APPENDIX M CASE 10-T-0139 WATERBODY INVENTORY (114A) & WETLAND DELINEATION REPORT

Wetland & Waterbodies Delineation Report



Champlain Hudson Power Express Segment 12-Package 7B

Route 9W – Rockland County, New York

CHA Project Number: 066076

Prepared for: Transmission Developers Inc. 600 Broadway Street Albany, NY 12207

> Prepared by: CHA Consulting, Inc. III Winners Circle Albany, NY 12205 Phone: (518) 453-4500

> > **April 2023**

SIGNATURE PAGE

This report has been prepared and reviewed by the following qualified personnel employed by CHA.

Report Prepared By:

Nicole E. Frazer

Principal Scientist

Report Reviewed By:

Christopher R. Einstein, PWS

Principal Scientist

TABLE OF CONTENTS

1.0	INTRODUCTION		1
2.0	SEGMENT 12-PACKAGE 7B COR	RIDOR OVERVIEW	2
3.0) WETLAND DELINEATION METH	HODOLOGY	4
4.0) WETLAND & WATERBODIES DE	ELINEATION RESULTS	6
	4.1.1 Palustrine Emergent W 4.1.2 Palustrine Forested We 4.1.3 Brackish Tidal Marsh 4.1.4 Open Water	retland	77888
5.0	SUMMARY		13
6.0	REFERENCES		

LIST OF ATTACHMENTS

Attachment I	Wetland Determination Data Sheets and Wetland Photographs
Attachment 2	NWI & State Wetland and Stream Mapping
Attachment 3	NRCS Soil Mapping
Attachment 4	Tables
Attachment 5	Wetlands and Waterbodies Delineation Mapping
Attachment 6	Waterbody Photographs



1.0 INTRODUCTION

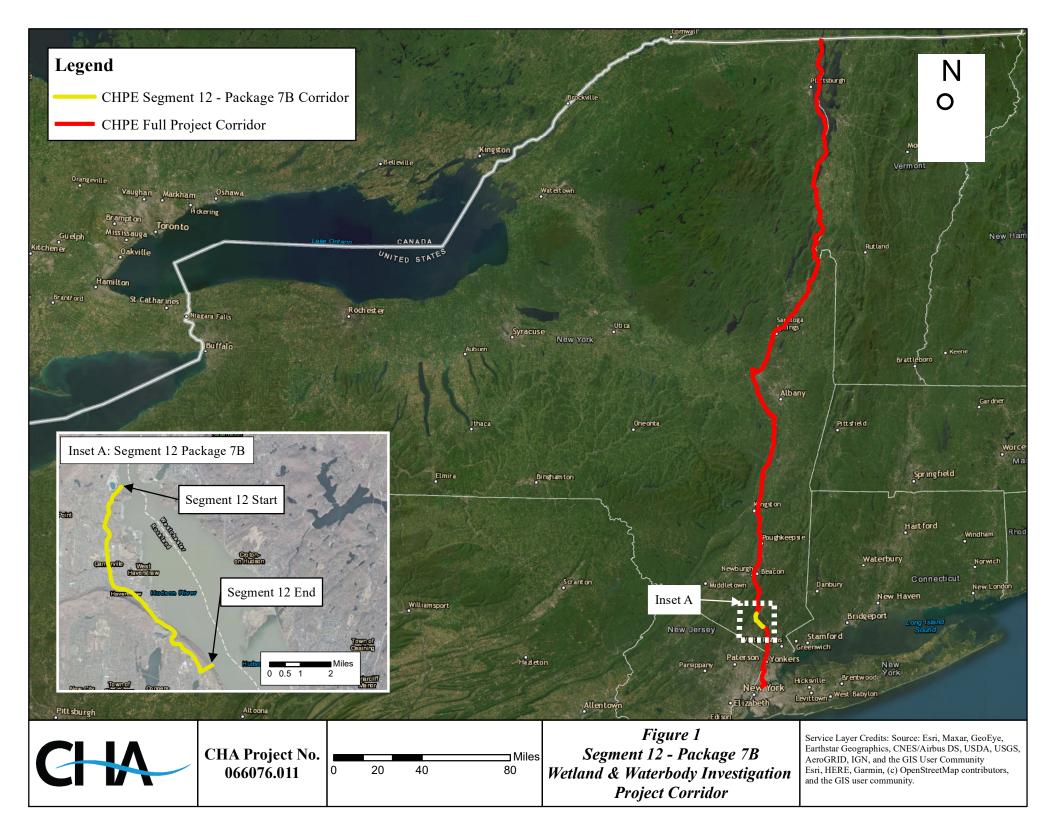
CHA Consulting, Inc. ("CHA") has prepared this wetland and waterbodies delineation report on behalf of Champlain Hudson Power Express, Inc. ("CHPE") and Kiewit Construction (Kiewit) for the Champlain Hudson Power Express Project (Project). CHA was retained by Kiewit to identify and delineate jurisdictional wetlands and waterbodies regulated under Section 404 of the Clean Water Act (CWA), Section 10 of the Rivers and Harbors Act of 1899, Article 24 Freshwater Wetlands Act, Article 25 Tidal Wetlands Act and Article 15 (Protection of Waters) of the Environmental Conservation Law along the overland transmission cable route that predominantly follows State, county and local roadways rights-of-way ("ROW"), herein referred to as the Project Corridor. Delineations were conducted with the objective of verifying and updating previous wetland delineations performed for the Project Corridor as part of the Article VII and Section 10/404 permitting processes. This report describes the wetland delineation methodology and the existing wetland and waterbody resources that were identified in the Project Corridor (also defined as the Jurisdictional Determination (JD) limits) during field surveys for the overland portions of the Project.



2.0 SEGMENT 12-PACKAGE 7B CORRIDOR OVERVIEW

The entire Project Corridor is approximately 339 miles from Montreal, Quebec, Canada to New York City, New York, USA. Figure 1 below shows the route from the Canadian border to New York City and highlights the approximately 7.6 miles of the Segment 12- Package 7B Project Corridor that was investigated for wetlands and waterbodies.

Segment 12- Package 7B begins in Stony Point, NY at station 72495+26 and extends south approximately 7.6 miles along the following roads through the Town of Stony Point, Village of West Haverstraw, Village of Haverstraw and Town of Clarkstown, New York: Battlefield Road, Park Road, N. Liberty Drive, S. Liberty Drive, South Route 9W, Route 9W, Conger Avenue, and North Route 9W. Segment 12- Package 7B terminates at station 72899+20.



3.0 WETLAND DELINEATION METHODOLOGY

To determine the potential for wetland impacts from construction of the Project, Shumaker Consulting Engineering & Land Surveying, D.P.C. (Shumaker) and CHA assessed the Project Corridor in the field for the presence of federal (Section 404 CWA & Section 10 of the Rivers and Harbors Act of 1899) and state (Article 25 Tidal Wetland Act & Article 15 Protection of Waters) jurisdictional wetlands. Wetland scientists conducted wetland delineations in November 2021, May 2022 and September 2022. The delineation criteria and methodology were performed in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region Version 2.0 (January 2012), as well as the New York State Freshwater Wetlands Delineation Manual (Browne et. al., 1995).

The Project Corridor for the surveyed portions of the project included the land within the existing ROWs along Battlefield Road, Park Road, N. Liberty Drive, S. Liberty Drive, South Route 9W, Route 9W, Conger Avenue, and North Route 9W and adjacent parcels as noted in the plans.

In accordance with the procedures provided in the *Corps of Engineers Wetland Delineation Manual (1987)*, and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*, Version 2.0 (January 2012), the "Routine Wetland Determination" method was used to delineate wetland boundaries.

The wetland boundaries were determined in the field based on the three-parameter approach, whereby an area is a wetland if it exhibits vegetation adapted to wet conditions (hydrophytes), hydric soils, and the presence or evidence of water at or near the soil surface during the growing season (hydrology).

Coded surveyor's ribbons (e.g. flag code A-1, A-2, etc.) were placed along the wetland boundaries based on observations of vegetation, soils and hydrologic conditions. Data points were recorded along the wetland boundaries at various locations across different vegetative community types correlating to each wetland. Wetland and upland data points were recorded to show the difference between the wetland and upland habitats. At a minimum, one data point set (wetland and upland) was collected for each wetland. Additional data points were collected for large wetlands and for



changes in vegetative communities. Wetland Determination Data Sheets corresponding to each point can be found in Attachment 1.

Wetlands within the Segment 12- Package 7B Project Corridor fall under the jurisdiction of the and the New York State Department of Environmental Conservation (NYSDEC) and/or the U.S. Army Corps of Engineers (USACE). The New York State methodology similarly recognizes the three parameters of vegetation, soils, and hydrology; however, under the New York State method the hydric vegetation criterion is mandatory, while the other two parameters are not (Browne et. al. 1995). Wetlands regulated by the NYSDEC must be at least 12.4 acres (5 hectares) in size, unless they are deemed to have unusual local importance. The NYSDEC publishes maps of wetland areas under state jurisdiction; however, it uses field delineation to determine the precise boundaries of these wetland areas.

Prior to actual field delineations for wetland resources, CHA reviewed USGS 7.5-minute topographic maps, aerial photographs, National Wetland Inventory (NWI) mapping, United States Department of Agriculture Natural Resources Conservation Service (NRCS) soil mapping, and NYSDEC freshwater wetlands mapping to identify potential wetland features present within the Project Corridor. More importantly, CHA used the previous wetland delineations prepared for this Project Corridor for the purposes of verifying and modifying the previous delineation. Refer to Attachment 2 for NWI and NYSDEC Freshwater Wetland & Stream Mapping and Attachment 3 for NRCS Soil Mapping.

Waterbodies within the Project Corridor, including streams under NYSDEC Article 15 jurisdiction, were identified by the presence of an ordinary high-water mark (OHWM) or stream channel. Delineation and flagging were completed to identify the ordinary high-water mark (OHWM) for most perennial and intermittent streams. Bankfull width and depth were estimated in the field.

This report documents the wetlands and waterbodies potentially under federal and State jurisdiction that were identified in the Project Corridor along the current proposed underground transmission cable route. Summaries of wetlands that were identified are provided in Table 4-1 in Attachment 4. Wetlands and Waterbodies Delineation Mapping is included in Attachment 5.



Wetland determination data forms and photographic documentation of the wetlands are included in Attachment 1.

4.0 WETLAND & WATERBODIES DELINEATION RESULTS

A total of six wetland areas were identified in the Project Corridor totaling approximately 0.49 acres. Table 4-1 in Attachment 4 provides a summary of the wetlands identified along the Project Corridor, including their classification in accordance with Cowardin et al. (1979) and their state or federal jurisdiction. Of these delineated wetlands, one (1) corresponds with a wetland mapped by the NYSDEC. This NYSDEC mapped wetland is HS-2.

Narrative descriptions of wetland vegetation, hydrology, and soils observed within the Project Corridor are presented in the following sections. The wetlands and waterbodies delineated within the surveyed areas are summarized in Table 4-1 and Table 4-2. Table 4-3 provides the soil series information. Refer to Attachment 4 for each of these tables. The Wetlands and Waterbodies Delineation Mapping provided in Attachment 5 shows the locations of delineated wetlands and waterbodies. Photographs of the waterbodies can be found in Attachment 6.

4.1 **VEGETATION**

Vegetative communities within wetlands are described according to *Ecological Communities of New York State, Second Edition* (Edinger 2014)¹ and *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin 1979)². Using this hierarchical wetland classification system three primary cover types were identified for vegetated wetlands in the Project Corridor. These include palustrine emergent (PEM), palustrine forested (PFO) and brackish tidal marsh

_

¹ Edinger, G. J., D. J. Evans, S. Gebauer, T. G. Howard, D. M. Hunt, and A. M. Olivero (editors). 2014. *Ecological Communities of New York State*. Second Edition. A revised and expanded edition of Carol Reshke's *Ecological Communities of New York State*. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

² Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe, 1979. *Classification of wetlands and deepwater habitats of the United States*. U. S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.



(E2EM) wetlands. Open water areas (i.e. ponds) were identified as palustrine unconsolidated bottom (PUB).

4.1.1 Palustrine Emergent Wetland

The palustrine emergent wetland cover type is characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens (Cowardin et. al., 1979), and with less than 50 percent aerial cover by shrubs and/or trees. The freshwater emergent wetlands along the Project Corridor primarily include shallow emergent marsh and common reed marsh (Edinger et. al., 2014).

Shallow emergent marshes occur on mineral soils or deep muck soils that are permanently saturated and seasonally flooded. Water depths range from 6 inches to 3.3 feet during flood stages (Edinger et. al., 2014). Characteristic vegetation of shallow emergent marshes within the Project Corridor includes goldenrod (*Solidago sp.*), sedge species (*Carex sp.* and *Cyperus sp.*) and willowherb species (*Epilobium sp.*).

Common reed marsh consists of disturbed marshes where common reed has become dominant (Edinger et. al., 2014).

4.1.2 Palustrine Forested Wetland

Forested wetland cover types are dominated by trees and shrubs that have developed a tolerance to a seasonal high-water table. For a community to be characterized as forested, a wetland must be dominated by trees and shrubs that are at least six meters tall (Cowardin et. al., 1979). Forested wetlands typically have a mature tree canopy, and depending upon the species and density, can have a broad range of understory and groundcover community components (Edinger et al., 2014). Forested wetland communities along the Project Corridor include red maple hardwood swamp.

Red maple-hardwood swamps occur in poorly drained depressions, usually on inorganic soils. Red maple is either the only dominant tree species or is codominant with one or more hardwoods (Edinger et. al, 2014). Species observed within this community type within the Project Corridor include American elm (*Ulmus americana*), common reed (*Phragmites australis*) and smartweed species (*Persicaria sp.*).

4.1.3 Brackish Tidal Marsh

The estuarine intertidal emergent wetland cover type is characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens (Cowardin et. al., 1979), and with less than 50 percent aerial cover by shrubs and/or trees. The one intertidal emergent wetland along the Project Corridor is brackish tidal marsh (Edinger et. al., 2014).

Brackish tidal marshes are a marsh community that occurs where water salinity ranges from 0.5 to 19.0 ppt and water is less than 2m (6 ft) deep at high tide. The vegetation is dense and dominated by tall graminoids (Edinger et. al., 2014). The edges of this brackish tidal wetland within the Project Corridor are dominated by common reed, however the deeper portions within the center of this wetland contained other emergent and floating leaf vegetation. This wetland is associated with the Hudson River.

4.1.4 Open Water

There is a pond located along the Project Corridor. As previously noted, this open water community is identified as palustrine unconsolidated bottom (PUB). PUB's are characterized by a vegetation cover of less than 30 percent, although there may often be emergent or shrubby vegetation bordering the open water areas. Common duckweed (*Lemna minor*) is commonly present. Characteristic species observed along the edges of the pond included goldenrod and sedge species. Substrates are silt, mud, cobble, or sand.

4.2 HYDROLOGY

4.2.1 Streams

Table 4-2 lists the 4 streams (perennial (3), intermittent (1)) identified within the Project Corridor, which is located within the Lower Hudson Watershed. This watershed extends from the Battery at the southern end of Manhattan to the Troy Dam at the confluence of the Mohawk River. The basin is 12,800 square miles, most of which is within New York State (NYSDEC 2022). Perennial waterbodies within the Project Corridor include Cedar Pond Brook and Minisceongo Creek as well as an unnamed tributary identified on the USGS Topographic Map and/or identified during the field delineation.

4.2.2 Wetlands

Site hydrology was examined within each wetland and adjacent upland areas. Indicators of wetland hydrology included surface water (A1), high water table (A2), saturation (A3), oxidized rhizospheres on living roots (C3), presence of reduced iron (C4), geomorphic position (D2) and FAC-neutral test (D5) (Attachment 1). Hydrologic factors contributing to the presence of wetland hydrology within wetlands in the Project Corridor included inundation with river, pond, or stream water, temporarily ponded runoff, and seasonally to permanently shallow groundwater tables.

4.3 SOILS

The United States Department of Agriculture NRCS soil map units for the Project Corridor are provided in Attachment 3. Hydric soil indicators include depleted below dark surface (A11), depleted matrix (F3), redox dark surface (F6) and redox depressions (F8) (Attachment 1). Within the Project Corridor, a total of twenty five (25) different soil types are mapped by the NRCS. The mapped soil types range from excessively drained to very poorly drained soils. According to the soil map descriptions (Attachment 3 and Attachment 4- Table 4-3), two (2) of the soils mapped within the Project Corridor are rated as hydric soils (Ipswich mucky peat and Rippowam sandy loam). Hydric soils are defined as soils "that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil" (Federal Register, 1994). Table 4-3 summarizes the soil series in the Project Corridor and lists the soils that are classified as hydric (or associated with wetland hydrology) in the Project Corridor.

Many soils within the Project Corridor are formed from glacial parent materials including outwash, dense till, loose till, and glaciomarine deposits. In active floodplains, soils are formed in recent alluvium. Anthropogenically disturbed soils, associated with road construction and operation, are common within the Project Corridor. The disturbed soils consist of disturbed natural deposits or human transported materials.



4.4 NATURAL RESOURCE CONSERVATION SERVICE SOIL SERIES DESCRIPTIONS

The following are the abbreviated descriptions of each of the relevant soil types taken from the USDA Web Soil Survey (NRCS 2022). Soils survey mapping and additional information regarding relevant soil characteristics are provided in Attachment 3.

Charlton Series (CeB, CeC & CeD)

These very deep, well drained soils formed in loamy melt-out till. These soils are nearly level to very steep on ridges, moraines and hills. Slopes range from 0 to 60 percent. The A horizon is a dark brown fine sandy loam with weak granular structure. The B horizon is brown, yellowish brown or light olive brown fine sandy loam with weak granular or subangular blocky structure. The C horizon is grayish brown gravelly fine sandy loam with lenses of loamy sand. This horizon is massive or has plates of geogenic origin.

Chatfield Series (CoC & CoD)

These well drained soils formed in loamy melt-out till. They are moderately deep to bedrock. Slopes range from 0 to 70 percent. The surface layer is organic material 0-3 cm thick. The A horizon is very dark gray fine sandy loam with weak fine subangular blocky structure. The AB horizon, where present, has similar texture to the A horizon. The B horizon is strong brown gravelly fine sandy loam. The structure is subangular blocky or granular structure and is friable or very friable. The C horizon, if present, has hue of 7.5YR to 5Y, value of 4 or 5, and chroma of 2 to 4. The texture is sandy loam, very fine sandy loam, loam or silt loam. This horizon is massive and may contain plate-like divisions. The 2R horizon is dominantly schist, gneiss bedrock or granite and is massive in places.

Hinckley Series (HcA, HcB, HcD & HdB)

These very deep, excessively drained soils formed in glaciofluvial materials. These soils are nearly level to very steep and can be found on outwash terraces, outwash deltas, outwash plains, eskers, kames and kame terraces. The slopes range from 0 to 60 percent. The surface layer is 0-3

CHA

centimeters of moderately decomposed plant material derived from twigs and red pine needles. The A horizon is very dark grayish brown loamy sand with weak fine and medium granular structure. The B horizon is strong brown to yellowish brown gravelly loamy sand to very gravelly sand. The C horizon is light olive brown extremely gravelly sand consisting of stratified sand, gravel and cobbles.

Holyoke Series (HoC, HoD & HoF)

These shallow, well drained and somewhat excessively drained soils formed in a thin mantle of till derived mainly from basalt and red sandstone, conglomerate, and shale. Slopes range from 0 to 60 percent. The A horizon is dark brown silt loam with weak medium granular structure. The B horizon is comprised of two layers. From 8-20 centimeters, the soil is brown silt loam with weak course granular structure and from 20-46 centimeters, the soil is yellowish red silt loam with weak medium subangular blocky structure. The R horizon is composed of basalt bedrock.

Ipswich Series (Ip)

These very deep, very poorly drained soils formed in thick herbaceous organic deposits. They are found on level tidal marshes subject to salt water inundation twice daily. The surface layer is dark grayish brown organic material. Below this layer is a layer of very dark grayish brown, mucky peat that is followed by a layer of very dark gray muck.

Rippowam Series (Ra)

These very deep, poorly drained loamy soils formed in alluvial sediments. These nearly level soils are found on floodplains subject to frequent flooding. The slopes range from 0 to 3 percent. The A horizon is a very dark grayish brown fine sandy loam with weak medium granular structure. The B horizon is dark grayish brown to very dark gray fine sandy loam or sandy loam that is massive or has weak granular or subangular blocky structure. The C horizon is dark gray or grayish brown with textures ranging from loamy fine sand to coarse sand.

Udorthents (Ur & Us)

These are very deep, nearly level to gently sloping areas of well drained loamy soils that are a result of man-made cuts and fills in loamy upland soils. Slopes range from 0 to 8 percent. Typically, the surface layer is dark brown silt loam extending to 5 inches. Layers below the surface are brown and yellowish-brown silt loam containing up to 80 percent rock fragments to a depth of 72 inches or more.

Urban Land (Ux)

Urban land consists of nearly level to strongly sloping areas where asphalt, concrete, buildings, or other impervious materials cover more than 85 percent of the surface. Slopes range from 0 to 15 percent. This map unit includes very few areas of soil material, and those areas which are used mainly as lawns or landscaping have been disturbed by adjacent building activities.

Watchaug Series (Wc)

These are very deep, moderately well drained loamy soils formed in meltout till. The soils are nearly level to strongly sloping on hill and till plains, typically on the lower slopes and in slight depressions. Slopes range from 0 to 15 percent. The A horizon is deep reddish brown fine sandy loam with weak medium and fine granular structure. The B horizon is reddish brown to yellowish brown fine sandy loam with weak medium subangular blocky structure. The C horizon is reddish brown gravelly sandy loam. This horizon is massive or has weak plates.

Wethersfield Series (WeB, WeC, WeD & WuB)

These very deep, well drained loamy soils formed in dense glacial till on uplands. Slopes range from 0 to 35 percent. The surface layer is 0-3 centimeters of black, moderately decomposed plant material. The A horizon is dark brown loam with granular structure. The B horizon is reddish brown loam to gravelly loam with a weak medium subangular blocky structure. The C horizon is reddish brown gravelly loam with weak thick platy structure.

Yalesville Series (YaC & YaD)

These moderately deep, well drained soils formed in a loamy till. They are nearly level to moderately steep soils on hills and ridges. Slopes range from 0 to 50 percent. The A horizon is dark brown fine sandy loam with weak medium granular structure. The B horizon is reddish brown fine sandy loam to loam. It has a weak medium subangular blocky structure. The C horizon is reddish brown gravelly sandy loam, and is massive. The R horizon is reddish brown hard sandstone bedrock.

5.0 **SUMMARY**

Wetlands identified along the Project Corridor include shallow emergent marsh, common reed marsh, red maple hardwood swamp. A pond also occurs within the Project Corridor. Stream communities include intermittent and perennial streams.

Land use in the Project Corridor is ranges from undeveloped areas to residential and commercial areas. Because most of the Project Corridor consists of existing roadway corridors, some wetlands are characterized by previous anthropogenic disturbance and/or the presence of invasive plant species. The wetland boundaries abutting the road are typically defined by the edge of the soil fill for the highway embankments.

Confirmation of the wetland boundaries are the responsibility of the involved regulatory agencies with jurisdiction over wetlands and waterbodies within this Phase of the overall project. As previously noted, wetlands within Segment 12-Package 7B Project Corridor are regulated by USACE (Section 10/404) and the NYSDEC (Article 25). Streams and other waterbodies are regulated by USACE (Section 10/404) and NYSDEC (Article 15). Based on review of the NYSDEC wetland mapping, one delineated wetland area is identified as regulated under Article 25. This wetland corresponds to mapped wetland HS-2 and it is regulated by NYSDEC. It is anticipated that USACE will take jurisdiction over all the mapped wetlands within the Project Corridor and NYSDEC will take jurisdiction over the one wetland associated with the NYSDEC mapped wetland. Final jurisdictional determinations will be made by the respective agencies.

6.0 REFERENCES

- Browne, S. et. al. 1995. New York State Freshwater Wetlands Delineation Manual. New York State Department of Environmental Conservation, Division of Fish and Wildlife, Bureau of Habitat, Albany, NY.
- Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe, 1979. *Classification of wetlands and deepwater habitats of the United States*. U. S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.
- Edinger, G. J., D. J. Evans, S. Gebauer, T. G. Howard, D. M. Hunt, and A. M. Olivero (editors). 2014. *Ecological* Communities of New York State. Second Edition. A revised and expanded edition of Carol Reshke's *Ecological Communities of New York State*. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Natural Resources Conservation Service (NRCS), United States Department of Agriculture. Web soil Survey. Map Unit Descriptions. Accessed online May 04, 2022: https://websoilsurvey.nrcs.usda.gov/app/.
- New York State Department of Environmetal Conservation. Lower Hudson Watershed. Accessed online May 4, 2022: https://www.dec.ny.gov/lands/48367.html.
- United States Army Corps of Engineers. 1987 Wetland Delineation Manual. Technical Report Y-87-1. Experimental Laboratory, Vicksburg, MS.
- United States Army Corps of Engineers. 2012. *Regional Supplement to the Corps of Engineers Wetland Manual: Northcentral and Northeast Region (Version 2.0).* ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

ATTACHMENT 1 WETLAND DETERMINATION DATA SHEETS AND WETLAND PHOTOGRAPHS

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: CHPE	City/County: Tompkins Cove/Rockland Sampling Date: 9/23/2022
Applicant/Owner: TDI	State: NY Sampling Point: Wet D1
Investigator(s): John Greaves & Chris Einstein	Section, Township, Range:
	relief (concave, convex, none): Concave Slope %: 2
Subregion (LRR or MLRA): LRR R Lat: 41 14' 30"N	Long: -73 58' 53"W Datum: NAD83
Soil Map Unit Name: CkD - Charlton-Rock outcrop complex, hilly	NWI classification: PEM1
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 disturb	bed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrologynaturally problems	atic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sam	pling 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: Wetland D near flag D-1
Remarks: (Explain alternative procedures here or in a separate report.) Common reed marsh.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves (E	B9) Drainage Patterns (B10)
High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3) — Marl Deposits (B15)	Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8)
Sediment Deposits (B2) X Oxidized Rhizospheres o	on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduced Iro	
Algal Mat or Crust (B4) Recent Iron Reduction in	
Iron Deposits (B5) Thin Muck Surface (C7)	
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remark	
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No _x Depth (inches):	
Water Table Present? Yes No _x Depth (inches):	. <u></u>
Saturation Present? Yes No _x Depth (inches):	Wetland Hydrology Present? Yes X No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:
Remarks:	

VEGETATION – Use scientific names of plants.

Dominance Test worksheet:	
Dominance rest worksheet.	
Number of Dominant Species That Are OBL, FACW, or FAC:	3 (A)
Total Number of Deminent	
Total Number of Dominant Species Across All Strata:	3 (B)
Beaut of Deminant Consis	
Percent of Dominant SpeciesThat Are OBL, FACW, or FAC:	100.0% (A/B)
Prevalence Index worksheet:	` ,
Total % Cover of:	Multiply by:
OBL species 0 x 1	= 0
FACW species 115 x 2	= 230
FAC species 12 x 3	
FACU species 6 x 4	= 24
UPL species 0 x 5	= 0
Column Totals: 133 (A)	(B)
Prevalence Index = B/A =	2.18
Hydrophytic Vegetation Indicator	
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 sep	parate sheet)
/ Problematic Hydrophytic Vege	tation ¹ (Explain)
/ Indicators of hydric soil and watter	ad by dralagy, my at
Indicators of hydric soil and wetlar be present, unless disturbed or pro	
Definitions of Vegetation Strata:	
Tree – Woody plants 3 in. (7.6 cm)	or more in
J diameter at breast height (DBH), re	
Sanling/shrub Woody plants los	s than 3 in DRU
Sapling/shrub – Woody plants les and greater than or equal to 3.28 ft	
Herb – All herbaceous (non-woody	v) plante rogardlose
of size, and woody plants less than	,
Woody vines – All woody vines gr	eater than 3 28 ft in
height.	eater than 5.20 it in
Hydrophytic	
	No
— v	egetation

Sampling Point:

Wet D1

SOIL Sampling Point Wet D1

Profile Desc	ription: (Describe to	the de	pth needed to docu	ıment th	ne indica	tor or c	confirm the absence of indicators.)
Depth	Matrix		Redox	c Feature	es		
(inches)	Color (moist)	<u>%</u>	Color (moist)		Type ¹	Loc ²	Texture Remarks
0-3	10YR 2/1	95	5YR 4/6	5	c	pl	Loamy/Clayey Prominent redox concentrations
3-16	5YR 5/2		5YR 5/6	30	<u> </u>	<u>m</u>	Loamy/Clayey Prominent redox concentrations
17			A. Dankara al Matria N				21tion DI Dona Linius M Matrix
Hydric Soil I	ncentration, D=Deple	tion, Riv	I=Reduced Matrix, M	i5=iviasi	ked Sand	Grains.	. ² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
Histosol (Polyvalue Belov	w Surfac	ce (S8) (I	LRR R.	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	ipedon (A2)		MLRA 149B)		(00) (,	Coast Prairie Redox (A16) (LRR K, L, R)
Black His			Thin Dark Surfa		(LRR R	MLRA	
	Sulfide (A4)		High Chroma S		-		Polyvalue Below Surface (S8) (LRR K, L)
	Layers (A5)		Loamy Mucky N				Thin Dark Surface (S9) (LRR K, L)
	Below Dark Surface	(A11)	Loamy Gleyed			. ,	Iron-Manganese Masses (F12) (LRR K, L, R)
Thick Da	rk Surface (A12)		X Depleted Matrix	x (F3)			Piedmont Floodplain Soils (F19) (MLRA 149B)
Sandy M	ucky Mineral (S1)		Redox Dark Su	rface (F	6)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Gl	eyed Matrix (S4)		Depleted Dark	Surface	(F7)		Red Parent Material (F21)
Sandy Re	edox (S5)		x Redox Depress		3)		Very Shallow Dark Surface (F22)
	Matrix (S6)		Marl (F10) (LRI	R K, L)			Other (Explain in Remarks)
Dark Sur	face (S7)						
³ Indicators of	hydrophytic vegetation	on and w	etland hydrology mu	ıst he nr	esent ur	nless dist	sturbed or problematic.
	aver (if observed):	on and w	eliana nyarology ma	ist be pr	esent, ui	iless dist	surbed of problematic.
Type:	ayor (ii oboorrou).						
Depth (in	ches):						Hydric Soil Present? Yes No
Remarks:							, , , , , , , , , , , , , , , , , , , ,
	n is revised from Nor	thcentra	l and Northeast Regi	onal Su	pplement	t Version	n 2.0 to include the NRCS Field Indicators of Hydric Soils,
	2015 Errata. (http://ww						



Wetland D1-1- View facing northeast



Wetland D1-1- Soils

Segment 12-Package 7B

SITE PHOTOGRAPHS

Champlain Hudson Power Express



Upland D1- View facing east

Segment 12-Package 7B

SITE PHOTOGRAPHS

Champlain Hudson Power Express

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: CHPE Phase 5	City/County: <u>Have</u>	erstraw San	mpling Date: <u>11/2/21</u>
Applicant/Owner: <u>СНД</u>		State: <u>NY</u> S	Sampling Point: <u>D-2</u>
Investigator(s): Nick Dominic, Justn Williams	Section, Township	, Range: <u>Haverstraw</u>	
Landform (hillslope, terrace, etc.):	Local relief (concave,	convex, none):	Slope (%):
Subregion (LRR or MLRA): LRR R Lat	:: <u>41.24167</u>	Long: <u>-73.98205</u>	Datum: NAD83
Soil Map Unit Name:		NWI classification	n: <u>PFM</u>
Are climatic / hydrologic conditions on the site typical f	for this time of year? Yes <u> </u>	No (If no, explain in Rema	arks.)
Are Vegetation NO, Soil NO, or Hydrology NO	significantly disturbed?	Are "Normal Circumstances" prese	ent? Yes 🗵 No 🔲
Are Vegetation NO, Soil NO, or Hydrology NO		(If needed, explain any answers in	Remarks.)
SUMMARY OF FINDINGS – Attach site n	nap showing sampling poi	nt locations, transects, in	nportant features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: (Explain alternative procedures here or in	No Within a W If yes, optic	·	
Wetland D - Stony Point Battlefield State Historic Site			
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators	(minimum of two required)
Primary Indicators (minimum of one is required; chec		Surface Soil Crad	cks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	☐ Drainage Pattern	
High Water Table (A2) Saturation (A3)	Aquatic Fauna (B13) Marl Deposits (B15)		
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living		e on Aerial Imagery (C9)
Drift Deposits (B3)	•	Stunted or Stress	
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Sc	oils (C6) 🔲 Geomorphic Pos	ition (D2)
☐ Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard	, ,
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	<u></u> Microtopographio	, ,
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral Tes	t (D5)
Field Observations: Surface Water Present? Yes No	Depth (inches):		
Water Table Present? Yes X No C	_ Depth (inches):		
Saturation Present? Yes X No C	Depth (inches):	Wetland Hydrology Present?	Yes 🗵 No 🗌
(includes capillary fringe)	_ , , ,		
Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous inspec	ions), if available:	
Remarks:			

VEGETATION – Use scientific names of plants.

	i.		Sampling Point: <u>D-2</u>
<u>Tree Stratum</u> (Plot size: 30)	Absolute % Cover	Dominant Indicator Species? Status	Dominance Test worksheet:
1. <u>Fraxinus americana</u>	20	YES FACU ▼	Number of Dominant Species That Are OBL, FACW, or FAC: _3(A)
2		_	
3			Total Number of Dominant Species Across All Strata: _5(B)
1,			· · · · · · · · · · · · · · · · · ·
			Percent of Dominant Species That Are OBL, FACW, or FAC: _60 (A/B)
5			
5			Prevalence Index worksheet:
7			Total % Cover of: Multiply by:
	<u>20</u>	= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15)			FACW species x 2 =
		· ▼ · ▼	FAC species x 3 = FACU species x 4 =
2		- -	UPL species x 5 =
3		<u>-</u>	Column Totals: (A) (B)
1		<u> </u>	
5		<u>-</u>	Prevalence Index = B/A =
3		<u>-</u> <u>-</u>	Hydrophytic Vegetation Indicators:
7			1 - Rapid Test for Hydrophytic Vegetation
		= Total Cover	2 - Dominance Test is >50%
Herb Stratum (Plot size: 5)		. Total Gover	3 - Prevalence Index is ≤3.0 ¹
1. <u>Solidago spp.</u>	50	YES FAC ▼	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Carex spp.</u>	25	YES ▼ OBL ▼	Problematic Hydrophytic Vegetation ¹ (Explain)
3		<u> </u>	¹ Indicators of hydric soil and wetland hydrology must
4			be present, unless disturbed or problematic.
5		<u>-</u> <u>-</u>	Definitions of Vegetation Strata:
6		<u>-</u>	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7		-	at breast height (DBH), regardless of height.
3		<u>-</u> -	Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9		<u>-</u> -	
10			Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11		<u>-</u> <u>-</u>	
12		<u> </u>	Woody vines – All woody vines greater than 3.28 ft in height.
	75	= Total Cover	
Noody Vine Stratum (Plot size: 30)			
· · · · · · · · · · · · · · · · · · ·		_	
1.			Hydrophytic
			Vegetation
1 2 3			Present? Yes X No
2		<u> </u>	Present? Yes X No
2			Present? Yes <u>X</u> No .

SOIL Sampling Point: <u>D-2</u>

Profile Desc	ription: (Describe	to the de	oth needed to docun			or confirm	n the absence	of indicators.)
Depth	Matrix Color (moist)	%		x Features	S Tupo ¹	_Loc ² _	Texture	Domarka
<u>(inches)</u> 0-16	10YR 2/2	90	Color (moist) 7.5yr/4/6	<u>%</u> 10	<u>rype</u>	LOC	SCILo	Remarks Prominent redox
0 10	1011(2/2		7.0411 110				OOILO	Trommontrodox
						-		·
-					-			
						<u>- </u>		
		_			-	-		
					-	-		
÷					-			
		letion, RM	I=Reduced Matrix, MS	3=Masked	Sand Gr	ains.		: PL=Pore Lining, M=Matrix.
Hydric Soil I								for Problematic Hydric Soils ³ :
Histosol	(A1) ipedon (A2)		Polyvalue Below MLRA 149B)		(S8) (LR I	RR,		fluck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R)
Black His			Thin Dark Surfa		.RR R, M	LRA 149B		Mucky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)		Loamy Mucky N			(, L)		urface (S7) (LRR K, L, M)
_	l Layers (A5) I Below Dark Surfac	o (A11)	Loamy Gleyed I Depleted Matrix)			lue Below Surface (S8) (LRR K, L) ark Surface (S9) (LRR K, L)
	irk Surface (A12)	e (ATT)	Redox Dark Sui					anganese Masses (F12) (LRR K, L, R)
	lucky Mineral (S1)		Depleted Dark S		7)			ont Floodplain Soils (F19) (MLRA 149B)
	leyed Matrix (S4)		Redox Depress	ions (F8)				Spodic (TA6) (MLRA 144A, 145, 149B)
	edox (S5) Matrix (S6)							arent Material (F21) hallow Dark Surface (TF12)
	face (S7) (LRR R, I	MLRA 149	B)					(Explain in Remarks)
3, , , ,								
	nydropnytic vegeta .ayer (if observed)		etland hydrology mus	t be prese	ent, unies	s aisturbea	or problemation).
Type:	iayo. (ii oboo. roa)	•						
Depth (inc	ches):		-				Hydric Soil	Present? Yes 🗵 No 🔲
Remarks:							<u> </u>	



Wetland D - View facing East



Wetland D - Soils

Segment 12-Package 7B

SITE PHOTOGRAPHS

Champlain Hudson Power Express



Wetland D4A- View facing east

Segment 12- Package 7B

SITE PHOTOGRAPHS

Champlain Hudson Power Express

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: CHPE Phase 5	City/County: Haverstraw Sampling Date: 11/02/2021
Applicant/Owner: CHA	State: NY Sampling Point: D-5 Upland
Investigator(s): Nick Dominic/Justin Williams	Section, Township, Range:
	al relief (concave, convex, none): Slope %:
Subregion (LRR or MLRA): LRR R, MLRA 144B Lat: 41.24161	Long: -73.98235 Datum: NAD83
Soil Map Unit Name:	NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation, Soil, or Hydrology significantly dist	
Are Vegetation, Soil, or Hydrology naturally probler	
 	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No X	Is the Sampled Area
Hydric Soil Present? Yes No X	within a Wetland? Yes No X
Wetland Hydrology Present? Yes No X	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report.) Upland to Wetland D	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves	(B9) Drainage Patterns (B10)
High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3) Marl Deposits (B15)	Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide Odo	
	s on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduced	<u> </u>
Algal Mat or Crust (B4) Recent Iron Reduction	· · · · · · · · · · · · · · · · · · ·
Iron Deposits (B5) Thin Muck Surface (C	
Inundation Visible on Aerial Imagery (B7) Other (Explain in Rem	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inches	
Water Table Present? Yes No X Depth (inches	
Saturation Present? Yes No X Depth (inches	s): Wetland Hydrology Present? Yes No _X
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	previous inspections), if available:
Remarks:	

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Dominance Test worksheet:
1. Quercus rubra	40	Yes	UPL	Number of Dominant Species
2. Acer saccharinum	60	Yes	FACU	That Are OBL, FACW, or FAC:1 (A)
3. 4.				Total Number of Dominant Species Across All Strata: 5 (B)
5.6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)
7.	-			Prevalence Index worksheet:
	100	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)		_		OBL species 0 x 1 = 0
1. Lonicera spp.	20	Yes	FACU	FACW species 0 x 2 = 0
2.				FAC species 40 x 3 = 120
3.				FACU species 140 x 4 = 560
4.				UPL species 40 x 5 = 200
5.				Column Totals: 220 (A) 880 (B)
6.	-			Prevalence Index = B/A = 4.00
7.	-			Hydrophytic Vegetation Indicators:
	20	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size:)		-		2 - Dominance Test is >50%
1. Solidago spp.	40	Yes	FAC	3 - Prevalence Index is ≤3.0 ¹
2. Rosa multiflora	60	Yes	FACU	4 - Morphological Adaptations ¹ (Provide supporting
3.	-			data in Remarks or on a separate sheet)
4.				Problematic Hydrophytic Vegetation ¹ (Explain)
5.				Indicators of hydric call and wattend hydrology must
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
8.				Tree – Woody plants 3 in. (7.6 cm) or more in
9.				diameter at breast height (DBH), regardless of height.
10.				Sapling/shrub – Woody plants less than 3 in. DBH
11.				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	100	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1.				height.
2				
3.				Hydrophytic Vegetation
4				Present? Yes No X
		=Total Cover		
Remarks: (Include photo numbers here or on a sepa	rate sheet.)			

Sampling Point: D-5 Upland

SOIL Sampling Point D-5 Upland

"Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. "Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. "Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. "Loamy/Clayey "Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. "A Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils*: "Loamy Mick Soil Indicators: Histosol (A1)	-Pore Lining, M=Matrix.			Type ¹	r (moist) %			
1 Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. 1 Hydric Soil Indicators: Histocol (A1) Histo Epipedon (A2) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (F1) Sandy Sidy Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Matrix (S4) Sandy Redox (S5) Redox Dark Surface (F7) Sandy Redox (S5) Stripped Matrix (S4) Dark Surface (S9) Dark Surface (S9) Mart (F10) (LRR K, L) Depleted Dark Surface (F2) Solityped Matrix (S6) Dark Surface (S7) Mart (F10) (LRR K, L) Other (Explain in Remarks) Pledmont Floodplain Soils (F21) Wery Shallow Dark Surface (F22) Other (Explain in Remarks) Pledmont Floodplain in Remarks)	-	my/Clayey	Loar			100	10yr 4/2	0-16
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Hydric Soil Indicators: Histic Epipedon (A2) Black Histic (A3) Black Histic (A4) Bligh Chroma Sands (S11) (LRR K, L) Depleted Below Dark Surface (A11) Black Histic (A3) Black Histic (A3) Black Histic (A3) Black Histic (A3) Below Black Histic (A3) Black H								
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 1498) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L) Thin Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Marl (F10) (LRR K, L) Other (Explain in Remarks) Ployvalue Below Dark Surface (F22) Other (Explain in Remarks) Ployvalue Below Curk (A16) (LRR K, L) Polyvalue	-							
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 1498) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L) Thin Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Marl (F10) (LRR K, L) Other (Explain in Remarks) Ployvalue Below Dark Surface (F22) Other (Explain in Remarks) Ployvalue Below Curk (A16) (LRR K, L) Polyvalue								
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 1498) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L) Thin Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Marl (F10) (LRR K, L) Other (Explain in Remarks) Ployvalue Below Dark Surface (F22) Other (Explain in Remarks) Ployvalue Below Curk (A16) (LRR K, L) Polyvalue								
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 1498) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Dark Surface (S7) Alloicators 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	_							
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 1498) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Dark Surface (S7) Alloicators 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	-							
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histosol (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thick Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Alloicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Polyvalue Below Cafe (S3) (LRR K, L, L) Polyvalue Below Surface (S9) (LRR K, L, L) Polyvalue Below Surface (S9) (LRR K, L, L) Polyvalue Below Cafe (TPa (Nucky Feat or Peat (S3) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L, R) Polyvalue Below Cafe (P9) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L)								
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histosol (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thick Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Alloicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Polyvalue Below Cafe (S3) (LRR K, L, L) Polyvalue Below Surface (S9) (LRR K, L, L) Polyvalue Below Surface (S9) (LRR K, L, L) Polyvalue Below Cafe (TPa (Nucky Feat or Peat (S3) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L, R) Polyvalue Below Cafe (P9) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L)				·				
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histosol (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thick Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Alloicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Polyvalue Below Cafe (S3) (LRR K, L, L) Polyvalue Below Surface (S9) (LRR K, L, L) Polyvalue Below Surface (S9) (LRR K, L, L) Polyvalue Below Cafe (TPa (Nucky Feat or Peat (S3) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L, R) Polyvalue Below Cafe (P9) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L)								
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histosol (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thick Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Alloicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Polyvalue Below Cafe (S3) (LRR K, L, L) Polyvalue Below Surface (S9) (LRR K, L, L) Polyvalue Below Surface (S9) (LRR K, L, L) Polyvalue Below Cafe (TPa (Nucky Feat or Peat (S3) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L, R) Polyvalue Below Cafe (P9) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L)								
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 1498) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Dark Surface (S7) Alloicators 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	-							
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histosol (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) High Chroma Sands (S11) (LRR K, L) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Depleted Matrix (F3) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F6) Sandy Redox (S5) Redox Depressions (F8) Stripped Matrix (S6) Dark Surface (S7) All (F10) (LRR K, L) MERA 149B Coast Prairie Redox (A16) (LRR K, L, R) Follyvalue Below Surface (S3) (LRR K, L, L) Polyvalue Below Surface (S8) (LRR K, L, L) Thin Dark Surface (S9) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (S9) (LRR K, L) Piedmont Floodplain Soils (F19) (MLRA 1 Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 14 Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Dark Surface (S7) All (F10) (LRR K, L) Other (Explain in Remarks) Piedmont Floodplain Soils (F19) (MLRA 1 A145, 14 A157, 14 A158, 14 A159,								
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histosol (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thick Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Alloicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Polyvalue Below Cafe (S3) (LRR K, L, L) Polyvalue Below Surface (S9) (LRR K, L, L) Polyvalue Below Surface (S9) (LRR K, L, L) Polyvalue Below Cafe (TPa (Nucky Feat or Peat (S3) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L, R) Polyvalue Below Cafe (P9) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L)								
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histosol (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thick Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Alloicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Polyvalue Below Cafe (S3) (LRR K, L, L) Polyvalue Below Surface (S9) (LRR K, L, L) Polyvalue Below Surface (S9) (LRR K, L, L) Polyvalue Below Cafe (TPa (Nucky Feat or Peat (S3) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L, R) Polyvalue Below Cafe (P9) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L)								
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histosol (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thick Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Alloicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Polyvalue Below Cafe (S3) (LRR K, L, L) Polyvalue Below Surface (S9) (LRR K, L, L) Polyvalue Below Surface (S9) (LRR K, L, L) Polyvalue Below Cafe (TPa (Nucky Feat or Peat (S3) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L, R) Polyvalue Below Cafe (P9) (LRR K, L, L) Polyvalue Below Cafe (P9) (LRR K, L)								
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 1498) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Dark Surface (S7) Alloicators 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	-							
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 1498) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L) Thin Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Marl (F10) (LRR K, L) Other (Explain in Remarks) Ployvalue Below Dark Surface (F22) Other (Explain in Remarks) Ployvalue Below Curk (A16) (LRR K, L) Polyvalue	_	² Location: DL = Poro Lining M	d Grains	kod Sand	od Matrix MS-Ma	otion PM-Poduc	ancontration D-Donlati	Type: C=Cc
Histosol (A1)	FLOOREDIANC HYDRIC SOILS '		Grains.	skeu Sanu	eu Matrix, MS-Ma	elion, Nivi–Neduc	•	•
Histic Epipedon (A2) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F6) Sandy Redox (S5) Redox Depressions (F8) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Other (Explain in Remarks) Present? Wes_No_X Hydric Soil Present? Yes_No_X No_X	•		_RR R.	ice (S8) (L	vvalue Below Surf	Pol		-
Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L) I				.00 (00) (=	-			
Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Depleted Below Dark Surface (S9) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L) Thick Dark Surface (A12) Depleted Matrix (F3) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Marl (F10) (LRR K, L) Dark Surface (S7) Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No X			MLRA 149B)) (LRR R,	•			
Depleted Below Dark Surface (A11)			· ·					
Thick Dark Surface (A12) Depleted Matrix (F3) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F6) Sandy Redox (S5) Redox Depressions (F8) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Dark Surface (S7) Restrictive Layer (if observed): Type: Depth (inches): Type: Depth (inches): Piedmont Floodplain Soils (F19) (MLRA 1 Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 14 Mesic Spodic (TA6) (MLRA 144A, 145, 14 Mesic Spodic (TA6) (MLRA 144A, 145, 14 Redox Dark Surface (F7) Red Parent Material (F21) Very Shallow Dark Surface (F22) Other (Explain in Remarks) Other (Explain in Remarks) Hydric Soil Present? Yes No X								
Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 145, 145, 145, 145, 145, 145, 145	anese Masses (F12) (LRR K, L, R)	Iron-Manganese Masses		(F2)	amy Gleyed Matrix	(A11) Loa	d Below Dark Surface (A	Depleted
Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Other (Explain in Remarks) Jandicators 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	Floodplain Soils (F19) (MLRA 149B	Piedmont Floodplain Soil			oleted Matrix (F3)	De	ark Surface (A12)	Thick Da
Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) *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	dic (TA6) (MLRA 144A, 145, 149B)	Mesic Spodic (TA6) (MLF		- 6)	dox Dark Surface (Re	lucky Mineral (S1)	Sandy M
Stripped Matrix (S6)	ıt Material (F21)	Red Parent Material (F21		e (F7)	oleted Dark Surfac	De	leyed Matrix (S4)	Sandy G
Dark Surface (S7) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No X	ow Dark Surface (F22)	Very Shallow Dark Surface		(8)				
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	olain in Remarks)	Other (Explain in Remark			rl (F10) (LRR K, L)	Ma	` '	
Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No X							rface (S7)	Dark Sur
Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No X			da a distanta da				.	31
Type:	_	or problematic.	niess disturbed o	resent, uni	yarology must be p	on and welland n		
Depth (inches): Hydric Soil Present? Yes No X							Layer (ii observed).	
					-		I \	-
Remarks:	2 Van Na V	lata Oatt Buraranto	11					
	? Yes No_X_	Iric Soil Present? Yes	Hyd		-		icnes):	Depth (in
	? Yes <u>No X</u>	Iric Soil Present? Yes	Hyd		-		icnes):	
	? Yes <u>No X</u>	dric Soil Present? Yes_	Hyd		-		icnes):	
Remarks:	ow Dark Surface	Very Shallow Dark Surface Other (Explain in Remark	nless disturbed o	(8)	dox Depressions (I rl (F10) (LRR K, L	Re Ma	tedox (S5) Matrix (S6) rface (S7) f hydrophytic vegetation Layer (if observed):	Sandy Restrictive L



Wetland D (Haverstraw)- Upland View



Wetland D (Haverstraw)- Upland Soil View

Segment 12 – Package 7B

SITE PHOTOGRAPHS

Champlain Hudson Power Express

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: CHPE Phase 5	City/County: <u>Have</u>	erstraw Sampling Date: 11/2/21	
Applicant/Owner: <u>СНА</u>		State: <u>NY</u> Sampling Point: <u>C-1</u>	
Investigator(s): Nick Dominic, Justn Williams	Section, Township	, Range: <u>Haverstraw</u>	
Landform (hillslope, terrace, etc.):	Local relief (concave,	convex, none): Slope (%):	
Subregion (LRR or MLRA): <u>LRR R</u> La	at: <u>41.20437</u>	Long: <u>-73.98347</u> Datum: <u>NAD83</u>	
Soil Map Unit Name:		NWI classification:_p <u>FM</u>	
Are climatic / hydrologic conditions on the site typical	for this time of year? Yes X	No (If no, explain in Remarks.)	
Are Vegetation NO, Soil NO, or Hydrology NO	significantly disturbed?	Are "Normal Circumstances" present? Yes 🔲 No_	
Are Vegetation NO , Soil NO , or Hydrology NC		(If needed, explain any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site i	map showing sampling poi	nt locations, transects, important features,	etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: (Explain alternative procedures here or in	No Within a W	• 👝 🗀	
Wetland C - Pond	Ta coparate roperty		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two require	<u>ed)</u>
Primary Indicators (minimum of one is required; che	•	Surface Soil Cracks (B6)	
Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9)	☐ Drainage Patterns (B10)	
High Water Table (A2) Saturation (A3)	Aquatic Fauna (B13) Marl Deposits (B15)	☐ Moss Trim Lines (B16)☐ Dry-Season Water Table (C2)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living)
Drift Deposits (B3)	= ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '	Stunted or Stressed Plants (D1)	
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Sc		
☐ Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)	☐ Microtopographic Relief (D4)☐ FAC-Neutral Test (D5)	
Field Observations:		FAC-Neutral Test (D5)	
Surface Water Present? Yes X No	Depth (inches):		
Water Table Present? Yes X No C	Depth (inches):		
Saturation Present? Yes No (includes capillary fringe)	Depth (inches):	Wetland Hydrology Present? Yes 🗵 No 🗌	
Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous inspec	tions), if available:	
Remarks:			

	VEGETATION –	Use scientific	names of	plants.
--	---------------------	----------------	----------	---------

Tree Stratum (Plot size:30) % 0 1. Ouercus rubra 40 2		-	Status UPL - - - - - - - - - - - - -	Dominance Test worksheet Number of Dominant Species That Are OBL, FACW, or FAC Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC	. (A)	
2		- V	- V	That Are OBL, FACW, or FACT Total Number of Dominant Species Across All Strata: Percent of Dominant Species	(A)(A)(B)	
3		-	<u>-</u>	Total Number of Dominant Species Across All Strata: Percent of Dominant Species	_4(B)	
3		-	<u>-</u>	Species Across All Strata: Percent of Dominant Species	· · ·	
4		-	<u>-</u>		· · ·	
5		<u>-</u>				
6		-				
7			-			
				Prevalence Index workshee		
Sapling/Shrub Stratum (Plot size: 15)				Total % Cover of:		
1		= Total Cov	er	OBL species		
				FAC species		
			<u>-</u>	FAC species		
2				UPL species		
3				Column Totals:		
4					(L	
5				Prevalence Index = B/A	\ =	
6				Hydrophytic Vegetation Ind	icators:	
7				1 - Rapid Test for Hydrop	hytic Vegetation	
		= Total Cov		2 - Dominance Test is >50%		
Herb Stratum (Plot size: 5)		10.01	0.	3 - Prevalence Index is ≤		
		YES	FAC ▼	4 - Morphological Adapta data in Remarks or or		
2. <u>Cyperus spp.</u> <u>18</u>		YES ▼	OBL ▼	Problematic Hydrophytic	Vegetation ¹ (Explain)	
3. <i>Epilobium spp.</i>		YES 🔽	OBL ▼	¹ Indicators of hydric soil and wetland hydrology must		
4				be present, unless disturbed		
5				Definitions of Vegetation St	rata:	
6				Tree – Woody plants 3 in. (7.	6 cm) or more in diame	
7				at breast height (DBH), regard		
8				Sapling/shrub – Woody plan	its less than 3 in DBH	
				and greater than or equal to		
9				Herb – All herbaceous (non-wo	ody) plants, regardless of	
10		-	-	size, and woody plants less than		
11			-	Woody vines – All woody vines	greater than 3.28 ft in	
12				height.		
<u>80</u>		= Total Cov	er			
Woody Vine Stratum (Plot size: 30)						
1				II do de e		
2		-	<u>-</u>	Hydrophytic Vegetation Present? Yes X No		
3						
4						
		= Total Cov	er			
Remarks: (Include photo numbers here or on a separate sheet	i.)					

SOIL Sampling Point: <u>C-1</u>

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth	Matrix	0/		x Feature	<u>s</u> _ 1	. 2	- .	5
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0-16	10YR 2/1	94	10yr/4/6	6			SCILo	Prominent redox
					-	-		
					<u>-</u>			
					<u>-</u>			
						-		
-	_							
					-	-		
	-							
					-			
					-	-		
1 _{T. max} C=C			A-Dadwaad Matrix M				21 4:	DI -Dans Lining M-Matrix
Hydric Soil I		ietion, Riv	1=Reduced Matrix, M	S=Masked	a Sand Gra	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :
Histosol			Polyvalue Belo	w Surface	(S8) (I R E	2 P	_	Muck (A10) (LRR K, L, MLRA 149B)
	ipedon (A2)		MLRA 149B		(50) (EK	\ 1\ ,	_	Prairie Redox (A16) (LRR K, L, R)
Black His			☐ Thin Dark Surfa	,	LRR R, MI	_RA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R)
Hydroge	n Sulfide (A4)		Loamy Mucky I	Mineral (F	1) (LRR K	, L)	Dark S	Surface (S7) (LRR K, L, M)
	Layers (A5)		Loamy Gleyed		2)			alue Below Surface (S8) (LRR K, L)
_	Below Dark Surface	e (A11)	Depleted Matrix				_	Dark Surface (S9) (LRR K, L)
	irk Surface (A12)		Redox Dark Su					Manganese Masses (F12) (LRR K, L, R)
_	lucky Mineral (S1) leyed Matrix (S4)		Depleted Dark Redox Depress	•	-7)		_	nont Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B)
	edox (S5)		Redox Depress	510115 (1 0)				Parent Material (F21)
	Matrix (S6)							Shallow Dark Surface (TF12)
	face (S7) (LRR R, N	ILRA 149	OB)				_	(Explain in Remarks)
			etland hydrology mu	st be prese	ent, unless	disturbed	or problemati	c.
	.ayer (if observed):							
Type:			-					
	ches):		_				Hydric Soi	I Present? Yes 🗵 No 🔲
Remarks:								



Wetland C (Haverstraw)- Wetland View



Wetland C (Haverstraw)- Soil View

SITE PHOTOGRAPHS

Project/Site: CHPE Phase 5	City/County: Haverstraw Sampling Date: 11/02/2021
Applicant/Owner: CHA	State: NY Sampling Point: C-3 UPL
Investigator(s): Nick Dominic/Justin Williams	Section, Township, Range:
Landform (hillside, terrace, etc.):	relief (concave, convex, none): Slope %:
Subregion (LRR or MLRA): LRR R, MLRA 144B Lat: 41.20455	Long: -73.98330 Datum: NAD83
Soil Map Unit Name:	NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly disturb	bed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally problema	
SUMMARY OF FINDINGS – Attach site map showing sam	
Hydrophytic Vegetation Present? Yes No _X	Is the Sampled Area
Hydric Soil Present? Yes No X	within a Wetland? Yes No X
Hydric Soil Present? Wetland Hydrology Present? Yes No X No X	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report.) Upland for Wetland C	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves (E	
High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)Marl Deposits (B15)	Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide Odor (
Sediment Deposits (B2) Oxidized Rhizospheres of Reduced Ire	
Drift Deposits (B3) Presence of Reduced Iro Algal Mat or Crust (B4) Recent Iron Reduction in	
Iron Deposits (B5) Thin Muck Surface (C7)	• • • • • • • • • • • • • • • • • • • •
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remark	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Water Table Present? Yes No X Depth (inches):	
Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches):	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:
Remarks:	

$\label{eq:VEGETATION} \textbf{VEGETATION} - \textbf{Use scientific names of plants}.$

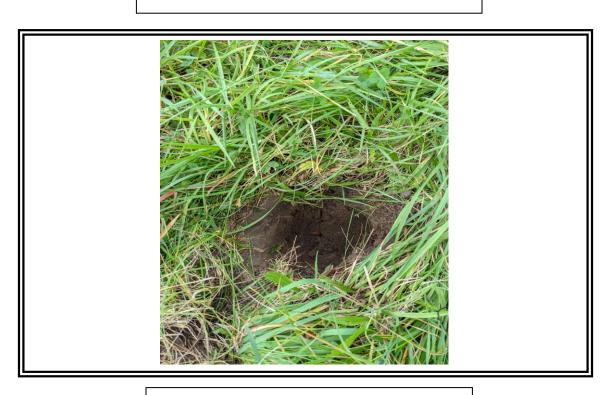
	lants.			Sampling Point: C-3 UPL
Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Quercus rubra	30	Yes	FACU	Number of Dominant Species
2. Prunus serullata	40	Yes	FACU	That Are OBL, FACW, or FAC: (A)
3. Acer platanoides	30	Yes	UPL	Total Number of Dominant
4.				Species Across All Strata: 6 (B)
5		-		Percent of Dominant Species
6.		-		That Are OBL, FACW, or FAC: 16.7% (A/B)
7				Prevalence Index worksheet:
	100	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)			OBL species0 x 1 =0
1. Lonicera spp.	40	Yes	FACU	FACW species 0 x 2 = 0
2.	·			FAC species 20 x 3 = 60
3.	,			FACU species 180 x 4 = 720
4.				UPL species 30 x 5 = 150
5.				Column Totals: 230 (A) 930 (B)
6	-			Prevalence Index = B/A = 4.04
7				Hydrophytic Vegetation Indicators:
· · ·		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size:		10.00		2 - Dominance Test is >50%
	20	Yes	FAC	3 - Prevalence Index is ≤3.0 ¹
Solidago spp. Rosa multiflora	70	Yes	FACU	4 - Morphological Adaptations ¹ (Provide supporting
2		163	TAGG	data in Remarks or on a separate sheet)
3. 4.				Problematic Hydrophytic Vegetation ¹ (Explain)
5.	. ——			_
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Definitions of Vegetation Strata:
Ω				
9.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
10.				
11.	. ——			Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
12.				
	90	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)			
	,			Woody vines – All woody vines greater than 3.28 ft in height.
				noigh
				Hydrophytic
•				Vegetation Present? Yes No X
3				Flesent: 169 NO A
4.		=Total Cover		

SOIL Sampling Point C-3 UPL

		the de				ator or c	confirm the absence of indicators.)
Depth	Matrix			x Featur	- 1	. 2	
(inches)	Color (moist)	%	Color (moist)	%	Type'	Loc ²	Texture Remarks
0-16	10yr 5/3	100					Loamy/Clayey
					· ·		
		_	_	•	·	_	
1_ 2.0							2 3. 3 14.44.
	ncentration, D=Deple	tion, RM	=Reduced Matrix, N	/IS=Mas	ked Sand	d Grains.	
Hydric Soil II			D. L. John D. L.	O	(20) (Indicators for Problematic Hydric Soils ³ :
Histosol (Polyvalue Belo		ce (S8) (I	LRR K,	
	pedon (A2)		MLRA 149B	•		D4	Coast Prairie Redox (A16) (LRR K, L, R)
Black His			Thin Dark Surfa				
	Sulfide (A4)		High Chroma S				Polyvalue Below Surface (S8) (LRR K, L)
	Layers (A5)		Loamy Mucky I			RK,L)	Thin Dark Surface (S9) (LRR K, L)
	Below Dark Surface	(A11)	Loamy Gleyed	-	F2)		Iron-Manganese Masses (F12) (LRR K, L, R)
	rk Surface (A12)		Depleted Matrix				Piedmont Floodplain Soils (F19) (MLRA 149E
	ucky Mineral (S1)		Redox Dark Su	-	-		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	eyed Matrix (S4)		Depleted Dark				Red Parent Material (F21)
	edox (S5)		Redox Depress		3)		Very Shallow Dark Surface (F22)
	Matrix (S6)		Marl (F10) (LR	RK, L)			Other (Explain in Remarks)
Dark Surf	face (S7)						
2 ,						, ,	
		n and w	etland hydrology mu	ust be pr	esent, ur	nless disi	sturbed or problematic.
	ayer (if observed):						
Type:							
Depth (in	ches):						Hydric Soil Present? Yes No X
Remarks:							



Upland C - View facing West



Upland C - Soils

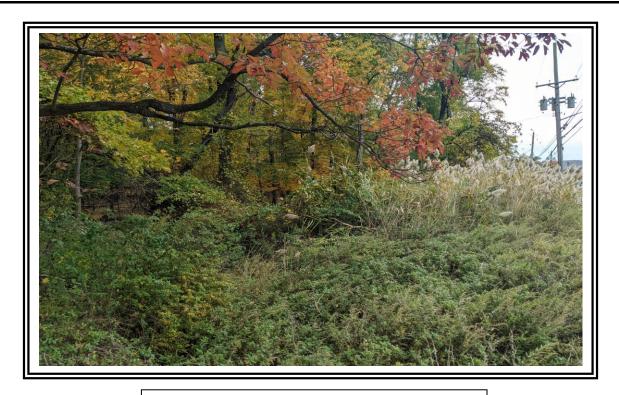
SITE PHOTOGRAPHS

Project/Site: CHPE Phase 5	City/County: Haverstraw Sampling Date: 11/2/21
Applicant/Owner: CHA	State: NY Sampling Point: B-5
Investigator(s): Nick Dominic, Justin Williams	Section, Township, Range: Haverstraw
Landform (hillside, terrace, etc.):	relief (concave, convex, none): Slope %:
Subregion (LRR or MLRA): LRR R Lat: 41.17459	Long: -73.94400 Datum: NAD83
Soil Map Unit Name:	NWI classification: PFO
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 disturb	
Are Vegetation, Soil, or Hydrology naturally problema	
SUMMARY OF FINDINGS – Attach site map showing samp	
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: Haverstraw Wetland B
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves (B	
X High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)
X Saturation (A3) Marl Deposits (B15)	Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide Odor (6	
Sediment Deposits (B2) Oxidized Rhizospheres o	
Drift Deposits (B3) X Presence of Reduced Iro	
Algal Mat or Crust (B4) Recent Iron Reduction in	
Iron Deposits (B5) Thin Muck Surface (C7)	X Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remark	
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inches):	
Water Table Present? Yes X No Depth (inches):	
Saturation Present? Yes X No Depth (inches):	2 Wetland Hydrology Present? Yes X No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, prev	
Describe Necorded Data (Stream gauge, monitoring well, aerial photos, pre-	vious inspections), ii avaliable.
Remarks:	

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
Juglans nigra	40	Yes	FACU		
Ulmus americana	25	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: 3	(A)
3. 4.				Total Number of Dominant Species Across All Strata: 4	(B)
5 6	_			Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0%	(A/B
7				Prevalence Index worksheet:	
	65	=Total Cover		Total % Cover of: Multiply by:	
Sapling/Shrub Stratum (Plot size:	_)			OBL species 0 x 1 = 0	
1.				FACW species 135 x 2 = 270	
2.				FAC species 0 x 3 = 0	
3.				FACU species 40 x 4 = 160	
i		· '		UPL species 0 x 5 = 0	_
j.				Column Totals: 175 (A) 430	(E
). 				Prevalence Index = B/A = 2.46	
	_			Hydrophytic Vegetation Indicators:	
	_	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation	
Herb Stratum (Plot size:)		•		X 2 - Dominance Test is >50%	
1. Phragmites australis	40	Yes	FACW	X 3 - Prevalence Index is ≤3.0 ¹	
2. Persicaria spp.	70	Yes	FACW	4 - Morphological Adaptations ¹ (Provide sup data in Remarks or on a separate sheet)	porti
3. 1.				Problematic Hydrophytic Vegetation ¹ (Expla	in)
5.				¹ Indicators of hydric soil and wetland hydrology r	-
	_			be present, unless disturbed or problematic.	nusi
7				Definitions of Vegetation Strata:	
8. 9.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of h	eighf
10 11	_			Sapling/shrub – Woody plants less than 3 in. D and greater than or equal to 3.28 ft (1 m) tall.	ВН
12.	_	=Total Cover		Herb – All herbaceous (non-woody) plants, rega of size, and woody plants less than 3.28 ft tall.	rdles
Woody Vine Stratum (Plot size:		- Total Gover			20.6
1	= "			Woody vines – All woody vines greater than 3.2 height.	28 π
2.					
3.				Hydrophytic Vegetation	
4.				Present? Yes X No	
		=Total Cover			

SOIL Sampling Point B-5

		the de				ator or co	onfirm the absence of	indicators.)
Depth	Matrix	0/		x Featur		1 - 2	T	Damada
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-10	10YR 2/1	92	7.5YR 4/6	8	RM	M	Loamy/Clayey	Prominent redox
	_							
								_
							_	
¹ Type: C=Cor	ncentration, D=Deple	etion, RN	1=Reduced Matrix, N	/S=Mas	ked San	d Grains.	² Location: PL	.=Pore Lining, M=Matrix.
Hydric Soil In		·	·					r Problematic Hydric Soils ³ :
Histosol (A	A1)		Polyvalue Belo	w Surfa	ce (S8) (LRR R,	2 cm Mud	ck (A10) (LRR K, L, MLRA 149B)
Histic Epip	pedon (A2)		MLRA 149B)			Coast Pra	airie Redox (A16) (LRR K, L, R)
Black Hist	ic (A3)		Thin Dark Surf	ace (S9)	(LRR R	, MLRA 1	5 cm Muc	cky Peat or Peat (S3) (LRR K, L, R)
Hydrogen	Sulfide (A4)		High Chroma S	Sands (S	611) (LRI	R K, L)	Polyvalue	Below Surface (S8) (LRR K, L)
Stratified I	₋ayers (A5)		Loamy Mucky	Mineral	(F1) (LR I	R K, L)	Thin Dark	Surface (S9) (LRR K, L)
Depleted I	Below Dark Surface	(A11)	Loamy Gleyed	Matrix (F2)		Iron-Man	ganese Masses (F12) (LRR K, L, R)
	k Surface (A12)		Depleted Matri					Floodplain Soils (F19) (MLRA 149B)
	cky Mineral (S1)		X Redox Dark Su					odic (TA6) (MLRA 144A, 145, 149B)
	eyed Matrix (S4)		Depleted Dark					ent Material (F21)
Sandy Re			Redox Depress		8)			llow Dark Surface (F22)
	Matrix (S6)		Marl (F10) (LR	K K, L)			Other (Ex	plain in Remarks)
Dark Surfa	ace (57)							
³ Indicators of h	ovdrophytic vegetation	on and w	etland hydrology mi	ıst he nı	resent iii	nless dist	urbed or problematic.	
	yer (if observed):	on and v	onana nyarology ma	act bo pi		noce dict	arboa or problemate.	
Type:	Rock	(
Depth (inc	hes).	10					Hydric Soil Presen	t? Yes X No
		10					Tryunc con r resen	163 <u>X</u> 160
Remarks:	is revised from Nort	thcentral	and Northeast Regi	ional Su	nnlemen	t Version	2.0 to include the NRC	S Field Indicators of Hydric Soils,
	015 Errata. (http://w\		_					o i loid ilidicatoro di riyano cono,
				_			. –	



Wetland B (Haverstraw) View facing Northeast



Wetland B (Haverstraw) - Soils

SITE PHOTOGRAPHS

Project/Site: CHPE Phase 5	City/County: Haverstraw Sampling Date: 11/02/2021
Applicant/Owner: CHA	State: NY Sampling Point: B-2 Upland
Investigator(s): Nick Dominic/Justin Williams	Section, Township, Range:
	ral relief (concave, convex, none): Slope %:
Subregion (LRR or MLRA): LRR R, MLRA 144B Lat: 41.17434	Long: -73.94418 Datum: NAD83
Soil Map Unit Name:	NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation, Soil, or Hydrologysignificantly dist	
Are Vegetation, Soil, or Hydrology naturally problem	
	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No X	Is the Sampled Area
Hydric Soil Present? Yes No X	within a Wetland? Yes No X
Wetland Hydrology Present? Yes No X	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report.) Upland for WL-B	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves	Drainage Patterns (B10)
High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3) Marl Deposits (B15)	Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide Odo	or (C1) Crayfish Burrows (C8)
Sediment Deposits (B2) Oxidized Rhizosphere	es on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduced	Iron (C4) Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)Recent Iron Reduction	n in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surface (C	? Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Rem	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inches	s):
Water Table Present? Yes No X Depth (inches	
Saturation Present? Yes No X Depth (inches	s): Wetland Hydrology Present? Yes No _X
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	previous inspections), if available:
Remarks:	
Tomano.	

VEGETATION – Use scientific names of plants.

The a Chinate was Dist = != - :	Absolute	Dominant	Indicator	Dominous Took
ree Stratum (Plot size:)	% Cover	Species?	Status	Dominance Test worksheet:
Quercus rubra Prunus serullata	40	Yes	FACU	Number of Dominant Species
Prunus serullata	30	Yes	FACU	That Are OBL, FACW, or FAC: 2 (A)
				Total Number of Dominant
				Species Across All Strata: 5 (B)
				Percent of Dominant Species
·				That Are OBL, FACW, or FAC: 40.0% (A/E
				Prevalence Index worksheet:
	70	=Total Cover		Total % Cover of: Multiply by:
apling/Shrub Stratum (Plot size:)			OBL species0 x 1 =0
Lonicera spp.	40	Yes	FAC	FACW species 0 x 2 = 0
				FAC species 60 x 3 = 180
				FACU species 140 x 4 = 560
				UPL species 0 x 5 = 0
				Column Totals: 200 (A) 740 (B
				Prevalence Index = B/A = 3.70
	<u> </u>			Hydrophytic Vegetation Indicators:
	40	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
orb Stratum (Diot aiza:		- Total Cover		2 - Dominance Test is >50%
erb Stratum (Plot size:)	20	Vaa	EAC	
Solidago spp.	20	Yes	FAC	3 - Prevalence Index is ≤3.0 ¹
Rosa multiflora	70	Yes	FACU	4 - Morphological Adaptations ¹ (Provide supporti 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 heigh
)	_			Sapling/shrub – Woody plants less than 3 in. DBH
l				and greater than or equal to 3.28 ft (1 m) tall.
2				Herb – All herbaceous (non-woody) plants, regardles
	90	=Total Cover		of size, and woody plants less than 3.28 ft tall.
oody Vine Stratum (Plot size:)			Woody vines – All woody vines greater than 3.28 ft
				height.
				Hydrophytic Vegetation
				Present? Yes No X
		=Total Cover		

SOIL Sampling Point B-2 Upland

(Inches) Color (moist) % Color (moist) % Type¹ Loc² Texture Remarks 0-16 10yr 4/4 100 Loamy/Clayey Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Cocation: PL=Pore Lining, M=Matrix.	(inches)	Matrix		Redo	x Featur	es				
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Location: PL=Pore Lining, M=Matrix. *Indicators for Problematic Hydric Soils*: 1	()	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remar	ks
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Location: PL=Pore Lining, M=Matrix. *Indicators for Problematic Hydric Soils*: 1	0-16	10yr 4/4	100					Loamy/Clayey		
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, MLRA 149B) Black Histic (A3) High Chroma Sands (S11) (LRR K, L) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thic Dark Surface (A11) Depleted Matrix (F2) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Dark Surface (S7) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Marl (F10) (LRR K, L) Hydric Soil Present? Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Black Histic (A3) High Chroma Sands (S11) (LRR K, L) Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Marl (F10) (LRR K, L) Marl (F10) (LRR K, L) Hydric Soil Present? Hydric Soil Present? Yes No X Remarks:				_						
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Black Histic (A3) High Chroma Sands (S11) (LRR K, L) Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Marl (F10) (LRR K, L) Marl (F10) (LRR K, L) Hydric Soil Present? Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Black Histic (A3) High Chroma Sands (S11) (LRR K, L) Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Marl (F10) (LRR K, L) Marl (F10) (LRR K, L) Hydric Soil Present? Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, MLRA 149B) Black Histic (A3) High Chroma Sands (S11) (LRR K, L) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thic Dark Surface (A11) Depleted Matrix (F2) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Dark Surface (S7) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Marl (F10) (LRR K, L) Hydric Soil Present? Hydric Soil Present? Yes No X Remarks:				_						
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, MLRA 149B) Black Histic (A3) High Chroma Sands (S11) (LRR K, L) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thic Dark Surface (A11) Depleted Matrix (F2) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Dark Surface (S7) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Marl (F10) (LRR K, L) Hydric Soil Present? Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, MLRA 149B) Black Histic (A3) High Chroma Sands (S11) (LRR K, L) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thic Dark Surface (A11) Depleted Matrix (F2) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Dark Surface (S7) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Marl (F10) (LRR K, L) Hydric Soil Present? Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, MLRA 149B) Black Histic (A3) High Chroma Sands (S11) (LRR K, L) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thic Dark Surface (A11) Depleted Matrix (F2) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Dark Surface (S7) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Marl (F10) (LRR K, L) Hydric Soil Present? Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, MLRA 149B) Black Histic (A3) High Chroma Sands (S11) (LRR K, L) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thic Dark Surface (A11) Depleted Matrix (F2) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Dark Surface (S7) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Marl (F10) (LRR K, L) Hydric Soil Present? Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, MLRA 149B) Black Histic (A3) High Chroma Sands (S11) (LRR K, L) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thic Dark Surface (A11) Depleted Matrix (F2) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Dark Surface (S7) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Marl (F10) (LRR K, L) Hydric Soil Present? Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, MLRA 149B) Black Histic (A3) High Chroma Sands (S11) (LRR K, L) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thic Dark Surface (A11) Depleted Matrix (F2) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Dark Surface (S7) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Marl (F10) (LRR K, L) Hydric Soil Present? Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, MLRA 149B) Black Histic (A3) High Chroma Sands (S11) (LRR K, L) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thic Dark Surface (A11) Depleted Matrix (F2) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Dark Surface (S7) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Marl (F10) (LRR K, L) Hydric Soil Present? Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, MLRA 149B) Black Histic (A3) High Chroma Sands (S11) (LRR K, L) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thic Dark Surface (A11) Depleted Matrix (F2) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Dark Surface (S7) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Marl (F10) (LRR K, L) Hydric Soil Present? Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, MLRA 149B) Black Histic (A3) High Chroma Sands (S11) (LRR K, L) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thic Dark Surface (A11) Depleted Matrix (F2) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Dark Surface (S7) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Marl (F10) (LRR K, L) Hydric Soil Present? Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, MLRA 149B) Black Histic (A3) High Chroma Sands (S11) (LRR K, L) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thic Dark Surface (A11) Depleted Matrix (F2) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Dark Surface (S7) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Marl (F10) (LRR K, L) Hydric Soil Present? Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, MLRA 149B) Black Histic (A3) High Chroma Sands (S11) (LRR K, L) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thic Dark Surface (A11) Depleted Matrix (F2) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Dark Surface (S7) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Marl (F10) (LRR K, L) Hydric Soil Present? Hydric Soil Present? Yes No X Remarks:	1							2		
Histosol (A1)			etion, RM=	Reduced Matrix, N	/IS=Mas	ked Sand	Grains.			•
Histic Epipedon (A2) MIRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Depleted Dark Surface (F7) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Depleted Dark Surface (F8) Marl (F10) (LRR K, L) Depleted Matrix (F3) Sandy Mucky Mineral (S1) Sandy Redox (S5) Redox Depressions (F8) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Depleted Dark Surface (F8) Marl (F10) (LRR K, L) Depleted Dark Surface (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Dark Surface (S7) Marl (F10) (LRR K, L) Depleted Dark Surface (F8) Marl (F10) (LRR K, L) Depleted Dark Surface (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Red Parent Material (F21) Very Shallow Dark Surface (F22) Other (Explain in Remarks) Dark Surface (S7) And (F10) (LRR K, L) Depleted Dark Surface (F8) Marl (F10) (LRR K, L) Depleted Dark Surface (F8) Marl (F10) (LRR K, L) Depleted Dark Surface (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	-			Daharaha Dala	0	(CO) (I	DD D		-	
Black Histic (A3)		• •	-			ce (58) (L	.KK K,			
Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 1498) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Jark Surface (S7) Type:						(I PP P	MI DA 1			•
Stratified Layers (A5)			-			-				
Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 1498 Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) Sindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: rock Depth (inches): 4 Hydric Soil Present? Yes No X Remarks:			-							•
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Dark Surface (S7) Marl (F10) (LRR K, L) Dark Surface (S7) Restrictive Layer (if observed): Type: rock Depth (inches): 4 Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Mesic Spodic (TA6) (MLRA 149B) Mesi			(A11)				· i · (, L)			*
Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: rock Depth (inches): 4 Hydric Soil Present? Yes No X Remarks:						/			-	
Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: rock Depth (inches): 4 Hydric Soil Present? Yes No X Remarks:		· · ·	-			6)				
Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: rock Depth (inches): 4 Hydric Soil Present? Yes No X Remarks:			-			-				, , , ,
Dark Surface (S7) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: rock Depth (inches): 4 Hydric Soil Present? Yes No X Remarks:			-							22)
Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: rock Depth (inches): 4	Stripped	Matrix (S6)	_	Marl (F10) (LR	R K, L)			Other (Explain i	n Remarks)	
Restrictive Layer (if observed): Type: rock Depth (inches): 4 Hydric Soil Present? Yes No X	Dark Su	rface (S7)	-							
Restrictive Layer (if observed): Type: rock Depth (inches): 4 Hydric Soil Present? Yes No X										
Type: rock Depth (inches): 4 Hydric Soil Present? Yes No X Remarks:	3Indicators of	f hydrophytic vegetation	on and we	tland hydrology mu	ıst be pr	esent, ur	less dist	urbed or problematic.		
Depth (inches): 4 Hydric Soil Present? Yes No X Remarks:	iliulcators o	Layer (if observed):								
Remarks:	Restrictive I	• • •								
	Restrictive I									No. V
	Restrictive I	rock						Hydric Soil Present?	Yes	NO A
	Restrictive I Type: Depth (ir	rock						Hydric Soil Present?	Yes	
	Restrictive I Type: Depth (ir Remarks:	rock nches):	4					Hydric Soil Present?	Yes	<u></u>
	Restrictive I Type: Depth (ir Remarks:	rock nches):	4	<u> </u>				Hydric Soil Present?	Yes	
	Restrictive I Type: Depth (ir Remarks:	rock nches):	4					Hydric Soil Present?	Yes	
	Restrictive I Type: Depth (ir	rock nches):	4					Hydric Soil Present?	Yes	
	Restrictive I Type: Depth (ir Remarks:	rock nches):	4					Hydric Soil Present?	Yes	<u>X</u>
	Restrictive I Type: Depth (ir	rock nches):	4	<u> </u>				Hydric Soil Present?	Yes	
	Restrictive I Type: Depth (ir	rock nches):	4					Hydric Soil Present?	Yes	
	Restrictive I Type: Depth (ir	rock nches):	4					Hydric Soil Present?	Yes	
	Restrictive I Type: Depth (ir	rock nches):	4					Hydric Soil Present?	Yes	NO A
	Restrictive I Type: Depth (ir Remarks:	rock nches):	4					Hydric Soil Present?	Yes	NO A
	Restrictive I Type: Depth (ir Remarks:	rock nches):	4					Hydric Soil Present?	Yes	NO A
	Restrictive I Type: Depth (ir Remarks:	rock nches):	4					Hydric Soil Present?	Yes	



Wetland B (Haverstraw)- Upland View



Wetland B (Haverstraw)- Upland Soil View

SITE PHOTOGRAPHS

Project/Site: CHPE	City/County: New City/Rockland Sampling Date: 9/23/2022
Applicant/Owner: TDI	State: NY Sampling Point: Wet P7B-B
Investigator(s): John Greaves & Chris Einstein	Section, Township, Range:
Landform (hillside, terrace, etc.): Depression Local	relief (concave, convex, none): Concave Slope %: 5
Subregion (LRR or MLRA): LRR R Lat: 41 10' 26"N	Long: -73 56' 45"W Datum: NAD83
Soil Map Unit Name: HoC - Holyoke-Rock outcrop complex, rolling	NWI classification: PEM1
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 disturl	· · · · ·
Are Vegetation, Soil, or Hydrology naturally problema	
SUMMARY OF FINDINGS – Attach site map showing sam	pling 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: Wetland P7B-B
Remarks: (Explain alternative procedures here or in a separate report.) Common reed marsh.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves (E	
High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)
x Saturation (A3) Marl Deposits (B15)	Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide Odor (· · · · · · · · · · · · · · · · · · ·
Sediment Deposits (B2) Oxidized Rhizospheres of	— · · · · —
Presence of Reduced Iro	<u> </u>
Algal Mat or Crust (B4) Recent Iron Reduction ir	
Iron Deposits (B5) Thin Muck Surface (C7)	
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remark	· · · · · · · · · · · · · · · · · ·
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No _x Depth (inches):	: <u></u>
Water Table Present? Yes No _x Depth (inches):	: <u></u> _
Saturation Present? Yes x No Depth (inches):	:10
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:
Remarks:	

VEGETATION – Use scientific names of plants.

VEGETATION – Use scientific names of pla	ınts.			Sampling Point: Wet P7B-B
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1				Number of Deminant Chasics
2.				Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
3.				Total Number of Dominant
4.				Species Across All Strata: 3 (B)
5.				Description of Description of Conscient
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)
7.				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:15')				OBL species 0 x 1 = 0
1		<u> </u>		FACW species 100 x 2 = 200
2				FAC species 3 x 3 = 9
3				FACU species 5 x 4 = 20
4.				UPL species 0 x 5 = 0
5.				Column Totals: 108 (A) 229 (B)
6.				Prevalence Index = B/A = 2.12
7.				Hydrophytic Vegetation Indicators:
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5')				X 2 - Dominance Test is >50%
1. Phragmites australis	100	Yes	FACW	X 3 - Prevalence Index is ≤3.0 ¹
2. Lonicera japonica	2	No	FACU	4 - Morphological Adaptations ¹ (Provide supporting
3.				data in Remarks or on a separate sheet)
4.				Problematic Hydrophytic Vegetation ¹ (Explain)
5.				<u> </u>
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7		. <u></u>		Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in
9		<u> </u>		diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12		<u> </u>		Herb – All herbaceous (non-woody) plants, regardless
	102	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1. Lonicera japonica	3	Yes	FACU	height.
2. Vitis riparia	3	Yes	FAC	Hadaaahada
3				Hydrophytic Vegetation
4				Present? Yes X No No
	6	=Total Cover		
Remarks: (Include photo numbers here or on a sepa	rate sheet.)			•

SOIL Sampling Point Wet P7B-B

Profile Desc Depth	ription: (Describe t Matrix	o the de	pth needed to docເ Redo	iment th k Featur		itor or co	onfirm the absence of	f indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-13	10YR 3/1	95	10YR 5/8	5	С	pl	Loamy/Clayey	Prominent redox concentrations
13-16	7.5YR 5/2	70	7.5YR 5/8	30	С	PL/M	Loamy/Clayey	Prominent redox concentrations
İ								
¹Type: C=Co	oncentration, D=Depl	etion, RM	======================================	 IS=Masl	ed Sand	Grains.	² Location: P	L=Pore Lining, M=Matrix.
Black Hi Hydroge Stratified Depleted Thick Da Sandy M Sandy G Sandy R Stripped Dark Sui	(A1) pipedon (A2)		Polyvalue Belo MLRA 149B Thin Dark Surfa High Chroma S Loamy Mucky I Loamy Gleyed Depleted Matrix X Redox Dark Su Depleted Dark x Redox Depress Marl (F10) (LRI) ace (S9) ands (S Mineral (Matrix (I x (F3) arface (F Surface sions (F8 R K, L)	(LRR R 611) (LRI (F1) (LRI F2) 6) (F7)	, MLRA 1 R K, L) R K, L)	2 cm Mu Coast Pr 5 cm Mu Polyvalu Thin Dar Iron-Mar Piedmor Mesic Sp Red Pare Very Sha Other (E	or Problematic Hydric Soils ³ : lick (A10) (LRR K, L, MLRA 149B) rairie Redox (A16) (LRR K, L, R) licky Peat or Peat (S3) (LRR K, L, R) lie Below Surface (S8) (LRR K, L) lick Surface (S9) (LRR K, L) linganese Masses (F12) (LRR K, L, R) lint Floodplain Soils (F19) (MLRA 149B) lipodic (TA6) (MLRA 144A, 145, 149B) lent Material (F21) lallow Dark Surface (F22) lixplain in Remarks)
Type:							Uzdaio Soil Dagoon	ot? Von No
								nt? Yes No



Wetland 7B-B- View facing west



Wetland 7B-B- Soils

SITE PHOTOGRAPHS

Project/Site: CHPE	City/County: New City/Rockland Sampling Date: 9/23/2022							
Applicant/Owner: TDI	State: NY Sampling Point: Upl P7B-B							
Investigator(s): John Greaves & Chris Einstein	Section, Township, Range:							
	relief (concave, convex, none): Convex Slope %: 5							
Subregion (LRR or MLRA): LRR R Lat: 41 10' 26"N	Long: -73 56' 45"W Datum: NAD83							
Soil Map Unit Name: HoC - Holyoke-Rock outcrop complex, rolling	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 distur	· · · · · · · · · · · · · ·							
Are Vegetation, Soil, or Hydrology naturally problems	atic? (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: Upland adjacent to Wetland P7B-B							
Successional southern hardwoods.								
HYDROLOGY								
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)							
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)							
Surface Water (A1) Water-Stained Leaves (——————————————————————————————————————							
High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)							
Saturation (A3)Marl Deposits (B15)	Dry-Season Water Table (C2)							
Water Marks (B1) Hydrogen Sulfide Odor (
Sediment Deposits (B2) Oxidized Rhizospheres Oxidized Rhizospheres								
Drift Deposits (B3) Presence of Reduced In								
Algal Mat or Crust (B4) Iron Deposits (B5) Recent Iron Reduction in Thin Muck Surface (C7)								
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remar Sparsely Vegetated Concave Surface (B8)	rks) Microtopographic Relief (D4) FAC-Neutral Test (D5)							
	(AC-Neutral Test (D3)							
Field Observations:								
Surface Water Present? Yes No x Depth (inches)								
Water Table Present? Yes No x Depth (inches) Saturation Present? Yes No x Depth (inches)								
Saturation Present? Yes No _x Depth (inches) (includes capillary fringe)	: Wetland Hydrology Present? Yes No _X_							
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections) if available:							
Describe Resorded Bata (stream gauge, monitoring well, derial photos, pre	Trodo mopositorio), il avallabio.							
Remarks:								

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
	40	Yes	FACU				
2. Fraxinus americana	30	Yes	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A			
3. Ailanthus altissima	10	No	UPL				
				Total Number of Dominant Species Across All Strata: 7 (B)			
· i.							
				Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B			
·				Prevalence Index worksheet:			
•	80	=Total Cover		Total % Cover of: Multiply by:			
Sapling/Shrub Stratum (Plot size: 15')		- Total Gover		OBL species 0 x1 = 0			
. Rosa multiflora	15	Yes	FACU	FACW species $0 \times 2 = 0$			
. Rubus odoratus	10	Yes	UPL	FAC species 5 x 3 = 15			
3. Acer negundo	5	No	FAC	FACU species 180 x 4 = 720			
Fraxinus americana	5		FACU	UPL species 40 x 5 = 200			
i. Fraxillus americana		No					
	-			Column Totals: 225 (A) 935 (B			
·				Prevalence Index = B/A = 4.16			
				Hydrophytic Vegetation Indicators:			
	35	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation			
lerb Stratum (Plot size: 5')				2 - Dominance Test is >50%			
Lonicera japonica	60	Yes	<u>FACU</u>	3 - Prevalence Index is ≤3.0 ¹			
2. Rubus odoratus	10	No	UPL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
Fraxinus americana	10	No	FACU				
Rubus allegheniensis	10	No	<u>FACU</u>	Problematic Hydrophytic Vegetation ¹ (Explain)			
j				¹ Indicators of hydric soil and wetland hydrology must			
S				be present, unless disturbed or problematic.			
·				Definitions of Vegetation Strata:			
ß				Tree – Woody plants 3 in. (7.6 cm) or more in			
)				diameter at breast height (DBH), regardless of height			
0				Sapling/shrub – Woody plants less than 3 in. DBH			
1				and greater than or equal to 3.28 ft (1 m) tall.			
2				Herb – All herbaceous (non-woody) plants, regardles			
	90	=Total Cover		of size, and woody plants less than 3.28 ft tall.			
Noody Vine Stratum (Plot size: 30')				Woody vines – All woody vines greater than 3.28 ft in			
. Lonicera japonica	10	Yes	FACU	height.			
2. Ampelopsis brevipedunculata	10	Yes	UPL				
i				Hydrophytic Vegetation			
				Present? Yes No X			
l	20	=Total Cover					

SOIL Sampling Point Upl P7B-B

	•	the de				tor or co	onfirm the absence of in	dicators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	x Featur %	es Type ¹	Loc ²	Texture	Remarks
(Inches)	Color (moist)	70	Color (Illoist)		Туре		rexture	Remarks
0-16	10YR 4/2	100					Loamy/Clayey	
¹Type: C=Co	oncentration, D=Deple	tion, RM	I=Reduced Matrix, N	 /IS=Mas	ked Sand	Grains.	² Location: PL=I	Pore Lining, M=Matrix.
Hydric Soil I			,					Problematic Hydric Soils ³ :
Histosol	(A1)		Polyvalue Belo	w Surfa	ce (S8) (I	LRR R,	2 cm Muck	(A10) (LRR K, L, MLRA 149B)
Histic Ep	ipedon (A2)		MLRA 149B)			Coast Prair	ie Redox (A16) (LRR K, L, R)
Black His	stic (A3)		Thin Dark Surf	ace (S9)	(LRR R	, MLRA 1	49B) 5 cm Mucky	y Peat or Peat (S3) (LRR K, L, R)
Hydrogei	n Sulfide (A4)		High Chroma S	Sands (S	311) (LRF	R K, L)	Polyvalue B	Below Surface (S8) (LRR K, L)
Stratified	Layers (A5)		Loamy Mucky	Mineral	(F1) (LR I	R K, L)	Thin Dark S	Surface (S9) (LRR K, L)
Depleted	Below Dark Surface	(A11)	Loamy Gleyed	Matrix (F2)		Iron-Manga	nese Masses (F12) (LRR K, L, R)
	rk Surface (A12)		Depleted Matri					loodplain Soils (F19) (MLRA 149B)
	ucky Mineral (S1)		Redox Dark Su					dic (TA6) (MLRA 144A, 145, 149B)
	leyed Matrix (S4)		Depleted Dark					Material (F21)
	edox (S5)		Redox Depress		8)			w Dark Surface (F22)
	Matrix (S6)		Marl (F10) (LR	RK,L)			Otner (Expl	ain in Remarks)
Dark Sur	face (S7)							
³ Indicators of	hydrophytic vegetation	n and w	etland hydrology mu	ıst he nr	esent ur	nless dist	urhed or problematic	
	ayer (if observed):	n and w	otana nyarotogy me	act be pi	000111, 41	nooc dict	arboa or problematic.	
Type:	,							
Depth (in	iches).						Hydric Soil Present?	Yes No X
							Tryuno con i recont.	<u></u>
Remarks:	m is revised from Nort	hcantral	and Northeast Reg	ional Su	nnlemen	t Version	2.0 to include the NRCS	Field Indicators of Hydric Soils,
	2015 Errata. (http://wv							ried indicators of riganic sons,
ŕ	, ,		•	_			, = ,	