy/Clayey	Pieces of shale within this horizon

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing Sampling Date: 6/9/2025
Applicant/Owner: State: NY Sampling Point: CCE-SB-18
Investigator(s): Nathan Turk|Christopher Nack Section, Township, Range:
Landform (hillside, terrace, etc.): Lake plain Local relief (concave, convex, none): none Slope %: 2
Subregion (LRR or MLRA): Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: CCE-SB-18

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juglans nigra*	30	Yes	FACU
2. *Juniperus virginiana*	10	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	40	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Juglans nigra*	15	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	15	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Dactylis glomerata*	30	Yes	FACU
2. *Rubus occidentalis*	15	Yes	ubus occidentalis
3. ~~*Phalaris canariensis*~~	~~10~~	~~No~~	~~FACU~~
4. ~~*Agrostis gigantea*~~	~~5~~	~~No~~	~~FACW~~
5. ~~*Sisyrinchium angustifolium*~~	~~5~~	~~No~~	~~FAC~~
6. ~~*Ranunculus acris*~~	~~3~~	~~No~~	~~FAC~~
7. ~~*Carex granularis*~~	~~2~~	~~No~~	~~FACW~~
8. ~~*Plantago rugelii*~~	~~2~~	~~No~~	~~FAC~~
9.			
10.			
11.			
12.			
	72	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	7	x 2 =	14
FAC species	10	x 3 =	30
FACU species	95	x 4 =	380
UPL species	0	x 5 =	0
Column Totals:	112 (A)		424 (B)

Prevalence Index = B/A = 3.79

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL

Sampling Point: CCE-SB-18

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

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

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing Sampling Date: 6/9/2025
Applicant/Owner: State: NY Sampling Point: CCE-SB-19
Investigator(s): Nathan Turk|Christopher Nack Section, Township, Range:
Landform (hillside, terrace, etc.): Local relief (concave, convex, none): Slope %:
Subregion (LRR or MLRA): Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 0.5
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: CCE-SB-19

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Fraxinus pennsylvanica*	5	Yes	FACW
2. *Lonicera morrowii*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	10 =Total Cover		
Herb Stratum (Plot size: 5)			
1. *Onoclea sensibilis*	50	Yes	FACW
2. *Parthenocissus quinquefolia*	10	Yes	FACU
3. *Impatiens capensis*	10	Yes	FACW
4. *Solidago gigantea*	10	Yes	FACW
5. *Agrostis gigantea*	10	Yes	FACW
6. *Carex vulpinoidea*	10	Yes	OBL
7. *Eleocharis acicularis*	5	No	OBL
8. *Eupatorium perfoliatum*	3	No	FACW
9.			
10.			
11.			
12.			
	108 =Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	88	x 2 =	176
FAC species	0	x 3 =	0
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	118 (A)		251 (B)

Prevalence Index = B/A = 2.13

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: CCE-SB-19

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 3	10YR 4/1	100					Mucky Loam/Clay	
3 - 8	10YR 4/2	98	10YR 5/6	2	C	M	Loamy/Clayey	
8 - 18	10YR 4/3	95	10YR 5/6	5	C	M	Loamy/Clayey	

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing Sampling Date: 6/9/2025

Applicant/Owner: State: NY Sampling Point: CCE-SB-20

Investigator(s): Nathan Turk|Christopher Nack Section, Township, Range:

Landform (hillside, terrace, etc.): Lake plain Local relief (concave, convex, none): concave Slope %: 2

Subregion (LRR or MLRA): Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 10

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: CCE-SB-20

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Fraxinus pennsylvanica*	5	Yes	FACW
2. *Lonicera morrowii*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	10 =Total Cover		
Herb Stratum (Plot size: 5)			
1. *Onoclea sensibilis*	25	Yes	FACW
2. *Carex vulpinoidea*	15	Yes	OBL
3. *Parthenocissus quinquefolia*	10	No	FACU
4. *Agrostis gigantea*	5	No	FACW
5. *Circaea alpina*	3	No	FACW
6. *Toxicodendron radicans*	3	No	FAC
7. *Melissa officinalis*	3	No	UPL
8. *Erigeron philadelphicus*	3	No	FAC
9. *Geum canadense*	2	No	FAC
10.			
11.			
12.			
	69 =Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	38	x 2 =	76
FAC species	8	x 3 =	24
FACU species	15	x 4 =	60
UPL species	3	x 5 =	15
Column Totals:	79 (A)		190 (B)

Prevalence Index = B/A = 2.41

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL INDICATORS FLAGGED FOR QAQC

SOIL

Sampling Point: CCE-SB-20

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 6	10YR 4/2	100					Loamy/Clayey	
6 - 18	10YR 4/3	98	10YR 5/6	2	C	M	Loamy/Clayey	

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing / Tompkins Sampling Date: 6/11/2025

Applicant/Owner: Beowulf State: NY Sampling Point: CCE-SB-21

Investigator(s): Nathan Turk|Christopher Nack Section, Township, Range:

Landform (hillside, terrace, etc.): Lake plain Local relief (concave, convex, none): concave Slope %: 2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: Long: Datum: NAD 83

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No	Depth (inches): 0.5
Water Table Present?	Yes	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No X	Depth (inches):

Wetland Hydrology Present? Yes X No

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: CCE-SB-21

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juglans nigra*	5	Yes	FACU
2. *Populus deltoides*	3	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	8	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	30	Yes	FAC
2. *Lonicera morrowii*	10	Yes	FACU
3. *Rosa multiflora*	2	No	FACU
4.			
5.			
6.			
7.			
	42	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Eleocharis acicularis*	50	Yes	OBL
2. *Agrostis gigantea*	20	Yes	FACW
3. *Bromus inermis*	5	No	UPL
4. *Parthenocissus quinquefolia*	3	No	FACU
5. *Solidago rugosa*	2	No	FAC
6. *Carex spicata*	2	No	FACU
7. *Veronica chamaedrys*	2	No	UPL
8.			
9.			
10.			
11.			
12.			
	84	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	20	x 2 =	40
FAC species	35	x 3 =	105
FACU species	22	x 4 =	88
UPL species	7	x 5 =	35
Column Totals:	134	(A)	318 (B)

Prevalence Index = B/A = 2.37

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL INDICATORS FLAGGED FOR QAQC

SOIL

Sampling Point: CCE-SB-21

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 5	10YR 4/1						Mucky Loam/Clay	
5 - 12	10YR 4/2	98	10YR 5/6	2	C	M	Loamy/Clayey	Bits of shale and gravel

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Bedrock

Depth (inches): 12

Hydric Soil Present? Yes X No ___

Remarks:
Refusal at 12" - shale and gravel immediately above refusal.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing / Tompkins Sampling Date: 6/11/2025

Applicant/Owner: Beowulf State: NY Sampling Point: CCE-SB-22

Investigator(s): Nathan Turk|Christopher Nack Section, Township, Range:

Landform (hillside, terrace, etc.): Lake plain Local relief (concave, convex, none): none Slope %: 2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: Long: Datum: NAD 83

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: CCE-SB-22

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	20	Yes	FACW
2. *Juniperus virginiana*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	25	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rosa multiflora*	20	Yes	FACU
2. *Lonicera morrowii*	20	Yes	FACU
3. *Rhamnus cathartica*	10	Yes	FAC
4.			
5.			
6.			
7.			
	50	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Onoclea sensibilis*	20	Yes	FACW
2. *Parthenocissus quinquefolia*	15	Yes	FACU
3. *Symphyotrichum ontarionis*	10	Yes	FAC
4. *Lonicera morrowii*	10	Yes	FACU
5. *Agrostis gigantea*	5	No	FACW
6. *Athyrium angustum*	5	No	FAC
7. *Rosa multiflora*	3	No	FACU
8. *Circaea canadensis*	3	No	FACU
9. *Fragaria virginiana*	3	No	FACU
10. *Vicia caroliniana*	3	No	UPL
11.			
12.			
	77	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 44.4% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	45	x 2 =	90
FAC species	25	x 3 =	75
FACU species	79	x 4 =	316
UPL species	3	x 5 =	15
Column Totals:	152 (A)		496 (B)

Prevalence Index = B/A = 3.26

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ___ No X

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

SOIL

Sampling Point: CCE-SB-22

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 12	10YR 4/3	98	10YR 5/6	2	C	M	Loamy/Clayey	
12 - 18	10YR 4/3	90	10YR 5/6	10	C	M	Loamy/Clayey	

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing / Tompkins Sampling Date: 6/11/2025

Applicant/Owner: Beowulf State: NY Sampling Point: CCE-SB-23

Investigator(s): Nathan Turk|Christopher Nack Section, Township, Range:

Landform (hillside, terrace, etc.): Lake plain Local relief (concave, convex, none): concave Slope %: 2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Wet boring for W18

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: CCE-SB-23

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	30	Yes	FAC
2. *Juglans nigra*	5	No	FACU
3. *Lonicera morrowii*	5	No	FACU
4. *Rosa multiflora*	5	No	FACU
5.			
6.			
7.			
	45 =Total Cover		
Herb Stratum (Plot size: 5)			
1. *Matteuccia struthiopteris*	40	Yes	FAC
2. *Carex vulpinoidea*	10	No	OBL
3. *Solidago rugosa*	10	No	FAC
4. *Fraxinus pennsylvanica*	5	No	FACW
5. *Parthenocissus quinquefolia*	5	No	FACU
6. *Rosa multiflora*	2	No	FACU
7. *Toxicodendron radicans*	2	No	FAC
8.			
9.			
10.			
11.			
12.			
	74 =Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	5	x 2 =	10
FAC species	82	x 3 =	246
FACU species	22	x 4 =	88
UPL species	0	x 5 =	0
Column Totals:	119 (A)		354 (B)

Prevalence Index = B/A = 2.97

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL INDICATORS FLAGGED FOR QAQC

SOIL

Sampling Point: CCE-SB-23

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 4	10YR 4/1	100					Loamy/Clayey	
4 - 10	10YR 4/2	90	10YR 5/6	10	C	M	Loamy/Clayey	
10 - 18	10YR 4/3	90	10YR 5/6	10	C	M	Loamy/Clayey	Shale present

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Sampling Date: 6/11/2025
Applicant/Owner: State: Sampling Point: CCE-SB26
Investigator(s): Section, Township, Range:
Landform (hillside, terrace, etc.): Local relief (concave, convex, none): none Slope %: 5
Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: CCE-SB26

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juglans nigra*	15	Yes	FACU
2. *Fraxinus pennsylvanica*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	25	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Fraxinus pennsylvanica*	20	Yes	FACW
2. *Rubus alumnus*	15	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	35	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Alliaria petiolata*	40	Yes	FACU
2. *Ageratina altissima*	15	Yes	FACU
3. *Hesperis matronalis*	10	No	FACU
4. *Parthenocissus inserta*	10	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	105	x 4 =	420
UPL species	0	x 5 =	0
Column Totals:	135 (A)		480 (B)

Prevalence Index = B/A = 3.56

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL INDICATORS FLAGGED FOR QAQC

SOIL

Sampling Point: CCE-SB26

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

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

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 9/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: _____ City/County: _____ Sampling Date: 6/13/2025

Applicant/Owner: _____ State: NY Sampling Point: 27

Investigator(s): K Buelow, R Chiarello Section, Township, Range: _____

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope %: 3-5

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Hudson Cayuga NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: (Explain alternative procedures here or in a separate report.)
Wet sample point for CCE-W22

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 27

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Herb Stratum (Plot size: 1m)			
1. *Lolium perenne*	10	No	FACU
2. *Juncus tenuis*	50	Yes	FAC
3. *Carex granularis*	5	No	FACW
4. *Carex vulpinoidea*	15	Yes	OBL
5. *Holcus lanatus*	15	Yes	FACU
6. *Lotus corniculatus*	5	No	FACU
7. *Euthamia graminifolia*	10	No	FAC
8. *Solidago canadensis*	10	No	FACU
9. *Barbarea vulgaris*	5	No	FAC
10. *Phleum pratense*	5	No	FACU
11.			
12.			
	130 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	5	x 2 =	10
FAC species	65	x 3 =	195
FACU species	45	x 4 =	180
UPL species	0	x 5 =	0
Column Totals:	130 (A)		400 (B)

Prevalence Index = B/A = 3.08

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

_X_ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL Sampling Point 27

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	100					Loamy/Clayey	gravelly
4-8	10YR 4/2	90	10YR 4/4	10	C		Loamy/Clayey	Distinct redox concentrations

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:
Refusal at 8 inches

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 9/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: _____ City/County: _____ Sampling Date: 6/13/2025

Applicant/Owner: _____ State: NY Sampling Point: 28

Investigator(s): K Buelow, R Chiarello Section, Township, Range: _____

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope %: 3-5

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Hudson NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: (Explain alternative procedures here or in a separate report.)
Upland sampling point for CCE-W22

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 28

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Herb Stratum (Plot size: 1m)			
1. *Lolium perenne*	20	Yes	FACU
2. *Holcus lanatus*	40	Yes	FACU
3. *Juncus tenuis*	15	No	FAC
4. *Carex granularis*	5	No	FACW
5. *Lotus corniculatus*	25	Yes	FACU
6. *Asclepias syriaca*	15	No	UPL
7. *Taraxacum officinale*	10	No	FACU
8. *Sisyrinchium angustifolium*	8	No	FAC
9. *Daucus carota*	5	No	UPL
10. *Phleum pratense*	5	No	FACU
11.			
12.			
	148 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	23	x 3 =	69
FACU species	100	x 4 =	400
UPL species	20	x 5 =	100
Column Totals:	148 (A)		579 (B)

Prevalence Index = B/A = 3.91

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL Sampling Point 28

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-4	10YR 4/2	100					Loamy/Clayey	
4-8	10YR 3/3	100					Loamy/Clayey	
8-15	10YR 4/2	50	10YR 4/4	5	C	M	Loamy/Clayey	Distinct redox concentrations

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

Additional matrix color in 8-15 inch depth of 10YR 3/2 at 45%.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 9/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: _____ City/County: _____ Sampling Date: 6/13/2025

Applicant/Owner: _____ State: NY Sampling Point: 29

Investigator(s): K Buelow, R Chiarello Section, Township, Range: _____

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope %: 3-5

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Lima NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: (Explain alternative procedures here or in a separate report.)
Wetland sample point for CCE-W23

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes X	No _____	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 3

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

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 29

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Herb Stratum (Plot size: 1m)			
1. *Phalaris arundinacea*	20	No	FACW
2. *Juncus tenuis*	35	Yes	FAC
3. *Carex vulpinoidea*	40	Yes	OBL
4. *Euthamia graminifolia*	5	No	FAC
5. *Lolium perenne*	5	No	FACU
6. *Holcus lanatus*	10	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
	115 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	20	x 2 =	40
FAC species	40	x 3 =	120
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	115 (A)		260 (B)

Prevalence Index = B/A = 2.26

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point 29

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Loamy/Clayey	
6-12	10YR 4/1	95	10YR 4/4	5	C	M	Loamy/Clayey	Distinct redox concentrations

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

Refusal at 12 inches

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 9/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: _____ City/County: _____ Sampling Date: 6/13/2025

Applicant/Owner: _____ State: NY Sampling Point: 30

Investigator(s): K Buelow, R Chiarello Section, Township, Range: _____

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope %: 3-5

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: (Explain alternative procedures here or in a separate report.)
Wet sample point for CCE-W23

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes X	No _____	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 5

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

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 30

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Herb Stratum (Plot size: 1m)			
1. *Juncus tenuis*	65	Yes	FAC
2. *Carex vulpinoidea*	10	No	OBL
3. *Lolium perenne*	10	No	FACU
4. *Euthamia graminifolia*	10	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	0	x 2 =	0
FAC species	75	x 3 =	225
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	95 (A)		275 (B)

Prevalence Index = B/A = 2.89

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point 30

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Loamy/Clayey	
6-12	10YR 4/1	95	10YR 4/4	5	C	M	Loamy/Clayey	Distinct redox concentrations

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

Refusal at 12 inches, gravel present

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 9/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: _____ City/County: _____ Sampling Date: 6/13/2025

Applicant/Owner: _____ State: NY Sampling Point: 31

Investigator(s): K Buelow, R Chiarello Section, Township, Range: _____

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope %: 3-5

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Lima NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 31

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Herb Stratum (Plot size: 1m)			
1. *Securigera varia*	40	Yes	UPL
2. *Lolium perenne*	40	Yes	FACU
3. *Taraxacum officinale*	10	No	FACU
4. *Daucus carota*	5	No	UPL
5. *Symphyotrichum lateriflorum*	5	No	FAC
6. *Plantago lanceolata*	5	No	FACU
7. *Lotus corniculatus*	25	No	FACU
8.			
9.			
10.			
11.			
12.			
	130 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	80	x 4 =	320
UPL species	45	x 5 =	225
Column Totals:	130 (A)		560 (B)

Prevalence Index = B/A = 4.31

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL

Sampling Point 31

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/2	100					Loamy/Clayey	
6-18	10YR 4/3	95	10YR 4/4	5	C	M	Loamy/Clayey	Faint redox concentrations

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:
Soil gravelly

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 9/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: _____ City/County: _____ Sampling Date: 6/13/2025

Applicant/Owner: _____ State: NY Sampling Point: 32

Investigator(s): K Buelow, R Chiarello Section, Township, Range: _____

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope %: 2-4

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Hudson-Cayuga NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: (Explain alternative procedures here or in a separate report.)
Upland sample point in potential wet area in corner of western field

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Remarks:
Some surfave moisture present - recent precipitation likely cause.

VEGETATION – Use scientific names of plants. Sampling Point: 32

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Herb Stratum (Plot size: 1m)			
1. *Lolium perenne*	40	Yes	FACU
2. *Juncus tenuis*	50	Yes	FAC
3. *Carex vulpinoidea*	25	Yes	OBL
4. *Holcus lanatus*	20	No	FACU
5. *Lotus corniculatus*	20	No	FACU
6. *Symphyotrichum lateriflorum*	10	No	FAC
7. *Rubus flagellaris*	5	No	FACU
8. *Carex granularis*	5	No	FACW
9. *Plantago major*	5	No	FACU
10. *Phleum pratense*	5	No	FACU
11. *Daucus carota*	5	No	UPL
12.			
	190 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	5	x 2 =	10
FAC species	60	x 3 =	180
FACU species	95	x 4 =	380
UPL species	5	x 5 =	25
Column Totals:	190 (A)		620 (B)

Prevalence Index = B/A = 3.26

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point 32

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/3	98	10YR 4/4	2	C	M	Loamy/Clayey	Faint redox concentrations
4-8	10YR 3/6	90	10YR 4/2	10	C	M	Loamy/Clayey	Prominent redox concentrations

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

Refusal at 8 inches

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 9/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: _____ City/County: _____ Sampling Date: 6/13/2025

Applicant/Owner: _____ State: NY Sampling Point: 33

Investigator(s): K Buelow, R Chiarello Section, Township, Range: _____

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope %: 1-2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Ovid NWI classification: PEM/SS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: (Explain alternative procedures here or in a separate report.)
Wetland hole for CCE W18

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No _____	Depth (inches): 0.5
Water Table Present?	Yes X	No _____	Depth (inches): 1
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 0

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

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 33

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 3m)			
1. *Fraxinus pennsylvanica*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10 =Total Cover		
Herb Stratum (Plot size: 1m)			
1. *Epilobium coloratum*	30	Yes	OBL
2. *Euthamia graminifolia*	20	Yes	FAC
3. *Solidago altissima*	10	Yes	FACU
4. *Apocynum cannabinum*	10	Yes	FAC
5. *Persicaria pensylvanica*	10	Yes	FACW
6. *Lolium perenne*	10	Yes	FACU
7. *Rumex crispus*	5	No	FAC
8. *Cardamine hirsuta*	5	No	FACU
9. *Ranunculus acris*	5	No	FAC
10.			
11.			
12.			
	105 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71.4% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	20	x 2 =	40
FAC species	40	x 3 =	120
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	115 (A)		290 (B)

Prevalence Index = B/A = 2.52

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL Sampling Point 33

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	100					Loamy/Clayey	
4-10	10YR 4/2	95	10YR 4/4	5	C	M	Loamy/Clayey	Distinct redox concentrations
10-18	10YR 3/3	70	10YR 3/1	25	D	M	Loamy/Clayey	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

Additional redox concentration observed in the soil matrix at 5% = 10YR 3/4/

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 9/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: _____ City/County: _____ Sampling Date: 6/13/2025

Applicant/Owner: _____ State: NY Sampling Point: 34

Investigator(s): K Buelow, R Chiarello Section, Township, Range: _____

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope %: 1-2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Ovid NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 34

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Herb Stratum (Plot size: 1m)			
1. *Lolium perenne*	30	Yes	FACU
2. *Solidago altissima*	20	Yes	FACU
3. *Juncus tenuis*	20	Yes	FAC
4. *Daucus carota*	15	No	UPL
5. *Leucanthemum vulgare*	15	No	UPL
6. *Ranunculus acris*	5	No	FAC
7. *Medicago lupulina*	5	No	FACU
8. *Plantago major*	5	No	FACU
9. *Fraxinus pennsylvanica*	5	No	FACW
10.			
11.			
12.			
	120 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	25	x 3 =	75
FACU species	60	x 4 =	240
UPL species	30	x 5 =	150
Column Totals:	120 (A)		475 (B)

Prevalence Index = B/A = 3.96

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL

Sampling Point 34

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/3	60					Loamy/Clayey	2nd matix 10YR 3/2 at 40%
6-18	10YR 3/4	70					Loamy/Clayey	2nd matix 10YR 3/2 at 30%

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing / Tompkins Sampling Date: 6/13/2025

Applicant/Owner: State: Sampling Point: CCE-SB40

Investigator(s): Section, Township, Range:

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

Subregion (LRR or MLRA): Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: CCE-SB40

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juniperus virginiana*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	5	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	70	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	70	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Galium mollugo*	15	Yes	FACU
2. *Lotus corniculatus*	15	Yes	FACU
3. *Fraxinus pennsylvanica*	15	Yes	FACW
4. *Juncus tenuis*	15	Yes	FAC
5. *Daucus carota*	10	No	UPL
6. *Fragaria virginiana*	3	No	FACU
7. *Euthamia graminifolia*	3	No	FAC
8. *Elaeagnus angustifolia*	3	No	FACU
9. *Symphyotrichum lateriflorum*	2	No	FAC
10.			
11.			
12.			
	81	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	90	x 3 =	270
FACU species	41	x 4 =	164
UPL species	10	x 5 =	50
Column Totals:	156 (A)		514 (B)

Prevalence Index = B/A = 3.29

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL

Sampling Point: CCE-SB40

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 4	10YR 4/2	100					Loamy/Clayey	
4 - 8	10YR 4/3	100					Loamy/Clayey	Shale present
8 - 18	10YR 4/3	95	10YR 4/6	5	C	PL	Loamy/Clayey	Shale present

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 06/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cayuga Concept Engineering City/County: Lansing / Tompkins Sampling Date: 6/13/2025

Applicant/Owner: Beowulf State: NY Sampling Point: CCE-SB-41

Investigator(s): Section, Township, Range:

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

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Wet boring for W30

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 0.5
Water Table Present?	Yes X	No ____	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 10

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: CCE-SB-41

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	60	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	60 =Total Cover		
Herb Stratum (Plot size: 5)			
1. *Eleocharis tenuis*	20	Yes	FACW
2. *Euthamia graminifolia*	20	Yes	FAC
3. *Fraxinus pennsylvanica*	15	Yes	FACW
4. *Agrostis gigantea*	10	No	FACW
5. *Carex vulpinoidea*	10	No	OBL
6. *Galium mollugo*	10	No	FACU
7. *Lotus corniculatus*	5	No	FACU
8. *Juniperus virginiana*	2	No	FACU
9.			
10.			
11.			
12.			
	92 =Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	45	x 2 =	90
FAC species	80	x 3 =	240
FACU species	17	x 4 =	68
UPL species	0	x 5 =	0
Column Totals:	152 (A)		408 (B)

Prevalence Index = B/A = 2.68

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: CCE-SB-41

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 3	10YR 4/1	100					Loamy/Clayey	
3 - 8	10YR 4/2	95	10YR 5/6	5	C	M	Loamy/Clayey	
8 - 18	10YR 4/3	85	10YR 5/6	15	C	M	Loamy/Clayey	Shale present

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

ATTACHMENT 2
WETLAND PHOTOGRAPH LOG

118Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
1	6/4/2025

Description

CCE-SB-01

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
2	6/4/2025

Description

CCE-SB-02

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
3	6/4/2025

Description

CCE-SB-03

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
4	6/5/2025

Description

CCE-SB-04

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
5	6/5/2025

Description

CCE-SB-05

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
6	6/5/2025

Description

CCE-SB-06

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
7	6/5/2025

Description

CCE-SB-07

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
8	6/5/2025

Description

CCE-SB-08

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
9	6/5/2025

Description

CCE-SB-09

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
10	6/5/2025

Description

CCE-SB-10

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
11	6/5/2025

Description

CCE-SB-11

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
12	6/5/2025

Description

CCE-SB-12

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
13	6/6/2025

Description

CCE-SB-13

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
14	6/6/2025

Description

CCE-SB-14

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
15	6/6/2025

Description

CCE-SB-15

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
16	6/9/2025

Description

CCE-SB-16

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
17	6/9/2025

Description

CCE-SB-17

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
18	6/9/2025

Description

CCE-SB-18

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
19	6/9/2025

Description

CCE-SB-19

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
20	6/9/2025

Description

CCE-SB-20

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
21	6/11/2025

Description

CCE-SB-21

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
22	6/11/2025

Description

CCE-SB-22

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
23	6/11/2025

Description

CCE-SB-23

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
24	6/11/2025

Description

CCE-SB-24

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
25	6/11/2025

Description

CCE-SB-25

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
26	6/11/2025

Description

CCE-SB-26

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:	
27	6/13/2025	
Description		
CCE-SB-27		

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:	
28	6/13/2025	
Description		
CCE-SB-28		

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:	
29	6/13/2025	
Description		
CCE-SB-29		

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:	
30	6/13/2025	
Description		
CCE-SB-32		

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
31	6/13/2025

Description

CCE-SB-33

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
32	6/13/2025

Description

CCE-SB-34

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
33	6/13/2025

Description

CCE-SB-40

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
34	6/13/2025

Description

CCE-SB-41

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
35	6/4/2025

Description

CCE-PS1

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
36	6/4/2024

Description

CCE-IS1

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
37	6/4/2025

Description

CCE-IS2

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
38	6/4/2025

Description

CCE-EP1

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
39	6/4/2025

Description

CCE-EP1a

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
40	6/4/2024

Description

CCE-EP2

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
41	6/4/2025

Description

CCE-EP3

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
42	9/12/2024

Description

CCE-EP4

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
43	6/6/2025

Description

CCE-EP6

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
44	6/6/2025

Description

CCE-EP7

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
45	6/6/2025

Description

CCE-EP8

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
46	6/6/2025

Description

CCE-EP10

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
47	6/6/2025

Description

CCE-EP11

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
48	6/9/2025

Description

CCE-EP12

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
49	6/9/2025

Description

CCE-EP13

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
50	6/9/2025

Description

CCE-EP14

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
51	6/9/2025

Description

CCE-EP16

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
52	9/13/2024

Description

CCE-EP17

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
53	6/9/2025

Description

CCE-EP18

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
54	9/13/2024

Description

CCE-IS3

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
55	6/5/2025

Description

Ditch 1

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
56	6/5/2024

Description

Ditch 2

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
57	6/13/2025

Description

Ditch 6

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
58	6/13/2025

Description

Ditch 7

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
59	6/13/2025

Description

Ditch 9

Client Name:	Site Location:	Project No.
Cayuga Concept Engineering	Tompkins County, Lansing, NY	1940113922-001

Photo No.	Date:
60	6/13/2025

Description

Ditch 10

ATTACHMENT 3
SOIL MAP

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 Tompkins County, New York

Cayuga Concept Engineering Wetland Delineation

July 7, 2025

Preface

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

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

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

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

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

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

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

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

Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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 1:20,000.

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

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

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

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

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

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

Soil Survey Area: Tompkins County, New York
Survey Area Data: Version 20, Aug 29, 2024

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

Date(s) aerial images were photographed: Apr 1, 2020—Oct 1, 2020

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
HsB	Hudson silty clay loam, 2 to 6 percent slopes	32.8	16.9%
HuB	Hudson-Cayuga silt loams, 2 to 6 percent slopes	51.1	26.3%
HuC3	Hudson-Cayuga silt loams, 6 to 12 percent slopes, eroded	40.4	20.8%
HuD	Hudson-Cayuga silt loams, 12 to 20 percent slopes	5.0	2.6%
LmB	Lima silt loam, 3 to 8 percent slopes	2.0	1.1%
Mc	Made land	5.5	2.9%
OaA	Ovid silt loam, 0 to 6 percent slopes	37.4	19.2%
RkB	Rhinebeck silt loam, 2 to 6 percent slopes	10.3	5.3%
Ro	Rock outcrop	9.4	4.8%
W	Water	0.2	0.1%
Totals for Area of Interest		**194.2**	**100.0%**

Map Unit Descriptions

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

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

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the

scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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

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

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

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

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

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

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

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

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

Tompkins County, New York

HsB—Hudson silty clay loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 9xm6
Elevation: 300 to 1,800 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days
Farmland classification: All areas are prime farmland

Map Unit Composition

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

Description of Hudson

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 12 inches: silty clay loam
H2 - 12 to 36 inches: silty clay loam
H3 - 36 to 60 inches: silt loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Ecological site: F101XY009NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Cayuga

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

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

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

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

HuB—Hudson-Cayuga silt loams, 2 to 6 percent slopes

Map Unit Setting
National map unit symbol: 9xm9
Elevation: 300 to 2,460 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Hudson and similar soils: 50 percent
Cayuga and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hudson

Setting
Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey and silty glaciolacustrine deposits

Typical profile
H1 - 0 to 12 inches: silt loam
H2 - 12 to 36 inches: silty clay loam
H3 - 36 to 60 inches: silt loam

Properties and qualities
Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None

Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Ecological site: F101XY009NY - Moist Lake Plain
Hydric soil rating: No

Description of Cayuga

Setting

Landform: Till plains, lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest, tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey glaciolacustrine deposits over loamy till derived from limestone, dolomite, sandstone, or shale

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 30 inches: silty clay
H3 - 30 to 60 inches: gravelly loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 13 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Ecological site: F101XY009NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Ovid

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

Rhinebeck

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

Collamer

Percent of map unit: 5 percent

Hydric soil rating: No

Niagara

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

HuC3—Hudson-Cayuga silt loams, 6 to 12 percent slopes, eroded

Map Unit Setting

National map unit symbol: 9xmc
Elevation: 300 to 2,460 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Hudson and similar soils: 50 percent
Cayuga and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hudson

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 12 inches: silt loam
H2 - 12 to 36 inches: silty clay loam
H3 - 36 to 60 inches: silt loam

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C/D
Ecological site: F101XY009NY - Moist Lake Plain
Hydric soil rating: No

Description of Cayuga

Setting

Landform: Till plains, lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest, tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey glaciolacustrine deposits over loamy till derived from limestone, dolomite, sandstone, or shale

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 30 inches: silty clay
H3 - 30 to 60 inches: gravelly loam

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 13 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C/D
Ecological site: F101XY009NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Rhinebeck

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

Kendaia

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

Collamer

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

Ovid

Percent of map unit: 5 percent

Hydric soil rating: No

HuD—Hudson-Cayuga silt loams, 12 to 20 percent slopes

Map Unit Setting

National map unit symbol: 9xmd
Elevation: 300 to 2,460 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Hudson and similar soils: 50 percent
Cayuga and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hudson

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Riser
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 12 inches: silt loam
H2 - 12 to 36 inches: silty clay loam
H3 - 36 to 60 inches: silt loam

Properties and qualities

Slope: 12 to 20 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C/D
Ecological site: F101XY009NY - Moist Lake Plain

Hydric soil rating: No

Description of Cayuga

Setting

Landform: Till plains, lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Side slope, riser
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey glaciolacustrine deposits over loamy till derived from limestone, dolomite, sandstone, or shale

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 30 inches: silty clay
H3 - 30 to 60 inches: gravelly loam

Properties and qualities

Slope: 12 to 20 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 13 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C/D
Ecological site: F101XY009NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Ovid

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

Rhinebeck

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

Lansing

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

Collamer

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

LmB—Lima silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w3kk
Elevation: 380 to 1,680 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

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

Description of Lima

Setting

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

Typical profile

Ap - 0 to 9 inches: silt loam
Bt/E - 9 to 12 inches: loam
Bt1 - 12 to 16 inches: loam
Bt2 - 16 to 25 inches: gravelly loam
C - 25 to 79 inches: gravelly loam

Properties and qualities

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

Interpretive groups

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

Hydrologic Soil Group: B/D
Ecological site: F101XY013NY - Moist Till
Hydric soil rating: No

Minor Components

Honeoye
Percent of map unit: 6 percent
Landform: Ridges, till plains, drumlins
Landform position (two-dimensional): Summit, backslope, shoulder
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Hydric soil rating: No

Appleton
Percent of map unit: 3 percent
Landform: Ridges, 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

Kendaia
Percent of map unit: 3 percent
Landform: Ridges, 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

Cazenovia
Percent of map unit: 2 percent
Landform: Reworked lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Lyons
Percent of map unit: 1 percent
Landform: Drainageways, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Mc—Made land

Map Unit Setting

National map unit symbol: 9xnd
Elevation: 160 to 1,970 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 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: channery loam
H2 - 4 to 70 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 8 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 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Low (about 5.4 inches)

Interpretive groups

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

Minor Components

Phelps

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

Lamson

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

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

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

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

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

OaA—Ovid silt loam, 0 to 6 percent slopes

Map Unit Setting
National map unit symbol: 9xnm
Elevation: 250 to 1,000 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Prime farmland if drained

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

Description of Ovid

Setting
Landform: Till plains, reworked lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy till with a significant component of reddish shale or reddish glaciolacustrine clays, mixed with limestone and some sandstone

Typical profile
H1 - 0 to 14 inches: silt loam
H2 - 14 to 24 inches: silty clay loam
H3 - 24 to 60 inches: gravelly loam

Properties and qualities
Slope: 0 to 6 percent
Depth to restrictive feature: More than 80 inches

Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

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

Minor Components

Rhinebeck

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

Cayuga

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

Lyons

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

Ilion

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

Kendaia

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

RkB—Rhinebeck silt loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 9xp1
Elevation: 80 to 1,000 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Rhinebeck and similar soils: 75 percent

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

Description of Rhinebeck

Setting

Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 12 inches: silt loam
H2 - 12 to 23 inches: silty clay loam
H3 - 23 to 60 inches: silty clay loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: F101XY009NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Madalin

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

Ovid

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

Canandaigua

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

Niagara

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

Hudson

Percent of map unit: 5 percent

Hydric soil rating: No

Ro—Rock outcrop

Map Unit Setting

National map unit symbol: 9xp3
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Rock outcrop: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rock Outcrop

Properties and qualities

Slope: 0 to 25 percent
Depth to restrictive feature: 0 to 10 inches to lithic bedrock

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: Unranked

W—Water

Map Unit Setting

National map unit symbol: 1nc3d
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

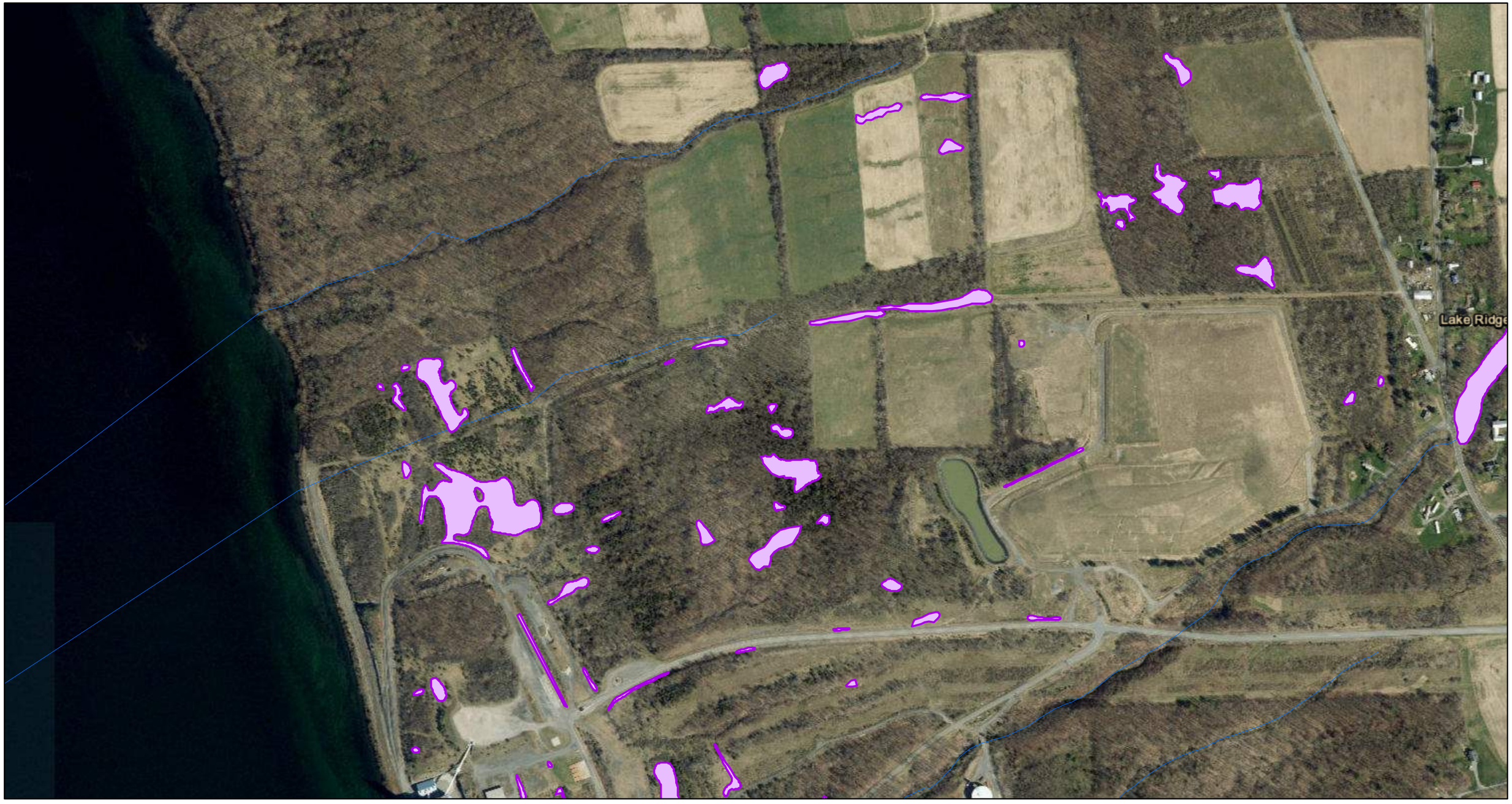
United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

ATTACHMENT 4
NEW YORK STATE AND NATIONAL WETLAND INVENTORY MAPPING

Cayuga Concept Engineering Wetland Delineation



July 7, 2025

Map Layers

- Waterbody Classifications for Rivers/Streams
- Waterbody Classifications for Lakes

Wetland Layers

- Previously Mapped Freshwater Wetlands
- Informational Freshwater Wetland Mapping

1:9,028

0 0.07 0.15 0.3 mi

0 0.13 0.25 0.5 km

EagleView, New York State, Maxar, County of Tompkins, Esri, HERE, Garmin, iPC

NYS Department of Environmental Conservation
Not a legal document

U.S. Fish and Wildlife Service
National Wetlands Inventory

Cayuga Concept Engineering Wetland Deli

July 7, 2025

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

ATTACHMENT 5
FLOODPLAIN MAP

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available effective flood hazard information for your community, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Mapping and Insurance eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be downloaded from the website. Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be acquired directly from the Flood Map Service Center at the website listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Basemap information shown on this FIRM was provided in digital format by the United States Geological Survey (USGS). The basemap shown is the USGS National Map: Orthoimagery. Last refreshed October, 2020.

Note: Some Special Flood Hazard Areas with elevations may not appear with elevation labels if the Base Flood Elevation or Cross-section line which communicates the elevation for the location appears on the adjacent panel. Please see the Panel Locator Diagram on this map panel to determine the adjacent panel and find the elevation feature there, or alternatively use the Flood Insurance Study report for detailed elevations by flood source.

SCALE

N

1 inch = 500 feet 1:6,000

0 250 500 1,000 1,500 2,000 feet

0 50 100 200 300 400 meters

Map Projection:
NAD 1983 StatePlane New York Central FIPS 3102 Feet
Vertical Datum: NAVD88

PANEL LOCATOR

*PANEL NOT PRINTED

FEMA National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

TOMPKINS COUNTY
NEW YORK
ALL JURISDICTIONS

FEMA

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
TOWN OF LANSING	360852	0057	D

MAP NUMBER
36109C0057D
EFFECTIVE DATE
June 18, 2025

Section 2
Stormwater Pollution Prevention Plan (SWPPP)

RAMBOLL

WATER

SWPPP Narrative memo

Project name	**Beowulf**
Project no.	
Client	**LeChase**
Memo no.	**01**
Version	**0**
To	**Matthew Wood, CAC (LeChase)**
From	**Andrew Stering**
Copy to	
Prepared by	**A. Stering**
Checked by	**B. Whittaker**
Approved by	**B. Whittaker**

Date September 08, 2025

Ramboll
One Technology Park Drive
Westford, MA 01886
USA

T+1 978 449 0300
F+1 978 449 0301
https://ramboll.com

1 New York State Stormwater Design Requirements

New York State Department of Environmental Conservation (NYSDEC) updated their Stormwater Management Design Manual (SWDM) July 31, 2024. Chapter 4 of the manual discusses the unified stormwater sizing criteria within the state, which presents requirements for water quantity control. Channel Protection Volume (CPv), Overbank Flood (Qp), and Extreme Flood (Qf) are waived since Cayuga Lake – a sixth order water body – is the discharge point for this system. The stormwater management requirements for the site will be limited to water quality control. This will be accomplished by providing Runoff Reduction Volume (RRv) equal to the Water Quality Volume (WQv) or to provide RRv above the minimum calculated RRv and provide treatment of the remaining WQv. NYSDEC prefers the first approach and it is achievable with our concept. The minimum RRv was not calculated because we will provide RRv more than the WQv through the techniques described in the next sections. The equation for calculating WQv is as follows:

$$WQv\ (acre-feet) = \frac{P\ (in) * Rv * A\ (acres)}{12}$$

$$WQv\ (acre-feet) = \frac{1\ in * [0.05 + 0.009 * (\%\ impervious)] * A\ (acres)}{12}$$

Ramboll's stormwater management concepts utilize NYSDEC approved practices throughout the site to provide a de-centralized approach to stormwater management. The following sections will discuss approaches to manage stormwater originating from the buildings, the parking areas, and the roads.

2 Management of stormwater from building roof runoff

Some of the largest contributors to the impervious area increase on the site are the roof areas of the data centers themselves. Each of the data center buildings are in excess of 165,000 square feet, all of which is considered impervious. Stormwater runoff from the roofs will be managed as close to the source as possible, and the roof will be split up into approximately 12 zones with gutters and downspouts. Each of the zones will be less than 15,000 square feet as directed by the SWDM. The gutters for these will be directly connected to a stormwater planter with no underdrain (NYSDEC SWDM practice RR-7). There is adequate space to provide 6 of the planters along the length of both sides of the data center buildings which will provide adequate RRv for the portion of impervious area contributed by the rooftops. Overflow will be directed to a network of stormwater pipes connecting these practices to the rest of the stormwater system on site. See appendix A for the NYSDEC SWDM factsheet for stormwater planters.

3 Management of stormwater from parking area runoff

Each of the data centers have been designed to include both a parking lot area and a loading dock area where asphalt paving extends directly up to the proposed building wall. While relatively small in comparison to the overall increase in impervious area, these areas will also be treated as close to the source as possible. There are approximately 25,000 square feet of impervious parking lot asphalt per data center. The surface runoff of these features will first run through grass pre-treatment, and then into one of two infiltration bioretention (NYSDEC SWDM practice F-4) areas that will be provided adjacent to these areas. This practice provides 100% RRv credit and the filter area will be sized to adequately treat the WQv resulting from the contributing parking areas. Overflow will be directed to a network of stormwater pipes connecting these practices to the rest of the stormwater system on site. See appendix B for the NYSDEC SWDM factsheet for infiltration bioretention areas.

4 Management of stormwater from site roads

There are two types of roads proposed on the site. One is for general site circulation that provides access to Cayuga Drive and access to each of the data centers. The other provides vehicular access around each of the data center buildings. While both will be managed utilizing tree trenches (NYSDEC SWDM practice RR-3), the sizing and drainage area strategy differs between the two.

For the roads that circulate the entire site and provide site access from Cayuga Drive, the strategy will be to provide smaller periodic tree trenches that will accept flow from catch basins along the main roadway. A 320 square foot filter area will be provided for catch basins spaced every 300 feet and will have trees planted every 10-feet (on center) within the filter area. Pre treatment will be provided at each inlet location using gabion baskets at the inlet locations as shown on page 5-40 of the stormwater design manual. Overflow will be directed to a network of stormwater pipes connecting these practices to the rest of the stormwater system on site.

For the roads that surround the data centers, tree trenches placed longitudinally along the path would not be feasible due to site geometry, particularly for the data center in the middle. Instead of periodic tree trenches, a large tree trench will be provided at the downslope end of each data center. Stormwater will be collected through a traditional stormwater system discharging to a large tree trench running NW to SE along the SW side of the road surrounding the data centers. These trenches will be

sized to provide adequate filter bed area to provide enough RRv for the entirety of the road surrounding each data center and trees will be planted every 10’ on center. Overflow from these trenches will be directed towards the rest of the stormwater system on site.

See appendix C for the NYSDEC SWDM factsheet for tree planting/tree pit/tree trench and appendix D for page 5-40 of the manual which includes the standard detail for the practice.

5 Infiltration rates

The above approach is pending infiltration rate testing at the stormwater management practice locations. 100% RRv credit for stormwater planters, tree trenches, and bioretention is predicated on an infiltration rate of greater than 0.5 inches per hour.

Should infiltration testing occur and show that the infiltration rates are less than 0.5 inches per hour, additional practices will be added to provide treatment for the difference between the WQv and the provided RRv.

APPENDIX A
NYSDEC STORMWATER DESIGN MANUAL
STORMWATER PLANTER (RR-7) FACT SHEET

Fact Sheet: Stormwater Planters (RR-7)

Description: Passive filtration system to manage and treat small to moderate volumes of stormwater runoff from adjacent impervious surfaces. The system consists of an inflow component, a shallow ponding area over a planted soil bed, mulch layer, stone drainage layer, plantings and an overflow mechanism to convey larger rain events to the storm drain system.

Key Considerations

FEASIBILITY

- Stormwater planters shall be designed and constructed with no longitudinal or lateral slope
- Maximum contributing area shall be 15,000 sf per stormwater planter
- Parking lot or roadway runoff shall not be directed to stormwater planters
- Infiltration stormwater planters shall have underlying soils with an infiltration rate greater than or equal to 0.50 inch/hr
- Filtration stormwater planters shall have underlying soils with an infiltration rate greater than or equal to 0.50 inch/hr, unless underdrains are provided

CONVEYANCE

- Runoff must enter at the surface of the soil media
- Runoff shall be directed to stormwater planters at a non-erosive rate through shallow swales, drainpipe, or short distances of sheet flow
- Underdrain systems shall be designed to create an internal water storage
- Outlet(s) shall be designed to ensure non-erosive outlet conditions
- An emergency spillway or overflow device shall be provided to safely convey stormwater exceeding the Extreme Flood

TREATMENT

- Maximum ponding depth shall be 12 inches during the WQv event and 18 inches during the Extreme Flood event
- Stormwater planters shall have a 18 inch minimum and 30 inch maximum filter media depth
- Infiltration stormwater planters shall have a 6 inch minimum stone drainage layer
- Filtration stormwater planters shall have a 10 inch minimum stone drainage layer
- Underdrains are required for filtration stormwater planters

STORMWATER MANAGEMENT SUITABILITY

- Water Quality
- Channel Protection
- Overbank Flood Protection
- Extreme Flood Protection
- ✓ Runoff Reduction
- Treatment of Hotspots
- ✓ Linear Applications

✓ suitable for this practice

IMPLEMENTATION CONSIDERATIONS

- L Capital Cost
- M Maintenance Burden
- L Safety
- H Landscaping

L = Low **M** = Moderate **H** = High
NA = Not Applicable

POLLUTANT REMOVAL (*See **Table 10.4***)

- G Phosphorus
- ▞ Nitrogen
- NA Metals
- NA Pathogens
- G Total Suspended Solids

G = Good **F** = Fair **P** = Poor ▞ = Fair/Good

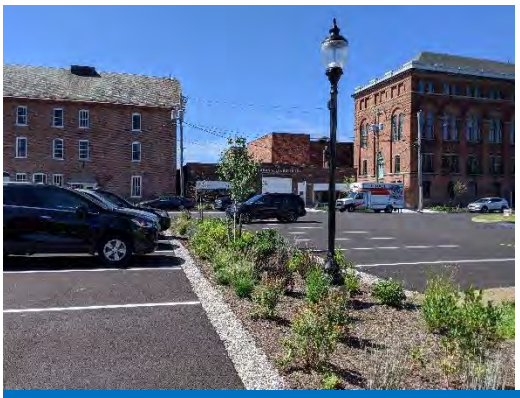
**NA = Not enough data available, more research needed*

RUNOFF REDUCTION CREDIT

- 100% RRv provided without underdrains
  40% RRv provided with underdrains

APPENDIX B
NYSDEC STORMWATER DESIGN MANUAL
INFILTRATION BIORETENTION (F-4) FACT SHEET

Fact Sheet: Infiltration Bioretention (F-4)



Description: Shallow stormwater controls that utilize vegetation and engineered filter media to capture, treat, and infiltrate stormwater runoff into the underlying soils.

Key Considerations

PERFORMANCE CRITERIA

FEASIBILITY

- Underlying soils shall have an min. infiltration rate of 0.50 inch/hr
- Design and construct level, with no longitudinal or lateral slope
- Max contributing area is 5 acres
- Min 2 ft separation to seasonal high-water table or bedrock
- Two treatment practices in series both sized to treat the entire WQv (non-infiltration standard SMP followed by an infiltration practice) shall be provided for hotspot treatment

CONVEYANCE

- Runoff conveyed by pipe or concentrated flow shall utilize a pretreatment device or flow dissipator to reduce flow velocity prior to entering the filter media
- If flow velocity cannot be reduced to non-erosive conditions, the practice shall be designed off-line
- Outlet(s) shall be designed to ensure non-erosive outlet conditions
- An emergency spillway or overflow chamber with outlet pipe to safely convey stormwater exceeding the Extreme Flood shall be included

PRETREATMENT

- Pretreatment shall provide min 25% WQv

TREATMENT

- Practice shall be sized (including pretreatment) to temporarily hold the WQv prior to filtration
- Max ponding is 12 inches (WQv) and 18 inches (Extreme Flood)
- Depth of filter media shall be 30 inches min and 48 inches max
- Depth of drainage layer shall be 6 inches
- Min 12 ft wide maintenance access shall be provided 15% max slope

STORMWATER MANAGEMENT SUITABILITY

✓	Water Quality
✓	Channel Protection
✓	Overbank Flood Protection
✓	Extreme Flood Protection
✓	Runoff Reduction
✓	Treatment of Hotspots
✓	Linear Applications

✓ suitable for this practice

IMPLEMENTATION CONSIDERATIONS

M	Capital Cost
H	Maintenance Burden
M	Safety Risk
H	Landscaping

L = Low **M** = Moderate **H** = High
NA = Not Applicable

POLLUTANT REMOVAL (*See **Table 10.3***)

G	Phosphorus
G	Nitrogen
G	Metals
G	Pathogens
G	Total Suspended Solids

G = Good **F** = Fair **P** = Poor

RUNOFF REDUCTION CREDIT

- 100% RRv provided

APPENDIX C
NYSDEC STORMWATER DESIGN MANUAL
TREE PLANTING/TREE PIT/TREE TRENCH (RR-3) FACT SHEET

Fact Sheet: Tree Planting/Tree Pit/Tree Trench (RR-3)

Description: Tree planting is an area reduction practice using existing or newly planted trees. Tree pits are a volume reduction practice using trees planted in contained areas.

Key Considerations

FEASIBILITY

- Tree plantings are not applicable if credit for another area reduction practice is already being taken for the same area
- Trees shall be non-invasive and not be disturbed during construction
- Tree pits shall have underlying soils with an infiltrate greater than or equal to 0.50 inch/hr, unless underdrains are provided
- Tree trenches shall have underlying soils with an infiltration rate greater than or equal to 0.50 inch/hr
- Tree trenches and tree pits shall have a 2 ft min. separation to the seasonal high water table and bedrock
- Overhead clearance shall be taken into consideration when selecting tree species

CONVEYANCE

- Tree pit underdrain systems shall be designed to create an internal water storage
- Tree trenches shall be equipped with a subsurface infiltration reservoir
- Stormwater runoff shall be intercepted near the source and conveyed to the practice as sheet flow

TREATMENT

- The maximum slope of the contributing area is 10%
- The maximum horizontal separation from the contributing impervious area is 10 ft (new trees) or within 20 ft of the canopy (existing trees)
- Drainage filter fabric shall separate and wrap the soil media and stone drainage layer of tree trenches
- For area reduction subtract the total area contributing by sheet flow to an existing or new tree from the total area when computing WQv
- For volume reduction, systems should ensure that the peak water surface elevation for the 10-year, 24-hr design storm does not overtop the system

STORMWATER MANAGEMENT SUITABILITY

	Water Quality
	Channel Protection
	Overbank Flood Protection
	Extreme Flood Protection
✓	Runoff Reduction
	Treatment of Hotspots
✓	Linear Applications

✓ suitable for this practice

IMPLEMENTATION CONSIDERATIONS

H	Capital Cost
M	Maintenance Burden
L	Safety Risk
L	Landscaping

L = Low **M** = Moderate **H** = High
NA = Not Applicable

POLLUTANT REMOVAL (*See **Table 10.4***)

G	Phosphorus
F	Nitrogen
G	Metals
G	Pathogens
G	Total Suspended Solids

G = Good **F** = Fair **P** = Poor

RUNOFF REDUCTION CREDIT

- 100% area reduction towards RRv (plantings)
- 100% RRv provided (trenches and pits)
- 40% RRv provided (tree pits with underdrains)

APPENDIX D
NYSDEC STORMWATER DESIGN MANUAL
TREE TRENCH STANDARD DETAIL WITH GABION BASKET PRETREATMENT

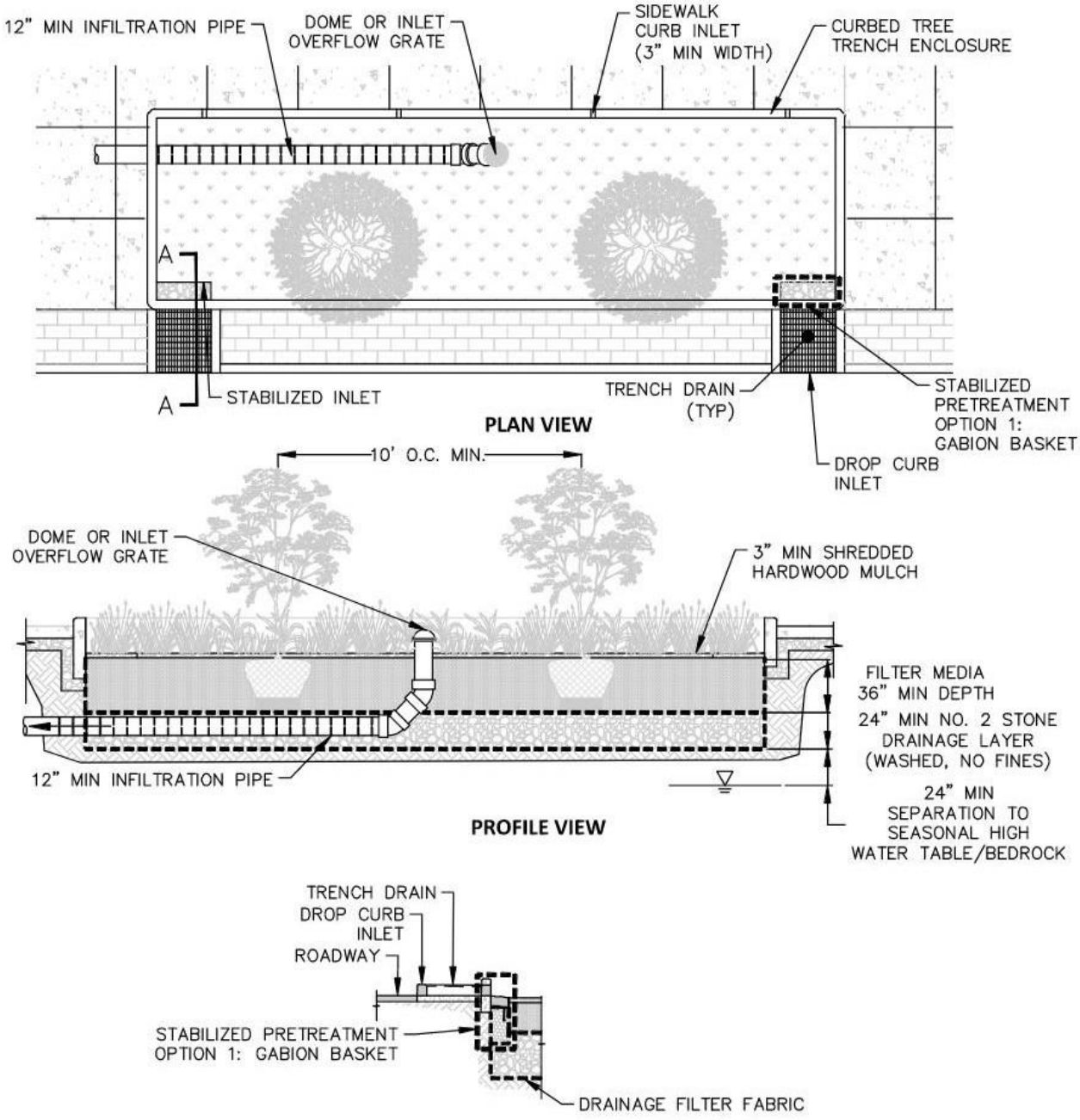


Figure 5.38 Tree Trench Surface Flow (RR-3)

Section 3
Agricultural District Statement

Map Scale: 1:20,000 | Map Center: 76°37'22"W 42°36'28"N

PROJECT: 1940115639 | DATED: 9/8/2025 | DESIGNER: MOSHERSG

C:\Users\MOSHERSG\OneDrive - Ramboll\Documents 1\ArcGIS\Projects\Terrawolf\Terrawolf_Lansing.aprx

AGRICULTURAL DISTRICTS

FIGURE 01

KEY MAP

AGRICULTURAL DISTRICTS

0 1,000 2,000 Feet

Cayuga Operating Company, LLC.
228 Cayuga Drive
Lansing, NY 14882

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

Section 4
Environmental Assessment Form

Short Environmental Assessment Form
Part 1 - Project Information

Instructions for Completing

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

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

Part 1 – Project and Sponsor Information

Cayuga Operating Company LLC

Name of Action or Project:
Research and training based Artificial Intelligence Computer Server Buildings

Project Location (describe, and attach a location map):
228 Cayuga Drive, Lansing, NY 14882 (see attached site location map)

Brief Description of Proposed Action:
The proposed project will include the construction of +150 MW of advanced data centers to support advanced training and workloads for computing of scientific research among other things. The first phase of the project will include build out of one of the data centers and the following phase(s) will include the remaining data centers. Design 1) will not use water from the lake due to the closed loop cooling system, 2) Will bring in ultra high speed broadband internet to the site which will also benefit the local community, 3) ultra low noise fans on external equipment well below town ordiance, 4) provide +100 permanent high tech jobs, and 5) support interest of local community with inventment and funding.

Name of Applicant or Sponsor:	Telephone: 607-252-0722
Cayuga Operating Company LLC (Contact: Fred DelFavero)	E-Mail: fdelfavero@beowulfed.com

Address:
228 Cayuga Drive

City/PO:	State:	Zip Code:
Lansing	NY	14882

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	☑	☐
2. Does the proposed action require a permit, approval or funding from any other government Agency? If Yes, list agency(s) name and permit or approval: Town - Site Plan Approval and Coastal Assessment. NYSDEC, NYSPSC, NYSDOT, USACE, USFWS, SHPO	☐	☑

3. a. Total acreage of the site of the proposed action? ±20 acres
   b. Total acreage to be physically disturbed? ±20 acres
   c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? ±434 acres

4. Check all land uses that occur on, are adjoining or near the proposed action:

5. ☐ Urban ☑ Rural (non-agriculture) ☑ Industrial ☐ Commercial ☐ Residential (suburban)
   ☑ Forest ☑ Agriculture ☐ Aquatic ☐ Other(Specify):
   ☐ Parkland

	NO	YES	N/A
5. Is the proposed action,			
a. A permitted use under the zoning regulations?	☐	☑	☐
b. Consistent with the adopted comprehensive plan?	☐	☑	☐

	NO	YES
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	☐	☑

	NO	YES
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area?		
If Yes, identify: _____	☐	☑

	NO	YES
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	☐	☑
b. Are public transportation services available at or near the site of the proposed action?	☐	☑
c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	☐	☑

	NO	YES
9. Does the proposed action meet or exceed the state energy code requirements?		
If the proposed action will exceed requirements, describe design features and technologies:		
Proposed action will meet energy code requirements.	☐	☑

	NO	YES
10. Will the proposed action connect to an existing public/private water supply?		
If No, describe method for providing potable water: _____	☐	☑

	NO	YES
11. Will the proposed action connect to existing wastewater utilities?		
If No, describe method for providing wastewater treatment: _____		
Sanitary wastewater will be directed to the existing wastewater septic system.	☑	☐

	NO	YES
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places?	☑	☐
b. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	☑	☐

	NO	YES
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	☐	☑
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	☐	☑
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____		
A wetland delineation report will be submitted as part of the site application with close alignment with the necessary governing bodies along with approved mitigation.		

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:

☐ Shoreline ☑ Forest ☑ Agricultural/grasslands ☐ Early mid-successional

☑ Wetland ☐ Urban ☐ Suburban

	NO	YES
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered? Potential Northern Long-eared Bat (Endangered), Monarch Butterfly (Candidate)	☐	☑
16. Is the project site located in the 100-year flood plan?	☑	☐
17. Will the proposed action create storm water discharge, either from point or non-point sources?	☐	☑
If Yes, a. Will storm water discharges flow to adjacent properties?	☑	☐
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?	☐	☑
If Yes, briefly describe: Stormwater will be directed to biofiltration/bioinfiltration systems,tree trenches and stormwater planters.		
18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)? If Yes, explain the purpose and size of the impoundment: See discussion on stormwater above.	☐	☑
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe: Area to the east is identified in DEC InfoLocator as an inactive solid waste landfill.	☐	☑
20.Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe:	☑	☐

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor/name: Sean Farrell, Authorized Signatory for Cayuga Operating Company LLC Date: September 9, 2025

Signature: Sean Farrell Title: Authorized Signatory

PRINT FORM

EAF Mapper Summary Report

Monday, September 8, 2025 10:41 AM

Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources to confirm data provided by the Mapper or to obtain data not provided by the Mapper.

Part 1 / Question 7 [Critical Environmental Area]	No
Part 1 / Question 12a [National or State Register of Historic Places or State Eligible Sites]	No
Part 1 / Question 12b [Archeological Sites]	No
Part 1 / Question 13a [Wetlands or Other Regulated Waterbodies]	Yes - Digital mapping information on local, New York State, and federal wetlands and waterbodies is known to be incomplete. Refer to the EAF Workbook.
Part 1 / Question 15 [Threatened or Endangered Animal]	Yes
Part 1 / Question 15 [Threatened or Endangered Animal - Name]	Yes
Part 1 / Question 16 [100 Year Flood Plain]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
Part 1 / Question 20 [Remediation Site]	No

Map Scale: 1:20,000 | Map Center: 76°37'22"W 42°36'28"N

C:\Users\MOSHERSG\OneDrive - Ramboll\Documents 1\ArcGIS\Projects\Terrawolf\Terrawolf_Lansing.aprx

PROJECT: 1940115639 | DATED: 9/8/2025 | DESIGNER: MOSHERSG

SITE LOCATION

FIGURE 01

KEY MAP

0 1,000 2,000 Feet

Cayuga Operating Company, LLC.
228 Cayuga Drive
Lansing, NY 14882

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

Section 5
Site Plan Renderings

CAYUGA: LANSING, NY

CONCEPTUAL RENDERS

CONCEPTUAL RENDER #1

View taken from approximately 500 feet AMSL above the existing limestone pad to the north of Milliken Station.

CAYUGA: LANSING, NY

CONCEPTUAL RENDERS

CONCEPTUAL RENDER #2

Side View of Datacenter Campus Buildings with Milliken Station in the background and Cayuga Lake beyond.

Section 6
Photometric and Lighting Statement

MEMO

Project name **Research based Artificial Intelligence Computer Server Buildings**
Client **Cayuga Operating Company, LLC**

Date September 08, 2025

Site Lighting and Electrical Utility Strategy

Site Lighting

Site lighting will consist of roadway pole mounted lights and exterior building wall packs for safety and security. Both the roadway lighting and building wall packs will utilize a full cutoff design technology directing 100% of the light downward in effort to mitigate any upward emission. This design concept prevents light pollution and shields any direct light glare.

Electrical Utility

Power will be sourced from the existing Milliken station NYSEG 115kV substation located on the site. Two 115kV feeders will be routed overhead to a new substation yard. Medium voltage feeders will be routed underground from the substation yard to desired buildings.