Site Plan Application

Town of Lansing, NY
Application #: 26-2
Revision: 0
Date: 3/25/26

Project: Lake Hawkeye Data Campus
By: TeraWulf Inc.
228 Cayuga Dr., Lansing NY 14882

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EXECUTIVE SUMMARY – SITE PLAN REVIEW APPLICATION
Industrial/Research (IR) District – Town of Lansing

Date: March 25, 2026

Submitted by: TeraWulf Inc. and Cayuga Operating Company LLC (the "Applicants")

Project Name: Lake Hawkeye Data Campus ("Lake Hawkeye" or the "Project")

Location: Former Cayuga Generation Site – Town of Lansing, Tompkins County, New York

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1 Project Description

Overview

Lake Hawkeye is a modern research and technology data campus proposed on the site of the former Cayuga power plant. The Project repurposes a legacy industrial site historically dedicated to utility-scale infrastructure and adapts it for research-grade digital processing.

The Project is permitted use in the Industrial/Research (IR) District and therefore requires site-plan review only, not a rezoning or use variance.

As a purpose-built industrial site, the property is well suited for adaptive uses. The Project redevelops vacant and underutilized land into a lower intensity use than the prior heavy industrial operations, resulting in a net positive outcome without significant adverse impacts.

Site Context and Campus Design

The overall property comprises approximately 434 acres, of which 183 acres are leased by a wholly owned subsidiary of TeraWulf for the Lake Hawkeye campus. Initial development is confined to an interior plateau screened by natural topography and year-round vegetation.

The campus will consist of multiple low-profile research buildings designed to preserve view corridors. Mechanical systems will be enclosed or shielded, and all structures will remain visually subordinate within the existing industrial landscape.

Cooling will be delivered through closed-loop systems that:

- Do not withdraw water from Cayuga Lake.
- Do not discharge water to Cayuga Lake.
- Do not utilize once-through cooling.

Potable water will be provided by Bolton Point.

Accordingly, the Project will not result in thermal water discharge or consumptive water impacts to Cayuga Lake.

2 Phasing and Construction Sequence

The Project will deliver up to 300 MW of enclosed research computing infrastructure in phases.

Phase I includes three 50-MW buildings, followed by Phase II which will consist of one or two additional buildings. Each building is expected to require 12–14 months from Notice to Proceed through commissioning.

This phased approach aligns capacity with infrastructure readiness, minimizes construction disturbance, and supports a consistent pipeline of skilled regional trade employment.

3 Existing Infrastructure and Grid Utilization

The Project leverages the existing electric transmission interconnection and substation infrastructure that previously served the Cayuga generating facility.

No new electric generation facilities are proposed as part of this application.

4 Traffic and Operational Characteristics

During the construction period, the Project will generate temporary traffic associated with normal site development activities, including deliveries of materials and equipment, construction worker vehicles, and contractor access. Construction traffic will be phased over time and managed through an approved logistics and staging plan designed to maintain safe and orderly site access.

Once operational, traffic associated with the Project is expected to be consistent with ordinary industrial and research uses in the IR District. While the Project will create sustained construction employment and permanent skilled jobs, day-to-day operational traffic is not expected to exceed levels historically associated with the site's prior industrial use.

5 Infrastructure, Environmental, and Community Benefits

The Project provides meaningful public and environmental benefits. It replaces a former coal-fired facility with a significantly cleaner, low-emission use, resulting in a categorical improvement in air quality relative to the site's former industrial use. The reuse of existing grid infrastructure minimizes the need for new transmission development while supporting continued productive use of the site.

The Project is designed with a low-noise operational profile using acoustically engineered equipment. An acoustical assessment prepared for Phase I of the Project indicates that operational noise levels will comply with applicable standards and that additional mitigation

measures are not anticipated to be necessary. The Project will also support the expansion of regional broadband and digital infrastructure. It will generate sustained construction employment, create permanent skilled technical jobs, and restore long-term tax productivity to a formerly inactive industrial site.

The redevelopment will also remove obsolete coal infrastructure, eliminate site blight, and return the property to productive use, consistent with local economic development objectives. TeraWulf intends to maintain ongoing community engagement and support public-service partnerships as part of its long-term presence in the region.

6 Consistency with the IR District and 2018 Comprehensive Plan

The Industrial/Research (IR) District is intended to support assembly, fabrication, and research uses, while fostering employment centers.

The Town's 2018 Comprehensive Plan encourages the redevelopment of aging or abandoned industrial sites and infill development that leverages existing infrastructure. The Project directly advances these objectives by repurposing legacy energy infrastructure for advanced digital research use, avoiding abandonment and limiting greenfield development.

7 Use Classification – General Processing

Schedule I of the Town Zoning Ordinance permits "General Processing" within the IR District.

By decision dated December 22, 2025, the Town of Lansing Zoning Board of Appeals determined that the Project qualifies as a permitted General Processing use. The Board concluded that the term "general processing" is not limited to tangible goods, encompasses a broad range of processing activities, and must be interpreted broadly in favor of the applicant. The Board further determined that the Project falls squarely within the intended scope of the ordinance.

Accordingly, the Project is a permitted use and is properly before the Planning Board for site plan review.

8 No-Action Alternative

Under SEQRA, consideration must be given to the no-action alternative. Continued vacancy of the site would present ongoing environmental and community risks, including deteriorating infrastructure and loss of economic productivity.

By contrast, the proposed Project results in substantially lower environmental impacts than both the former use and the no-action scenario. On balance, it represents a clear net environmental and community benefit.

9 Environmental Review

The Project will be subject to review under the New York State Environmental Quality Review Act (SEQRA), including completion of a Full Environmental Assessment Form and supporting technical materials. Based on the information currently available, no significant adverse environmental impacts are anticipated. Potential impacts related to land disturbance, stormwater, traffic, noise, air quality, and visual character are expected to be temporary or limited in nature and will be avoided or minimized through site design, phased construction, and adherence to applicable regulatory programs and best management practices.

Additional detail regarding construction sequencing, impact minimization, and environmental controls is provided in the Construction Sequencing and Impact Minimization Narrative (March 2026).

10 Conclusion

The Lake Hawkeye data campus represents a lawful and strategic adaptive reuse of a legacy industrial site. The Project is fully consistent with the intent of the IR District, the Town's 2018 Comprehensive Plan, and state and regional policy encouraging redevelopment of legacy infrastructure.

No rezoning or variance is required. The Project is respectfully submitted for site plan approval as a permitted use.

List of Exhibits

- Exhibit A – Site Survey
- Exhibit B – Site Plan & Elevations
- Exhibit C – Wetland Delineation Assessment
- Exhibit D – Storm Water Prevention Plan (SWPP)
- Exhibit E – Planting Approach
- Exhibit F – Agricultural District Statement
- Exhibit G – Environmental Assessment Form (EAF)
- Exhibit H – Site Plan Renderings
- Exhibit I – Acoustical Assessment Report
- Exhibit J – Photometric and Lighting Layout
- Exhibit K – Construction Sequencing and Impact Minimization Narrative
- Exhibit L –Site Logistics Plan

Additional materials may be provided or supplemented at the request of the Planning Board during the course of its review.

Exhibit A
Site Survey

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).

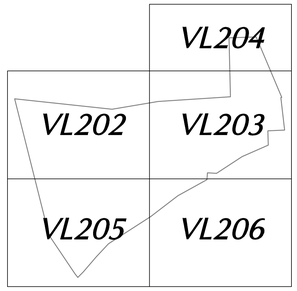




PROJECT LOCATION MAP

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(c-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, SHRUB, 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		

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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

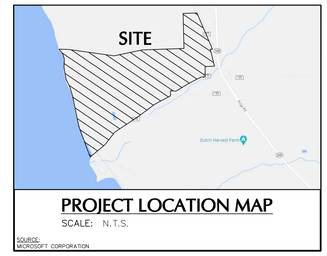
Project No. 190091601
Date August 29, 2023
Drawn By KEC
Checked By TR

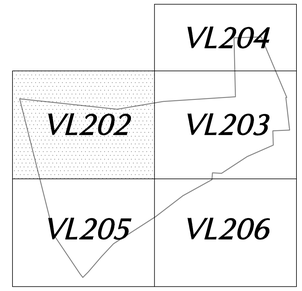
Drawing No. VL201
Sheet 1 of 6

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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, 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 (FENCE MARK), MANHOLE (STEAM), MANHOLE (UNKNOWN UTILITY), WATER VALVE, GAS VALVE, SHRUB, CATCH BASIN, CLEAN OUT, TREE, SIGN, BOLLARD, PEDESTRIAN WALK SIGNAL, DOUBLE DOOR, OVERHEAD DOOR, PARKING METER, METAL COVER, UTILITY POLE, SOIL BORING, MONITORING WELL, TEST PIT, BENCHMARK, DROP INLET, 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, END 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 MAP REFERENCE, 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

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

Date	Description	No.
Revisions		

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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. VL202
Sheet 2 of 6

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SHEET VL204
SHEET VL203

TAX MAP NO. 1.-1-16.2 n/f THE FINGER LAKES LAND TRUST, INC. INSTRUMENT #2022-05626

SMITH TO NYSEG 04/01/1968 L. 474, P. 543

Pin & Cap Fnd. 0.4' W

N 85°27'28" E (S)
N 85°27'44" E (D)
170.25'

CARLTON TO NYSEG 02/19/1968 L. 473, P. 1032

KRAUSE TO NYSEG 01/15/1968 L. 473, P. 527

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'

Pin & Cap Fnd. 0.5' W

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)
S 06°42'21" E (D)
817.40'

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 46-3

STARKS/STARK TO NYSEG 02/13/1968 L. 473, P. 966

HARVEY TO NYSEG 06/18/1968 L. 475, P. 905

STUART TO NYSEG 06/27/1968 L. 476, P. 167

Monitoring Well (TYP)

SALTONSTALL, LAWRENCE TO NYSEG 01/24/1968 L. 473, P. 672

Monitoring Well (TYP)

4" Iron Rod Fnd. 0.4' W 0.2' S

4" Iron Rod Fnd. 0.6' W 0.7' S

TAX MAP NO. 11.-1-9 n/f TRENHOLM INSTRUMENT #513268-001

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°11'47" E (S)
S 02°11'01" E (D)
358.43'

Iron Pipe Fnd.

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'

TAX MAP NO. 11.-1-10

4" Iron Rod Fnd. 0.4' SW

TAX MAP NO. 11.-1-11.2

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

RIGHT(S)-OF-WAY SHOWN ARE SUBJECT TO THE RIGHTS OF THE PUBLIC IN, OVER AND ACROSS SAID ROAD(S)

654.22'

TAX MAP NO. 11.-1-3.1

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)

12.5' ACCESS EASEMENT (25' TOTAL WIDTH) PER LIBER 356 PAGE 143, LIBER 357 PAGE 205 AND REFERENCED IN LIBER 423, PAGE 992

FENNER TO NYSEG 02/15/1968 L. 473, P. 992

FENNER TO NYSEG 02/26/1953 L. 356, P. 145

FENNER TO NYSEG 03/28/1953 L. 357, P. 205

Pin & Cap Fnd. 0.5' S 0.2' 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)

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)
548.76'

S 06°40'36" E (S)
S 06°40'20" E (D)
171.25'

MILLIKEN POWER PLANT ACCESS ROAD (PRIVATE)

CAYUGA DRIVE

TRACT LINE (TYP)

ACCESS EASEMENT PER LIBER 730 PAGE 178 (TYP)

TRANSMISSION CORRIDOR EASEMENT-PER MAP REFERENCE 1

APPROXIMATE AREA OF PERMANENT ROAD EASEMENT PER LIBER 783, PAGE 312

RIP-RAP

RETAINING WALL

CONC. WALL

BRIDGE

HEADWALL

RETENTION POND

GRAVEL FEATURES (TYP)

TREE LINE (TYP)

OVERHEAD WIRES (TYP)

RIM-774.17
RIM-749.26
RIM-722.34
RIM-725.04
RIM-774.18
RIM-743.10
RIM-478.35

SITE

PROJECT LOCATION MAP
SCALE: N.T.S.
SOURCE: MICROSOFT CORPORATION

VL202 | VL203 | VL204 | VL205 | VL206

KEY MAP

LEGEND OF SYMBOLS & ABBREVIATIONS

HYDRANT	BOLLARD	STORM DRAIN	
STREET LIGHT	PEDESTRIAN WALK SIGNAL	SANITARY LINE	
UTILITY POLE	DOOR	COMBINED UTILITY LINE	
SIGNAL POLE	DOUBLE DOOR	GAS LINE	
GUY WIRE	OVERHEAD DOOR	UNKNOWN UTILITY LINE	
ANCHOR POLE	METAL DOOR	WATER LINE	
MANHOLE	METAL COVER	WATER LINE	
MANHOLE (DRAINAGE)	ELECTRIC BOX	ELECTRIC LINE	
MANHOLE (SANITARY SEWER)	MONUMENT	TELEPHONE LINE	
MANHOLE (ELECTRIC)	MONITORING WELL	CABLE TV LINE	
MANHOLE (WATER)	TEST PIT	STEAM LINE	
MANHOLE (NATURAL GAS)	CATCH BASIN	FORCE MAIN	
MANHOLE (TELEPHONE)	ROOF DRAIN	FIBER OPTIC	
MANHOLE (STORM WARE)	SPOT ELEVATION	REFERENCED UTILITY LINE (AS NOTED BASED ON RECORD MAPPING)	
MANHOLE (STEAM)	CONCRETE CURB	OVERHEAD WIRE	
MANHOLE (UNKNOWN UTILITY)	CONCRETE	BURIED UTILITY LINE	
GAS VALVE	HANDICAP PAD	GUIDE RAIL/TRAFFIC BARRIER	
GAS VALVE	SHOP CURB	WOOD/STOCKADE FENCE	
SHRUB	BROKEN WHITE STRIPE	WIRE FENCE	
CATCH BASIN	SINGLE YELLOW STRIPE	IRON FENCE	
CLEAN OUT	DOUBLE YELLOW STRIPE	TREE LINE	
TREE	SOLID WHITE STRIPE	EASEMENT LINE	
SIGN	REINFORCED CONCRETE PIPE	PROPERTY LINE	
	DUCTILE IRON PIPE	RIGHT-OF-WAY LINE	
	CORRUGATED METAL PIPE	CONTOUR LINE	
	POLYVINYL CHLORIDE		
	EDGE OF PAVEMENT		
	LANDSCAPED AREA		
	SURVEY BEARING & DISTANCE		
	DEED BEARING & DISTANCE		

SCALE IN FEET (1" = 100')

Date	Description	No.
Revisions		

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

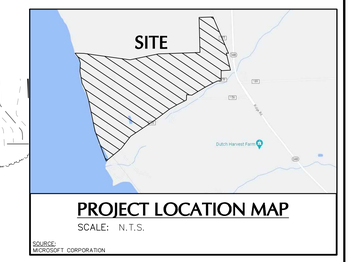
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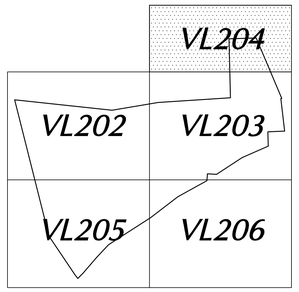
Project No. 190091601
Date NOVEMBER 2, 2023
Drawn By KEC
Checked By TR

Drawing No. VL203
Sheet 3 of 6

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KEY MAP

LEGEND OF SYMBOLS & ABBREVIATIONS

SCALE IN FEET (1" = 100')

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Revisions		

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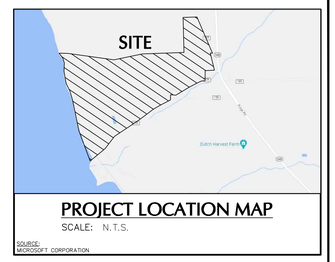
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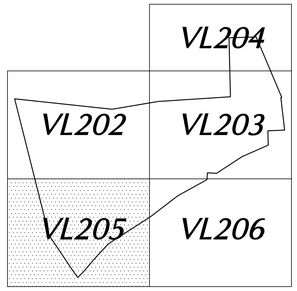
Project No. 190091601
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Drawing No. VL204
Sheet 4 of 6

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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.

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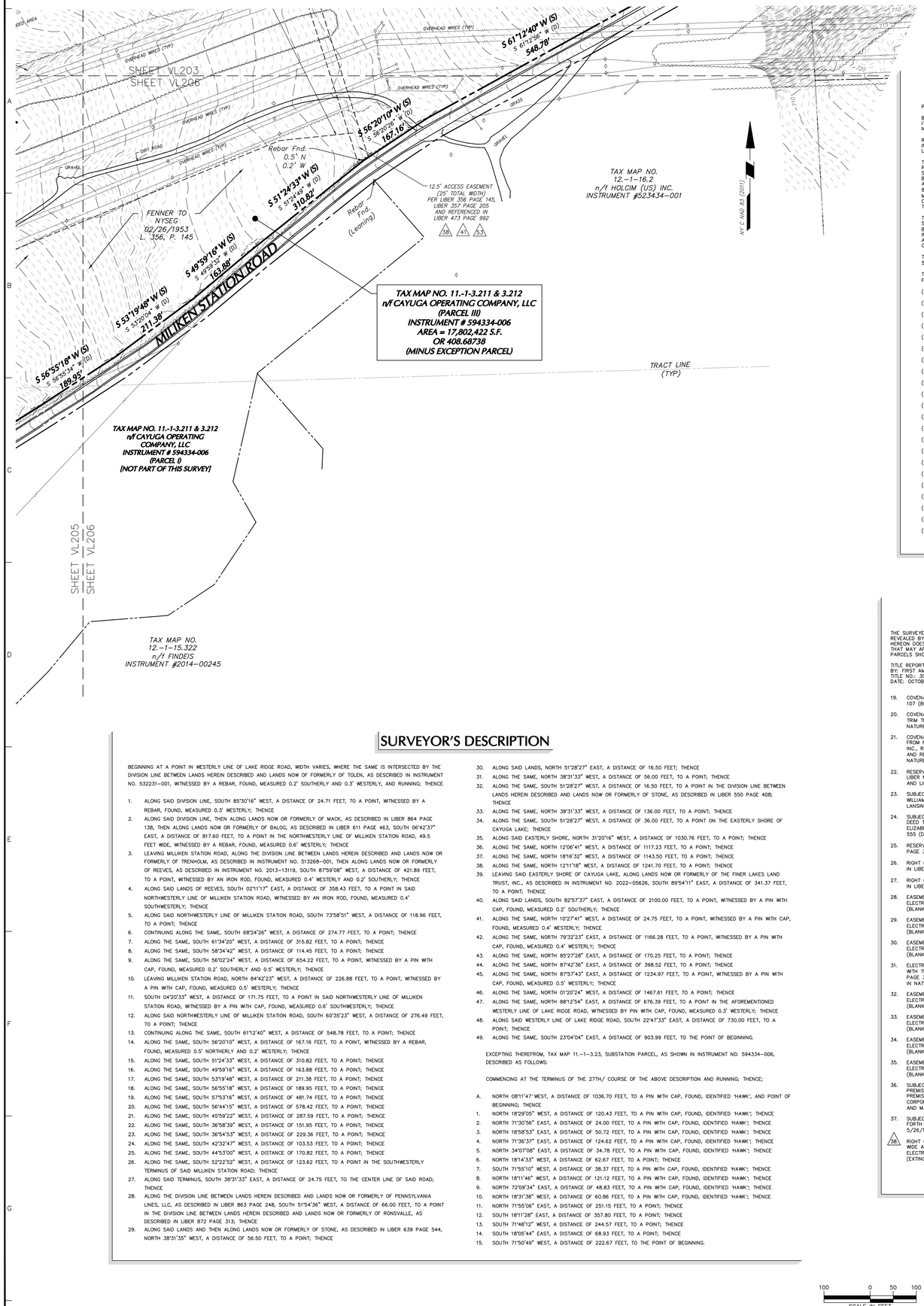
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RECORD DESCRIPTION

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 "MACNELL" 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 SOUTH 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 SOUTH AND SAID PARCEL NOW OR 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.

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.

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.: 5020-1030109NY1
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 (BLANKET IN NATURE).
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 5/28/1952 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. EASEM

Exhibit B
Site Plan and Elevations

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PLANNING BOARD SUBMISSION

LAKE HAWKEYE

TERAWULF INC.

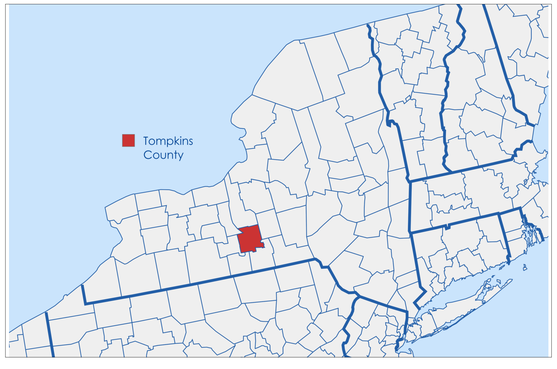
TOWN OF LANSING

TOMPKINS COUNTY, NEW YORK

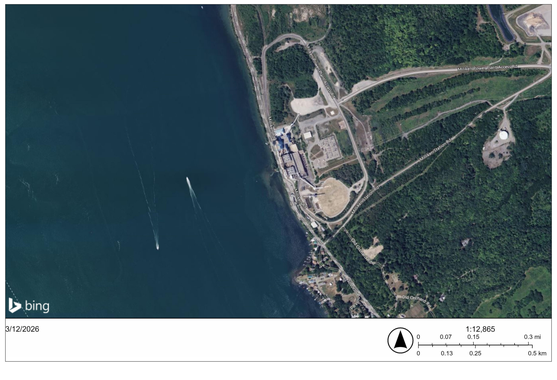
RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.

333 W WASHINGTON ST
SYRACUSE, NY 13202

315-956-6100



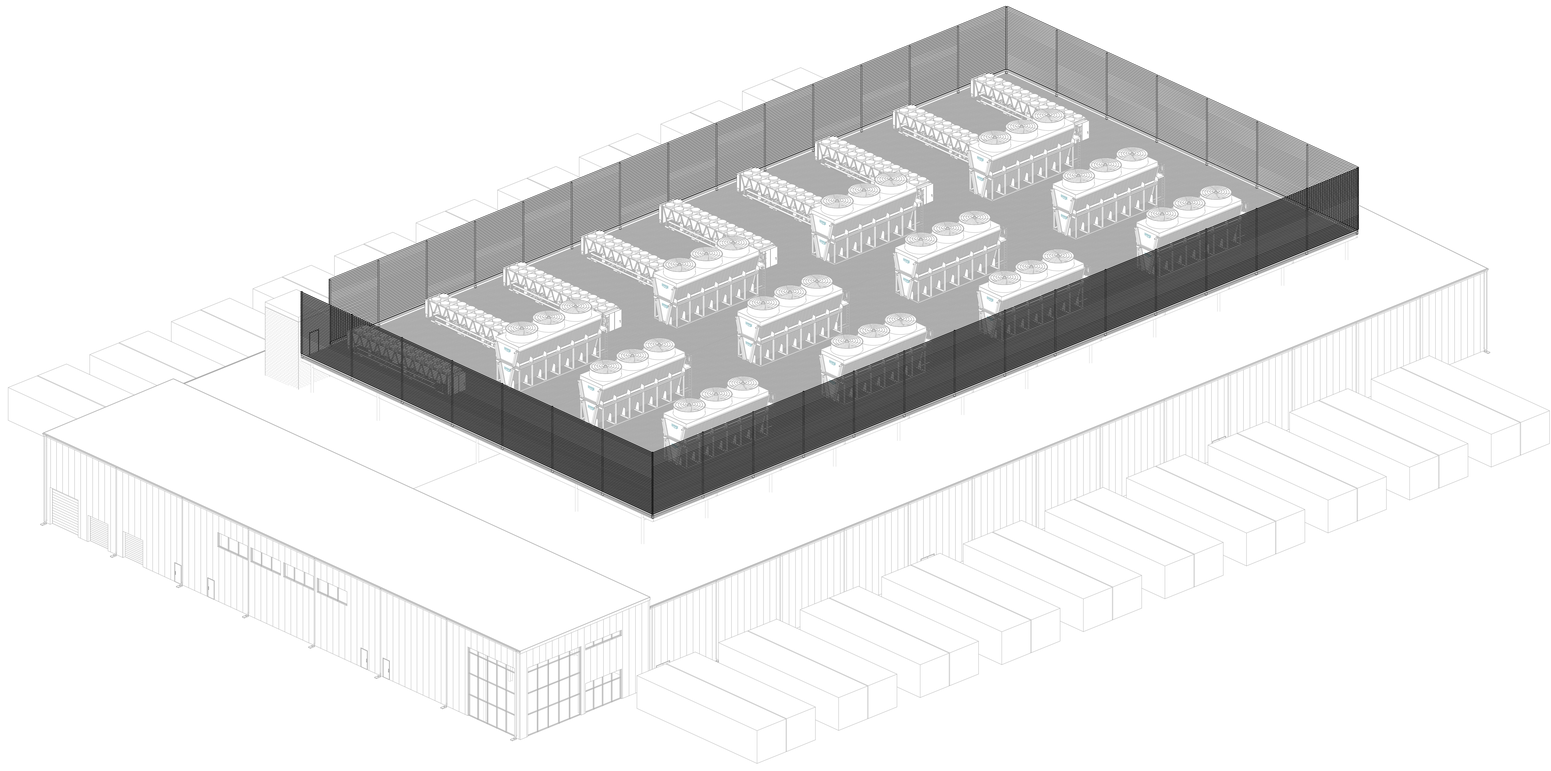
PROJECT LOCATION:



PROJECT SITE:

SHEET INDEX:

SHEET NO	DESCRIPTION	REV	REV DATE
GENERAL			
COVER	COVER SHEET		
CIVIL			
C0	EXISTING SITE PLAN		
C1	PROPOSED SITE PLAN		
C2	CONCEPTUAL UTILITY PLAN		
C3	ENLARGED PLAN 1		
C4	ENLARGED PLAN 2		
C5	ENLARGED PLAN 3		
C6	ENLARGED PLAN 4		
C7	ENLARGED PLAN 5		
C8	CONCEPTUAL GRADING		
ARCHITECTURAL			
A-201	EXTERIOR ELEVATIONS		



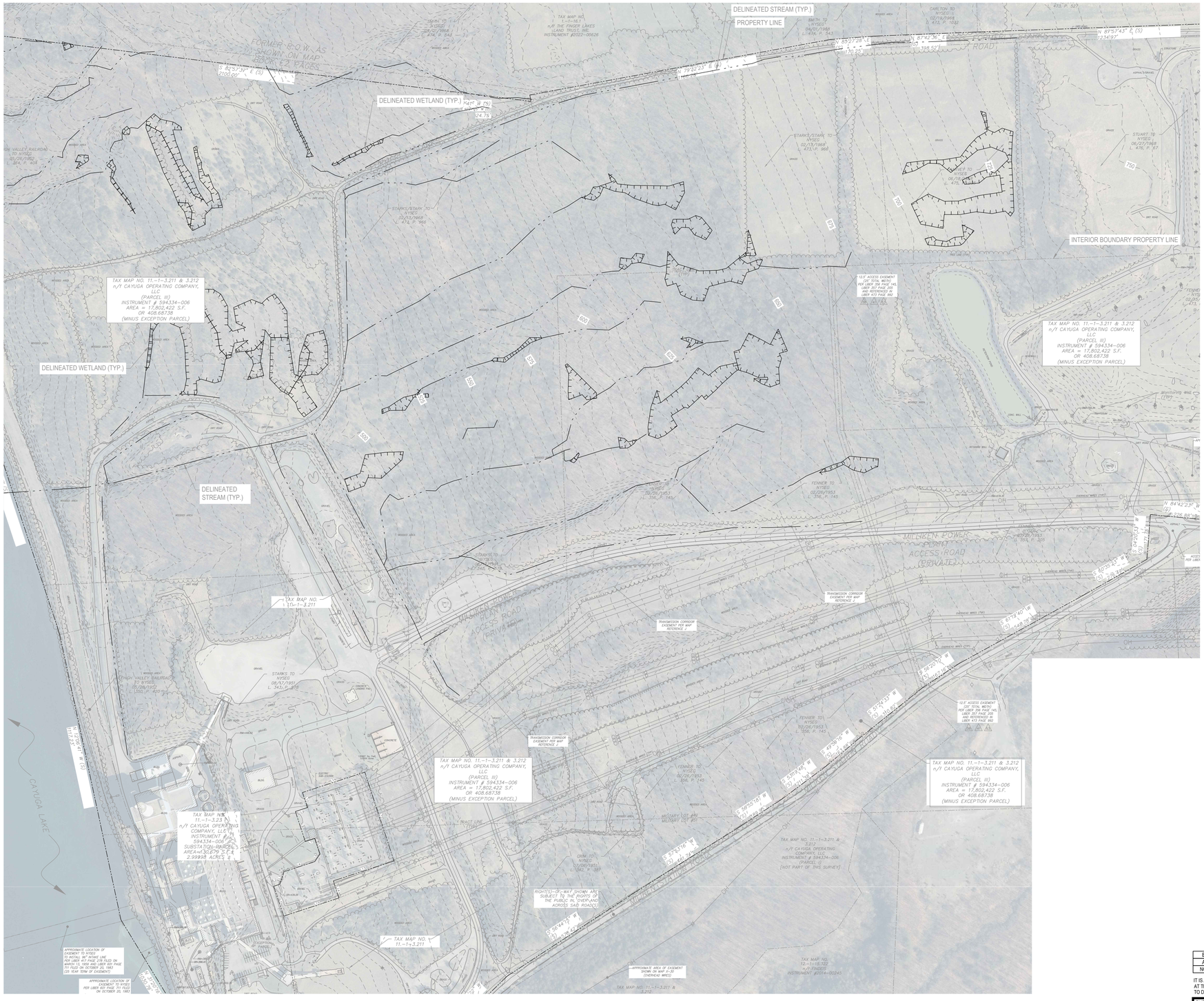
PERSPECTIVE VIEW
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COVER SHEET

Autodesk Docs://RUS-1940000000X - TW Cayuga/CAV1/03-ARCH-RUS-R24.rvt

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LEGEND

EXISTING FEATURES

- DELINEATED STREAMS
- DELINEATED WETLANDS
- OVERHEAD ELECTRICAL LINES
- PROPERTY LINES
- EASEMENT LINES
- LIMITS OF VEGETATION
- MAJOR CONTOURS (25')
- MINOR CONTOURS (5')

PLAN VIEW

200' 0 200'

SCALE: 1"= 200'

PRELIMINARY NOT FOR CONSTRUCTION

DATE: 03/25/2026

NO.	REV DATE	REVISION	INT.
B	03/25/2026	ISSUED FOR PLANNING BOARD REVIEW	AMS
A	10/23/2025	ISSUED FOR CLIENT REVIEW	AMS

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CLIENT: TERAWULF, INC.

PROJECT: LAKE HAWKEYE

TOWN OF LANSING
TOMPKINS COUNTY, NEW YORK

Drawing Title: **EXISTING SITE PLAN**

Designer / Professional Engineer Responsible:

RAMBOLL
RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
CERTIFICATE OF AUTHORIZATION: 0021291
333 W WASHINGTON ST, SYRACUSE, NY 13202
315-956-6100

Designed by	Drawn by	Checked by	Approved by	Date
AMS	AMS	BW	HM	

Project Number	Drawing Number	Scale	Sc	Rev.
1940113922	C0	AS NOTED	SC	Rev

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PLAN VIEW

200' 0 200'

SCALE: 1"= 200'

N

PARKING SPACE INFORMATION (PER BUILDING)
- PHASE 1
  - * MAX. SHIFT OCCUPANCY: 27 EMPLOYEES
  - * STANDARD PARKING SPACES: 38
  - * ADA PARKING SPACES: 2
- PHASE 2
  - * STANDARD PARKING SPACES: 69
  - * ADA PARKING SPACES: 2

PROPOSED IMPERVIOUS AREAS:
- BUILDINGS & UPS PADS: 25.6 AC
- PHASE 1 TANKS: 0.5 AC
- ASPHALT PAVEMENT: 17.2 AC
- GRAVEL: 3.1 AC

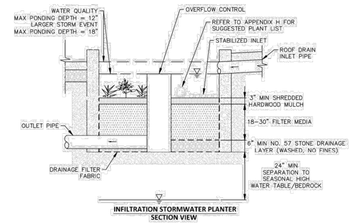
PROPOSED UTILITIES:
- POTABLE WATER MAIN
- SANITARY SEWER PIPE
- STORMWATER CONVEYANCE
- UNDERGROUND ELECTRIC POWER DUCTBANKS

APPROXIMATE WETLAND DISTURBANCE:
- 7.3 ACRES

LEGEND

EXISTING FEATURES
- DELINEATED STREAMS
- DELINEATED WETLANDS
- OVERHEAD ELECTRICAL LINES
- PROPERTY LINES
- EASEMENT LINES
- LIMITS OF VEGETATION
- MAJOR CONTOURS (25')
- MINOR CONTOURS (5')

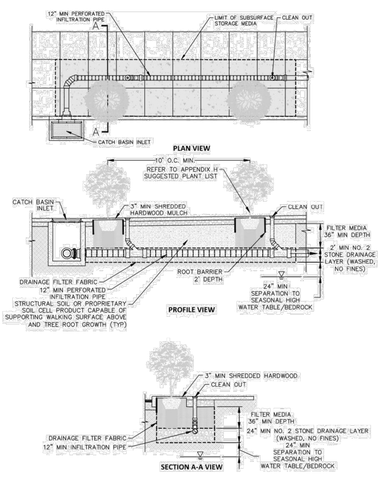
PROPOSED FEATURES
- BUILDING AND EXTERIOR PAD FOOTPRINT
- PHASE 2 BUILDING AND EXTERIOR PAD FOOTPRINT
- PAVEMENT
- PHASE 2 PAVEMENT
- STORMWATER PLANTER
- TREE TRENCH



INFILTRATION STORMWATER PLANTER SECTION VIEW

A NYSDEC STORMWATER PLANTER

NOT TO SCALE



B NYSDEC TREE TRENCH

NOT TO SCALE

NO.	REV DATE	REVISION	INT.
B	03/25/2026	ISSUED FOR PLANNING BOARD REVIEW	AMS
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PRELIMINARY NOT FOR CONSTRUCTION

DATE: 03/25/2026

CLIENT: TERAWULF, INC.

PROJECT: LAKE HAWKEYE

TOWN OF LANSING
TOMPKINS COUNTY, NEW YORK

Project Number: **1940113922**

Drawing Title: **PROPOSED SITE PLAN**

Designer / Professional Engineer Responsible:

Designed by: AMS | Drawn by: AMS | Checked by: BW | Approved by: HM | Date:

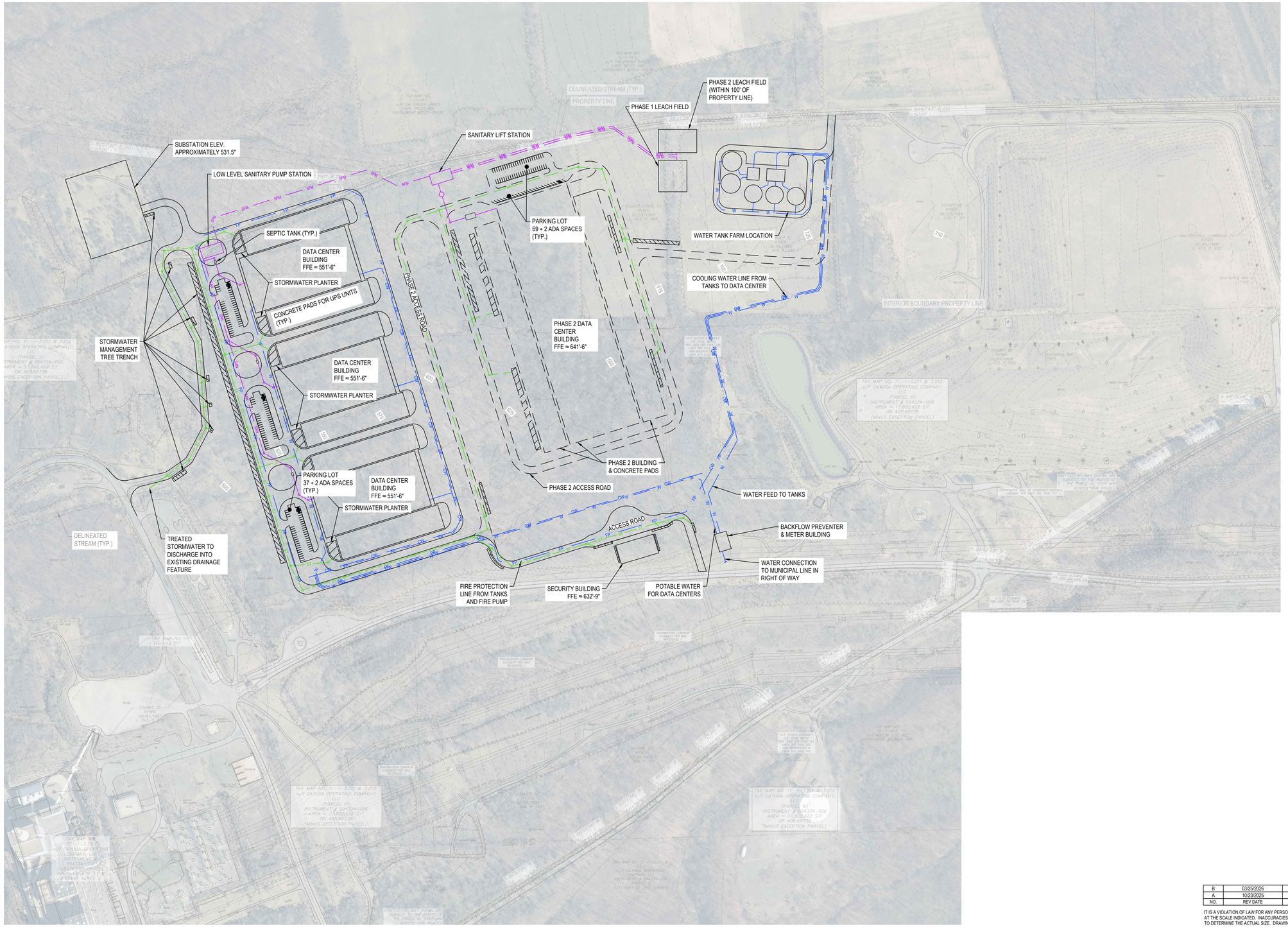
Drawing Number: **C1**

Scale: AS NOTED | Sc: SC | Rev.: Rev

RAMBOLL
RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
CERTIFICATE OF AUTHORIZATION: 0021291
333 W WASHINGTON ST, SYRACUSE, NY 13202
315-956-6100

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LEGEND

EXISTING FEATURES

- DELINEATED STREAMS
- DELINEATED WETLANDS
- OVERHEAD ELECTRICAL LINES
- PROPERTY LINES
- EASEMENT LINES
- LIMITS OF VEGETATION
- MAJOR CONTOURS (25')
- MINOR CONTOURS (5')

PROPOSED FEATURES

- BUILDING AND EXTERIOR PAD FOOTPRINT
- PHASE 2 BUILDING AND EXTERIOR PAD FOOTPRINT
- PAVEMENT
- PHASE 2 PAVEMENT
- STORMWATER PLANTER
- TREE TRENCH
- POTABLE WATER PIPE
- FIRE PROTECTION WATER PIPE
- COOLING WATER PIPE
- SANITARY SEWER PIPE
- SANITARY SEWER PRESSURE PIPE
- STORMWATER CONVEYANCE PIPE

PLAN VIEW

200' 0 200'

SCALE: 1"= 200'

NO.	REV DATE	REVISION	INT.
B	03/25/2026	ISSUED FOR PLANNING BOARD REVIEW	AMS
A	10/23/2025	ISSUED FOR CLIENT REVIEW	AMS

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PRELIMINARY
NOT FOR
CONSTRUCTION
DATE: 03/25/2026

CLIENT: TERAWULF, INC.

PROJECT: LAKE HAWKEYE
TOWN OF LANSING
TOMPKINS COUNTY, NEW YORK

Project Number: **1940113922**

Drawing Title: **CONCEPTUAL UTILITY PLAN**

Designer / Professional Engineer Responsible:

Drawing Number: **C2**

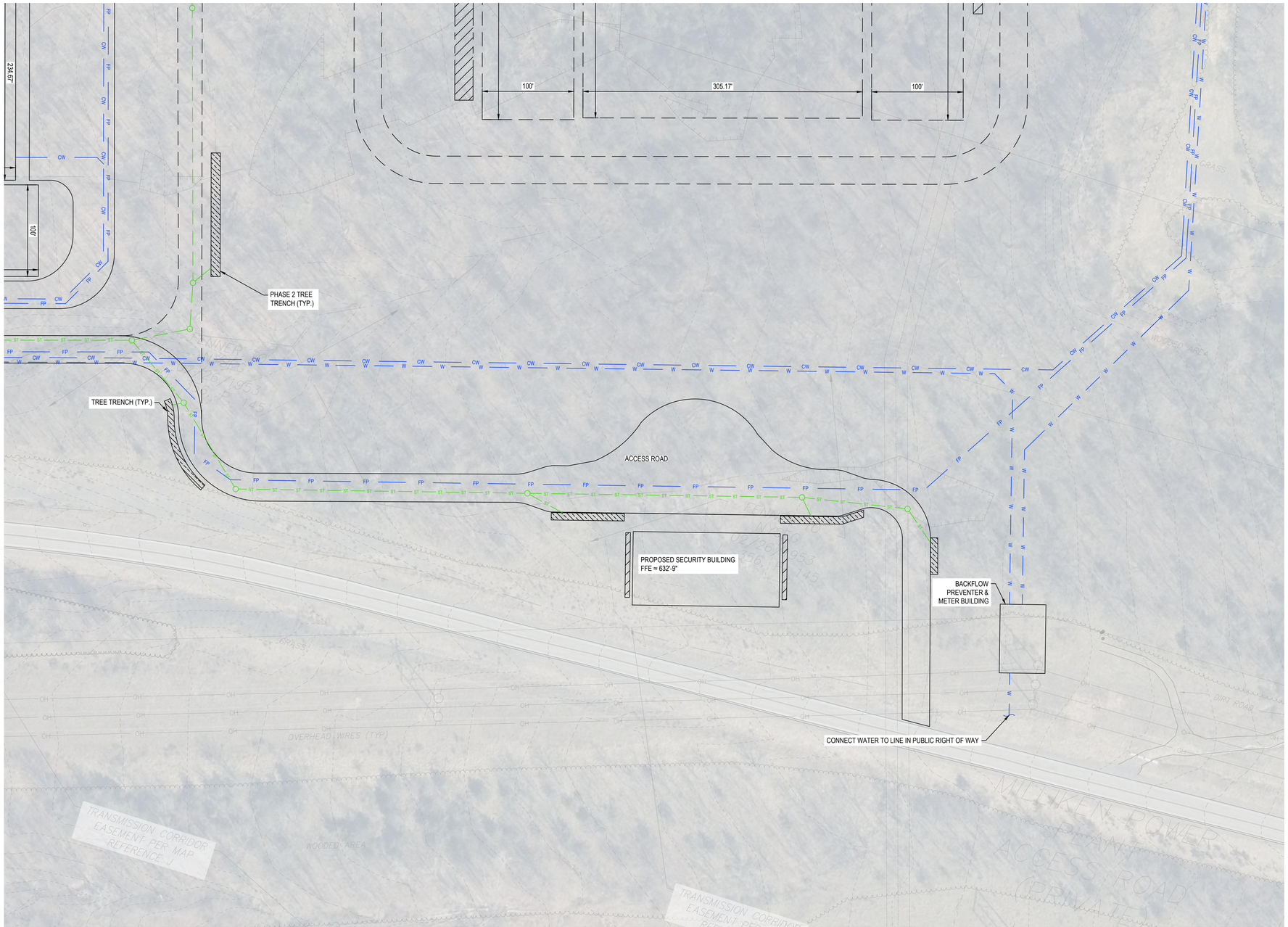
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PLAN VIEW

60' 0 60'

SCALE: 1"= 60'

LEGEND

EXISTING FEATURES

- DELINEATED STREAMS
- DELINEATED WETLANDS
- OVERHEAD ELECTRICAL LINES
- PROPERTY LINES
- EASEMENT LINES
- LIMITS OF VEGETATION
- MAJOR CONTOURS (25')
- MINOR CONTOURS (5')

PROPOSED FEATURES

- BUILDING AND EXTERIOR PAD FOOTPRINT
- PHASE 2 BUILDING AND EXTERIOR PAD FOOTPRINT
- PAVEMENT
- PHASE 2 PAVEMENT
- STORMWATER PLANTER
- TREE TRENCH
- POTABLE WATER PIPE
- FIRE PROTECTION WATER PIPE
- COOLING WATER PIPE
- SANITARY SEWER PIPE
- SANITARY SEWER PRESSURE PIPE
- STORMWATER CONVEYANCE PIPE

NO.	REV DATE	REVISION	INT.
B	03/23/2026	ISSUED FOR PLANNING BOARD REVIEW	AMS
A	10/23/2025	ISSUED FOR CLIENT REVIEW	AMS

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DATE: 03/25/2026

CLIENT
TERAWULF, INC.

PROJECT
LAKE HAWKEYE
TOWN OF LANSING
TOMPKINS COUNTY, NEW YORK

Project Number **1940113922**

Drawing Title
ENLARGED PLAN 1

Designer / Professional Engineer Responsible:

Drawing Number **C3**

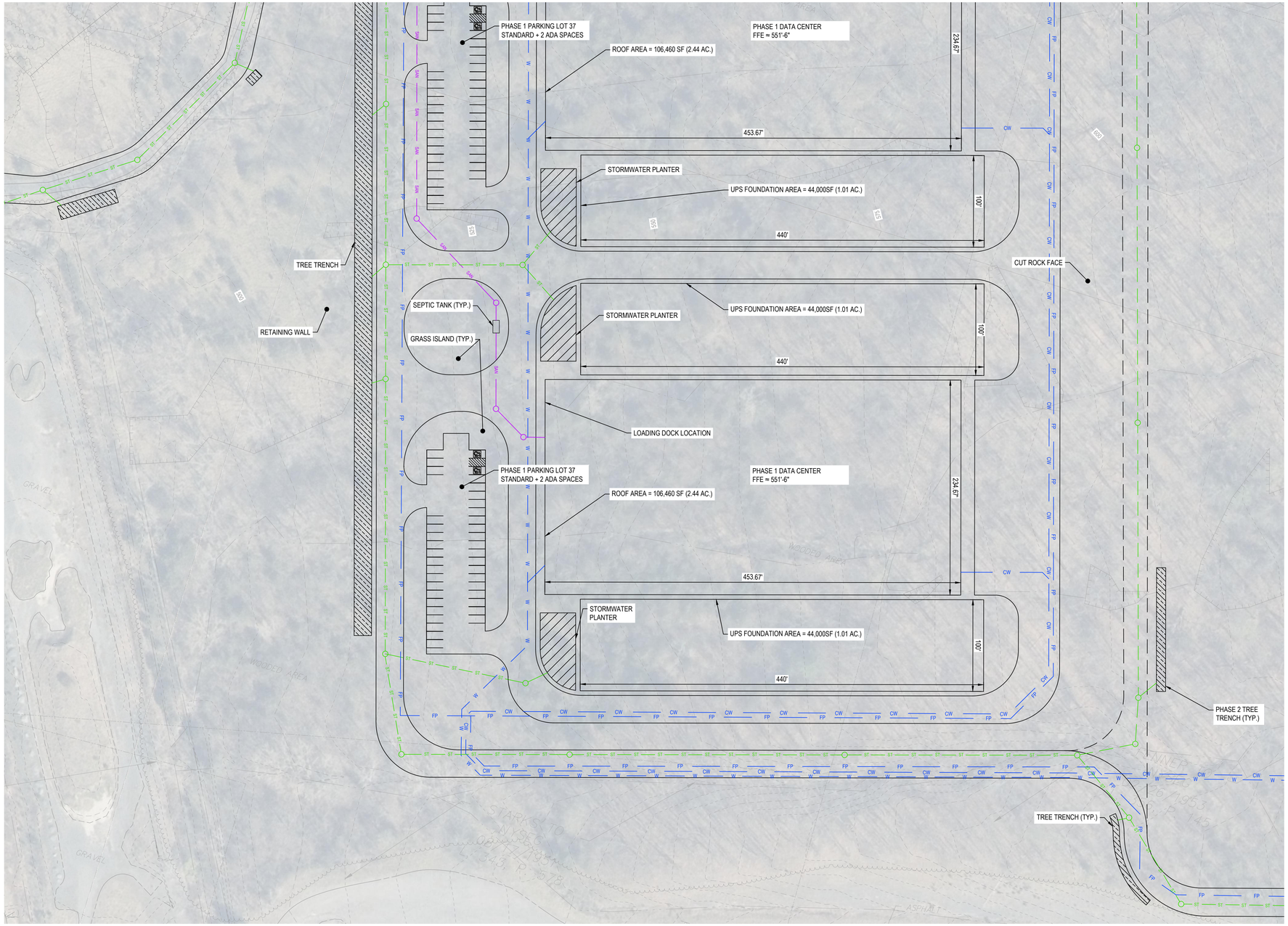
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PLAN VIEW

60' 0 60'

SCALE: 1"= 60'

LEGEND

EXISTING FEATURES

- DELINEATED STREAMS
- DELINEATED WETLANDS
- OVERHEAD ELECTRICAL LINES
- PROPERTY LINES
- EASEMENT LINES
- LIMITS OF VEGETATION
- MAJOR CONTOURS (25')
- MINOR CONTOURS (5')

PROPOSED FEATURES

- BUILDING AND EXTERIOR PAD FOOTPRINT
- PHASE 2 BUILDING AND EXTERIOR PAD FOOTPRINT
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- PHASE 2 PAVEMENT
- STORMWATER PLANTER
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CONSTRUCTION
DATE: 03/25/2026

CLIENT: TERAWULF, INC.

PROJECT: LAKE HAWKEYE

TOWN OF LANSING
TOMPKINS COUNTY, NEW YORK

Project Number: **1940113922**

Drawing Title: **ENLARGED PLAN 2**

Designer / Professional Engineer Responsible:

Drawing Number: **C4**

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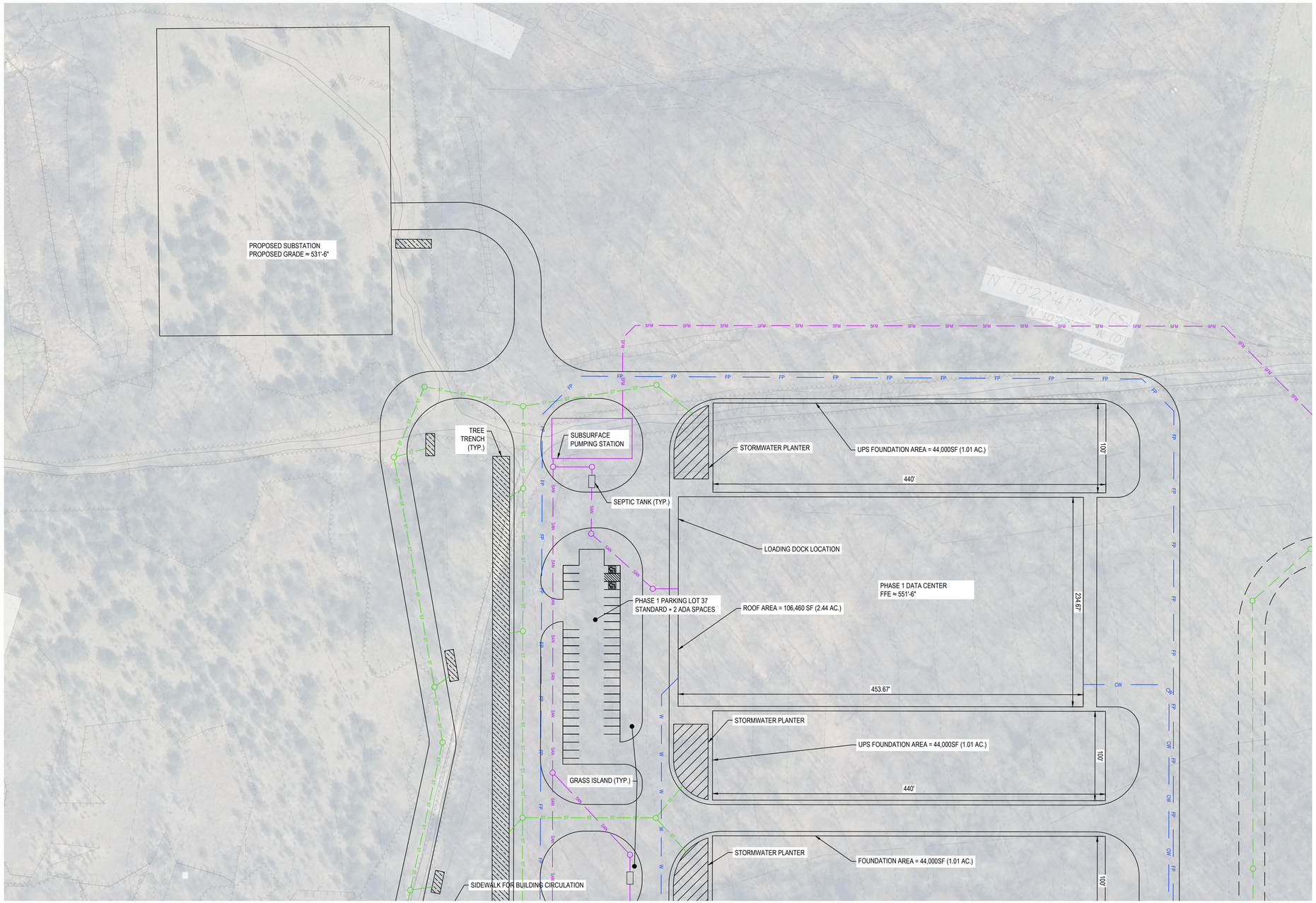
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AMS	AMS	BW	HM	

Scale: AS NOTED

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PLAN VIEW

60' 0 60'

SCALE: 1"= 60'

LEGEND

EXISTING FEATURES

- DELINEATED STREAMS
- DELINEATED WETLANDS
- OVERHEAD ELECTRICAL LINES
- PROPERTY LINES
- EASEMENT LINES
- LIMITS OF VEGETATION
- MAJOR CONTOURS (25')
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DATE: 03/25/2026

CLIENT: TERAWULF, INC.

PROJECT: LAKE HAWKEYE

TOWN OF LANSING
TOMPKINS COUNTY, NEW YORK

Drawing Title: **ENLARGED PLAN 3**

Designer / Professional Engineer Responsible:

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Project Number: **1940113922**
Drawing Number: **C5**
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PLAN VIEW

60' 0 60'

SCALE: 1"= 60'

LEGEND

EXISTING FEATURES

- DELINEATED STREAMS
- DELINEATED WETLANDS
- OVERHEAD ELECTRICAL LINES
- PROPERTY LINES
- EASEMENT LINES
- LIMITS OF VEGETATION
- MAJOR CONTOURS (25')
- MINOR CONTOURS (5')

PROPOSED FEATURES

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- PHASE 2 PAVEMENT
- STORMWATER PLANTER
- TREE TRENCH
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CLIENT
TERAWULF, INC.

PROJECT
LAKE HAWKEYE
TOWN OF LANSING
TOMPKINS COUNTY, NEW YORK

Project Number **1940113922**

Drawing Title
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Designer / Professional Engineer Responsible:

Drawing Number **C6**

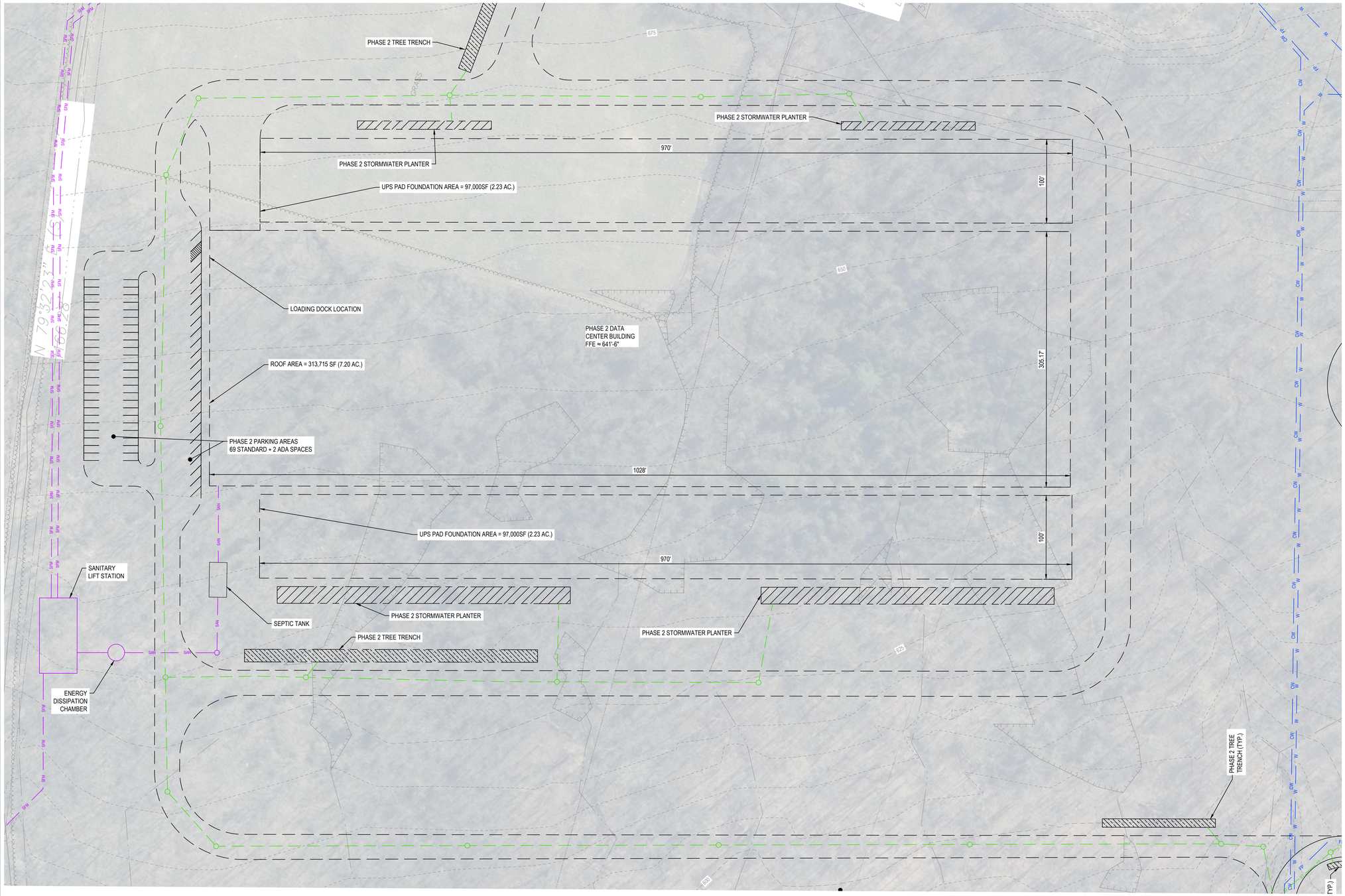
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LEGEND

EXISTING FEATURES

- DELINEATED STREAMS
- DELINEATED WETLANDS
- OVERHEAD ELECTRICAL LINES
- PROPERTY LINES
- EASEMENT LINES
- LIMITS OF VEGETATION
- MAJOR CONTOURS (25')
- MINOR CONTOURS (5')

PROPOSED FEATURES

- BUILDING AND EXTERIOR PAD FOOTPRINT
- PHASE 2 BUILDING AND EXTERIOR PAD FOOTPRINT
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- COOLING WATER PIPE
- SANITARY SEWER PIPE
- SANITARY SEWER PRESSURE PIPE
- STORMWATER CONVEYANCE PIPE

PLAN VIEW

60' 0 60'

SCALE: 1"= 60'

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DATE: 03/25/2026

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PROJECT: LAKE HAWKEYE

TOWN OF LANSING
TOMPKINS COUNTY, NEW YORK

Project Number: **1940113922**

Drawing Title: **ENLARGED PLAN 5**

Drawing Number: **C7**

Designer / Professional Engineer Responsible:

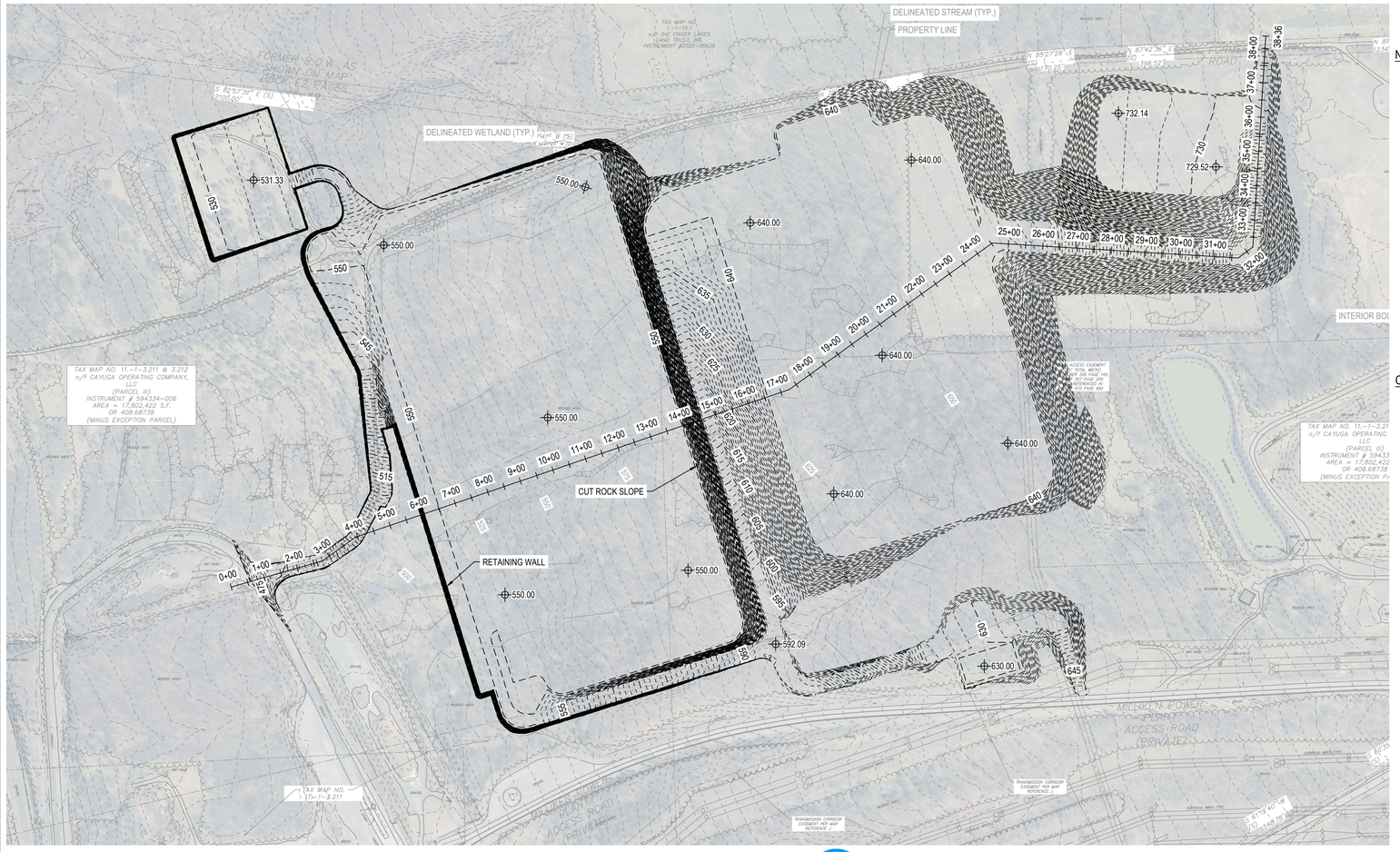
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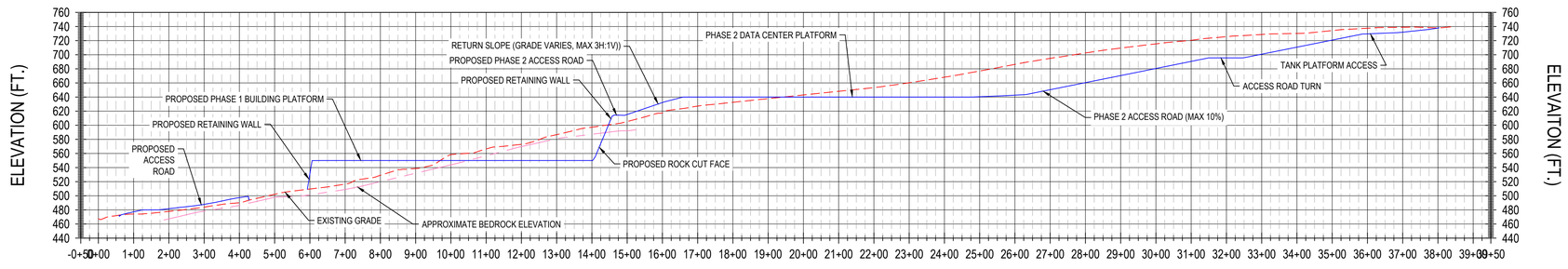


PLAN VIEW

200' 0 200'

SCALE: 1"= 200'

N



CROSS SECTION VIEW

200' 0 200' (SCALE HORZ. 1" = 200')

100' 0 100' (SCALE: VERT. 1"=100')

NOTES:

- PROPOSED FEATURES NOT SHOWN TO IMPROVE CLARITY
- GRADING SHOWN IS CONCEPTUAL ONLY AND IS PENDING SLOPE STABILITY ANALYSIS FROM A LICENSED GEOTECHNICAL ENGINEER.
- SLOPES AND ELEVATIONS SHOWN ARE WHAT ARE REQUIRED TO ACHIEVE THE SITE MASTER PLAN
- RETAINING WALLS AND CUT ROCK FACES ARE ASSUMED TO HAVE A MAXIMUM SLOPE OF 1H:3V. PROPOSED VEGETATED SLOPES HAVE A MAXIMUM SLOPE OF 3H:1V.
- PHASE 1 PLATFORM HAS A FINISH ELEVATION OF APPROXIMATELY 550'. PHASE 2 PLATFORM HAS A FINISH ELEVATION OF APPROXIMATELY 640'. TANK PLATFORM HAS A FINISHED ELEVATION BETWEEN 729' & 733'.
- GRADING SHOWN DOES NOT TAKE INTO ACCOUNT CROWNED ROADS, TRANSITION UP TO A BUILDINGS FFE., OR OTHER DETAILED DESIGN FEATURES

CUT/FILL VOLUMES:

- CUT: 1,381,345 CY
- FILL: 905,345 CY
- NET: 475,900 CY

LEGEND

EXISTING FEATURES

- DELINEATED STREAMS
- DELINEATED WETLANDS
- OVERHEAD ELECTRICAL LINES
- PROPERTY LINES
- EASEMENT LINES
- LIMITS OF VEGETATION
- MAJOR CONTOURS (25')
- MINOR CONTOURS (5')

PROPOSED FEATURES

- PROPOSED MAJOR CONTOURS (5')
- PROPOSED MINOR CONTOURS (1')

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A	11/07/2025	ISSUED FOR GEOTECHNICAL REFERENCE	AMS

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PRELIMINARY
NOT FOR CONSTRUCTION
DATE: 03/25/2026

CLIENT: TERAWULF, INC.

PROJECT: LAKE HAWKEYE
TOWN OF LANSING
TOMPKINS COUNTY, NEW YORK

Project Number: 1940113922

Drawing Title: **CONCEPTUAL GRADING**

Designer / Professional Engineer Responsible:

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Drawing Number: **C8**

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Rev: Rev

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EXTERIOR ELEVATION GENERAL NOTES:

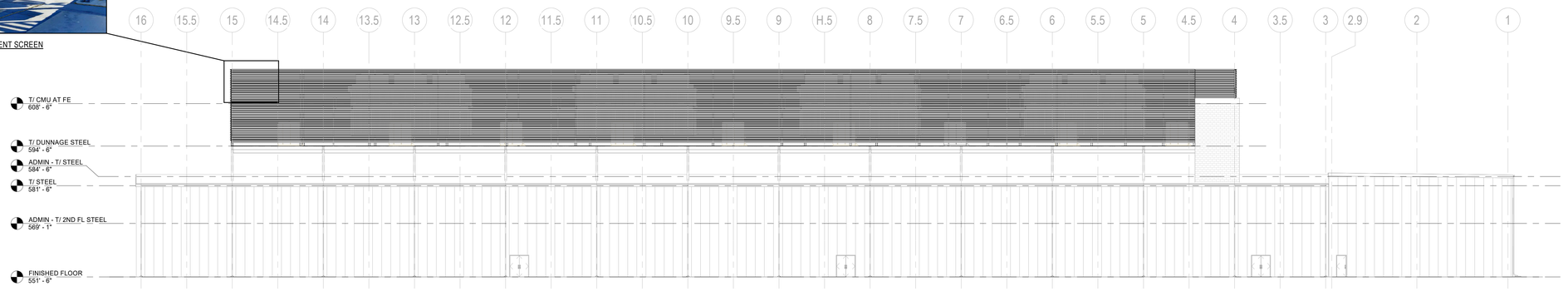
1. WALL ORIENTATION / DIRECTION IS BASED ON PLAN NORTH, REFER TO PLANS FOR FURTHER INFORMATION.

ROOTOP EQUIPMENT SCREEN BASIS OF DESIGN

MANUFACTURER: CITYSCAPES ARCHITECTURAL INNOVATIONS
MODEL: Z-FIN ENVISOR
TYPE: POST MOUNTED
COLOR: TO BE SELECTED
NOTE: 45% - 55% OPENNESS

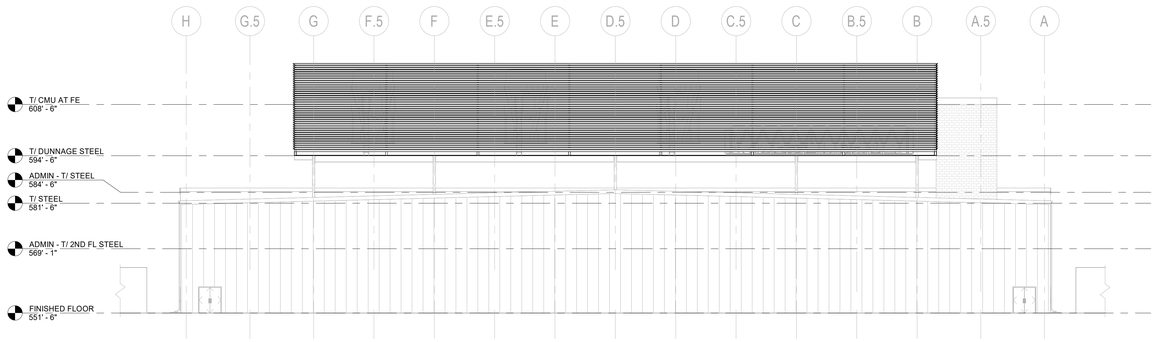


POST MOUNTED ROOTOP EQUIPMENT SCREEN



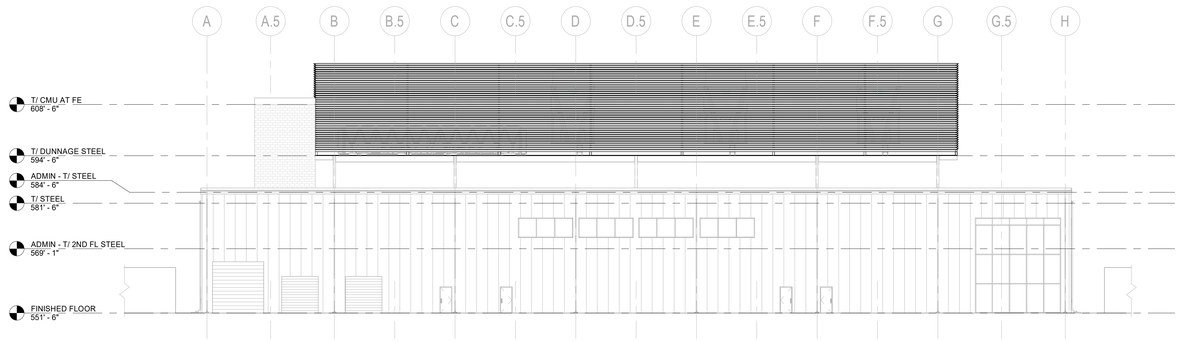
NORTH ELEVATION

SCALE: 1/16" = 1'-0"



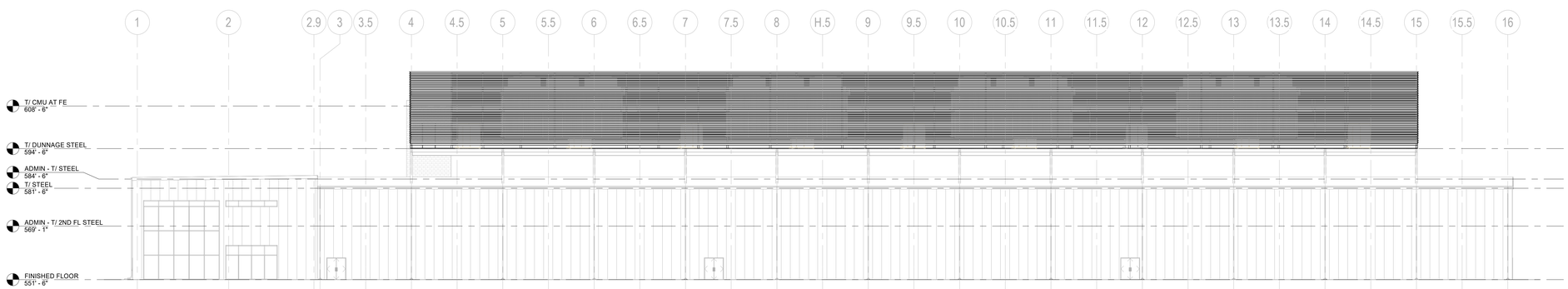
EAST ELEVATION

SCALE: 1/16" = 1'-0"



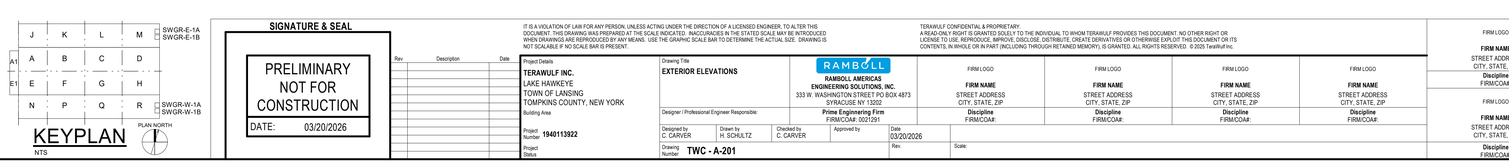
WEST ELEVATION

SCALE: 1/16" = 1'-0"



SOUTH ELEVATION

SCALE: 1/16" = 1'-0"



KEYPLAN

NTS

SIGNATURE & SEAL

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Rev	Description	Date

Project Details
TERAWULF INC.
LAKE HAWKEYE
TOWN OF LANSING
TOMPKINS COUNTY, NEW YORK
Building Area
Project Number: **1940113922**
Project Status:

Drawing Title: **EXTERIOR ELEVATIONS**

RAMBOLL
RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
333 W. WASHINGTON STREET PO BOX 4873
SYRACUSE NY 13202
Designer / Professional Engineer Responsible:
Prime Engineering Firm
FIRM/COA#: 0021291

Designed by: C. CARVER | Drawn by: H. SCHULTZ | Checked by: C. CARVER | Approved by:
Date: 03/20/2026
Drawing Number: **TWC - A-201**
Rev.
Scale:

FIRM LOGO	FIRM LOGO	FIRM LOGO	FIRM LOGO
FIRM NAME	**FIRM NAME**	**FIRM NAME**	**FIRM NAME**
STREET ADDRESS	STREET ADDRESS	STREET ADDRESS	STREET ADDRESS
CITY, STATE, ZIP	CITY, STATE, ZIP	CITY, STATE, ZIP	CITY, STATE, ZIP
Discipline	**Discipline**	**Discipline**	**Discipline**
FIRM/COA#:	FIRM/COA#:	FIRM/COA#:	FIRM/COA#:

FIRM LOGO
FIRM NAME
STREET ADDRESS
CITY, STATE, ZIP
Discipline
FIRM/COA#:

Paper Size: Z - 10" X 3' - 6" Printed: 3/20/2026 11:20:09 AM

Exhibit C
Wetland Delineation Assessment

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

Figure 01 – Site Location
Figure 02 – Delineated Wetlands (Cowardin classification) and Streams

List of Attachments

Attachment 1 – Wetland Data Forms
Attachment 2 – Wetland Photograph Log
Attachment 3 – Soil Map
Attachment 4 – NYS Freshwater Wetlands and National Wetland Inventory mapping
Attachment 5 – Floodplain Map

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.

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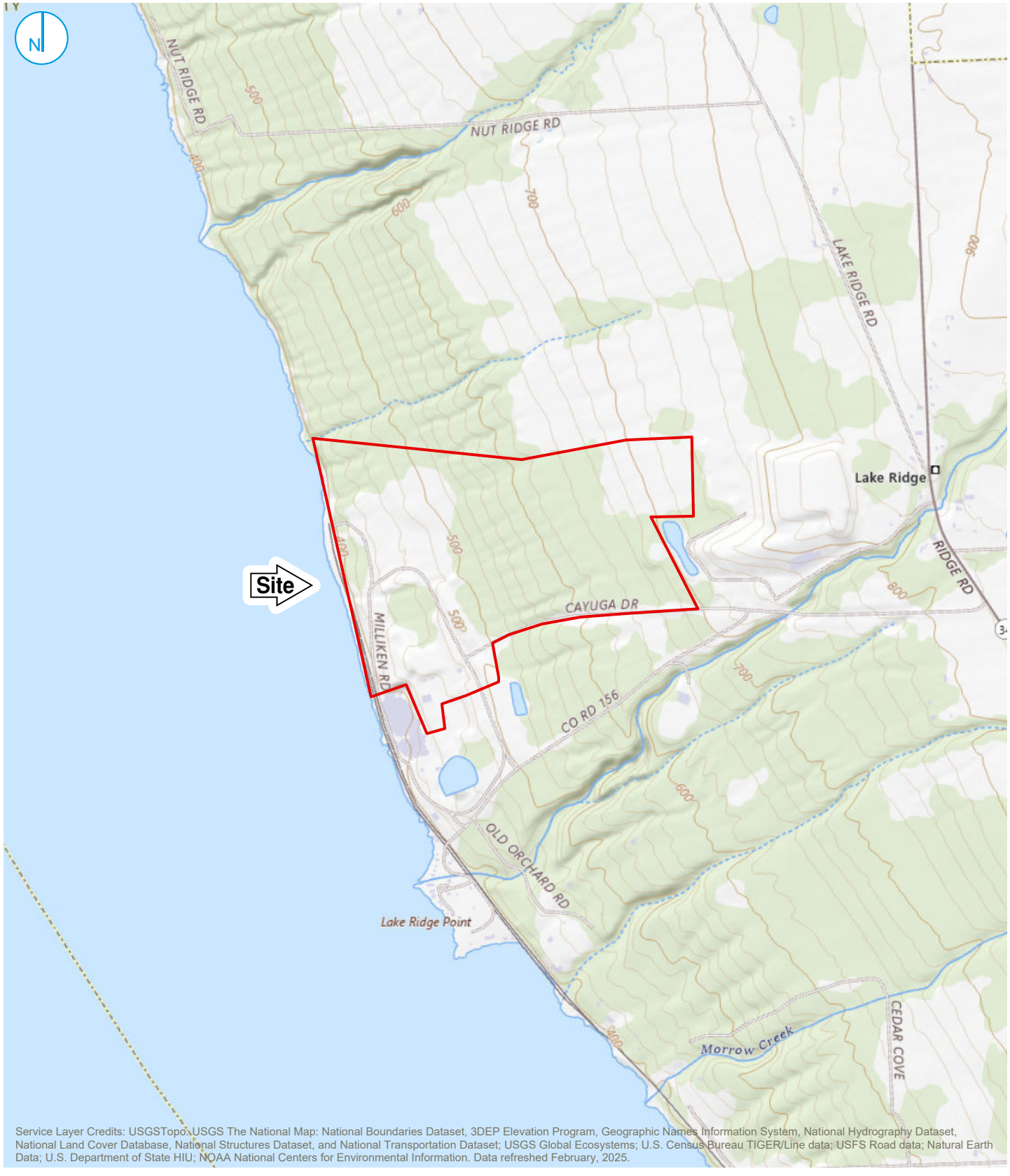
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FIGURES



C:\Projects\Cayuga_Concept\PRO\Milliken_Station_Lansing\Milliken_Station_Lansing.aprx\Figure_01-Site_Location

PROJECT: 1940113922-001 | DATED: 7/10/2025 | DESIGNER: SSOULE

Map Scale: 1:24,000 | Map Center: 76°37'51"W 42°36'23"N



KEY MAP (not to scale)

0 1,000 2,000 Feet

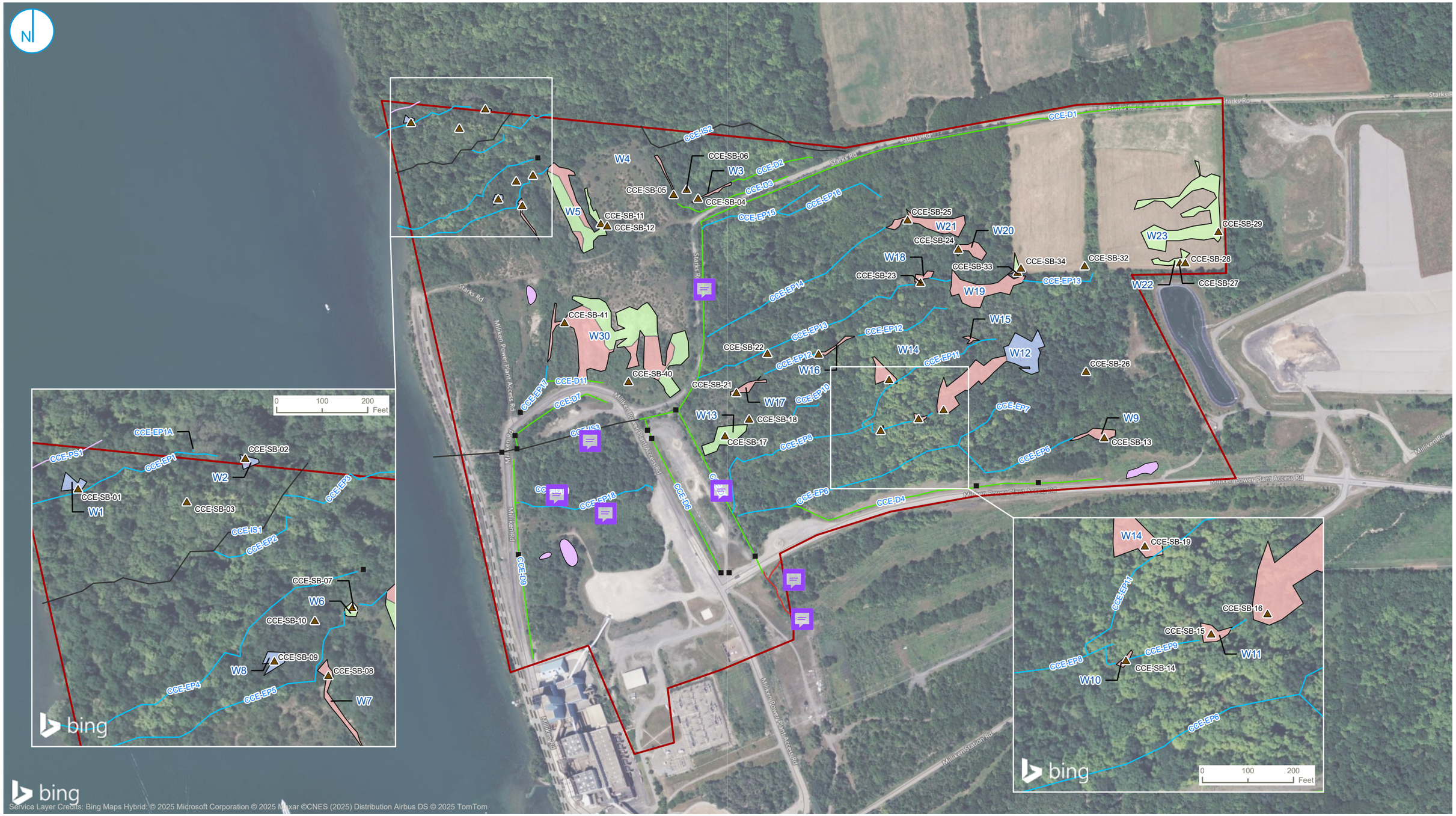
SITE LOCATION

Cayuga Operating Company
228 Cayuga Dr
Lansing, NY 14882

FIGURE 01

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL



PROJECT: 1940113922-001 | DATED: 7/10/2025 | DESIGNER: SSOULE

- Culvert
- Soil Boring

Delineated Stream
- Ditch
- Ephemeral Stream
- Intermittent Stream
- Perennial Stream

Delineated Wetland Cover Type
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Shrub Scrub (PSS)

- Potential Wetland
- Site Boundary

0 225 450 Feet

Notes
- Potential wetlands were observed in the field but not delineated.

DELINEATED WETLANDS AND STREAMS

Cayuga Operating Company
228 Cayuga Dr
Lansing, NY 14882

FIGURE 02

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

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 %	Redox Features Type[1]	Redox Features 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 %	Type[1]	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 %	Redox Features Type[1]	Redox Features 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	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	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	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	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 %	Redox Features Type[1]	Redox Features 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 (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 10	10YR 4/3	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)	%	Redox Features Color (moist)	%	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**
Hydric Soil Present?	Yes X	No ____	**within a Wetland?** **Yes** X **No** ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ 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	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	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	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	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 ____	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 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 %	Type[1]	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	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	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 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 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	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	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)

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**
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 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	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	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**
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: 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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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



Confidential

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.

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How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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.

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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

76°38'0"W

42° 37'30.03" N,
76° 39'22.51" W

42° 37'30.03" N,
76° 37'30.01" W



42° 35'37.53" N,
76° 39'22.51" W

42° 35'37.53" N,
76° 37'30.01" W

42°36'0"N

76°38'0"W

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
- 8 — 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

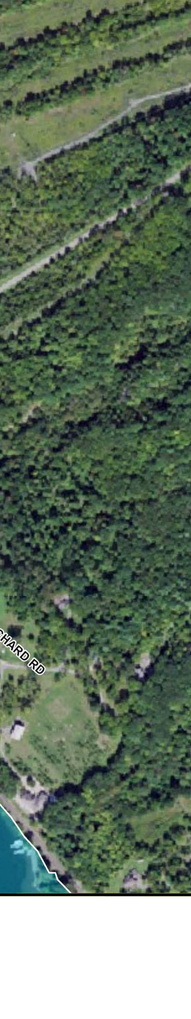
0 50 100 200 300 400 meters

Map Projection:
NAD 1983 StatePlane New York Central FIPS 3102 Feet
Vertical Datum: NAVD88

PANEL LOCATOR



*PANEL NOT PRINTED



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

Exhibit D
Stormwater Pollution Prevention Plan (SWPPP)

STORMWATER MANAGEMENT DESIGN MEMO

Project name	**Lake Hawkeye Conceptual Design**
Project no.	**1940113922**
Client	**TeraWulf**
Memo no.	**1**
Version	**0**
To	**TeraWulf**
From	**Ramboll**
Prepared by	**Carley Wood**
Checked by	**Andrew Stering**
Approved by	**Brian Whittaker**

Date March 25, 2026

This memorandum is a summary with attachments, and is organized as follows:

- Introduction
- Methodology
- Soils
- Pre-developed Conditions
- Post-developed Conditions
- Stormwater Quality
- Runoff Reduction Volume
- Erosion and Sediment Controls
- Downstream Drainage Area Analysis
- Conclusion
- Attachments (Bound Separately)
  - Attachment 1 – USGS Map
  - Attachment 2 – Soil Survey Information
  - *Attachment 3 – Pre-developed and Post-Developed Drainage Area Maps* **(See note 1 below)**
  - *Attachment 4 – Pre-developed Conditions Stormwater Calculations* **(See note 1 below)**
  - Attachment 5 – Post-developed Conditions Stormwater Management and Water Quality Calculations

1. *These attachments are still in development and will be produced and included upon final design and SWPPP development prior to the submission for the construction general permit.*

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1 Introduction

The Developer, TeraWulf, has authorized Ramboll to design the storm sewer and stormwater management facilities within the data center site. The purpose of this memorandum is to summarize pre- and post-developed conditions including the stormwater quantity and quality measures to be provided.

The TeraWulf data center is located in the Town of Lansing, NY, south of Genoa, NY, east of Interlaken, NY, and west of Groton, NY. The site location is shown on the USGS Map (Attachment 1).

This site discharges directly to Cayuga Lake (a fifth order or higher water body) which according to pages 4-6 and 4-7 of the stormwater design manual waives the requirement of Channel protection volume (CPv), Overbank Flood Control Criteria (Qp), and Extreme Flood Control (Qf). As such, the site will be designed focusing on water quality volume (WQv) and runoff reduction volume (RRv) with the ultimate goal of providing RRv ≥ WQv eliminating the need for additional Water Quality Treatment practices on site.

2 Methodology

The Autodesk Storm and Sanitary Analysis (ASSA) Modeling Software which utilizes the United States Department of Agriculture (USDA) Soil Conservation Service (SCS) Technical Release No. 55 (SCS TR-55) and TR-20 (SCS TR-20) methodologies were utilized to determine pre- and post-development stormwater runoff rates and to design the stormwater management facilities. The storm sewer system will be designed to convey a 10-year storm and flood routes will be designed to convey a 100-year frequency in accordance with the Town of Lansing standards.

Rainfall data was obtained from NRCC and NRCS joint collaborative website (http://precip.eas.cornell.edu) Extreme Precipitation in New York & New England, An Interactive Web Tool for Extreme Precipitation Analysis. The following is a summary of the 24-hour extreme precipitation estimates for the site.

2-1. Summary of 24-hour Extreme Precipitation Estimates (inches)

	2-year	5-year	10-year	25-year	50-year	100-year
Site	**2.30**	**2.84**	**3.34**	**4.12**	**4.84**	**5.68**
Source: Values were taken from http://precip.eas.cornell.edu website.						

3 Soils

A USDA Web Soil Survey of the data center site in Tompkins County, New York identifies numerous soil types on the site. The predominant soil types are Hudson-Cayuga silt loams, 2 to 6 percent slopes

(HuB) and Hudson-Cayuga silt loams, 6 to 12 percent slopes, eroded (HuC3). See Attachment 2 for the Soil Survey Information on the soils located on the project site.

4 Pre-developed Conditions

The 540-acre site generally consists of woods and brush with a retired power plant facility on site. The site has been divided into two drainage areas under pre-developed conditions. The two drainage areas are located at the west end of the site. The northernmost drainage area is a tributary discharging into Cayuga Lake. The southern drainage area is located near the retired power plant facility and discharges through an existing culvert into Cayuga Lake through two 54" diameter concrete pipes. The drainage areas will be included as Attachment 3 (Pre-developed and Drainage Area Maps) upon completion and development of the full SWPPP prior to the construction general permit application.

The following is a summary of the pre-developed peak stormwater runoff rates for various design storms. The information and models used to estimate these rates can be found in Attachment 4 – Pre-Developed Conditions Stormwater Calculations.

5 Post-developed Conditions

It is proposed to develop the site with a data center complex, replacing a portion of the northwestern wooded areas of the site. As the project results in the disturbance of more than 1-acre of land a NYSDEC SPDES Permit for Stormwater Discharges from Construction Activities must be obtained for the project. The SPDES Permit requires stormwater quality measures be provided.

Under post-developed conditions the site will consist of twenty-eight (28) drainage areas that will be directed to stormwater management areas (SMA's). The SMA's will provide the required stormwater runoff reduction volume. The area that was tributary to the pre-developed Drainage Area upstream of the site will be bypassed with swales of adequate size to be designed at a later date.

The SMA's are designed to provide mitigation for stormwater quality in accordance with NYSDEC requirements and the stormwater design manual. Per the NYSDEC General Permit for Stormwater Discharges from Construction Activity, Permit No. GP-0-25-001 (effective January 29, 2025 with an expiration date of January 28, 2030) (CGP), the Channel Protection Volume (CPv), Overbank Flood Control Criteria (Qp), and Extreme Flood Control Criteria (Qf) requirements do not apply as this site discharges directly into a fifth order or larger water body. The points of discharge are required to be adequately protected against scour and erosion.

The runoff reduction practices are all sized to store and infiltrate the WQv storm with overflow to each practice being discharged through an on-site stormwater network. The discharge point for the proposed stormwater network will be protected from erosion and discharge to the existing dual-54" culverts on site that direct flow to Cayuga lake.

The post-developed condition calculations are provided in Attachment 5 (Post-Developed Conditions Stormwater Management and Water Quality Calculations) and the post-developed drainage area map is still in development but will be included as attachment 4 (Post-developed Drainage Area Maps) upon

final SWPPP development and permit application. Conceptual level design drawings are included under separate cover. A table of the post construction drainage areas (DA)'s is included below:

5-1. Summary of Post Construction Drainage Areas[1]

DA	SMP Description	Area (acres)	Impervious area (acres)	DA	SMP Description	Area (acres)	Impervious area (acres)
1	Stormwater planters (RR-7)	1.22	1.22	**15**	Tree Trench (RR-3)	0.09	Yes
2	Stormwater Planters (RR-7)	1.22	1.22	**16**	Tree Trench (RR-3)	0.17	0.17
3	Stormwater Planters (RR-7)	1.22	1.22	**17**	Tree Trench (RR-3)	0.16	0.16
4	Stormwater Planters (RR-7)	1.22	1.22	**18**	Tree Trench (RR-3)	0.16	0.16
5	Stormwater Planters (RR-7)	1.22	1.22	**19**	Tree Trench (RR-3)	0.08	0.08
6	Stormwater Planters (RR-7)	1.22	1.22	**20**	Tree Trench (RR-3)	0.07	0.07
7	Stormwater Planters (RR-7)	0.15	0.15	**21**	Tree Trench (RR-3)	0.17	0.17
8	Stormwater Planters (RR-7)	0.15	0.15	**22**	Stormwater Planters (RR-7)	4.71	4.71
9	Stormwater Planters (RR-7)	1.63	0.66	**23**	Stormwater Planters (RR-7)	4.71	4.71
10	Tree Trench (RR-3)	17.97	14.56	**24**	Stormwater Planters (RR-7)	1.11	1.11
11	Tree Trench (RR-3)	0.24	0.24	**25**	Stormwater Planters (RR-7)	1.11	1.11
12	Tree Trench (RR-3)	0.41	0.41	**26**	Tree Trench (RR-3)	7.89	3.44
13	Tree Trench (RR-3)	0.34	0.34	**27**	Tree Trench (RR-3)	0.91	0.91
14	Tree Trench (RR-3)	0.47	0.47	**28**	Tree Trench (RR-3)	1.91	1.91

6 Stormwater Quality

Stormwater quality measures in accordance with the requirements of the NYS Stormwater Management Design Manual are provided by the SMPs. The following is a summary table of the WQv required for each drainage area going towards a post-construction stormwater practice. No additional stormwater treatment was required since the RRv was equal to the WQv required (see section 7). Calculations of the stormwater quality volume for each SMA are provided in Attachment 5 (Post-developed Conditions Stormwater Management and Water Quality Calculations).

6-1. Summary of WQv Required[1]

Post-construction Drainage Area (DA)	WQv Required (cubic ft)	Post-construction Drainage Area (DA)	WQv Required (cubic ft)
1	4,207	**15**	310
2	4,207	**16**	579
3	4,207	**17**	545
4	4,207	**18**	545
5	4,207	**19**	272
6	4,207	**20**	238
7	509	**21**	579
8	509	**22**	16,243
9	2,452	**23**	16,243
10	50,829	**24**	3,828
11	828	**25**	3,828
12	1,414	**26**	12,671
13	1,172	**27**	3,138
14	1,621	**28**	6,587

7 Runoff Reduction Volume

The proposed Stormwater Planters (RR-7) and tree trenches (RR-3) will provide RRv for the site. The minimum required RRv was not calculated since RRv provided was ≥ WQv. RRv practices and volumes are shown below.

[1] Note – several practices were consolidated on the attached stormwater calculations due to limitations in the excel sheet provided by NYSDEC which only allows a maximum of 10 individual locations of each practice. For example, drainage areas 1 & 2 were consolidated into just 1 in the attached printouts.

7-1. Summary of Required and Provided Runoff Reduction Volumes (RRv)

DA	Runoff Reduction Volume Practice	RRv Provided (cubic ft)[2]	Is RRv ≥ WQv?	DA	Runoff Reduction Volume Practice	RRv Required (cubic ft)	Is RRv ≥ WQv?
1	Stormwater planters (RR-7)	4,207	Yes	15	Tree Trench (RR-3)	310	Yes
2	Stormwater Planters (RR-7)	4,207	Yes	16	Tree Trench (RR-3)	579	Yes
3	Stormwater Planters (RR-7)	4,207	Yes	17	Tree Trench (RR-3)	545	Yes
4	Stormwater Planters (RR-7)	4,207	Yes	18	Tree Trench (RR-3)	545	Yes
5	Stormwater Planters (RR-7)	4,207	Yes	19	Tree Trench (RR-3)	272	Yes
6	Stormwater Planters (RR-7)	4,207	Yes	20	Tree Trench (RR-3)	238	Yes
7	Stormwater Planters (RR-7)	509	Yes	21	Tree Trench (RR-3)	579	Yes
8	Stormwater Planters (RR-7)	509	Yes	22	Stormwater Planters (RR-7)	16,243	Yes
9	Stormwater Planters (RR-7)	2,452	Yes	23	Stormwater Planters (RR-7)	16,243	Yes
10	Tree Trench (RR-3)	50,829	Yes	24	Stormwater Planters (RR-7)	3,828	Yes
11	Tree Trench (RR-3)	828	Yes	25	Stormwater Planters (RR-7)	3,828	Yes
12	Tree Trench (RR-3)	1,414	Yes	26	Tree Trench (RR-3)	12,671	Yes
13	Tree Trench (RR-3)	1,172	Yes	27	Tree Trench (RR-3)	3,138	Yes
14	Tree Trench (RR-3)	1,621	Yes	28	Tree Trench (RR-3)	6,587	Yes

Of note – several of the stormwater planters are shown in the conceptual level plans as a consolidated unit. The design intent of these is to divide the planters up into discrete areas receiving rooftop flow through a spreader box so that the planters are able to treat and infiltrate the stormwater reaching

[2] Part of the calculation of RRv provided by each practice sets the maximum value to the WQv of the drainage area. All practices are sized greater than the requirement to treat the WQv and would provide more RRv than shown if the maximum wasn't set.

them. This meets design intent of the stormwater design manual and each practice where the drainage area exceeds 15,000 should be seen as several discrete planters in a shared area.

8 Erosion and Sediment Controls

Contractors shall install erosion and sediment control measures to eliminate transport of sediment offsite. Erosion and sediment control measures will be discussed in Section 5.1 of the SWPPP and detailed in the Construction Drawings upon detailed design and permit applications. These measures will be implemented by the Contractor and shall adhere to the specifications in the Contract Documents. Unless specific approval has been obtained from the NYSDEC the Contractors shall only disturb up to 5 acres at one time, which may require phasing of the construction to stabilize completed areas prior to disturbing additional areas. The construction sequence outlining the specific measures and sequence for provision of the measures is provided in the Contract Drawings, which are bound separately from this SWPPP. Development of a detention basin or other temporary erosion and sediment controls may be required and are not shown on the conceptual level design plans.

9 Conclusion

Runoff reduction practices are distributed across the proposed development site to work as a decentralized stormwater management system. The areas of the runoff reduction practices were set during conceptual design to be greater than what would be required for the water quality volume of the upstream area so that the entire water quality volume is reduced as part of the project. Since the Runoff Reduction Volume is equal to the Water Quality Volume, no additional quality treatment practices are required. Additionally, the stormwater runoff will be directed into a water body of order 5 or higher, so there are no stormwater quantity management requirements for the site. The stormwater system and drainage facilities were designed in accordance with the NYS DEC Stormwater Management Design Manual, most recent edition. In total, the Water Quality Volume for the site was approximately 3.45 acre-feet, all of which is reduced using a combination of Tree Trenches (RR-3) & Stormwater Planters (RR-7).

ATTACHMENT 1
USGS Map

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map
OnDemand Topo

7.5-MINUTE TOPO QUADRANGLE
NEW YORK - CUSTOM EXTENT
7.5-MINUTE TOPO

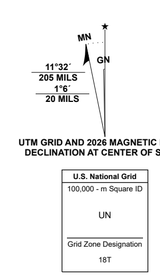


Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid: UNIVERSAL TRANSVERSE MERCATOR, ZONE 18T

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Learn About The National Map: https://nationalmap.gov



UTM GRID AND 2026 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000 - m Square ID
UN
Grid Zone Designation
18T

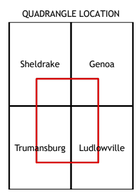
SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988
CONTOUR SMOOTHNESS = Medium



QUADRANGLE LOCATION



ADJOINING QUADRANGLES

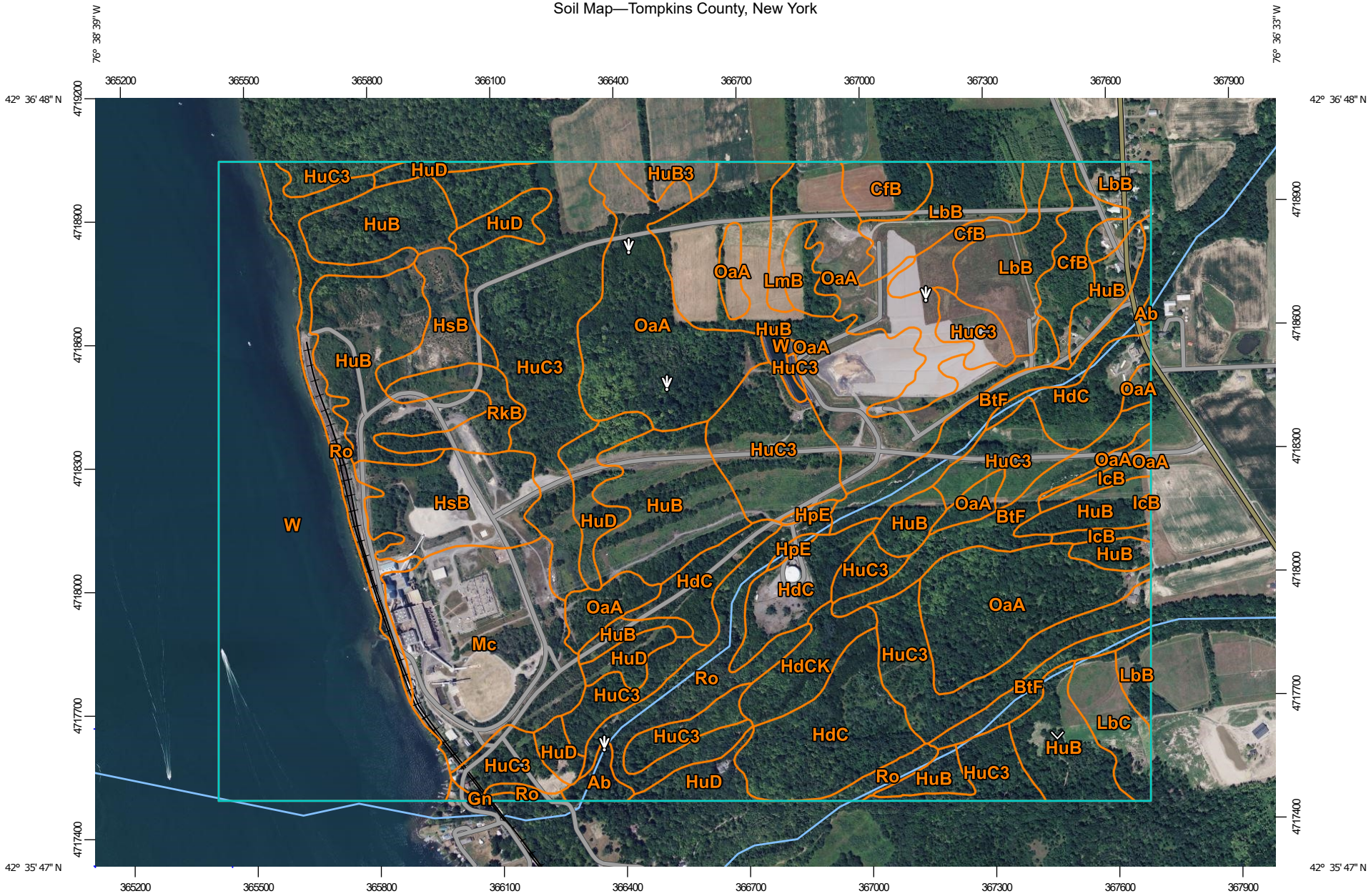
ROAD CLASSIFICATION

Expressway	Local Connector
Secondary Hwy	Local Road
Ramp	4WD

Interstate Route · US Route · State Route

7.5-MINUTE TOPO, NY
2026

ATTACHMENT 2
Soil Survey Information


76° 38' 39" W
76° 36' 33" W
42° 36' 48" N
42° 35' 47" N
365200
365500
365800
366100
366400
366700
367000
367300
367600
367900
4719200
4718900
4718600
4718300
4718000
4717700
4717400
HuC3
HuD
HuB3
CfB
LbB
HuB
HuD
OaA
LmB
OaA
LbB
CfB
HuB
Ab
HsB
OaA
HuB
W
OaA
HuC3
HuB
HuC3
HuC3
BtF
HdC
OaA
RkB
Ro
HuC3
HuC3
OaA
OaA
IcB
HsB
HuB
HuD
HpE
HuB
OaA
BtF
HuB
IcB
W
IcB
HpE
HuB
HuC3
HdC
HdC
OaA
OaA
HuB
Mc
HuD
HdCK
HuC3
Ro
BtF
LbB
HuC3
LbC
HdC
HuD
HuB
HuC3
Ro
HuB
HuC3
Ab
HuD
Gn
Ro
Map Scale: 1:13,200 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 150 300 600 900
Feet
0 500 1000 2000 3000
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

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.

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 21, Sep 2, 2025

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
Ab	Alluvial land	3.3	0.4%
BtF	Bath, Valois, and Lansing soils, 35 to 60 percent slopes	36.0	4.1%
CfB	Conesus gravelly silt loam, 3 to 8 percent slopes	23.6	2.7%
Gn	Genesee silt loam	0.9	0.1%
HdC	Howard gravelly loam, 5 to 15 percent simple slopes	55.4	6.3%
HdCK	Howard gravelly loam, 5 to 15 percent complex slopes	10.0	1.1%
HpE	Howard and Palmyra soils, 25 to 35 percent slopes	1.7	0.2%
HsB	Hudson silty clay loam, 2 to 6 percent slopes	33.1	3.8%
HuB	Hudson-Cayuga silt loams, 2 to 6 percent slopes	154.3	17.6%
HuB3	Hudson-Cayuga silt loams, 2 to 6 percent slopes, eroded	3.8	0.4%
HuC3	Hudson-Cayuga silt loams, 6 to 12 percent slopes, eroded	139.9	16.0%
HuD	Hudson-Cayuga silt loams, 12 to 20 percent slopes	28.3	3.2%
IcB	Ilion silty clay loam, 2 to 6 percent slopes	5.1	0.6%
LbB	Lansing gravelly silt loam, 3 to 8 percent slopes	37.6	4.3%
LbC	Lansing gravelly silt loam, 8 to 15 percent slopes	9.8	1.1%
LmB	Lima silt loam, 3 to 8 percent slopes	4.4	0.5%
Mc	Made land	45.7	5.2%
OaA	Ovid silt loam, 0 to 6 percent slopes	104.6	11.9%
RkB	Rhinebeck silt loam, 2 to 6 percent slopes	10.3	1.2%
Ro	Rock outcrop	45.8	5.2%
W	Water	121.7	13.9%
Totals for Area of Interest		**875.2**	**100.0%**

ATTACHMENT 5
Post-developed Conditions Stormwater Management and Water Quality Calculations

Step 2 - Calculate Water Quality Volume

Is this project subject to Section 4.3 of the NYS Design Manual for Enhanced Phosphorus Removal?	No
What is the nature of this construction project?	New Construction

Design Point:	1	
P=	1.00	inches

Enter 90% Rainfall Event as P

Calculate Required WQv

Drainage Area Number	Contributing Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (cf)	SMP Description
1	2.44	2.44	100	0.95	8,414	Stormwater Planter
2						
3	2.44	2.44	100	0.95	8,414	Stormwater Planter
4						
5	2.44	2.44	100	0.95	8,414	Stormwater Planter
6						
7	0.30	0.30	100	0.95	1,017	Stormwater Planter
8						
9	1.63	0.66	40	0.41	2,452	Stormwater Planter
10	17.97	14.56	81	0.78	50,829	Tree Trench
11	0.24	0.24	100	0.95	828	Tree Trench
12	0.41	0.41	100	0.95	1,414	Tree Trench
13	0.34	0.34	100	0.95	1,172	Tree Trench
14	0.47	0.47	100	0.95	1,621	Tree Trench
15	0.09	0.09	100	0.95	310	Tree Trench
16	0.80	0.80	100	0.95	2,759	Tree Trench
17						
18						
19						
20						
21						
22	11.64	11.64	100	0.95	40,141	Stormwater Planter
23						
24						
25						
26	7.89	3.44	44	0.44	12,671	Tree Trench
27	0.91	0.91	100	0.95	3,138	Tree Trench
28	1.91	1.91	100	0.95	6,587	Tree Trench
29						
30						
Total	51.92	43.09	83	0.80	**150181**	**Required WQv**

Steps 3 and 5 - Apply RR Techniques and Standard SMPs

Runoff Reduction Volume and Treated Volumes						
	Runoff Reduction Techiques/Standard SMPs		**Total Contributing Area**	**Total Contributing Impervious Area**	**WQv Reduced (RRv)**	**WQv Treated**
			(acres)	**(acres)**	**(cf)**	**(cf)**
RR Techniques	Conservation of Natural Areas	RR-1	0.00		0	
	Sheet Flow to Riparian Buffer/Filter Strip	RR-2	0.00	0.00	0	
	Tree Planting/Tree Pit/Tree Trench	RR-3	31.03	23.17	81,329	
	Disconnection of Rooftop Runoff	RR-4		0.00	0	
	Vegetated Swale	RR-5	0.00	0.00	0	
	Rain Garden	RR-6	0.00	0.00	0	
	Stormwater Planter	RR-7	20.89	19.92	68,852	
	Rainwater Harvesting Systems	RR-8	0.00	0.00	0	
	Porous Pavement	RR-9	0.00	0.00	0	
	Green Roof (Extensive & Intensive)	RR-10	0.00	0.00	0	
	Stream Daylighting	RR-11				
Standard SMPs w/ RRv Capacity	Infiltration Trench	I-1	0.00	0.00	0	0
	Infiltration Basin	I-2	0.00	0.00	0	0
	Dry Well	I-3	0.00	0.00	0	0
	Underground Infiltration System	I-4	0.00	0.00	0	0
	Infiltration Bioretention	F-4	0.00	0.00	0	0
	Filtration Bioretention	F-5	0.00	0.00	0	0
	Bioslope	F-6	0.00	0.00	0	0
	Dry swale	O-1	0.00	0.00	0	0
Standard SMPs	Micropool Extended Detention	P-1	0.00	0.00		0
	Wet Pond	P-2	0.00	0.00		0
	Wet Extended Detention	P-3	0.00	0.00		0
	Multiple Pond System	P-4	0.00	0.00		0
	Shallow Wetland	W-1	0.00	0.00		0
	Extended Detention Shallow Wetland	W-2	0.00	0.00		0
	Pond/Wetland System	W-3	0.00	0.00		0
	Pocket Wetland	W-4	0.00	0.00		0
	Gravel Wetland	W-5	0.00	0.00		0
	Surface Sand Filter	F-1	0.00	0.00		0
	Underground Sand Filter	F-2	0.00	0.00		0
	Perimeter Sand Filter	F-3	0.00	0.00		0
	Wet Swale	O-2	0.00	0.00		0
Alt. SMPs	Flow Based Alternative Practice	-	0.00	0.00		0
	Volume Based Alternative Practice	-				
	Totals by RR Technique →		51.92	43.09	150,181	
	Totals by Standard SMP w/RRV →		0.00	0.00	0	0
	Totals by Standard SMP →		0.00	0.00		0
	Totals by Alternative SMP →		0.00	0.00		0
	Totals (RR Techniques + all SMPs) →		51.92	43.09	150,181	0

Tree Trench (RR-3)

Design Point:	1

Enter Site Data For Drainage Area to be Treated by Practice							
Drainage Area Number	**Contributing Area** (Acres)	**Impervious Area** (Acres)	**Percent Impervious** %	**Rv**	**WQv** (cf)	**Precipitation** (in)	**Description**
10	17.97	14.56	81	0.78	50,829	1.00	Tree Trench

Design Criteria		
Is the contributing area a designated hotspot?	No	
Enter the slope of the contributing area (%)	10.00	
Enter underlying soil infiltration rate (based on geotechnical testing, refer to Appendix D)	0.50	
Enter depth to seasonal high water table (ft)	40	
Enter depth to bedrock (ft)	42	
Enter surface layer depth (inches)	3	
Enter filter media width (ft)	19	
Enter drainage layer depth (inches)	24	

Sizing Criteria				
		Value	Units	Notes
Water Quality Volume	WQv	50,829	cf	
Enter Filter Bed Depth	df	3.00	ft	
Permeability Flow Rate	k	1	ft/day	
Enter Average Height of Ponding	hf	0.50	ft	
Enter Filter Time	tf	2	days	
Required Filter Bed Surface Area	Af	21784	sf	
Provided Filter Bed Surface Area	Af	24584	sf	

Calculate Runoff Reduction		
RRv Provided	**50,829**	**cf**

Tree Trench (RR-3)

Design Point:	1

Enter Site Data For Drainage Area to be Treated by Practice							
Drainage Area Number	**Contributing Area** (Acres)	**Impervious Area** (Acres)	**Percent Impervious** %	**Rv**	**WQv** (cf)	**Precipitation** (in)	**Description**
11	0.24	0.24	100	0.95	828	1.00	Tree Trench

Design Criteria		
Is the contributing area a designated hotspot?	No	
Enter the slope of the contributing area (%)	3.00	
Enter underlying soil infiltration rate (based on geotechnical testing, refer to Appendix D)	0.50	
Enter depth to seasonal high water table (ft)	15	
Enter depth to bedrock (ft)	15	
Enter surface layer depth (inches)	3	
Enter filter media width (ft)	10	
Enter drainage layer depth (inches)	24	

Sizing Criteria				
		Value	Units	Notes
Water Quality Volume	WQv	828	cf	
Enter Filter Bed Depth	df	3	ft	
Permeability Flow Rate	k	1	ft/day	
Enter Average Height of Ponding	hf	0.5	ft	
Enter Filter Time	tf	2	days	
Required Filter Bed Surface Area	Af	355	sf	
Provided Filter Bed Surface Area	Af	400	sf	

Calculate Runoff Reduction		
RRv Provided	**828**	**cf**

Tree Trench (RR-3)

Design Point:	1

Enter Site Data For Drainage Area to be Treated by Practice							
Drainage Area Number	**Contributing Area** (Acres)	**Impervious Area** (Acres)	**Percent Impervious** %	**Rv**	**WQv** (cf)	**Precipitation** (in)	**Description**
12	0.41	0.41	100	0.95	1,414	1.00	Tree Trench

Design Criteria		
Is the contributing area a designated hotspot?	No	
Enter the slope of the contributing area (%)	10	
Enter underlying soil infiltration rate (based on geotechnical testing, refer to Appendix D)	0.5	
Enter depth to seasonal high water table (ft)	2	
Enter depth to bedrock (ft)	2	
Enter surface layer depth (inches)	3	
Enter filter media width (ft)	10	
Enter drainage layer depth (inches)	24	

Sizing Criteria				
		Value	Units	Notes
Water Quality Volume	WQv	1,414	cf	
Enter Filter Bed Depth	df	3	ft	
Permeability Flow Rate	k	1	ft/day	
Enter Average Height of Ponding	hf	0.5	ft	
Enter Filter Time	tf	2	days	
Required Filter Bed Surface Area	Af	606	sf	
Provided Filter Bed Surface Area	Af	893	sf	

Calculate Runoff Reduction		
RRv Provided	**1,414**	**cf**

Tree Trench (RR-3)

Design Point:	1

Enter Site Data For Drainage Area to be Treated by Practice							
Drainage Area Number	**Contributing Area** (Acres)	**Impervious Area** (Acres)	**Percent Impervious** %	**Rv**	**WQv** (cf)	**Precipitation** (in)	**Description**
13	0.34	0.34	100	0.95	1,172	1.00	Tree Trench

Design Criteria		
Is the contributing area a designated hotspot?	No	
Enter the slope of the contributing area (%)	0.5	
Enter underlying soil infiltration rate (based on geotechnical testing, refer to Appendix D)	0.5	
Enter depth to seasonal high water table (ft)	2	
Enter depth to bedrock (ft)	2	
Enter surface layer depth (inches)	3	
Enter filter media width (ft)	10	
Enter drainage layer depth (inches)	24	

Sizing Criteria				
		Value	Units	Notes
Water Quality Volume	WQv	1,172	cf	
Enter Filter Bed Depth	df	3	ft	
Permeability Flow Rate	k	1	ft/day	
Enter Average Height of Ponding	hf	0.5	ft	
Enter Filter Time	tf	2	days	
Required Filter Bed Surface Area	Af	502	sf	
Provided Filter Bed Surface Area	Af	797.9	sf	

Calculate Runoff Reduction		
RRv Provided	**1,172**	**cf**

Tree Trench (RR-3)

Design Point:	1

Enter Site Data For Drainage Area to be Treated by Practice							
Drainage Area Number	**Contributing Area** (Acres)	**Impervious Area** (Acres)	**Percent Impervious** %	**Rv**	**WQv** (cf)	**Precipitation** (in)	**Description**
14	0.47	0.47	100	0.95	1,621	1.00	Tree Trench

Design Criteria		
Is the contributing area a designated hotspot?	No	
Enter the slope of the contributing area (%)	10	
Enter underlying soil infiltration rate (based on	0.5	
Enter depth to seasonal high water table (ft)	2	
Enter depth to bedrock (ft)	2	
Enter surface layer depth (inches)	3	
Enter filter media width (ft)	10	
Enter drainage layer depth (inches)	24	

Sizing Criteria				
		Value	Units	Notes
Water Quality Volume	WQv	1,621	cf	
Enter Filter Bed Depth	df	3	ft	
Permeability Flow Rate	k	1	ft/day	
Enter Average Height of Ponding	hf	0.5	ft	
Enter Filter Time	tf	2	days	
Required Filter Bed Surface Area	Af	695	sf	
Provided Filter Bed Surface Area	Af	908	sf	

Calculate Runoff Reduction		
RRv Provided	**1,621**	**cf**

Tree Trench (RR-3)

Design Point:	1

Enter Site Data For Drainage Area to be Treated by Practice							
Drainage Area Number	**Contributing Area** (Acres)	**Impervious Area** (Acres)	**Percent Impervious** %	**Rv**	**WQv** (cf)	**Precipitation** (in)	**Description**
15	0.09	0.09	100	0.95	310	11.64	Tree Trench

Design Criteria		
Is the contributing area a designated hotspot?	No	
Enter the slope of the contributing area (%)	0.5	
Enter underlying soil infiltration rate (based on	0.5	
Enter depth to seasonal high water table (ft)	2	
Enter depth to bedrock (ft)	2	
Enter surface layer depth (inches)	3	
Enter filter media width (ft)	10	
Enter drainage layer depth (inches)	24	

Sizing Criteria				
		Value	Units	Notes
Water Quality Volume	WQv	310	cf	
Enter Filter Bed Depth	df	3	ft	
Permeability Flow Rate	k	1	ft/day	
Enter Average Height of Ponding	hf	0.5	ft	
Enter Filter Time	tf	2	days	
Required Filter Bed Surface Area	Af	133	sf	
Provided Filter Bed Surface Area	Af	400	sf	

Calculate Runoff Reduction		
RRv Provided	**310**	**cf**

Tree Trench (RR-3)

Design Point:	1

Enter Site Data For Drainage Area to be Treated by Practice							
Drainage Area Number	**Contributing Area** (Acres)	**Impervious Area** (Acres)	**Percent Impervious** %	**Rv**	**WQv** (cf)	**Precipitation** (in)	**Description**
16	0.80	0.80	100	0.95	2,759	0.00	Tree Trench

Design Criteria		
Is the contributing area a designated hotspot?	No	
Enter the slope of the contributing area (%)	10	
Enter underlying soil infiltration rate (based on	0.5	
Enter depth to seasonal high water table (ft)	2	
Enter depth to bedrock (ft)	2	
Enter surface layer depth (inches)	3	
Enter filter media width (ft)	10	
Enter drainage layer depth (inches)	24	

Sizing Criteria				
		Value	Units	Notes
Water Quality Volume	WQv	2,759	cf	
Enter Filter Bed Depth	df	3	ft	
Permeability Flow Rate	k	1	ft/day	
Enter Average Height of Ponding	hf	0.5	ft	
Enter Filter Time	tf	2	days	
Required Filter Bed Surface Area	Af	1182	sf	
Provided Filter Bed Surface Area	Af	2175	sf	

Calculate Runoff Reduction		
RRv Provided	**2,759**	**cf**

Tree Trench (RR-3)

Design Point:	1

Enter Site Data For Drainage Area to be Treated by Practice							
Drainage Area Number	**Contributing Area** (Acres)	**Impervious Area** (Acres)	**Percent Impervious** %	**Rv**	**WQv** (cf)	**Precipitation** (in)	**Description**
26	7.89	3.44	44	0.44	12,671	0.00	Tree Trench

Design Criteria		
Is the contributing area a designated hotspot?	No	
Enter the slope of the contributing area (%)	10	
Enter underlying soil infiltration rate (based on	0.5	
Enter depth to seasonal high water table (ft)	2	
Enter depth to bedrock (ft)	2	
Enter surface layer depth (inches)	3	
Enter filter media width (ft)	10	
Enter drainage layer depth (inches)	24	

Sizing Criteria				
		Value	Units	Notes
Water Quality Volume	WQv	12,671	cf	
Enter Filter Bed Depth	df	3	ft	
Permeability Flow Rate	k	1	ft/day	
Enter Average Height of Ponding	hf	0.5	ft	
Enter Filter Time	tf	2	days	
Required Filter Bed Surface Area	Af	5430	sf	
Provided Filter Bed Surface Area	Af	5475	sf	

Calculate Runoff Reduction		
RRv Provided	**12,671**	**cf**

Tree Trench (RR-3)

Design Point:	1

Enter Site Data For Drainage Area to be Treated by Practice							
Drainage Area Number	**Contributing Area** (Acres)	**Impervious Area** (Acres)	**Percent Impervious** %	**Rv**	**WQv** (cf)	**Precipitation** (in)	**Description**
27	0.91	0.91	100	0.95	3,138	0.00	Tree Trench

Design Criteria		
Is the contributing area a designated hotspot?	No	
Enter the slope of the contributing area (%)	10	
Enter underlying soil infiltration rate (based on	0.5	
Enter depth to seasonal high water table (ft)	24	
Enter depth to bedrock (ft)	26	
Enter surface layer depth (inches)	3	
Enter filter media width (ft)	10	
Enter drainage layer depth (inches)	24	

Sizing Criteria				
		Value	Units	Notes
Water Quality Volume	WQv	3,138	cf	
Enter Filter Bed Depth	df	3	ft	
Permeability Flow Rate	k	1	ft/day	
Enter Average Height of Ponding	hf	0.5	ft	
Enter Filter Time	tf	2	days	
Required Filter Bed Surface Area	Af	1345	sf	
Provided Filter Bed Surface Area	Af	1350	sf	

Calculate Runoff Reduction		
RRv Provided	**3,138**	**cf**

Tree Trench (RR-3)

Design Point:	1

Enter Site Data For Drainage Area to be Treated by Practice							
Drainage Area Number	**Contributing Area** (Acres)	**Impervious Area** (Acres)	**Percent Impervious** %	**Rv**	**WQv** (cf)	**Precipitation** (in)	**Description**
28	1.91	1.91	100	0.95	6,587	0.00	Tree Trench

Design Criteria		
Is the contributing area a designated hotspot?	No	
Enter the slope of the contributing area (%)	10	
Enter underlying soil infiltration rate (based on	0.5	
Enter depth to seasonal high water table (ft)	2	
Enter depth to bedrock (ft)	2	
Enter surface layer depth (inches)	3	
Enter filter media width (ft)	10	
Enter drainage layer depth (inches)	24	

Sizing Criteria				
		Value	Units	Notes
Water Quality Volume	WQv	6,587	cf	
Enter Filter Bed Depth	df	3	ft	
Permeability Flow Rate	k	1	ft/day	
Enter Average Height of Ponding	hf	0.5	ft	
Enter Filter Time	tf	2	days	
Required Filter Bed Surface Area	Af	2823	sf	
Provided Filter Bed Surface Area	Af	2850	sf	

Calculate Runoff Reduction		
RRv Provided	**6,587**	**cf**

Stormwater Planter (RR-7)

Design Point:	1

Enter Site Data For Drainage Area to be Treated by Practice							
Drainage Area Number	**Contributing Area** (Acres)	**Impervious Area** (Acres)	**Percent Impervious** %	**Rv**	**WQv** (cf)	**Precipitation** (in)	**Description**
1	2.44	2.44	100	0.95	8,414	1.00	Stormwater Planter

Select stormwater planter type	Infiltration Stormwater Planter

Design Criteria		
Enter underlying soil infiltration rate (based on geotechnical testing, refer to Appendix D)	0.5	
Is the contributing area a designated hotspot?	No	
Does the contributing area exceed 15,000 sf?	Yes	Does not meet design criteria as a single unit. Distribute flow into discrete planters
Does contributing area contain parking lot or roadway runoff?	No	
Enter depth to seasonal high water table (ft) (4 ft min separation in sole source aquifer)	13	
Enter depth to bedrock (ft)	13	
Enter depth of surface layer (inches)	3	
Enter drainage layer depth (inches)	6	

Sizing Criteria				
		Value	Units	Notes
Water Quality Volume	WQv	8,414	cf	
Enter Depth of Soil Media	df	2.5	ft	
Permeability Flow Rate	k	1	ft/day	
Enter Average Height of Ponding	hf	0.5	ft	
Filter Time	tf	2	days	
Required Filter Area	Af	3506	sf	
Enter Provided Filter Area	Af	5503.89	sf	
Recalculated Water Quality Volume (based on provided filter area)	WQv calc	13209.336	cf	

Calculate Runoff Reduction		
RRv Provided	**8,414**	**cf**

Stormwater Planter (RR-7)

Design Point:	1

Enter Site Data For Drainage Area to be Treated by Practice							
Drainage Area Number	**Contributing Area** (Acres)	**Impervious Area** (Acres)	**Percent Impervious** %	**Rv**	**WQv** (cf)	**Precipitation** (in)	**Description**
3	2.44	2.44	100	0.95	8,414	1.00	Stormwater Planter

Select stormwater planter type	Infiltration Stormwater Planter	
Design Criteria		
Enter underlying soil infiltration rate (based on geotechnical testing, refer to Appendix D)	0.5	
Is the contributing area a designated hotspot?	No	
Does the contributing area exceed 15,000 sf?	Yes	Does not meet design criteria as a single unit. Distribute flow into discrete planters
Does contributing area contain parking lot or roadway runoff?	No	
Enter depth to seasonal high water table (ft) (4 ft min separation in sole source aquifer)	10	
Enter depth to bedrock (ft)	12	
Enter depth of surface layer (inches)	3	
Enter drainage layer depth (inches)	6	

Sizing Criteria				
		Value	Units	Notes
Water Quality Volume	WQv	8,414	cf	
Enter Depth of Soil Media	df	2.5	ft	
Permeability Flow Rate	k	1	ft/day	
Enter Average Height of Ponding	hf	0.5	ft	
Filter Time	tf	2	days	
Required Filter Area	Af	3506	sf	
Enter Provided Filter Area	Af	5503.89	sf	
Recalculated Water Quality Volume (based on provided filter area)	WQv calc	13209.336	cf	

Calculate Runoff Reduction		
RRv Provided	**8,414**	**cf**

Stormwater Planter (RR-7)

Design Point:	1

Enter Site Data For Drainage Area to be Treated by Practice							
Drainage Area Number	**Contributing Area** (Acres)	**Impervious Area** (Acres)	**Percent Impervious** %	**Rv**	**WQv** (cf)	**Precipitation** (in)	**Description**
5	2.44	2.44	100	0.95	8,414	1.00	Stormwater Planter

Select stormwater planter type	Infiltration Stormwater Planter	
Design Criteria		
Enter underlying soil infiltration rate (based on geotechnical testing, refer to Appendix D)	0.5	
Is the contributing area a designated hotspot?	No	
Does the contributing area exceed 15,000 sf?	Yes	Does not meet design criteria as a single unit. Distribute flow into discrete planters
Does contributing area contain parking lot or roadway runoff?	No	
Enter depth to seasonal high water table (ft) (4 ft min separation in sole source aquifer)	5	
Enter depth to bedrock (ft)	7	
Enter depth of surface layer (inches)	3	
Enter drainage layer depth (inches)	6	

Sizing Criteria				
		Value	Units	Notes
Water Quality Volume	WQv	8,414	cf	
Enter Depth of Soil Media	df	2.5	ft	
Permeability Flow Rate	k	1	ft/day	
Enter Average Height of Ponding	hf	0.5	ft	
Filter Time	tf	2	days	
Required Filter Area	Af	3506	sf	
Enter Provided Filter Area	Af	5503.89	sf	
Recalculated Water Quality Volume (based on provided filter area)	WQv calc	13209.336	cf	

Calculate Runoff Reduction		
RRv Provided	**8,414**	**cf**

Stormwater Planter (RR-7)

Design Point:	1

Enter Site Data For Drainage Area to be Treated by Practice							
Drainage Area Number	**Contributing Area** (Acres)	**Impervious Area** (Acres)	**Percent Impervious** %	**Rv**	**WQv** (cf)	**Precipitation** (in)	**Description**
7	0.30	0.30	100	0.95	1,017	1.00	Stormwater Planter

Select stormwater planter type	Infiltration Stormwater Planter

Design Criteria		
Enter underlying soil infiltration rate (based on geotechnical testing, refer to Appendix D)	0.5	
Is the contributing area a designated hotspot?	No	
Does the contributing area exceed 15,000 sf?	No	
Does contributing area contain parking lot or roadway runoff?	No	
Enter depth to seasonal high water table (ft) (4 ft min separation in sole source aquifer)	2	
Enter depth to bedrock (ft)	3	
Enter depth of surface layer (inches)	3	
Enter drainage layer depth (inches)	6	

Sizing Criteria				
		Value	Units	Notes
Water Quality Volume	WQv	1,017	cf	
Enter Depth of Soil Media	df	2.5	ft	
Permeability Flow Rate	k	1	ft/day	
Enter Average Height of Ponding	hf	0.5	ft	
Filter Time	tf	2	days	
Required Filter Area	Af	424	sf	
Enter Provided Filter Area	Af	707.5	sf	
Recalculated Water Quality Volume (based on provided filter area)	WQv calc	1698	cf	

Calculate Runoff Reduction		
RRv Provided	**1,017**	**cf**

Stormwater Planter (RR-7)

Design Point:	1

Enter Site Data For Drainage Area to be Treated by Practice							
Drainage Area Number	**Contributing Area** (Acres)	**Impervious Area** (Acres)	**Percent Impervious** %	**Rv**	**WQv** (cf)	**Precipitation** (in)	**Description**
9	1.63	0.66	40	0.41	2,452	1.00	Stormwater Planter

Select stormwater planter type	Infiltration Stormwater Planter	
Design Criteria		
Enter underlying soil infiltration rate (based on geotechnical testing, refer to Appendix D)	0.5	
Is the contributing area a designated hotspot?	No	
Does the contributing area exceed 15,000 sf?	Yes	Does not meet design criteria as a single unit. Distribute flow into discrete planters
Does contributing area contain parking lot or roadway runoff?	No	
Enter depth to seasonal high water table (ft) (4 ft min separation in sole source aquifer)	2	
Enter depth to bedrock (ft)	3	
Enter depth of surface layer (inches)	3	
Enter drainage layer depth (inches)	6	

Sizing Criteria				
		Value	Units	Notes
Water Quality Volume	WQv	2,452	cf	
Enter Depth of Soil Media	df	2.5	ft	
Permeability Flow Rate	k	1	ft/day	
Enter Average Height of Ponding	hf	0.5	ft	
Filter Time	tf	2	days	
Required Filter Area	Af	1022	sf	
Enter Provided Filter Area	Af	3150	sf	
Recalculated Water Quality Volume (based on provided filter area)	WQv calc	7560	cf	

Calculate Runoff Reduction		
RRv Provided	**2,452**	**cf**

Stormwater Planter (RR-7)

Design Point:	1

Enter Site Data For Drainage Area to be Treated by Practice							
Drainage Area Number	**Contributing Area** (Acres)	**Impervious Area** (Acres)	**Percent Impervious** %	**Rv**	**WQv** (cf)	**Precipitation** (in)	**Description**
22	11.64	11.64	100	0.95	40,141	0.00	Stormwater Planter

Select stormwater planter type	Infiltration Stormwater Planter	
Design Criteria		
Enter underlying soil infiltration rate (based on	0.5	
Is the contributing area a designated hotspot?	No	
Does the contributing area exceed 15,000 sf?	Yes	Does not meet design criteria as a single unit. Distribute flow into discrete planters
Does contributing area contain parking lot or	No	
Enter depth to seasonal high water table (ft)	2	
Enter depth to bedrock (ft)	2	
Enter depth of surface layer (inches)	3	
Enter drainage layer depth (inches)	6	

Sizing Criteria				
		Value	Units	Notes
Water Quality Volume	WQv	40,141	cf	
Enter Depth of Soil Media	df	2.5	ft	
Permeability Flow Rate	k	1	ft/day	
Enter Average Height of Ponding	hf	0.5	ft	
Filter Time	tf	2	days	
Required Filter Area	Af	16725	sf	
Enter Provided Filter Area	Af	17200	sf	
Recalculated Water Quality Volume (based on	WQv calc	41280	cf	

Calculate Runoff Reduction		
RRv Provided	**40,141**	**cf**

Exhibit E
Planting Approach

DRAFT FOR REVIEW



Landscape Draft Design Approach

Image Source: NYSDEC

Our process for landscape design

01
Define overall landscape goals

02
Identify nearby natural areas and reference habitats

03
Define opportunities and constraints of site plan

04
Create landscape approach

05
Next Step involved detailed planting plans

Landscape Design Goals



- Maintain **site security and facility operations**



- **Plant with native species** aligned with nearby **local ecosystems**



- **Screen and buffer** areas of facility for noise reduction and aesthetics

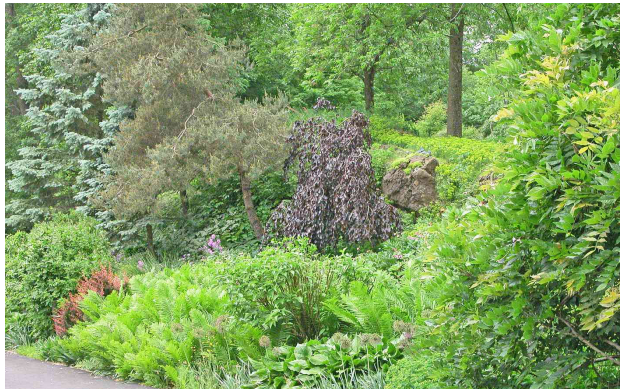


- Align planting with **stormwater management**

Primary Landscape Design Tools



Stormwater management with tree trenches, bioretention planters and stormwater planters



Tiered vegetated slopes



Pollinator gardens

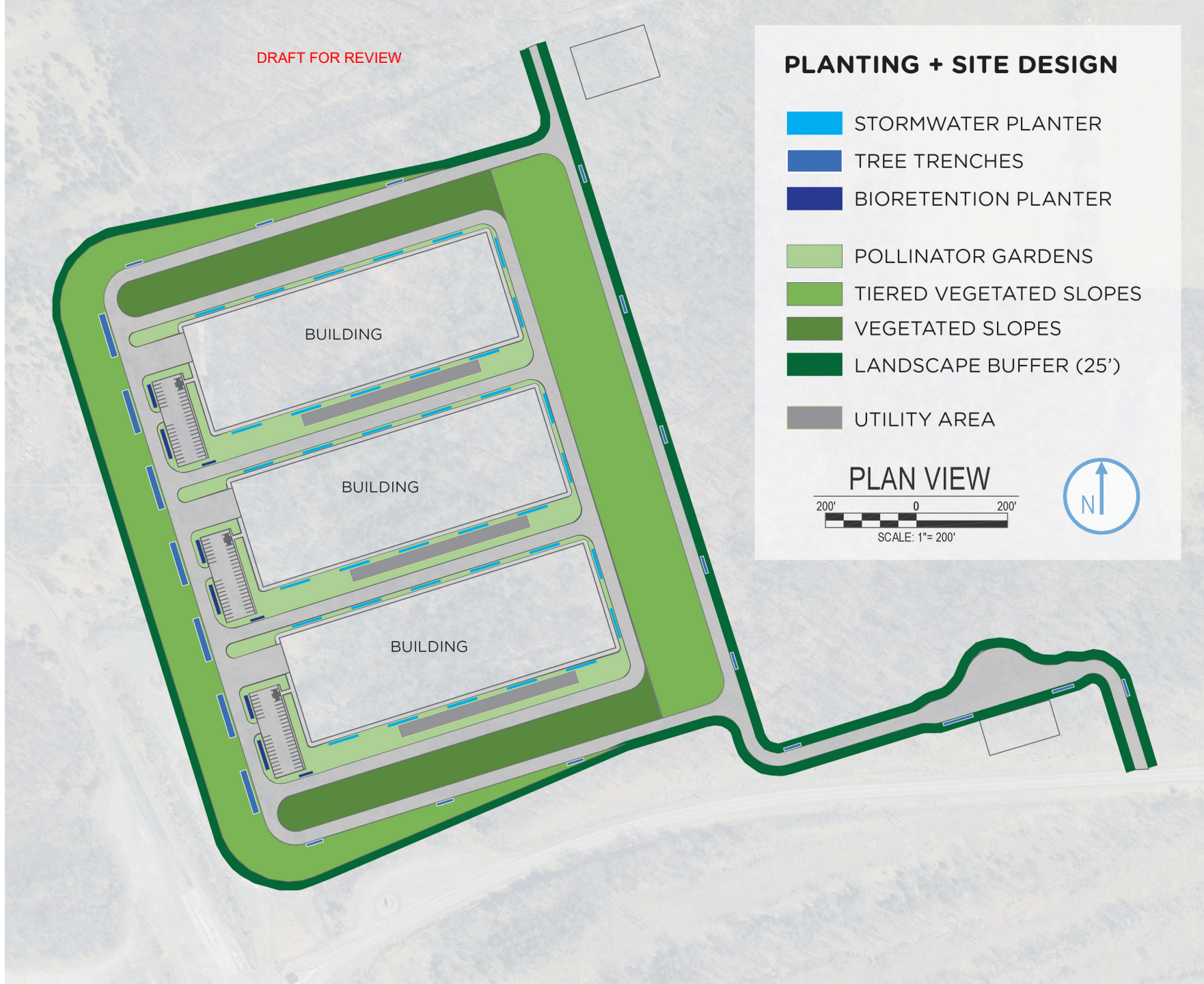


Landscape buffer for visual screening

Landscape Concept

Planting Approach

- Incorporate tiered landscape slopes with evergreen and deciduous trees, shrubs and grasses for naturalized visual screening
- Use native species in tree trenches, bioretention and stormwater planting
- Create landscape buffer along roadway and edge of site for visual screening
- Add pollinator gardens within parking lots for added vegetated landscape



DRAFT FOR REVIEW

Sample Planting Palette

- NY native species based on nearby habitats
- Species tolerant to stormwater treatment conditions and other site conditions

DESIGN STRATEGY:

- Plant pollinator gardens throughout parking lots
- Screen the buildings with a landscape buffer consisting of species from a Maple-Basswood Rich Mesic Forest
- Use species from Hemlock-Northern Hardwood Forest for the tiered vegetated slope
- For stormwater management areas, use species from NY DEC Stormwater Manual and from nearby reference habitats

Stormwater Management Areas: Example Species

- American Hornbeam
- River Birch
- Blackhaw
- Black Chokeberry
- Soft Rush
- Swamp Milkweed
- Joe-pye-weed

Pollinator Garden: Example Species

- Common Milkweed
- Black-eyed Susan
- Indian Grass
- Big Bluestem
- Little Bluestem
- Purple Coneflower
- Butterfly Weed

Landscape Buffer: Example Species

- American Basswood
- Mountain Maple
- Witch-hazel
- Pagoda Dogwood
- Spicebush
- Northern Lady Fern
- New England Aster
- False Sunflower

Tiered Slope Plantings: Example Species

- Red Maple
- White Oak
- White Pine
- Eastern Hemlock
- Hillside Blueberry
- Black-eyed Susan
- Switchgrass

Section 6
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

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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

Exhibit G
Environmental Assessment Form (EAF)

EAF Mapper Summary Report

Monday, September 8, 2025 10:52 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.



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

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



PROJECT: 1940115639 | DATED: 9/8/2025 | DESIGNER: MOSHERSG

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Map Scale: 1:20,000 | Map Center: 76°37'22"W 42°36'28"N

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

Exhibit H
Site Plan Renderings







Exhibit I
Acoustical Assessment Report

Date
November 18, 2025

ACOUSTICAL ASSESSMENT REPORT

Project Lake Hawkeye
Lansing, New York

RAMBOLL Bright ideas. Sustainable change.

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Acoustical Assessment Report

Project name	**Lake Hawkeye**
Project no.	**1940113922**
Recipient	**Cayuga Operating Company, LLC**
Version	**1.0**
Date	**2025-11-18**
Prepared by	**Hanna Yanglou, P.Eng.**
Checked by	**Jeff Szymanski, PE, INCE Bd. Cert.**
Approved by	**Brent Ferren, PE, INCE**
Description	**Acoustical design evaluation for the Cayuga Lansing campus project consisting of three (3) data center buildings. This assessment is based on the site drawing dated September 10, 2025. This work was undertaken in accordance with the agreement between Ramboll Americas Engineering Solutions, Inc. (RAES) and Cayuga Operating Company, LLC, dated May 6, 2025.**

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1. Project Site Review

1.1 Introduction

Cayuga Operating Company, LLC is considering the Terawulf Lansing Project for development on land west of the Town of Lansing, in Tompkins County, New York. The project could contain up to three data centers and a substation development. This acoustical review was completed to identify, at a high level, possible site development and operational risks related to environmental sound. Please refer to Appendix A for further information on general noise terminology and principles. This assessment has been conducted in general accordance with applicable provisions specified in relevant industry standards, including ANSI S1.13, ANSI S12.9, and ANSI S12.18.

1.2 Project Site and Vicinity Description

The project site is in the Town of Lansing, in Tompkins County, New York. The site and vicinity are shown in Figure 1-1. The site's north boundary is mostly along Starks Road. The south boundary is along Milliken Station Road.

Figures 1-1 also illustrate the current zoning classifications for the properties within and surrounding the project site. The zoning designations for the project site are established by the Town Lansing which classifies the site as Industrial/Researching (IR) and the surrounding areas into Rural Agricultural (RA) and Lakeshore (L1) zoning districts.

The nearest noise-sensitive receptors are illustrated in Figure 1-2. These include several scattered rural residences located along the southwest and east areas of the site boundary.

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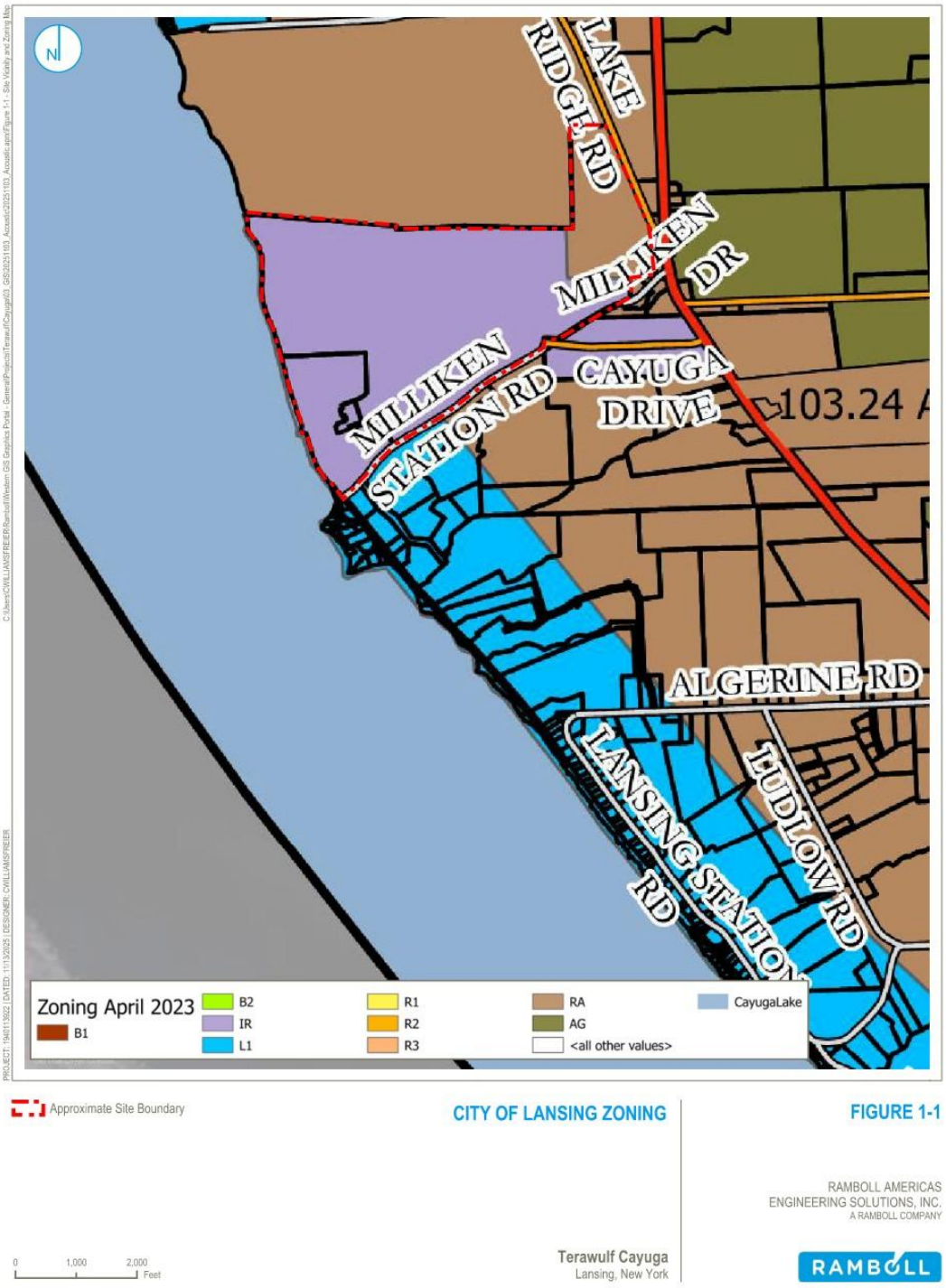


Figure 1-1. Site Vicinity and Zoning Map.

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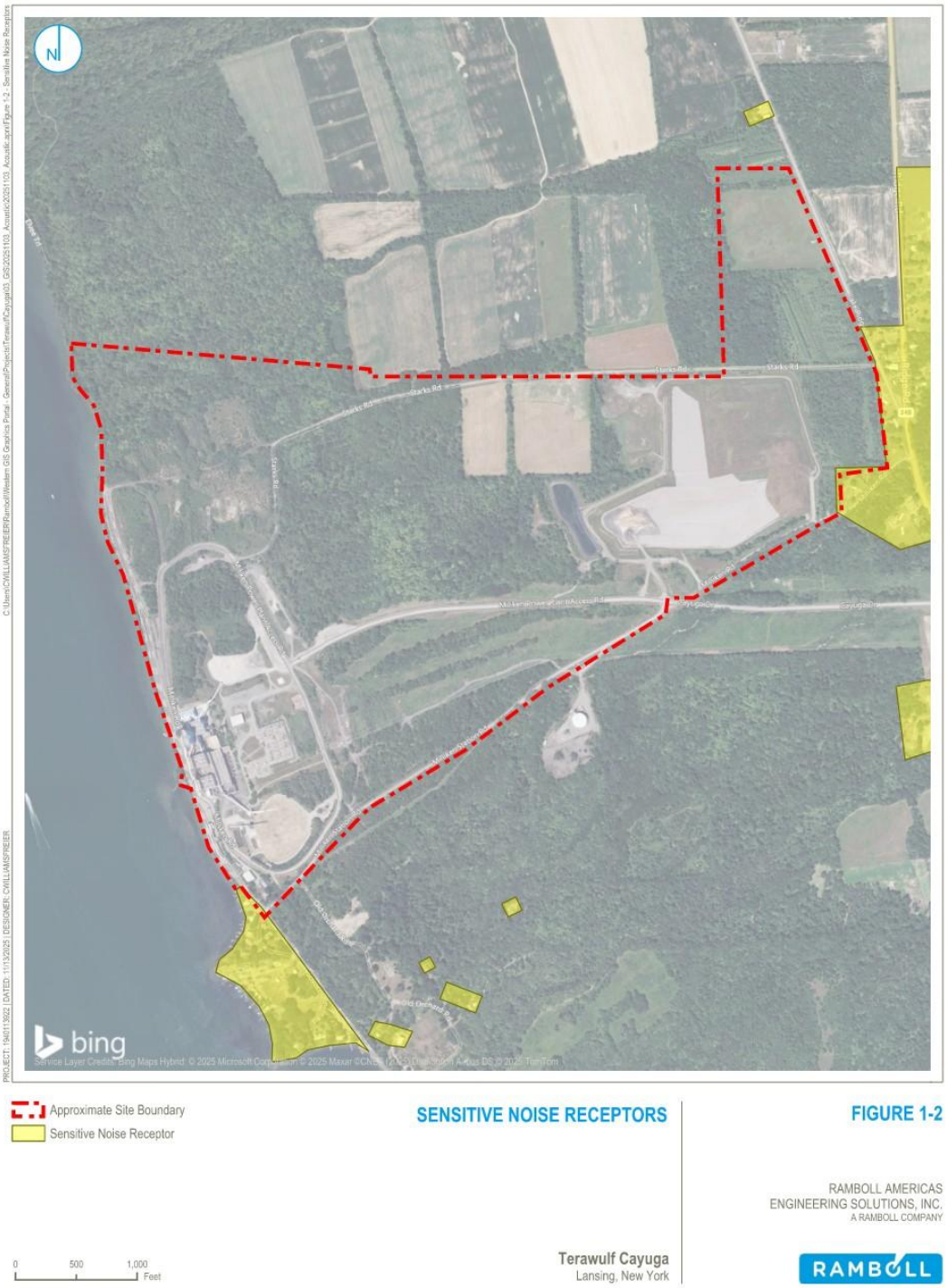


Figure 1-1-2. Sensitive Noise Receptors.

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2. Acoustical Criteria

An overview of the legislative/regulatory framework for the applicable jurisdictions related to environmental sound emissions is presented herein to establish acoustical criteria for developments within the project site. Jurisdictions reviewed:

- State of New York
- Tompkins County
- Town of Lansing

2.1 State of New York

The State of New York Environmental Quality Review Act (SEQR) has a policy and guidelines for assessing noise impacts. This includes assessing existing ambient sound levels, potential increases in sound levels, proximity to sensitive receptors, and duration and character of noise. Table 2-1 outlines the applicable recommendations for the site in reference to the SEQR Section C, "Thresholds for significant Sound Pressure Level Increase."

Sound environments often vary in level over time. The A-weighted equivalent-continuous sound level, L_{AEQ}, is the steady-state sound level over a given time period that has the same total sound energy as the time-varying sound level measured over that same time period. A-weighting applied is a frequency weighting curve applied to sound measurements to approximate how the human ear perceives loudness.

The Day-Night Level, abbreviated as L_{dn}, is an equivalent-continuous sound pressure level for a 24-hour period that includes a 10-dB penalty from 10:00 PM to 7:00 AM to reflect increased human sensitivity to noise at night.

The SEQR recommends an L_{dn} in residential areas of not more than 55 dBA, with a maximum of 65 dBA. In addition to upper limits, SEQR also recommends not increasing the existing ambient L_{dn} sound levels by more than 6 dBA for non-industrial areas.

For industrial and commercial areas, the SEQR suggests that L_{dn} sound levels can appropriately exceed 65 dBA, but should not surpass an upper limit of 79 dBA. In areas where ambient noise is already high, SEQR advises implementing measures to avoid further increases in noise levels.

Table 2-1. State of New York SEQR Summary

New York State Environmental Quality Review Policy	
District Classification	**Maximum Recommended Sound Pressure Levels**
Non-industrial (Residential, Other)	Ambient L_{dn} + 6 dBA Upper Limit of 65 dBA Whichever is lower

2.2 Tompkins County

No county requirements pertaining to environmental sound and vibration have been identified.

2.3 Town of Lansing

No township requirements pertaining to environmental sound and vibration have been identified.

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3. Ambient Sound Level Survey

An ambient sound level survey was completed to characterize the existing (baseline) acoustical conditions at the site and in the surrounding community. The meteorological conditions during the ambient sound level survey were favorable for environmental sound level monitoring. Sound levels were continuously monitored at each location to capture typical ambient daytime and nighttime sound levels. The survey period was approximately 1:00 p.m. on Monday, November 3, 2025, to approximately 1:00 p.m. on Wednesday, November 5, 2025. The results of the continuous monitoring provide an indication of the daily trends in the ambient sound levels over this period.

3.1 Survey Locations

The ambient sound level survey included continuous sound level monitoring at two (2) locations. These locations were selected to capture a representation of the acoustical environment at the site. Continuous monitoring locations are identified as SLM 1 and SLM 2. These locations are described in Table 3-1 and depicted in Figure 3-1.

Table 3-1. Description of sound level measurement locations.

Location	Description	Measurement Type
SLM 1	Located on the site boundary, near the southwest area of the site, access along Milliken Road EXD. Representative of southwest lakeshore residences.	Continuous Monitoring
SLM 2	Located on the site boundary, near east area of the site, access along Millikan Station Road. Representative of residences east of the site.	Continuous Monitoring

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Figure 3-1. Ambient sound monitoring locations.

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3.2 Measurement Results Summary

Continuous sound levels were measured at both locations to capture typical ambient daytime and nighttime sound levels. The continuous monitoring results are summarized in the following sections, tables, and figures.

The meteorological conditions during the nighttime periods of the ambient sound level survey were generally favorable for environmental sound level monitoring. Local weather station data indicate there were periods of light rain between 10:00 p.m. and 12:00 a.m. on November 3 and high winds between November 3 from 2:00 p.m. to 6:00 p.m. and November 3 from 9:00 p.m. to November 4 at 1:00 a.m. These periods of data were removed from the results.

Note, the typical measurement height for a weather station is approximately 100 ft (30 m) above grade, compared to a typical microphone height of 4 ft to 6 ft (1.2 m to 1.8 m) above grade. Therefore, the wind speeds shown are higher than what would be measured at the microphone. However, some daytime periods could have experienced slightly higher relative ambient sound levels due to, for example, increased sound from wind blowing through nearby trees.

Table 3-2. Weather Data Summary.

Date	Weather Data Summary[1]				
	Temperature Range (°F)	Average Wind Speeds (mph)	Humidity (%)	Precipitation	Precipitation Notes
11/03/2025	37 - 58	0 - 36	47 - 93	0.05	Light precipitation from 10PM - 12AM.
11/04/2025	33 - 56	0 - 33	30 - 89	0.00	-
11/05/2025	31 - 59	0 - 43	40 - 93	0.00	-
Notes: 1 – Ithaca Tompkins Regional Airport Station Weather History excerpted from https://www.wunderground.com/					

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3.2.1 Measurement Location SLM 1

The main sound contributors at SLM 1 were trees, wind with distance road traffic and insect noise. This location is representative of the lakeside homes located southwest of the proposed facility. The measured 24h rolling L_{dn} for the measurement period was between 50-57 dBA.

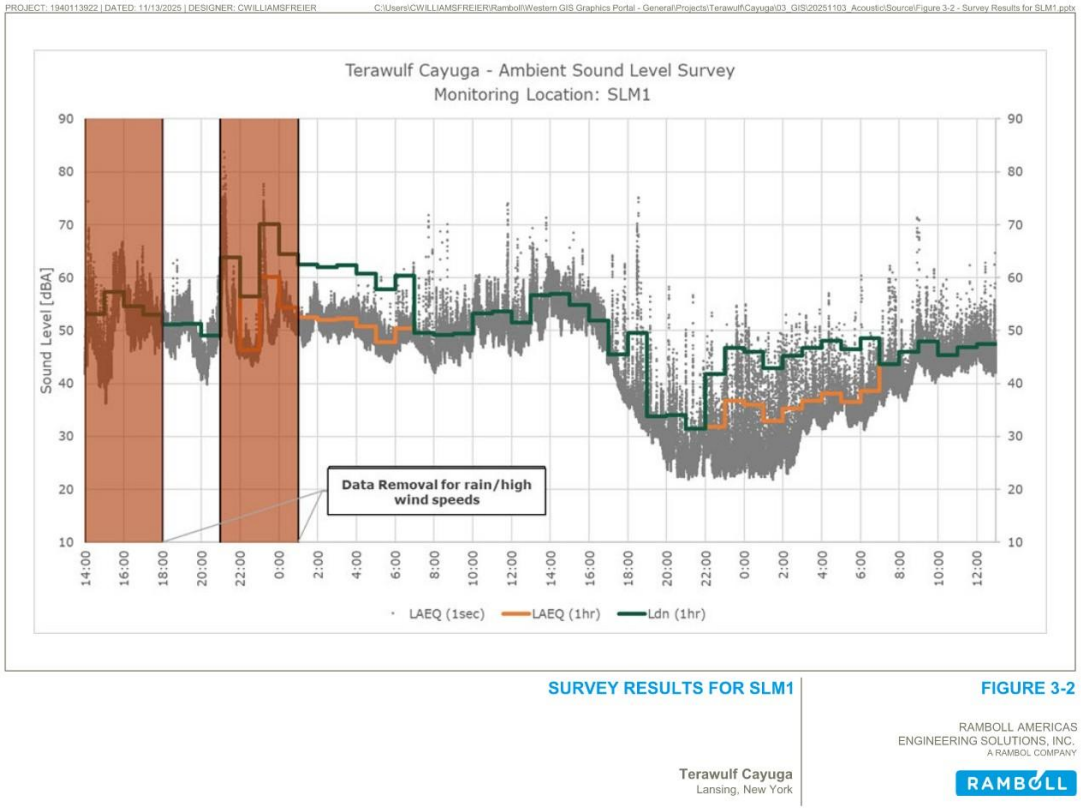


Figure 3-2. Survey results from SLM 1.

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3.2.2 Measurement Location SLM 2

The main sound contributors at SLM 2 were local traffic, nearby wildlife. This location is representative of the rural residential homes located east and north of the proposed facility. The measured hourly average equivalent L_{dn} for the measurement period was 48-52 dBA.

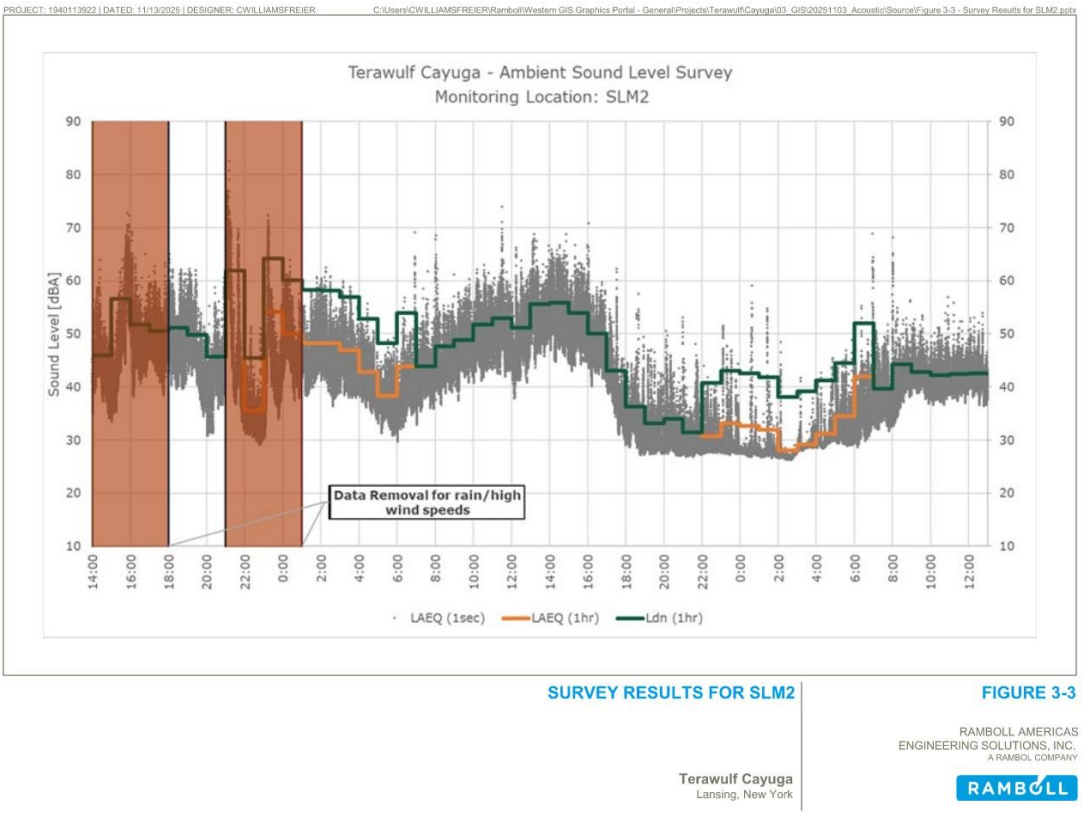


Figure 3-3. Survey results from SLM 2.

3.3 Project Acoustical Criteria Summary

Based on the results of the ambient sound level survey, a more thorough overview of project acoustical requirements can be developed. This includes consideration of SEQR guidelines, discussed above, which recommend limiting increases to L_{dn} to 6 dBA or less to minimize potential acoustical impacts from new development. Table 3-3 provides a summary of applicable requirements for noise-sensitive receptors and areas in the vicinity of each sound level measurement (SLM) location.

Table 3-3. Project Acoustical Requirements.

Measurement Location	Representative Receptors	Areas Near Site	Lowest Ambient L_{dn} (dBA)	SEQR Recommended Future L_{dn} (dBA)
SLM 1	R1	Southwest	50	≤ 56
SLM 2	R2, R3	North, East	48	≤ 54

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4. Assessment Methodology

Project sound emissions were predicted in accordance with ISO 9613-2 using acoustical modeling software (Cadna/A Version 2025 MR 1 build 211.5558) to assess future regulatory compliance. The model simulated the outdoor propagation of sound from each Project noise source accounting for sound wave divergence, atmospheric and ground sound absorption, sound directivity, and sound attenuation due to intervening barriers. While the resulting modeled sound levels represent the sound levels associated with the Project, they do not include the influence of any non-Project related sound sources on adjacent or nearby properties or roadways.

4.1 Receptor Locations

Sound levels were evaluated along the property boundaries and at two noise-sensitive receptors near the project site. Point receptors in the noise model were chosen corresponding to the nearest noise-sensitive receptor. The receptor locations are shown in Figure 4-1. The closest residential receptor is located 0.5 miles southwest from the closest data center (labelled R1).



Figure 4-1. Noise-Sensitive Receptor Locations

4.2 Equipment and Design Considerations

The Cayuga Lansing project will consist of three (3) data center buildings. Figure 4-2 shows the site layout. Model setup information is included in Table 4-1. Equipment information provided by the client is shown in Appendix B at the end of this report. The equipment sound levels used for this analysis were based on information provided by the client. The equipment sound levels listed below should be confirmed via manufacturer data submittals.

Ramboll understands the data center chillers and transformers will all operate simultaneously. This is considered the typical "worst-case" operating scenario, 24 hours per day, 7 days per week.

Table 4-1. Model Setup.

Parameter	Value
G (ground absorption)	0.4
Reflection Order	2
Receptor / Grid Height	~5 ft / ~5 ft
Terrain	USGS data
Meteorology	ISO 9613 default

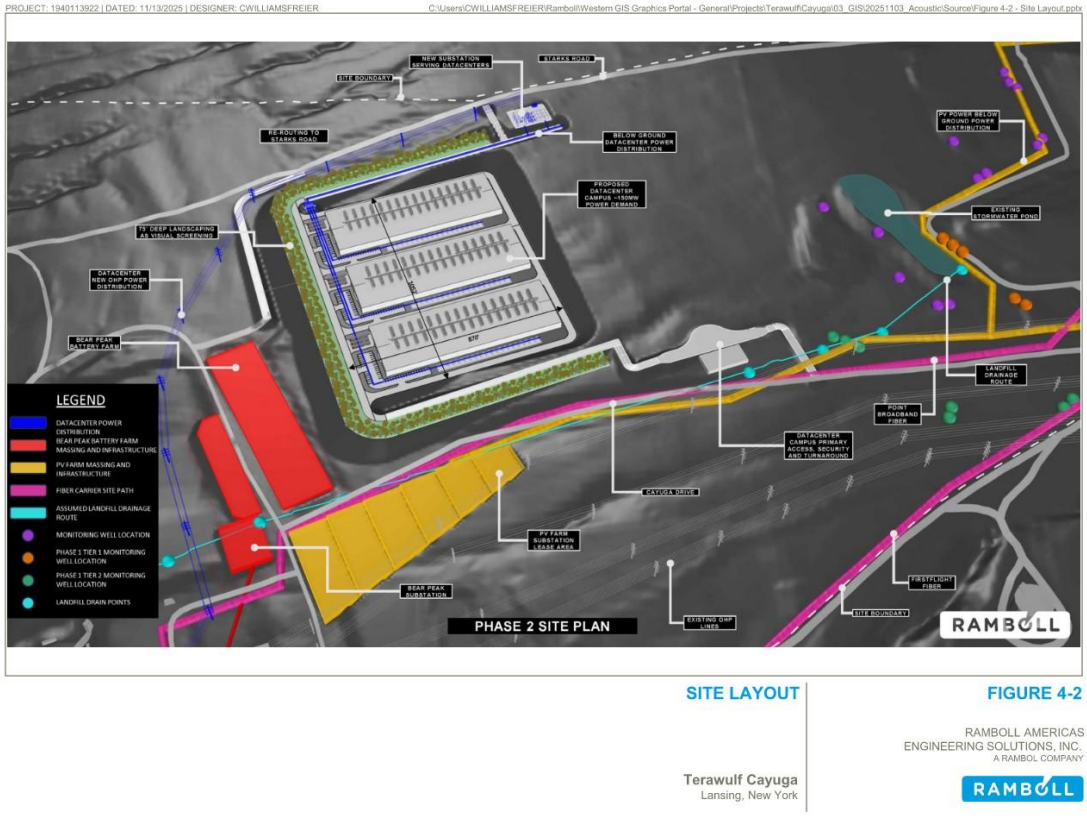


Figure 4-2. Site Layout.

5. Modeling Results

For the purposes of this evaluation, the sound emissions from normal operations corresponded to the dry coolers and transformers running at 100% speed and load. Predicted L_{dn} and L_{AEQ} sound level contours are presented in Figure 5-1 and Figure 5-2. The receptor locations shown in Figure 4-1 are summarized in Table 5-1 below.

Table 5-1. Modeling Results for Specific Receptors**.**

Receptor Location	Lowest Existing Ambient L_{dn} (dBA)	SEQR Recommended Future L_{dn} (Ambient + 6; dBA)	Predicted Sound Levels at Receptors from the Data Center		Predicted Future L_{dn} (Predicted + Ambient; dBA)	Predicted L_{dn} Increase (dB)
			L_{dn} (dBA)	L_{AEQ} (dBA)		
R1	50	56	50	43	53	3
R2	48	54	46	40	50	2
R3	50	54	45	39	51	1

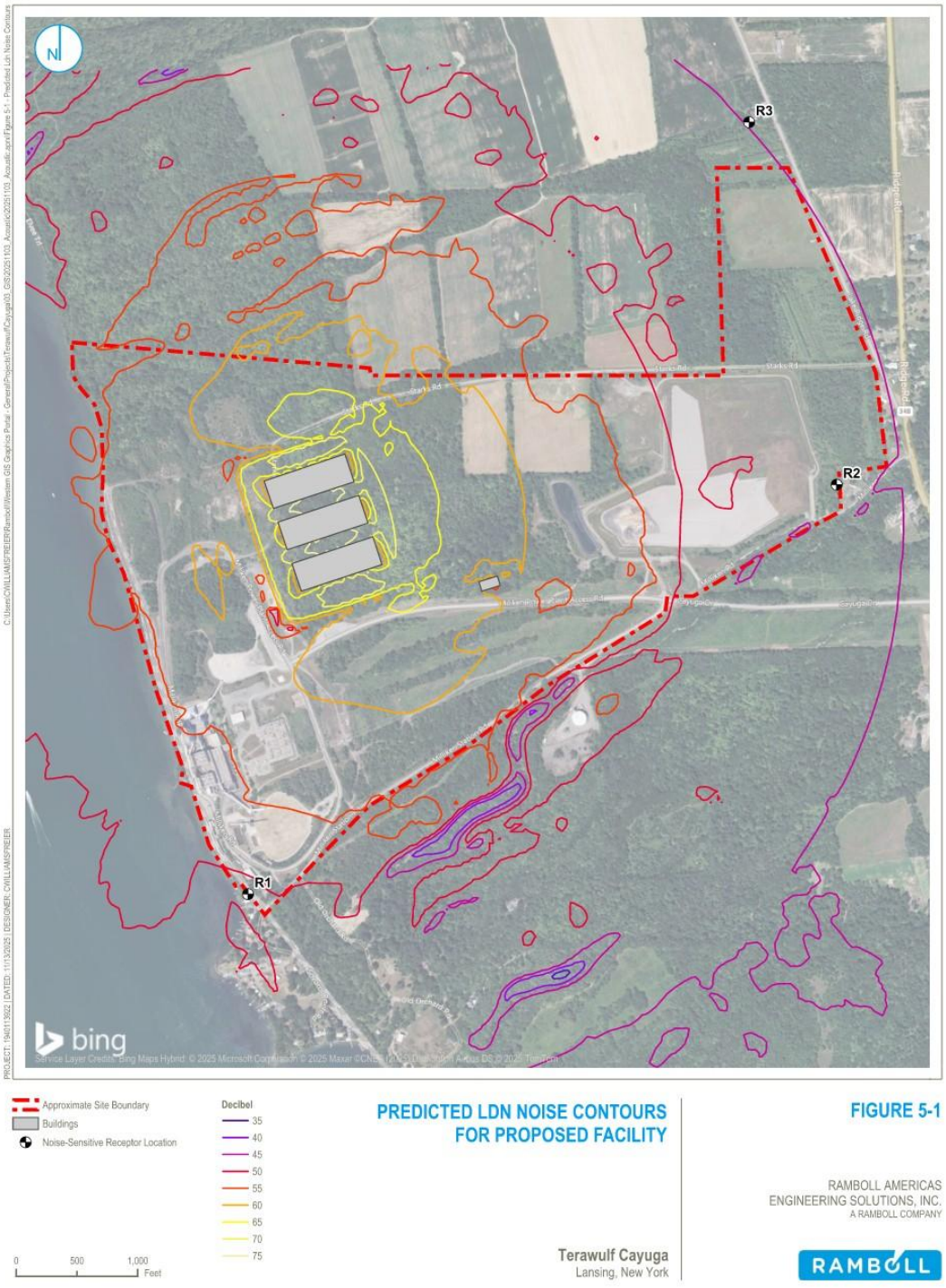


Figure 5-1. Predicted L_{dn} Noise Contours.

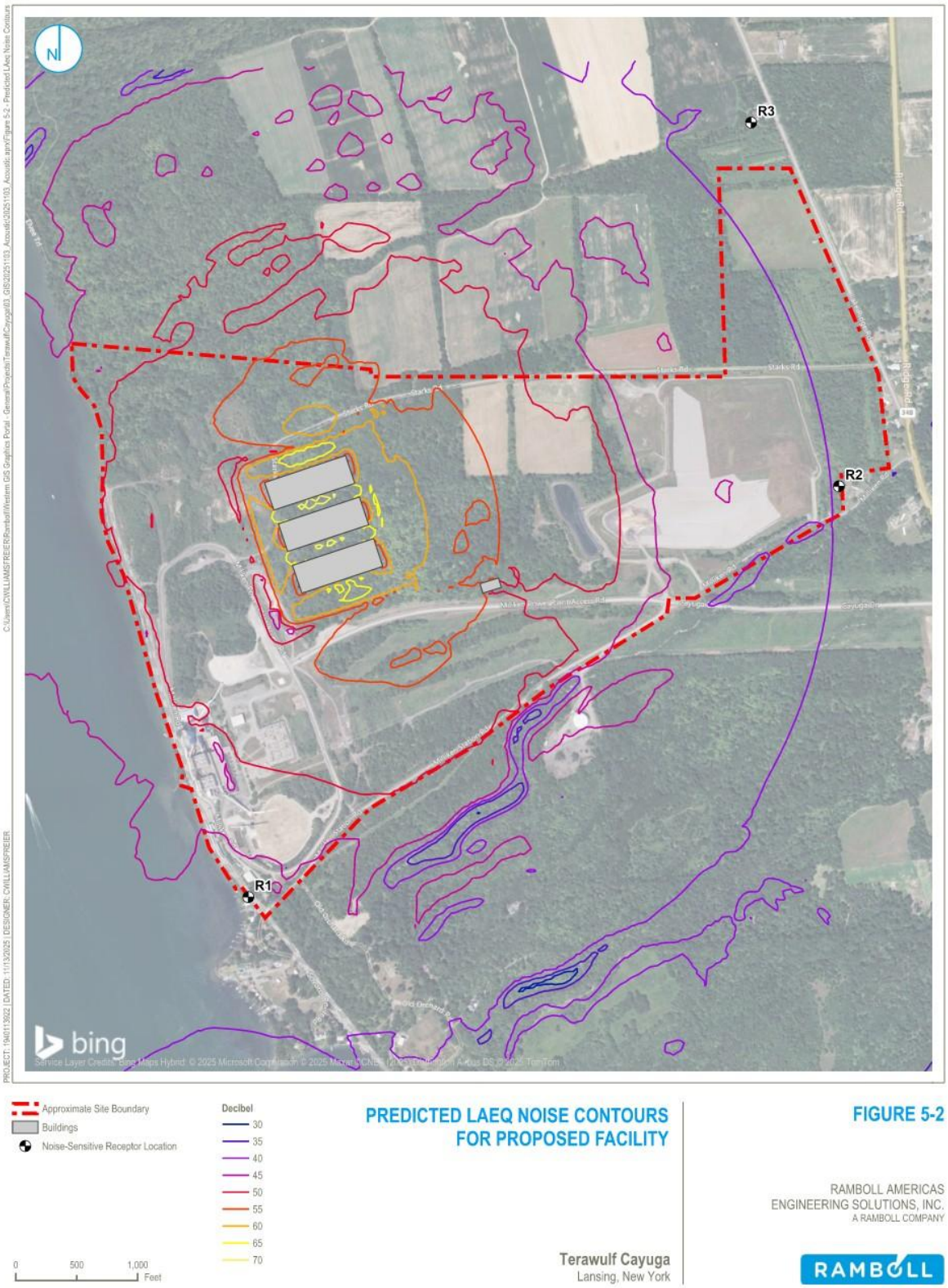


Figure 5-2. Predicted L_{AEQ} Noise Contours.

6. Discussion and Conclusions

Ramboll has completed a project acoustical assessment for the proposed Lake Hawkeye Cayuga Lansing development in the Town of Lansing, Tompkins County, New York. The assessment includes a review of applicable regulatory requirements, a summary of the existing conditions, and recommendations for project acoustical design criteria.

The applicable regulation for the site includes the state requirements. According to the New York SEQR guidelines, the most stringent recommendation of day-night average sound level (L_{dn}) for residential areas should not be increased by more than 6 dBA above the existing ambient L_{dn}. A sound level survey was completed to determine the existing conditions at various locations around the site near noise-sensitive receptors with the lowest hourly L_{dn} measured as 48 and 50 dBA. Based on the results of the ambient sound level survey, the SEQR guidelines were determined to be 54 and 56 dBA, respective to the area measured.

The predicted sound levels of the proposed facility were 45-50 dBA, which indicates compliance with SEQR guidelines. Mitigation measures are not anticipated to be necessary.

Appendix A - Noise Principles and Terminology

This report uses several terms common to noise analysis. The following section provides a summary of acoustic principles and terminology to familiarize the reader.

A.1 Sound

Sound is the transmission of energy in the form of fluctuating pressure waves from a vibrating source through an elastic medium, such as air, that is detectable by the human ear. The pressure fluctuates above and below atmospheric pressure. The amplitude of the pressure fluctuation is typically described in terms of decibels (dB), while the rate of fluctuation per unit time (frequency) is described in hertz (Hz).

The decibel is a logarithmic ratio of a given sound pressure to a reference sound pressure. A logarithmic ratio is used for decibels since human hearing is roughly logarithmic, rather than linear. The reference sound pressure is roughly equal to the threshold of human hearing. Sound pressure levels below the human threshold of hearing are less than 0 dB, while levels above the human threshold of hearing are greater than 0 dB. Differences in sound level are also described in decibels. A 3-dB difference is considered "just noticeable", a 5-dB difference is considered "clearly noticeable", while a 10-dB difference is perceived as a doubling (or halving) in loudness. Table A-1 provides a list of common noise sources, their sound level, and their subjective loudness.

Because the decibel is logarithmic, a doubling of sound energy from a noise source produces a 3-dB increase in sound level from that source, not a doubling of the loudness of the sound (which requires a 10-dB increase). For example, if traffic along a road is causing a 60 dB sound level at some nearby location, doubling the amount traffic on this same road would cause the sound level at this same location to increase to 63 dB. Such an increase might not be discernible in a complex acoustical environment.

The range of frequencies a healthy human ear can hear is approximately 20 Hz to 20,000 Hz. The human ear is not equally sensitive to all frequencies across the audible frequency spectrum. The human ear is most sensitive to mid frequencies (the frequency range associated with speech) and is less sensitive at low frequencies and very high frequencies. To account for this, frequency weighting networks have been developed to approximate the human ear's frequency response at different sound pressure levels. The A-weighting network is used to approximate the frequency response of the human ear at normal sound levels. Measurements using the A-weighting network are described in terms of A-weighted decibels, often abbreviated colloquially as dBA or dB(A).

Table A-1. Typical Sound Pressure Levels Associated with Common Noise Sources

Sound Pressure Level (dBA)	Subjective Evaluation	Environment	
		Outdoor	Indoor
140	Deafening	Jet aircraft at 75 ft	-
130	Threshold of pain	Jet aircraft during takeoff at a distance of 300 ft	-
120	Threshold of feeling	-	Hard rock band
110	Extremely Loud	Jet flyover at 1000 ft	-
100	Very Loud	Auto horn at 10 ft	-
90		Jackhammer at 50 ft	Noisy factory
80	Loud	Diesel truck (40 mph) at 50 ft, noisy urban street	Garbage disposal, cafeteria with sound-reflecting surfaces
70	Moderately Loud	Busy highway at 100 ft	Vacuum cleaner
60	Moderate	-	Face-to-face conversation
50	Quiet	Small town	Open office area
40			
30	Very quiet	-	Bedroom, typical residence (without TV or sound system)
20		Rustling leaves	Audiometric testing room, whisper
10	Just audible	-	Human breathing
0	Threshold of hearing	-	-

Adapted from Architectural Acoustics, M. David Egan, 1988; and EPA, 1974.

A.2 Sound Level Metrics

To better characterize changes in sound levels over time, several sound level metrics have been developed. The following is a summary of some of the more common metrics.

- Sound environments often vary in level over time. The equivalent-continuous sound level, L_{EQ}, is the steady-state sound level over a given time period that has the same total sound energy as the time-varying sound level measured over that same time period. L_{EQ} is the time-averaged sound energy of a measurement.
- The Day-Night Level, abbreviated as either DNL or L_{DN}, is an equivalent-continuous sound pressure level for a 24-hour period that includes a 10-dB penalty from 10:00 PM to 7:00 AM to reflect people's increased sensitivity to noise at night.

A.3 Noise and its Effects on People

Noise is sound that is considered undesirable or unpleasant. The effects of noise on people depends on a variety of factors, including the type of noise source, the context of the noise, and the sensitivity of the person.

The following factors affect how a noise source perceived:

- The sound level. Louder noise tends to be more annoying. In addition, noise sources that change in sound level over time are more noticeable than those that do not vary over time.
- The duration. Noise that is fairly steady over time tends to be less noticeable, while short, impulsive noises are more noticeable.
- The frequency spectrum. Broadband noise – noise that contains sound energy at many frequencies – is not as noticeable than noise that contains discrete tones. For example, the tone from a backup beeper is more noticeable than noise from a fan, even if they are producing the same overall sound level.
- Masking effects. Noise from one source can be masked – made less noticeable – by noise from one or more louder sources.

The extent to which a noise affects people can vary from subjective (causing annoyance) to physical (causing hearing loss). Where noise is loud enough to cause hearing loss, regulations such as those developed by OSHA have been adopted to mitigate hearing loss. In most environments, noise is not sufficiently loud to cause hearing loss but may still cause annoyance or impact people's productivity and general well-being. Note that the degree of annoyance caused by a given noise varies from person to person.

A.4 Sound Propagation Outdoors

The attenuation of sound over distance outdoors depends on the type of source and environmental factors. In the free field (i.e., no obstructions for the sound), sound from a source that can be considered a point spreads hemispherically, resulting in a sound attenuation rate of 6 dB per doubling of distance. Point sources include, for example, fans and individual vehicles such as trucks. Sound from a line source spreads in the shape of a half cylinder, with a sound attenuation rate of 3 dB per doubling of distance. One common type of line source is a highway. While highways have many point sources (vehicles), the constant stream of traffic results in the collection of point sources acting as a line source.

The environmental factors that affect the spread of sound outdoors include the following:

- Atmospheric effects. At short distances, atmospheric effects are negligible. However, at large distances, atmospheric effects can significantly impact the propagation of sound.
  - Air absorption. Air absorbs a small amount of sound, primarily at high frequencies. The amount of sound air absorbs depends primarily on the relative humidity, but it also depends on temperature and pressure to a lesser extent. Air absorption can typically be ignored at distances of 100 m or less. At greater distances (e.g., 10,000 m), air absorption has a significant effect that must be accounted for. Air can also refract sound (bend the sound waves in a different direction) when there is a vertical temperature gradient in the atmosphere (i.e., the temperature changes with altitude). Sound waves will refract away from cooler temperatures and towards warmer temperatures.
  - Wind. Wind can also play a role in sound propagation over large distances. Sound refracts in the direction the wind is traveling. The sound traveling downwind

propagates more efficiently, resulting in less attenuation, while sound traveling upwind propagates less efficiently, resulting in more attenuation

- Ground absorption. The amount of sound the ground absorbs varies based on the surface. For example, asphalt and bodies of water are more reflective, while soft, porous ground absorbs more sound.
- Vegetation. The amount of sound vegetation absorbs is typically low. However, sound traveling through 100 feet of dense woods or forest can be reduced up to 6 dB.
- Obstructions. Obstructions, such as buildings or hills, that break the line-of-sight between a noise source and receptor reduce sound levels by shielding the receptor from the source.
- Reflections. While obstructions between a source and receptor can reduce sound levels at the receptor, reflections from nearby surfaces (such as a wall or the façade of a building) that do not obstruct the line between the source and receptor can actually increase noise levels. For example, in an urban environment, the densely concentrated buildings create a "canyon effect," where sound bouncing between the buildings can increase noise levels.

A.5 Environmental Noise Descriptors

Several descriptors can be used to differentiate types of sound and noise based on the context. Two descriptors relevant to this Project are defined below.

- **Ambient sound**. ANSI S12.9-2013/Part 1 defines ambient sound as
  at a specified time, the all-encompassing sound associated with a given environment, being usually a composite of sound from many sources from many directions, near and far, including the specific sound source(s) of interest.
- **Ambient noise**. ASTM C634-13 (R2021) defines ambient noise as
  the composite of airborne sound from many sources near and far associated with a given environment. No particular sound is singled out for interest.

Appendix B – Mechanical Equipment Sound Data

Full Speed Complete Sound Data

Shane Ahlers
735 SW 20th Place
Suite 230
Portland, Oregon 97205
971-325-4301
sahlers@jbarrow.com

Sound Pressure Levels (SPL) in dB RE 0.0002 Microbar
Sound Power Levels (PWL) in dB RE 10-12 Watt

Model EAW-DD33S3XL045X4-625AXSP04
Motor 60 HP
Motors 3
Speed Full Speed

Single Unit Data

	Sound Pressure Level (dB)										
	End		Motor Side		Opp End		Opp Mtr. Side		Top		Sound
Band	5.0 ft (1.5m)	1,500.0 ft (457.2m)	5.0 ft (1.5m)	1,500.0 ft (457.2m)	5.0 ft (1.5m)	1,500.0 ft (457.2m)	5.0 ft (1.5m)	1,500.0 ft (457.2m)	5.0 ft (1.5m)	1,500.0 ft (457.2m)	Power Level (db)
63	79	42	88	46	79	42	88	46	91	49	111
125	78	41	87	45	78	41	87	45	90	48	110
250	73	36	82	41	73	36	82	41	85	44	105
500	66	29	75	33	66	29	75	33	78	36	98
1000	61	22	70	26	61	22	70	26	73	29	93
2000	58	16	67	20	58	16	67	20	70	23	90
4000	54	7	63	11	54	7	63	11	66	14	86
8000	50	-8	59	-4	50	-8	59	-4	62	-1	82
Calc dBA	70	32	79	36	70	32	79	36	82	39	102

Sound option(s) selected: None

Remarks:

1. Sound Pressure Levels are according to CTI Standard ATC-128 and verified by an independent CTI-licensed sound test agency
2. Sound Power Levels are calculated according to the Small Units Section 8
3. Sound from free-field conditions over a reflecting plane with -1/+2 db(A) tolerance
4. Noise levels can increase with variable frequency drives depending on the drive manufacturer and the drive configuration
5. Complete unit sound data with all fans operating
6. Super Low Sound Fan Option

Sound rating is for a single fluid cooler running at 100% fan speed. See next page for sound rating with all thirteen units running at 100% fan speed.

Team,

Please see the information I received from the vendor. Please let me know if this information helps.

FROM HITACHI:
These are the design sound levels.
JC30258: 53.7 dB (3000/3750KVA)
JC30259: 47.7 dB (3000KVA)
We don't have a design calculation for the sound level with fans (3750 kVA).

DJ Porter

Project Procurement Specialist

DJ,

Here is the published data:

FROM HITACHI CATALOG:

The products herein meet (but are not limited to) the following industry standards:

ANSI C57.12.00	ANSI C57.12.70	CSA 227.4
ANSI C57.12.28	ANSI C57.12.80	CSA 227.5
ANSI C57.12.29	ANSI C57.12.90	CSA 802.1
ANSI C57.12.32	ANSI C57.91	**NEMA TR1**
ANSI C57.12.34	DOE-Compliant	UL and cUL Certified

FROM NEMA TR-1:

Self-Cooled, Two Winding kVA Rating	Average Decibels (dB)
45-500	56
501-700	57
701-1000	58
1001-1500	60
1501-2000	61
2001-2500	62
2501-3000	63
3001-4000	64
4001-5000	65
5001-6000	66
6001-7500	67
7501-10000	68

Exhibit J
Photometric and Lighting Layout

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

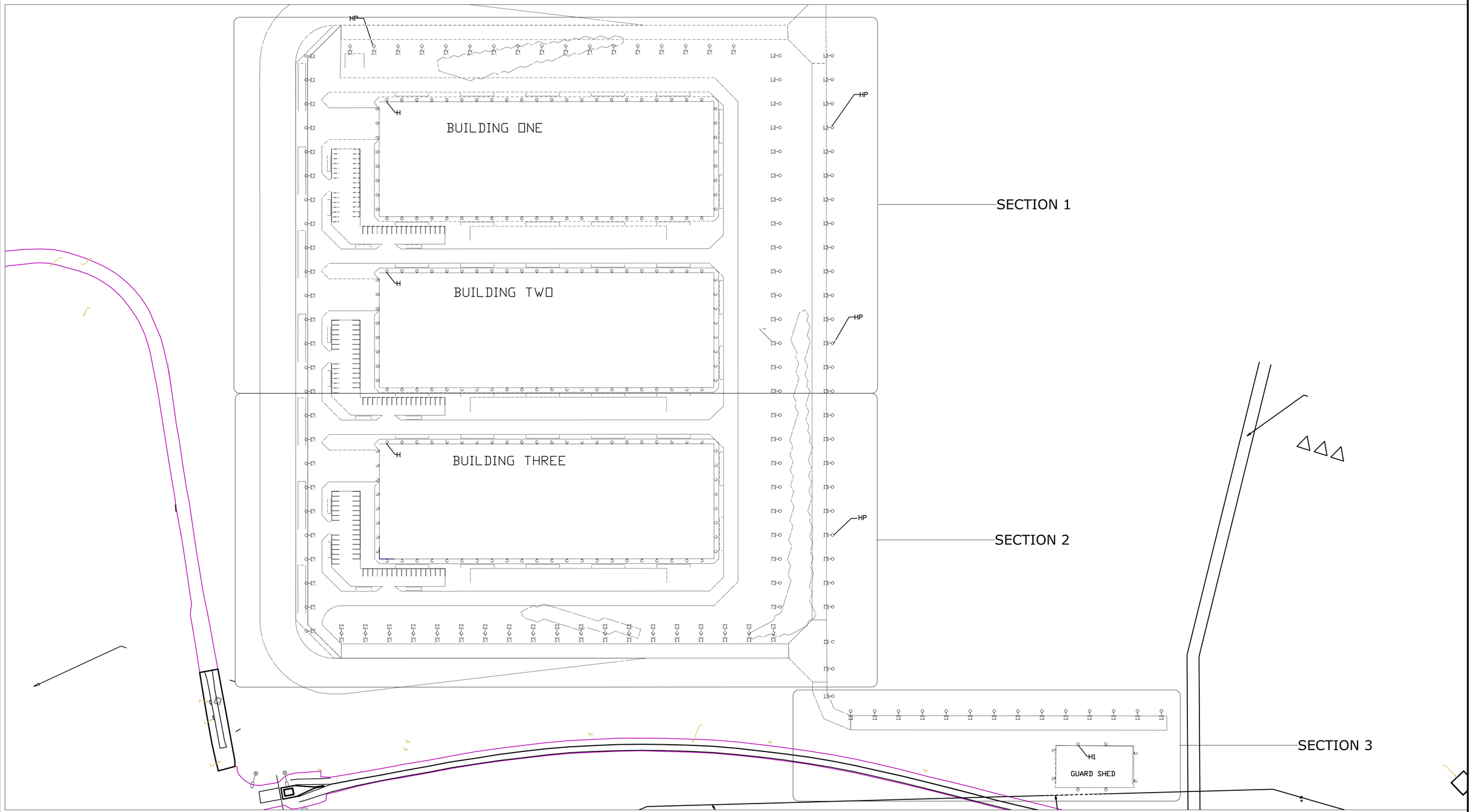
Site lighting will consist of roadway pole mounted lights and exterior building wall packs for safety and security. Both the roadway lighting and building wall packs will utilize a full cutoff design technology directing 100% of the light downward in effort to mitigate any upward emission. This design 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.

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SITE LIGHTING OVERALL PLAN

1/8"=1'-0" 8' 4' 0 8'

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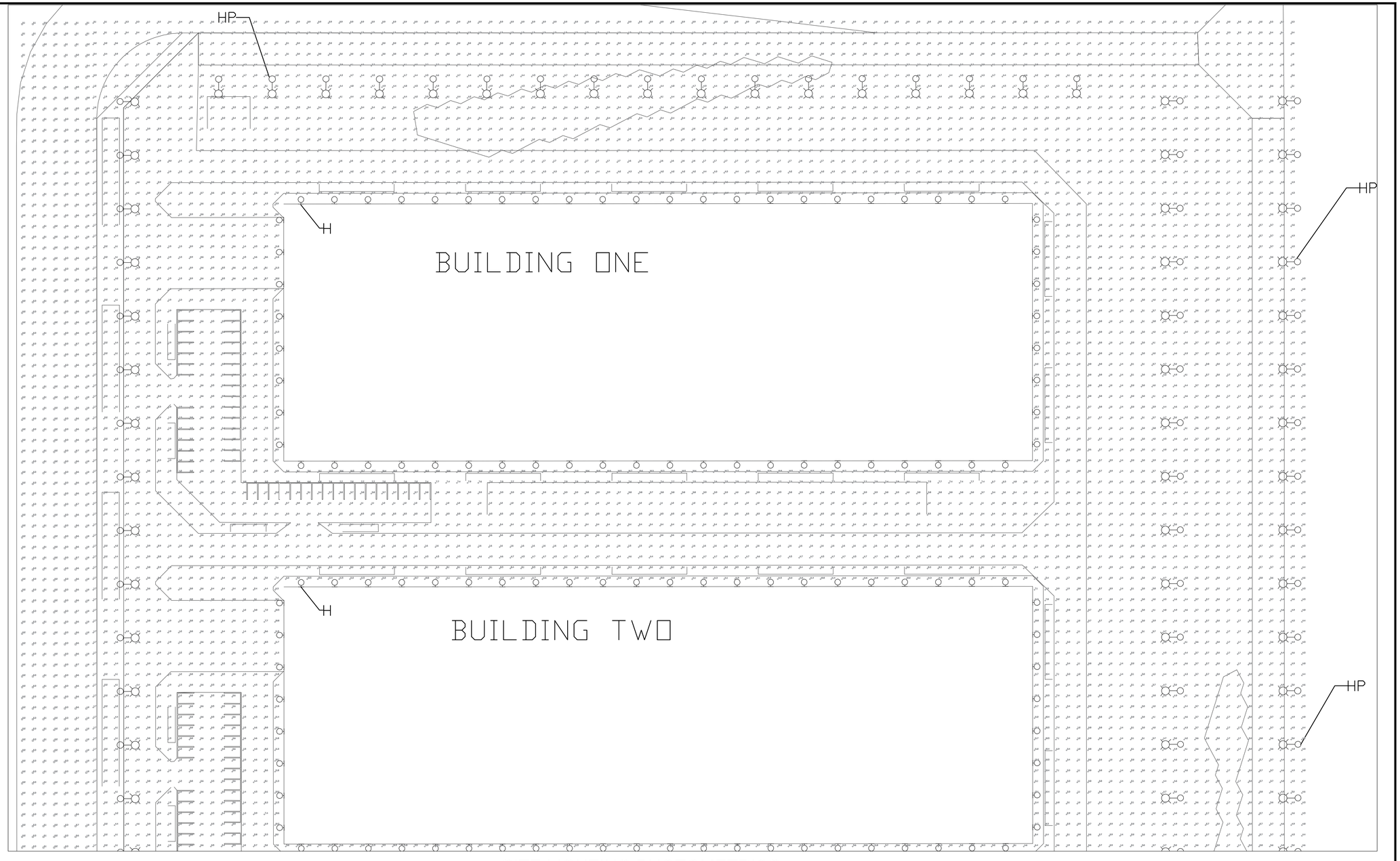
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Project Number **190091601**	Designed by #	Drawn by #	Checked by #	Approved by #	Date #	
Project Status PROGRESS SUBMISSION	Drawing Number **E-100**			Scale	Sc x	Rev. x

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LIGHTING PLAN NOTES

1. THE RECOMMENDED AVERAGE LIGHTING LEVEL FOR UNCOVERED PARKING LOTS IS 1 FOOT-CANDLES (FC), AND CAN RANGE FROM 0.5-2 FC PER IESNA.
2. THE RECOMMENDED AVERAGE LIGHTING LEVEL FOR BUILDING EXTERIORS AND PEDESTRIAN WALKWAYS AND PATHWAYS IS 1-5 FOOT-CANDLES PER IESNA.
3. THE RECOMMENDED AVERAGE LIGHTING LEVEL FOR ROADWAYS AND STREETS IS 1-2 FOOT-CANDLES PER IESNA.
4. A DARK SKY COMPLIANT FIXTURE IS DESIGNED TO REDUCE LIGHT POLLUTION BY DIRECTING LIGHT DOWNWARD AND MINIMIZING GLARE. IT MUST BE FULLY SHIELDED, EMIT NO LIGHT ABOVE THE HORIZONTAL PLANE, AND USE A COLOR TEMPERATURE OF 3000K OR LOWER.



SITE LIGHTING PHOTOMETRICS

1/4"=1'-0" 4' 2' 0 2' 4'

Statistics		
Description	Symbol	Avg
Building One Exterior	+	4.3 fc
Building Three Exterior	+	4.3 fc
Building Two Exterior	+	4.4 fc
Exterior Perimeter Road	+	3.0 fc
Guard Shed Exterior	+	3.1 fc
Parking Building One	+	1.2 fc
Parking Building Three	+	1.3 fc
Parking Building Two	+	1.2 fc
Past Tree Line	□	0.4 fc
Site Overall	+	3.6 fc

LIGHTING FIXTURE SCHEDULE

ID	FIXTURE QTY	LAMP TYPE	NO. OF LAMPS	MOUNTING	LAMP WATTAGE	VOLTAGE	FIXTURE SIZE AND DESCRIPTION	MFR	CATALOG NO.	REMARKS/ACCESSORIES
HP	147	LED	NA	POLE MOUNT (25' AFG)	190.6	MVOLT	EXTERIOR ARCHITECTURAL AREA LUMINAIRE	LUMINIS	PL240-L1L180-SYR-30K-MVOLT-NLTH-PH7-MS-SP-U0-BKT-MG	PROVIDE WITH STRAIGHT EDGE DIFFUSER (U0) FOR ZERO UPLIGHT
H	180	LED	NA	SURFACE/WALL (15' AFG)	76.2	MVOLT	EXTERIOR WALL-PACK FULL CUT OFF WIDE LIGHT DISTRIBUTION	LITHONIA	WDGE4-LED-P1-30K-70CRI-R3-MVOLT-SRM-PE-PIR-DBLXD	PROVIDE WITH 30K COLOR TEMPERATURE AND SRM MOUNTING FOR DARK SKY COMPLIANCE SEAL OF APPROVAL
H1	8	LED	NA	SURFACE/WALL (15' AFG)	76.2	MVOLT	EXTERIOR WALL-PACK FULL CUT OFF WIDE LIGHT DISTRIBUTION	LITHONIA	WDGE4-LED-P1-30K-70CRI-R4-MVOLT-SRM-PE-PIR-DBLXD	PROVIDE WITH 30K COLOR TEMPERATURE AND SRM MOUNTING FOR DARK SKY COMPLIANCE SEAL OF APPROVAL

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DATE:

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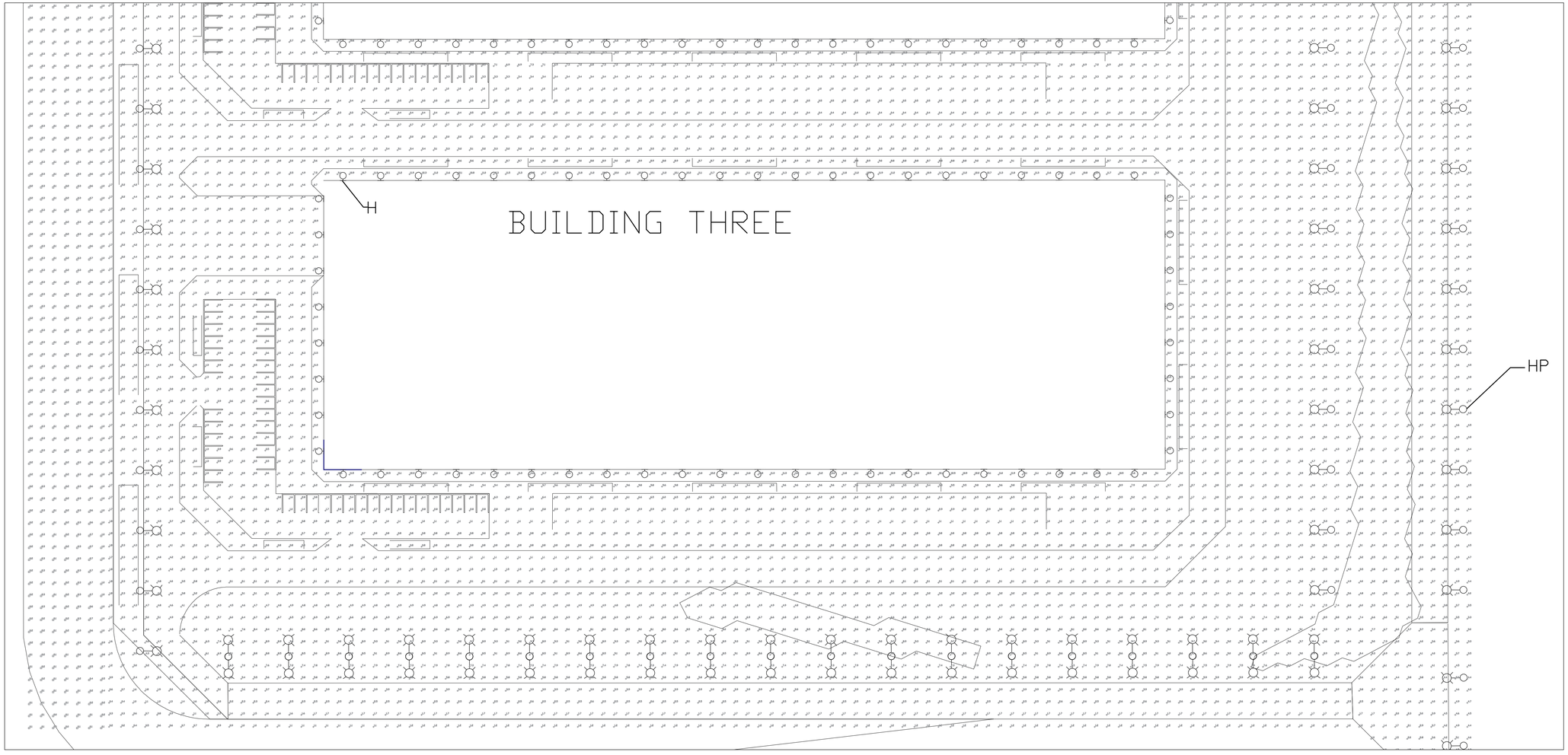
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Location: #	Designer / Professional Engineer Responsible: #	
Project Number: **190091601**	Designed by: # / Drawn by: # / Checked by: # / Approved by: #	Date: #
Project Status: PROGRESS SUBMISSION	Drawing Number: **E-101**	Scale: Sc X / Rev. X

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LIGHTING PLAN NOTES

1. THE RECOMMENDED AVERAGE LIGHTING LEVEL FOR UNCOVERED PARKING LOTS IS 1 FOOT-CANDLES (FC), AND CAN RANGE FROM 0.5-2 FC PER IESNA.
2. THE RECOMMENDED AVERAGE LIGHTING LEVEL FOR BUILDING EXTERIORS AND PEDESTRIAN WALKWAYS AND PATHWAYS IS 1-5 FOOT-CANDLES PER IESNA.
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SITE LIGHTING PHOTOMETRICS

1/4"=1'-0" 4' 2' 0 2' 4'

Statistics

Description	Symbol	Avg
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Building Three Exterior	+	4.3 fc
Building Two Exterior	+	4.4 fc
Exterior Perimeter Road	+	3.0 fc
Guard Shed Exterior	+	3.1 fc
Parking Building One	+	1.2 fc
Parking Building Three	+	1.3 fc
Parking Building Two	+	1.2 fc
Past Tree Line	□	0.4 fc
Site Overall	+	3.6 fc

LIGHTING FIXTURE SCHEDULE

ID	FIXTURE QTY	LAMP TYPE	NO. OF LAMPS	MOUNTING	LAMP WATTAGE	VOLTAGE	FIXTURE SIZE AND DESCRIPTION	MFR	CATALOG NO.	REMARKS/ACCESSORIES
HP	147	LED	NA	POLE MOUNT (25' AFG)	190.6	MVOLT	EXTERIOR ARCHITECTURAL AREA LUMINAIRE	LUMINIS	PL240-L1L180-SYR-30K-MVOLT-NLTH-PH7-MS-SP-U0-BKT-MG	PROVIDE WITH STRAIGHT EDGE DIFFUSER (U0) FOR ZERO UPLIGHT
H	180	LED	NA	SURFACE/WALL (15' AFG)	76.2	MVOLT	EXTERIOR WALL-PACK FULL CUT OFF WIDE LIGHT DISTRIBUTION	LITHONIA	WDGE4-LED-P1-30K-70CRI-R3-MVOLT-SRM-PE-PIR-DBLXD	PROVIDE WITH 30K COLOR TEMPERATURE AND SRM MOUNTING FOR DARK SKY COMPLIANCE SEAL OF APPROVAL
H1	8	LED	NA	SURFACE/WALL (15' AFG)	76.2	MVOLT	EXTERIOR WALL-PACK FULL CUT OFF WIDE LIGHT DISTRIBUTION	LITHONIA	WDGE4-LED-P1-30K-70CRI-R4-MVOLT-SRM-PE-PIR-DBLXD	PROVIDE WITH 30K COLOR TEMPERATURE AND SRM MOUNTING FOR DARK SKY COMPLIANCE SEAL OF APPROVAL

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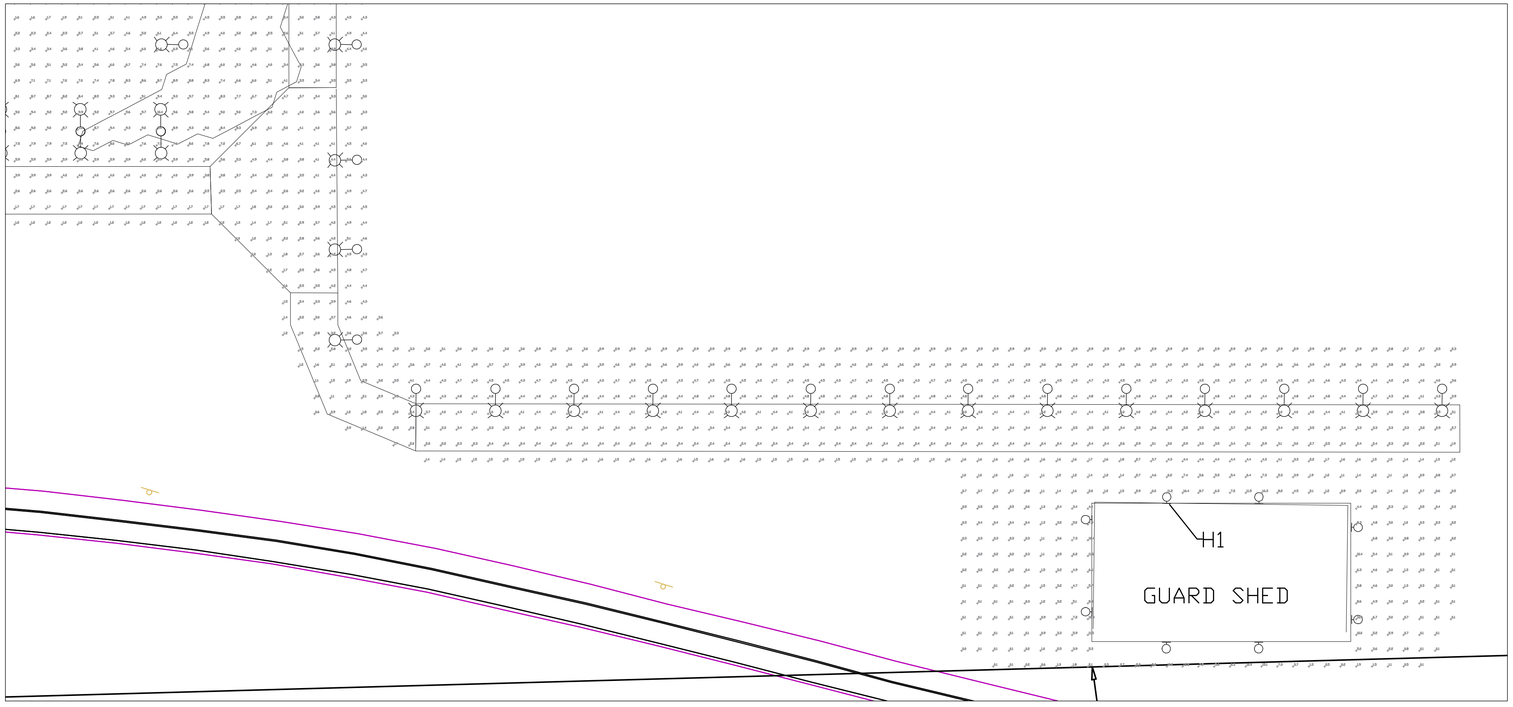
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Location: #	Designer / Professional Engineer Responsible: #	
Project Number: 190091601	Designed by: # / Drawn by: # / Checked by: # / Approved by: # / Date: #	
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LIGHTING PLAN NOTES

1. THE RECOMMENDED AVERAGE LIGHTING LEVEL FOR UNCOVERED PARKING LOTS IS 1 FOOT-CANDLES (FC), AND CAN RANGE FROM 0.5-2 FC PER IESNA.
2. THE RECOMMENDED AVERAGE LIGHTING LEVEL FOR BUILDING EXTERIORS AND PEDESTRIAN WALKWAYS AND PATHWAYS IS 1-5 FOOT-CANDLES PER IESNA.
3. THE RECOMMENDED AVERAGE LIGHTING LEVEL FOR ROADWAYS AND STREETS IS 1-2 FOOT-CANDLES PER IESNA.
4. A DARK SKY COMPLIANT FIXTURE IS DESIGNED TO REDUCE LIGHT POLLUTION BY DIRECTING LIGHT DOWNWARD AND MINIMIZING GLARE. IT MUST BE FULLY SHIELDED, EMIT NO LIGHT ABOVE THE HORIZONTAL PLANE, AND USE A COLOR TEMPERATURE OF 3000K OR LOWER.



SITE LIGHTING PHOTOMETRICS

1/4"=1'-0" 4' 2' 0 2' 4'

Statistics		
Description	Symbol	Avg
Building One Exterior	+	4.3 fc
Building Three Exterior	+	4.3 fc
Building Two Exterior	+	4.4 fc
Exterior Perimeter Road	+	3.0 fc
Guard Shed Exterior	+	3.1 fc
Parking Building One	+	1.2 fc
Parking Building Three	+	1.3 fc
Parking Building Two	+	1.2 fc
Past Tree Line	□	0.4 fc
Site Overall	+	3.6 fc

LIGHTING FIXTURE SCHEDULE

ID	FIXTURE QTY	LAMP TYPE	NO. OF LAMPS	MOUNTING	LAMP WATTAGE	VOLTAGE	FIXTURE SIZE AND DESCRIPTION	MFR	CATALOG NO.	REMARKS/ACCESSORIES
HP	147	LED	NA	POLE MOUNT (25' AFG)	190.6	MVOLT	EXTERIOR ARCHITECTURAL AREA LUMINAIRE	LUMINIS	PL240-L1L180-SYR-30K-MVOLT-NLTH-PH7-MS-SP-U0-BKT-MG	PROVIDE WITH STRAIGHT EDGE DIFFUSER (U0) FOR ZERO UPLIGHT
H	180	LED	NA	SURFACE/WALL (15' AFG)	76.2	MVOLT	EXTERIOR WALL-PACK FULL CUT OFF WIDE LIGHT DISTRIBUTION	LITHONIA	WDGE4-LED-P1-30K-70CRI-R3-MVOLT-SRM-PE-PIR-DBLXD	PROVIDE WITH 30K COLOR TEMPERATURE AND SRM MOUNTING FOR DARK SKY COMPLIANCE SEAL OF APPROVAL
H1	8	LED	NA	SURFACE/WALL (15' AFG)	76.2	MVOLT	EXTERIOR WALL-PACK FULL CUT OFF WIDE LIGHT DISTRIBUTION	LITHONIA	WDGE4-LED-P1-30K-70CRI-R4-MVOLT-SRM-PE-PIR-DBLXD	PROVIDE WITH 30K COLOR TEMPERATURE AND SRM MOUNTING FOR DARK SKY COMPLIANCE SEAL OF APPROVAL

PRELIMINARY NOT FOR CONSTRUCTION

DATE:

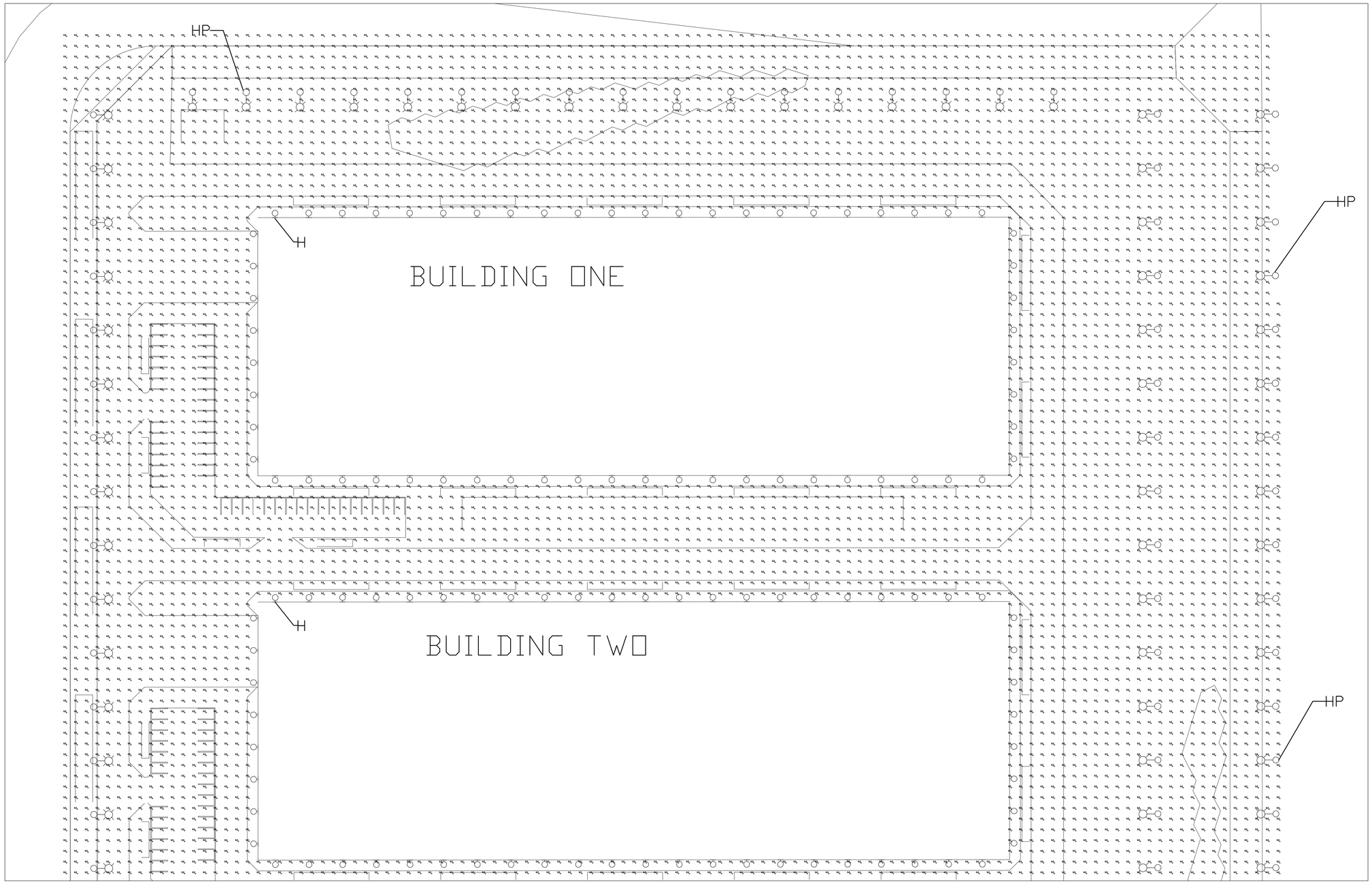
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Project Details: TERAWULF INC, LAKE HAWKEYE, #	Drawing Title: LIGHTING PHOTOMETRIC PLANS	RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
Location: #	Designer / Professional Engineer Responsible: #	
Project Number: 190091601	Designed by: # / Drawn by: # / Checked by: # / Approved by: #	Date: #
Project Status: PROGRESS SUBMISSION	Drawing Number: E-103	Scale / Sc: x / Rev.: x

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SITE LIGHTING VERTICAL PHOTOMETRICS

1/4"=1'-0" 4' 2' 0 2' 4'

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
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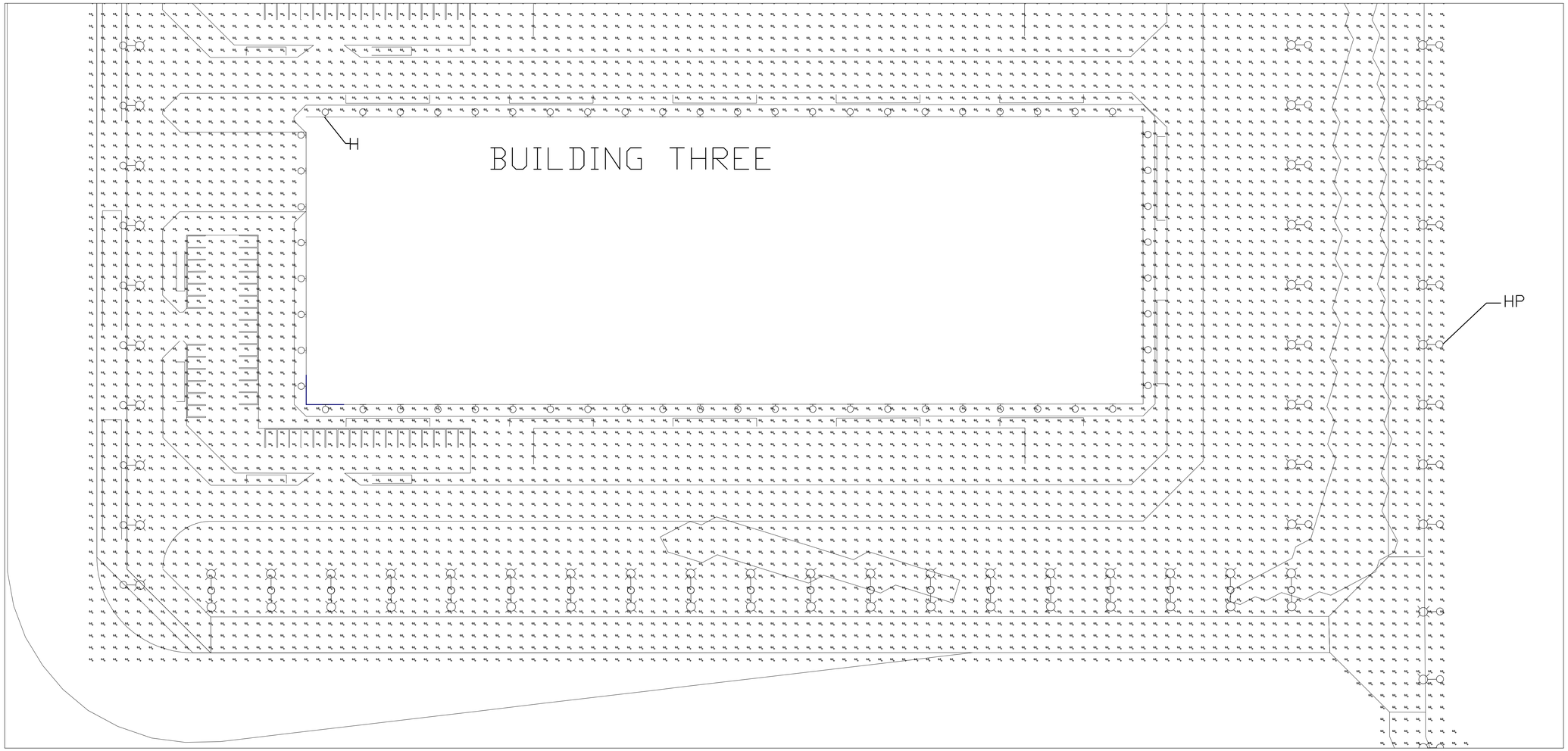
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Project Details: TERAWULF INC. LAKE HAWKEYE #	Drawing Title: LIGHTING PHOTOMETRIC PLANS				RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.	
Location: #	Designer / Professional Engineer Responsible: #					
Project Number: 190091601	Designed by #	Drawn by #	Checked by #	Approved by #	Date #	
Project Status: PROGRESS SUBMISSION	Drawing Number: E-201			Scale	Sc x	Rev. x

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SITE LIGHTING VERTICAL PHOTOMETRICS

1/4"=1'-0" 4' 2' 0 2' 4'

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Vertical Measured at top of HP	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A

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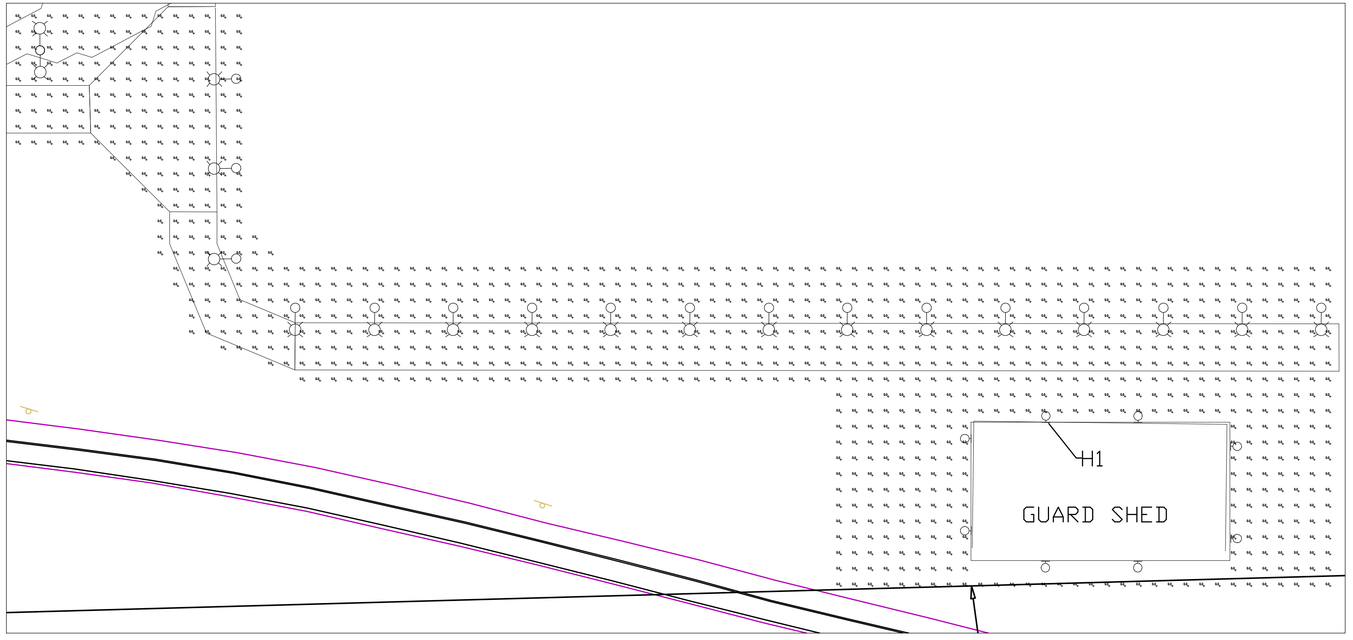
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Project Details: TERAWULF INC, LAKE HAWKEYE, #	Drawing Title: LIGHTING PHOTOMETRIC PLANS				RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.	
Location: #	Designer / Professional Engineer Responsible: #					
Project Number: 190091601	Designed by: #	Drawn by: #	Checked by: #	Approved by: #	Date: #	
Project Status: PROGRESS SUBMISSION	Drawing Number: E-202			Scale	Sc: X	Rev.: X

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SITE LIGHTING VERTICAL PHOTOMETRICS

1/4"=1'-0" 4' 2' 0 2' 4'

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Vertical Measured at top of HP	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A

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Project Details: **TERAWULF INC**, LAKE HAWKEYE, #	Drawing Title: **LIGHTING PHOTOMETRIC PLANS**				RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.	
Location: #	Designer / Professional Engineer Responsible: #					
Project Number **190091601**	Designed by #	Drawn by #	Checked by #	Approved by #	Date #	
Project Status PROGRESS SUBMISSION	Drawing Number **E-203**			Scale	Sc x	Rev. x

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Exhibit K
Construction Sequencing & Impact Minimization Narrative

Construction Sequence and Impact Minimization Narrative

Lake Hawkeye Data Center Campus (Phased Development)
228 Cayuga Drive
Lansing, NY 14882

March 2026

Project Overview

The proposed project consists of the phased development of a multi-building data center campus. The campus will be constructed in two primary phases: Phase 1 will be subdivided into three subphases (1A, 1B, and 1C) to allow for the staged delivery of capacity and infrastructure. Phase 2 will complete the campus buildout based on future demand.

The phased construction approach is intended to:

- Minimize site disturbance at any given time.
- Allow early operation of completed facilities.
- Coordinate infrastructure capacity with phased demand.
- Maintain safe site access and traffic flow throughout construction.
- Limit the extent and duration of environmental disturbance.
- Enable progressive stabilization and restoration of disturbed areas.
- Reduce cumulative impacts related to traffic, noise, and stormwater runoff.

Construction activities will be conducted in accordance with applicable local, state, and federal regulations and in a manner consistent with impact avoidance and mitigation principles.

The construction sequence narrative is organized into the following sections:

1. Construction Operation Sequence
2. Construction Impact Minimization Strategy
3. Evaluation of the Magnitude and Importance of Impacts
4. Conclusion / SEQRA Determination

This narrative defines the sequence of construction and associated impact mitigation measures.

Section 1 - Construction Operation Sequence

1. **Pre-Construction Activities (All Phases)**

   Prior to construction, the following activities will be completed:

   a. Final design and engineering will proceed in a phased manner to allow for early construction activities to proceed while balance of design is completed.

b. Phased permitting and agency approvals.

c. Pre-construction coordination with Town officials and utility providers

d. Surveying and layout of initial work zones

e. Installation of construction fencing, stabilized entrances, and signage

f. Installation of erosion and sediment control measures

g. Establishment of construction staging, laydown, and parking areas

2. Core Infrastructure and Initial Buildings

a. Phase 1A – Site Enablement & Core Infrastructure

This subphase focuses on preparing the site and establishing the infrastructure necessary to support the campus.

b. Activities include:

i. Clearing, grubbing, and topsoil stripping within Phase 1 limits

ii. Construction of initial stormwater management features

iii. Mass grading to establish building pads and primary roadways.

iv. Installation of primary site access roads and construction entrances

v. Installation of major underground utilities, including:

1. Stormwater management systems, including detention and infiltration basins.

2. Sanitary sewer and water distribution systems

3. Primary electrical duct banks and utility corridors

vi. Installation of temporary construction power and utilities

vii. Development of primary outdoor substation

c. Outcome: This sequence will establish the backbone infrastructure necessary to support vertical construction in subsequent subphases.

3. First Data Center Building(s) & Energy Infrastructure

a. This subphase includes the first operational data center capacity.

b. Activities include:

i. Foundation construction for initial data center building(s)

ii. Erection of structural systems, including steel and concrete

iii. Construction of the building envelope, including walls, roof, and weatherproofing

iv. Installation of electrical infrastructure, including:

1. Substation yard

2. Backup generators and fuel systems
3. Electrical switchgear and distribution systems

v. Installation of mechanical systems, including:

1. Cooling systems
2. Chillers, air coolers, and dry coolers

vi. Interior buildout of data halls and support spaces

vii. Continuation of site utilities to serve Phase 1A facilities

c. Outcome: This sequence delivers the first operational data center building(s) capable of occupancy and commissioning.

4. Expansion of Capacity & Site Improvements (Phase 1B and 1C)

a. Overview: This subphase expands initial capacity and advances site completion within Phase 1 by including a second data center in Phase 1B and a third data center in Phase 1C.

b. Activities include:

i. Construction of additional data center building(s) following a similar sequence as described above.

ii. Expansion of mechanical and electrical infrastructure to support added load

iii. Completion of internal campus roadways and parking areas

iv. Installation of permanent site lighting and security infrastructure

v. Final grading and landscaping within Phase 1 limits

vi. Integration of all systems into campus-wide controls

c. Outcome: This will complete Phase 1 buildout, providing a fully functional initial campus with supporting infrastructure.

5. Phase 2 – Full Campus Buildout

a. Phase 2 will proceed following substantial completion and operation of Phase 1 and will be initiated based on market demand and subject to applicable approvals.

b. Activities include:

i. Extension of site clearing and grading to remaining campus areas

ii. Expansion of utility infrastructure, including stormwater, sanitary, water, and electrical systems

iii. Construction of additional data center buildings

iv. Expansion of substations, generators, and cooling systems

v. Completion of remaining roadways, parking, and site circulation

vi. Final campus-wide landscaping and stabilization

c. Outcome: Completion of Phase 2 will complete the full data center campus as proposed.

6. Site Access, Traffic, and Logistics

a. Construction access will be maintained via designated entrances as noted in the project concept site logistics plan.

b. Internal haul routes will be clearly defined and separated from public access where feasible.

c. Deliveries will be scheduled to minimize peak traffic impacts.

d. On-site staging areas will be utilized to limit off-site disruptions.

7. Environmental Controls

a. Throughout all phases and subphases, and consistent with NYSDEC SWPPP requirements and industry best management practices:

i. Erosion and sediment control measures will be installed prior to earth disturbance and maintained throughout construction.

ii. Dust control measures, including water application and soil stabilization will be implemented as needed.

iii. Noise-generating activities will comply with local ordinances.

iv. Stormwater systems will be installed early to manage runoff during construction.

8. Utilities and Phasing Coordination

a. Utility infrastructure will be designed to support phased expansion without disruption to active operations.

b. Redundant systems will be incorporated as required for data center reliability.

c. Coordination with utility providers will ensure capacity is available ahead of each subphase.

9. Commissioning and Occupancy

a. Each subphase (1A, 1B and 1C) will undergo independent system commissioning.

b. Testing will include electrical, mechanical, life safety, and backup systems.

c. Certificates of Occupancy will be obtained for each building or operational segment as completed.

10. Estimated Construction Duration

a. Phase 1A: June 2026 – June 2027

b. Phase 1B: April 2027 – April 2028
c. Phase 1C: June 2028 – June 2029
d. Phase 2: June 2030 or later based on market demand.
e. Construction timelines may overlap between subphases to accelerate delivery where feasible.

11. Construction Management and Safety

a. Compliance with all applicable codes and regulations
b. Maintenance of emergency access at all times
c. Site security measures including fencing and controlled access
d. Ongoing coordination with Town officials and emergency services

Section 2 - Construction Impact Minimization Strategy

Construction sequencing has been designed to address key impact categories:

- **Land Disturbance:** Disturbance limited to active subphase work areas.
- **Stormwater:** Early installation of stormwater management systems
- **Traffic:** Phased delivery of materials to reduce peak impacts
- **Noise:** Controlled work hours and equipment staging
- **Air Quality:** Dust suppression and emissions management
- **Visual Impacts:** Progressive site restoration and screening

The following practices are being incorporated into the design to address key impact categories.

1. Pre-Construction Measures

Prior to the initiation of construction, the following measures will be implemented:

a. Installation of erosion and sediment control measures in accordance with the Stormwater Pollution Prevention Plan (SWPPP)
b. Delineation and protection of any regulated wetlands, buffers, or environmentally sensitive areas (as applicable)
c. Establishment of stabilized construction entrances to reduce off-site sediment tracking
d. Pre-construction condition documentation of adjacent roadways and infrastructure
e. Coordination with local emergency services regarding access and response routes

2. Site Enablement & Infrastructure (Impact Control Priority Phase)

a. Focus: Earth disturbance, stormwater, and initial infrastructure impacts
b. Construction Activities:
    i. Selective clearing and grubbing within defined limits of disturbance.
    ii. Topsoil stripping and stockpiling for reuse.
    iii. Mass grading for building pads and roadway subgrades
    iv. Installation of primary stormwater management systems early in the sequence
    v. Installation of underground utilities, including water (potable and fire), sanitary, storm, and electrical duct banks
    vi. Construction of temporary and permanent access roads
c. Impact Mitigation Measures:
    i. Phased clearing to minimize exposed soils.
    ii. Immediate stabilization (temporary seeding/mulching) of inactive areas
    iii. Use of sediment basins and perimeter controls prior to major earthwork
    iv. Dust control via water application and soil stabilization.
    v. Limitation of construction equipment idling to reduce emissions
d. Outcome: This phase establishes site infrastructure while minimizing erosion, runoff, and off-site impacts.

3. Initial Data Center Development

a. Focus: Noise, air quality, and visual impacts
b. Construction Activities:
    i. Foundation and structural construction of initial data center building(s)
    ii. Installation of backup generators, fuel systems, and electrical infrastructure
    iii. Installation of cooling systems and mechanical equipment
    iv. Building enclosure and interior fit-out
c. Impact Mitigation Measures:
    i. Adherence to local noise ordinances and restricted work hours
    ii. Strategic placement of generators and large equipment to reduce off-site noise.
    iii. Use of newer, low-emission construction equipment where practicable
    iv. Visual screening of construction areas using fencing and material staging controls.

v. Coordination of deliveries to avoid peak traffic periods

vi. Outcome: This phase delivers initial operational capacity while managing construction-related disturbances.

4. **Expansion & Site Completion**
    a. Focus: Site stabilization, traffic, and visual character
    b. Construction Activities:
        i. Construction of additional data center modules or buildings
        ii. Expansion of electrical and mechanical systems
        iii. Completion of internal roadways, parking areas, and pedestrian circulation
        iv. Installation of site lighting, landscaping, and screening
    c. Impact Mitigation Measures:
        i. Final grading and permanent stabilization of disturbed areas
        ii. Implementation of landscaping plans to reduce visual impacts
        iii. Directional and shielded lighting to minimize light spillover.
        iv. Final paving to reduce dust and improve site circulation.
        v. Continued SWPPP compliance until full site stabilization
    d. Outcome: This phase transitions the site from active construction to a stabilized, operational condition.
5. **Full Buildout (Future Action Considerations)**
    a. Focus: Cumulative and long-term impacts
    b. Construction Activities:
        i. Expansion of site development into remaining campus areas
        ii. Construction of additional data center buildings and infrastructure
        iii. Extension of utilities and stormwater systems
    c. Impact Mitigation Measures:
        i. Application of lessons learned from Phase 1 to further reduce impacts.
        ii. Continued phased disturbance and stabilization approach.
        iii. Verification of utility capacity and environmental compliance prior to expansion
    d. Consideration: Phase 2 will be evaluated as part of the overall action or as a subsequent phase consistent with findings, ensuring cumulative impacts remain within analyzed thresholds.

6. **Stormwater and Erosion Control**
    a. SWPPP implementation in accordance with NYSDEC requirements
    b. Installation of sediment basins, silt fencing and inlet protection
    c. Routine inspection and maintenance of all erosion control measures
    d. Stabilization of disturbed areas within regulatory time limits
    e. Post-construction stormwater management system activation and verification
7. **Traffic and Community Impact Management**
    a. Designated construction access routes to minimize impacts on local roads.
    b. Scheduling heavy deliveries during off-peak hours
    c. On-site staging to prevent queuing on public roadways.
    d. Coordination with the Town for any required traffic control measures
8. **Noise, Air Quality, and Light Control**
    a. Compliance with local noise ordinances and restricted working hours
    b. Use of properly maintained equipment with functional mufflers
    c. Dust suppression measures throughout construction.
    d. Minimization of nighttime work where practicable
    e. Installation of downward-directed, shielded lighting.
9. **Environmental Monitoring and Compliance**
    a. Routine inspections to ensure compliance with permit conditions.
    b. Maintenance of erosion and sediment control logs
    c. Coordination with regulatory agencies as required.
    d. Immediate corrective actions for any identified deficiencies
10. **Construction Duration and Phasing**

    Construction will occur over multiple years, with overlapping subphases where appropriate to reduce the overall schedule while maintaining environmental controls.

11. **Conclusion**

    The proposed construction sequencing approach has been developed to avoid, minimize, and mitigate potential environmental impacts consistent with SEQRA requirements. By implementing phased disturbance limits, early infrastructure installation, and continuous environmental controls, the project will reduce short-term construction impacts while supporting long-term operational efficiency.

Section 3 – Evaluation of the Magnitude and Importance of Impacts

The Proposed Action consists of the development of a multi-building data center campus to be constructed in two primary phases. Phase 1 will be subdivided into Subphases 1A (site enablement, infrastructure and initial data center construction), 1B (second data center construction), and 1C (third data center construction and site completion). Phase 2 will complete the full campus buildout based on future demand.

The project has been designed with a phased construction approach to minimize environmental disturbance, coordinate infrastructure capacity, and reduce potential short-term and cumulative impacts. The following evaluation considers the magnitude and importance of potential impacts identified in the Environmental Assessment Form (EAF).

1. **Land and Soil Resources**
    a. Construction activities will result in temporary disturbance of soil due to clearing, grading, and excavation. Impacts will be managed through phased limits of disturbance, with only areas necessary for each subphase being actively disturbed at any given time.
    b. Erosion and sediment control measures will be implemented in accordance with an approved Stormwater Pollution Prevention Plan (SWPPP), including silt fencing, sediment basins, stabilized construction entrances, and temporary stabilization practices.
    c. Topsoil will be stockpiled and reused on-site to the extent practicable. Disturbed areas will be stabilized in accordance with regulatory time limits.
    d. Conclusion: Impacts on land and soil resources will be temporary, controlled, and minimized through standard best management practices. No significant adverse impacts.
2. **Water Resources and Stormwater Management**
    a. The Proposed Action includes the installation of both temporary and permanent stormwater management systems designed in accordance with New York State requirements.
    b. During Phase 1, stormwater infrastructure will be installed early in the construction sequence to manage runoff from active work areas. Temporary erosion and sediment controls will be maintained and inspected regularly.
    c. Post-construction stormwater systems will be designed to attenuate peak flows, promote infiltration where feasible, and maintain or improve existing drainage conditions.
    d. Conclusion: With implementation of SWPPP measures and permanent stormwater controls, impacts to water resources will be minimized and will not be significant.
3. **Traffic and Transportation**

a. Construction activities will generate temporary increases in traffic, including construction worker vehicles and material deliveries. These impacts will be mitigated through:
    i. Designated construction access points
    ii. On-site staging areas to prevent off-site queuing.
    iii. Scheduling of deliveries during off-peak hours where practicable
b. Operational traffic associated with data center use is typically low relative to other commercial or industrial uses or as seen at the site in the past.
c. Conclusion: Traffic impacts will be temporary during construction and minimal during operation. No significant adverse transportation impacts upon project completion.

4. Air Quality

a. Temporary impacts to air quality may occur during construction due to dust generation and equipment emissions.
b. Mitigation measures will include:
    i. Dust suppression through water application and soil stabilization.
    ii. Limiting unnecessary idling of construction equipment
    iii. Use of properly maintained equipment
c. Operational emissions from the data center will be limited primarily to backup generator testing and emergency use and will not represent a continuous source of emissions.
d. Conclusion: Air quality impacts will be temporary, minor, and controlled through standard measures. No significant adverse impacts upon project completion.

5. Noise

a. Construction activities will generate temporary noise associated with heavy equipment, trucking, and building operations.
b. Mitigation measures include:
    i. Compliance with local noise ordinances
    ii. Limiting construction to permitted hours
    iii. Strategic placement of equipment where feasible
c. Operational noise sources (e.g., cooling equipment, generators during testing) will be designed to comply with applicable noise standards.
d. Conclusion: Noise impacts will be temporary and time-limited during construction. During operation noise impacts will be controlled and are not significant upon project completion.

6. **Visual Resources and Community Character**
    a. Construction will temporarily alter the visual character of the site due to equipment, material staging, and partially complete structures.
    b. Upon completion, the site will include permanent buildings, internal roadways, and landscaping consistent with approved site plans. Landscaping and buffering will be installed to reduce visual impacts from adjacent properties and roadways.
    c. Conclusion: Visual impacts will be temporary during construction and mitigated through site design and landscaping. No significant adverse impacts upon project completion and landscaping are in place.
7. **Energy and Infrastructure**
    a. The project will include significant electrical and mechanical infrastructure to support data center operations. Utilities will be installed and expanded in a coordinated, phased manner.
    b. Infrastructure will be designed to meet applicable codes and reliability requirements, with coordination from utility providers to ensure adequate capacity.
    c. Conclusion: The use of energy and infrastructure will occur within the capacity of existing and planned systems and is not expected to result in a significant adverse environmental impact.
8. **Human Health and Safety**
    a. Construction activities will be conducted in accordance with applicable safety regulations. Site access will be controlled, and emergency access will be maintained at all times.
    b. Operationally, the facility will include fire protection systems, security measures, and controlled access.
    c. Fuel systems associated with backup generators will be designed and installed in accordance with applicable codes to prevent spills or hazards.
    d. Conclusion: With adherence to applicable regulations and safety practices, no significant adverse impacts to human health and safety.
9. **Consistency with Community Plans**
    a. The Proposed Action is consistent with local zoning and land use plans. The Project satisfies permitted IR District classification: General processing, light manufacturing and assembly per the Town of Lansing Zoning Board of Appeals' December 22, 2025 decision.
    b. The phased development approach allows for coordination with municipal infrastructure and planning objectives.

c. Construction activities will occur within defined limits of disturbance established for each subphase.

d. Conclusion: The project will be consistent with applicable planning and zoning requirements, subject to approvals.

10. Cumulative Impacts

a. The phased construction approach reduces the potential for cumulative impacts by limiting the extent of simultaneous disturbance, managing construction intensity through sequencing, and allowing for progressive stabilization.

b. Phase 2 development will occur within the framework of the overall site design and environmental review, ensuring that cumulative impacts remain within analyzed thresholds.

c. Conclusion: Cumulative impacts have been minimized through project design and phasing. No significant adverse cumulative impacts.

11. Growth-Inducing Impacts

a. The project is not expected to induce significant off-site development beyond what is already permitted by existing zoning and infrastructure capacity.

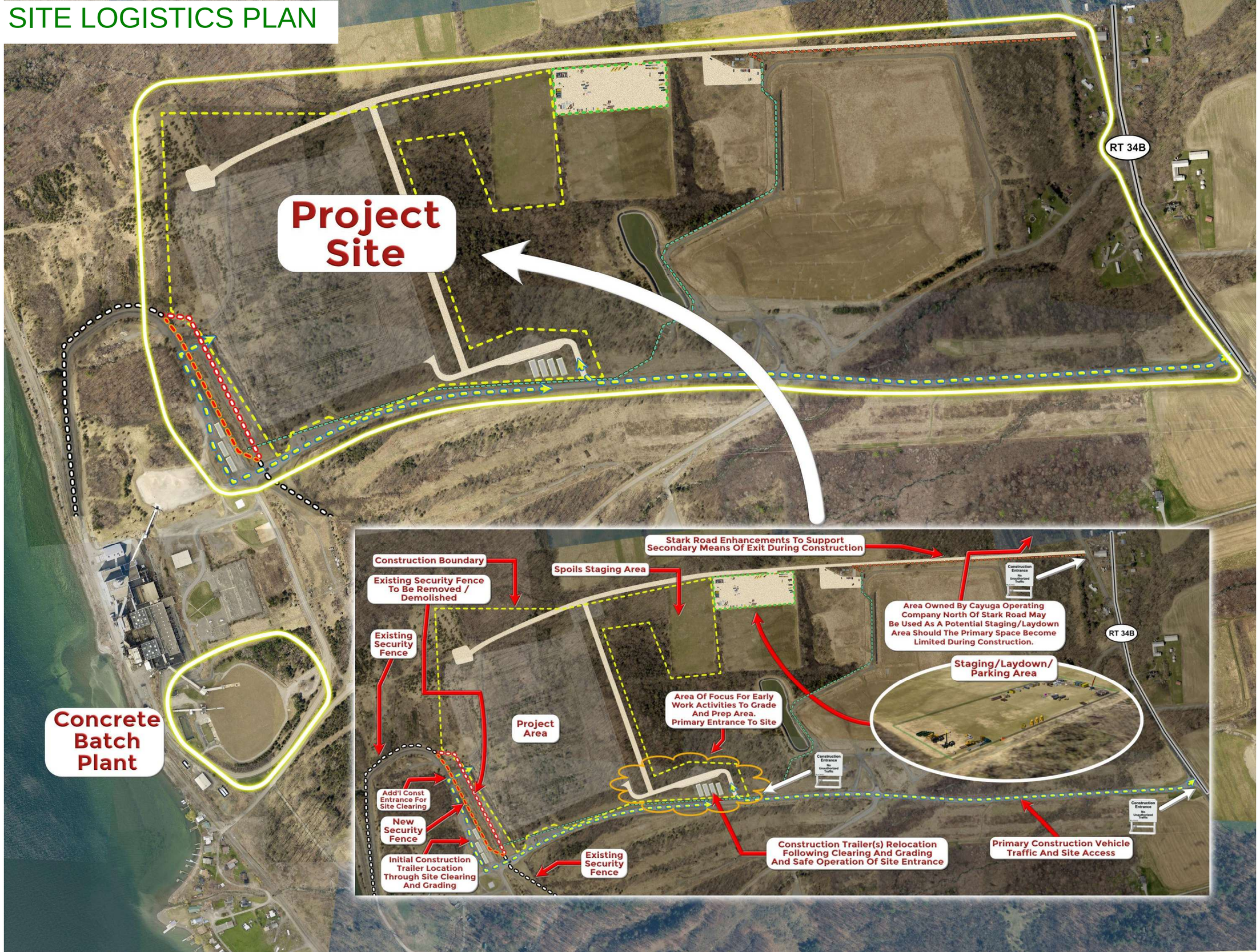
b. Conclusion: No significant growth-inducing impacts.

Section 3 - Conclusion

Based on construction sequencing, impact minimization measures, and evaluation of potential impacts described above, the Proposed Action will not result in any significant adverse environmental impacts. Construction-related impacts will be temporary and mitigated through standard best management practices and regulatory compliance. The foregoing analysis is intended to support the Lead Agency’s determination of a Negative Declaration under SEQRA.

Exhibit L
Site Logistics Plan

SITE LOGISTICS PLAN



ENLARGED SITE LOGISTICS PLAN

