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

# Wetland & Waterbodies Delineation Report



# Champlain Hudson Power Express Segment 11-Package 7A

# **CSX Railroad - Catskill, New York**

CHA Project Number: 066076

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#### 1.0 INTRODUCTION

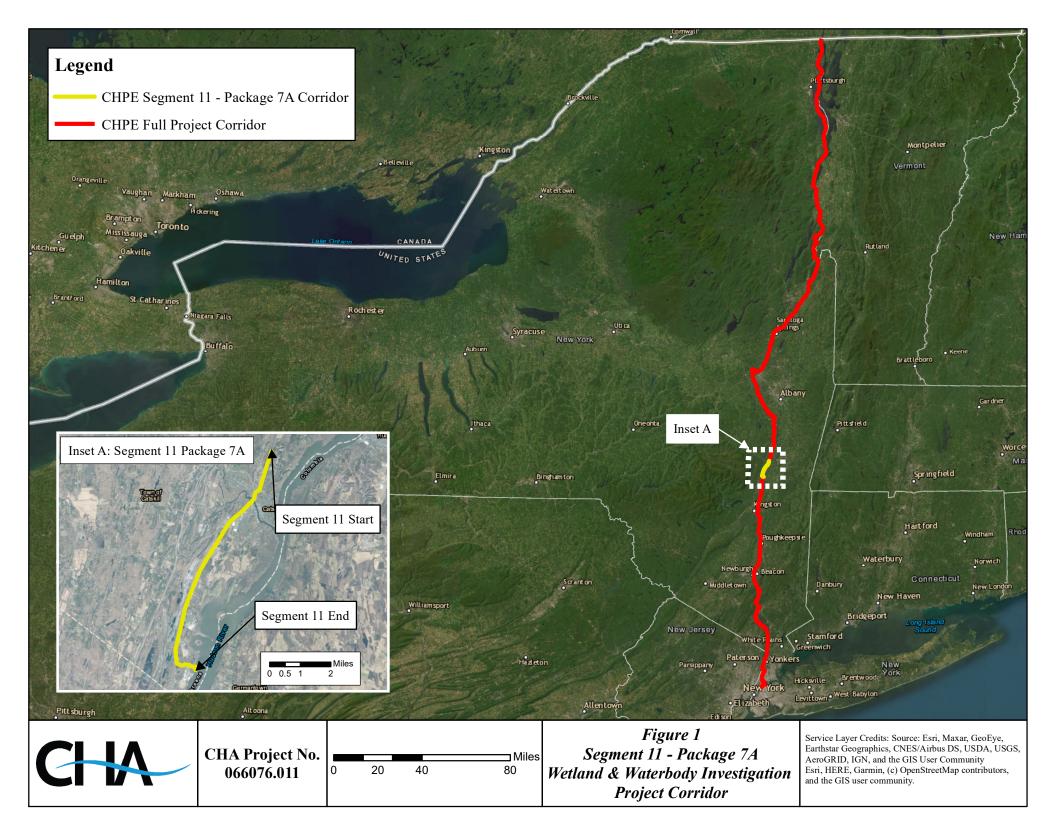
CHA Consulting, Inc. ("CHA") has prepared this wetland and waterbodies delineation report on behalf of Champlain Hudson Power Express, Inc. ("CHPE") and Kiewit Construction (Kiewit) for the Champlain Hudson Power Express Project (Project). CHA was retained by Kiewit to identify and delineate jurisdictional wetlands and waterbodies regulated under Section 404 of the Clean Water Act (CWA), Section 10 of the Rivers and Harbors Act of 1899, and New York State Article 24 Freshwater Wetlands Act (FWW), Article 25 Tidal Wetlands Act & Article 15 (Protection of Waters) of the Environmental Conservation Law, along the overland transmission cable route that follows State, county and local roadways and the CSX railroad 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 11-PACKAGE 7A 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 8.7 miles of the Segment 11- Package 7A Project Corridor that was investigated for wetlands and waterbodies.

Segment 11-Package 7A begins in Catskill, NY at station 70000+00 on the CSX railroad. Segment 11-Package 7A extends south approximately 8.7 miles along the CSX railroad as well as along Allen Street, Route 9W and Alpha Boulevard to where Segment 11-Package 7A terminates at the west bank of the Hudson River at the end of Alpha Boulevard in Catskill, NY.



#### 3.0 WETLAND DELINEATION METHODOLOGY

To determine the potential for wetland impacts from construction of the Project, Fisher Associates (Fisher), Shumaker Consulting Engineering & Land Surveying, D.P.C. (Shumaker), Greenman-Pedersen, Inc., and CHA, Inc., collectively referred to as the CHA Team, 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 24 FWW, Article 25 Tidal Wetlands Act & Article 15 (Protection of Waters)) jurisdictional wetlands. Wetland scientists conducted wetland delineations in November and December 2021 and throughout 2022 and early 2023. 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 CSX railroad ROW and areas within and outside of ROWs along roadways such as Allen Street, Route 9W and Alpha Boulevard, and areas of undeveloped lands that connect these ROW's. The initial wetland delineation limits were approximately 50 feet from the edge of pavement and approximately 100 feet from the outside edge of rail, limited to the side of the road or railroad corridor on which the alignment follows and primarily within the ROW of the aforementioned roads and railroad. However, these limits vary considerably throughout this package to accommodate alignment shifts and access roads, which required supplemental delineation in 2022 and 2023.

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 11- Package 7A 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 (Article 24 FWW). 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.

Ditches that met the three parameters for wetland delineation (i.e., presence of hydrology, hydric soils, and hydrophytic vegetation) were identified as a wetland community. Those that did not, but carried stream flow from off-site (redirecting flow through the ditch), were categorized as streams.

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.

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 32 wetland areas were identified within the Project Corridor, totaling approximately 32 acres within the JD boundary. 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, two (2) correspond with wetlands mapped by the NYSDEC. These include NYSDEC mapped wetlands HS-101 and C-23. HS-101 is subject to NYSDEC Article 24. Observed field indicators suggest that the portions of wetland C-23 within the Project Corridor are tidal-influenced. Therefore, wetland C-23 is subject to NYSDEC Article 25, as well.

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)<sup>1</sup> and *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin 1979)<sup>2</sup>. 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 scrub-shrub (PSS), and palustrine forested (PFO) wetlands. Some wetlands contained multiple community types. 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, freshwater tidal marsh, common reed marsh and purple loosestrife 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 sensitive fern (*Onoclea sensibilis*), rough goldenrod (*Solidago rugosa*), giant goldenrod (*Solidago gigantea*), devil's beggarticks (*Bidens frondosa*), scouring rush (*Equisetum hyemale*), field horsetail (*Equisetum arvense*), cattails (*Typha* spp.), sedges (*Carex spp.*), asters (*Symphyotrichum spp.*), reed canary grass (*Phalaris arundinacea*) and soft rush (*Juncus effusus*). Invasive species observed within the shallow emergent marshes include common reed (*Phragmites*)

<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> 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.



australis), purple loosestrife (*Lythrum salicaria*) honeysuckle (*Lonicera spp.*) and common buckthorn (*Rhamnus cathartica*).

Freshwater tidal marsh occurs in shallow bays, shoals, and at the mouth of tributaries of large tidal river systems where the water is usually fresh (salinity less than 0.5 ppt), and less than 2 m (6 ft.) deep at high tide (Edinger et. al., 2014). This community is limited to the emergent wetland portions of NYS FWW C-23.

Common reed marsh and purple loosestrife marsh consist of disturbed marshes where common reed or purple loosestrife has become dominant (Edinger et. al., 2014). This community was commonly found within disturbed areas adjacent to the rail bed.

Linear wetland ditches, which have been constructed for drainage or irrigation, are commonly found along the railroad and road ROW's. Vegetation within the ditches is typically dominated by invasive species such as common reed, purple loosestrife, and reed canary grass; however, some areas may be dominated by native, non-invasive wetland species.

#### 4.1.2 Palustrine Scrub-Shrub Wetland

The scrub-shrub wetland cover type includes areas that are dominated by shrubs and saplings that are less than 6 meters (20 feet) tall (Cowardin et. al., 1979), and have less than 50 percent aerial cover by trees. Scrub-shrub wetlands along the Project Corridor were dominated by silky dogwood (*Cornus amomum*), gray dogwood (*Cornus racemosa*), common buckthorn and honeysuckle. Other vegetation observed includes red maple (*Acer rubrum*), green ash (*Fraxinus pennsylvanica*), pussy willow (*Salix discolor*), gray birch (*Betula populifolia*), black willow (*Salix nigra*), sensitive fern, moneywort (*Lysimachia nummularia*) and field horsetail. Invasive species observed include honeysuckle and common buckthorn.

Freshwater tidal swamp is a forested or shrub-dominated tidal wetland that occurs in lowlands along large river systems characterized by gentle slope gradients coupled with tidal influence over considerable distances (Edinger et. al., 2014). Within the Project Corridor, the shrub-dominated freshwater tidal swamp community is limited to portions of NYS FWW C-23.

#### 4.1.3 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 (20 feet) 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). Red maple hardwood swamp and freshwater tidal swamp are the forested wetland communities within the Project Corridor.

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). Hardwood species observed within this community type within the Project Corridor include red maple, green ash, American elm (*Ulmus americana*), gray birch, swamp white oak (*Quercus bicolor*) and white pine (*Pinus strobus*). Shrub species commonly observed include dogwoods, gray birch, spicebush (*Lindera benzoin*), American elm and honeysuckle. The herbaceous layer typically includes sensitive fern, field horsetail, moneywort and young growth of the tree and shrub species. Invasive species primarily included honeysuckle and buckthorn.

Freshwater tidal swamp is a forested or shrub-dominated tidal wetland that occurs in lowlands along large river systems characterized by gentle slope gradients coupled with tidal influence over considerable distances (Edinger et. al., 2014). Within the Project Corridor, the forested freshwater tidal swamp community is limited to portions of NYS FWW C-23.

#### 4.1.4 Open Water

There is one small pond located along the Project Corridor adjacent to the railroad ROW. As previously noted, this open water community is identified as palustrine unconsolidated bottom (PUB). It is characterized by a vegetation cover of less than 30 percent, although emergent and shrubby vegetation borders the open water area.

#### 4.2 HYDROLOGY

#### 4.2.1 Streams

Table 4-2 lists the 25 streams (8 perennial and 17 intermittent) 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 the Catskill Creek, Post Creek and Hans Vosenkill, as well as several unnamed tributaries identified during the field delineations.

#### 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), water-stained leaves (B9), drainage patterns (B10), presence of reduced iron (C4), geomorphic position (D2), microtopographic relief (D4) 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 pond or stream water, temporarily ponded runoff, and seasonally to permanently shallow groundwater tables.

Hydrology along the Project Corridor has been historically altered by road and railroad drainage ditches. These ditches were inspected for the presence or absence of wetland indicators and hydrologic connectivity to wetlands or streams. Ditches that met the three parameters for wetland delineation (i.e., presence of hydrology, hydric soils, and hydrophytic vegetation) were identified as a wetland community.

#### 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 matrix (F3) and redox dark surface (F6) (Attachment 1). Within the Project Corridor, a total of 25 different soil types are mapped by the NRCS. The mapped soil types range from somewhat excessively drained to very poorly drained soils. According to the soil map descriptions (Attachment 3 and Attachment 4-

Table 4-3), four (4) of the soils mapped within the Project Corridor are rated as hydric soils (Covington and Madalin soils, Fluvaquents-Udifluvents complex, frequently flooded, Medisaprist, inundated and Medisaprist-Hydraquents, tidal marsh). 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 and railroad 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.

#### **Covington & Madalin Series (Co)**

The Covington soils are very deep and poorly drained soils formed in calcareous glaciolacustrine and estuarine clays on glacial lake plains. Slopes range from 0 to 8 percent. The A horizon consists of very dark brown silty clay with strong medium and coarse granular structure. The B horizon is dark gray to very dark gray clay with a weak to strong structure. The C horizon is dark gray clay with a weak to moderate structure.

The Madalin soils are very deep poorly drained soils formed in water deposited materials on lake plains and depressions in uplands. Slopes range from 0 to 3 percent. The A horizon is very dark gray silt loam with moderate medium subangular structure. The B horizon is dark grayish brown



with a silty clay texture. The structure is weak subangular. The C horizon is grayish brown stratified silt to clay with moderate medium platy structure.

#### Fluvaquents (Fu)

These very deep, somewhat poorly drained to very poorly drained soils formed in material recently deposited by rivers and streams. These soils are found on the most actively flooded areas of floodplains along secondary and major streams. The slopes range from 0 to 3 percent. Little or no soil profile development is seen in Fluvaquents. The surface layer typically has a hue of 10YR through 5Y, with low value and chroma. The textures are loamy sand to silt loam and may be gravelly or very gravelly. The substratum typically has a hue of 10YR to 5Y with values of 3 through 6 and chroma of less than 2. The textures are sandy loam to silty clay loam and may be gravelly or very gravelly.

#### Farmington Series (FaC, FaD and FaE)

These shallow, well drained and somewhat excessively drained soils formed in till. Slopes range from 0 to 70 percent and bedrock is at a depth of 10 to 20 inches. The A horizon is dark grayish brown silt loam with moderate medium and fine granular structure. The B horizon is composed of a yellowish brown or brown silt loam to loam with weak or moderate, fine or medium subangular or granular structure. The R horizon is dominantly limestone, dolomite, or dolomitic limestone bedrock.

#### Hudson & Vergennes Series (HvB, HvC, HvE, HwC3 & HwD3)

The Hudson soils are very deep, moderately well drained soils formed in clayey and silty lacustrine sediments. These soils are in convex lake plains, dissected lower valley side slopes and rolling through hilly moraines. Slopes can range from 0 to 60 percent. The A horizon is brown silt loam with moderate medium granular structure. The E horizon, when present, is brown silt loam with weak thick platy structure. The B horizon is yellowish brown to brown silty clay with moderate very coarse prismatic structure. The C horizon is mixed grayish brown and light olive brown silty clay, with massive structure, or plate-like divisions.

The Vergennes soils are very deep, moderately well drained soils on glacial lake plains. These soils formed in calcareous estuarine and glaciolacustrine clays. Slopes range from 0 to 50 percent. The A horizon is dark grayish brown clay with weak medium and coarse subangular blocky structure. Occasionally, a clay, silty clay, silty clay loam, or silt loam E horizon is present. The B horizon is typically brown clay, with more dark grayish brown color with depth. The C horizon is generally clay with silt and silty clay varves.

#### Kingsbury & Rhinebeck Series (KrA & KrB)

Kingsbury soils are very deep, somewhat poorly drained soils formed in lacustrine or marine sediments. They are nearly level and gently sloping on lake plains. Slopes range from 0 to 8 percent slope. The A horizon is very dark grayish brown silty clay with strong medium granular structure. The E horizon is mixed brown and yellowish brown silty clay. The B horizon consists dark grayish brown clay angular or subangular blocky structure, within coarse or very coarse prisms in some pedons. The C horizon generally has similar color to the deeper portions of the B horizon, although redoximorphic features generally have lower contrast. This horizon ranges from silty clay loam to clay, and has massive structure, which, when disturbed, can part into aggregates resembling very fine blocky structure.

Rhinebeck soils are very deep, somewhat poorly drained soils formed in clayey lacustrine sediments. They are found on glacial lake plains and uplands mantled with lake sediments. Slopes range from 0 to 15 percent. The A horizon is very dark grayish brownish silt loam with moderate medium granular structure. The B horizon is light olive brown silty clay or silty clay loam with moderate medium subangular blocky structure. The C horizon varies in texture and is massive or varved, or have very coarse prismatic structure in the upper part.

#### Nassau Series (NaC, NrC, NrD & NrE)

These shallow, somewhat excessively drained soils formed in channery till derived from acid shale and slate. They are nearly level to very steep soils that overlie shale bedrock. Slopes range from 0 to 70 percent. The A horizon is dark brown channery silt loam with weak fine granular structure. The B horizon is yellowish brown very channery silt loam with weak fine subangular blocky structure. The C horizon is greenish gray folded shale interbedded with red and green shale.

#### Riverhead Series (RhA, RhB, RhC & RhD)

These very deep, well drained soils formed in glacial outwash, deposits. They can be found on beaches, water-sorted moraines, valley trains and outwash plains. Slopes range from 0 to 50 percent. The A horizon is brown sandy loam with weak fine granular structure. The B horizon is strong brown to yellowish brown with a sandy loam to loamy sand texture, becoming gravelly with depth. The C horizon is yellowish brown, brown or very pale brown gravelly loamy sand or sand. It is structureless.

#### Tunkhannock and Chenango Series (TwE)

Tunkhannock soils are very deep, well to somewhat excessively drained soils. These soils formed in water-sorted glacial material derived from reddish sandstone, siltstone, and shale. Slope ranges from 0 to 60 percent. The A horizon is brown gravelly loam with weak granular structure. The B horizon is brown or reddish brown gravelly loam. The C horizon is reddish brown extremely gravelly loamy sand and stratified loamy fine sand.

The Chenango soils are very deep, well and somewhat excessively well drained soils. These soils formed in water-sorted material on alluvial fans, kames, eskers, terraces and outwash plains. Slopes range for 0 to 60 percent. The A horizon is very dark grayish brown with weak fine and medium granular structure. The B horizon is dark yellowish brown to brown gravelly silt loam and the C horizon is dark grayish brown extremely gravelly loamy coarse sand.

#### **Udorthents (Ur)**

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.

#### 5.0 SUMMARY

Wetlands identified along the Project Corridor include shallow emergent marsh, freshwater tidal marsh, common reed marsh, shrub swamp, red maple-hardwood swamp and freshwater tidal swamp. A small pond also occurs. Stream communities include artificial ditches, intermittent streams, and perennial streams.

Land use in the Project Corridor is diverse, ranging from rural, agricultural, and forested areas to more developed areas such as the Village of Catskill. Because most of the Project Corridor consists of existing railroad and roadway corridors, many wetlands are characterized by previous anthropogenic disturbance and/or the presence of invasive plant species. The wetland boundaries abutting the rail or road are typically defined by the edge of the soil fill for the railroad and 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 11-Package 7A Project Corridor are regulated by USACE (Section 10/404). Based on review of the NYSDEC wetland mapping, three wetland areas are identified as regulated under Articles 24 & 25. These wetlands correspond to two mapped wetlands (HS-101 (Article 24) and C-23 (Article 25)). It is anticipated that USACE will take jurisdiction over all the mapped wetlands within the Project Corridor and NYSDEC will take jurisdiction over the three wetlands associated with NYSDEC freshwater and tidal wetlands. Final jurisdictional determinations, as needed, will be made by the respective agencies.

#### 6.0 REFERENCES

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# ATTACHMENT 1 WETLAND DETERMINATION DATA SHEETS AND WETLAND PHOTOGRAPHS

#### **U.S. Army Corps of Engineers**

#### WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CHPE	(	City/County: Catskill	/ Greene County	Sampling Date: 2/2/2023			
Applicant/Owner: TDI			State: NY	Sampling Point: 7A-W Wet (PEM)			
Investigator(s): N. Frazer & J. Greaves		Section, Tov	wnship, Range:				
Landform (hillside, terrace, etc.): Hillslope	Local re	elief (concave, conve	x, none): Concave	Slope %: 2			
Subregion (LRR or MLRA): LRR R	Lat: 42.243688	•	-73.859335	 Datum: WGS84			
Soil Map Unit Name: NrD - Nassau channery	<del></del>		NWI classification:	PEM1			
Are climatic / hydrologic conditions on the site		Yes x		explain in Remarks.)			
Are Vegetation , Soil , or Hydrologic conditions on the site			nal Circumstances" prese	,			
<del></del>			•				
Are Vegetation, Soil, or Hydrole SUMMARY OF FINDINGS – Attach 9	<u> </u>		l, explain any answers in tions, transects, im	·			
				,			
, , , ,	Yes X No	Is the Sampled Ar					
•	Yes X No No	within a Wetland?		No			
, 0,	Yes X No	If yes, optional vve	tland Site ID: near flag	/A-VV-5U			
Remarks: (Explain alternative procedures he							
Purple loosestrife marsh within a periodically	maintained power line KOvv.						
HYDROLOGY							
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)			
Primary Indicators (minimum of one is require	ed; check all that apply)		Surface Soil Cracks				
X Surface Water (A1)	Water-Stained Leaves (B9	9)	X Drainage Patterns (I				
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 (C	1)	Crayfish Burrows (C8)				
Sediment Deposits (B2)	Oxidized Rhizospheres on	Living Roots (C3)	oots (C3) Saturation Visible on Aerial Imagery (C9)				
Drift Deposits (B3)	Presence of Reduced Iron	ı (C4)	Stunted or Stressed Plants (D1)				
Algal Mat or Crust (B4)	Recent Iron Reduction in 1	Tilled Soils (C6)	Geomorphic Position (D2)				
Iron Deposits (B5)	Thin Muck Surface (C7)						
Inundation Visible on Aerial Imagery (B7)	· · ·	3)	Microtopographic Re	` '			
Sparsely Vegetated Concave Surface (B8	3)		X FAC-Neutral Test (D	D5)			
Field Observations:							
Surface Water Present? Yes X	No Depth (inches): _						
	No X Depth (inches):		_				
Saturation Present? Yes	No X Depth (inches):	Wetlan	d Hydrology Present?	Yes <u>X</u> No			
(includes capillary fringe)							
Describe Recorded Data (stream gauge, mon	itoring well, aerial photos, previ	ious inspections), it	available:				
Remarks:							
Inundation limited to patchy areas within tire r	ruts and other small depression	IS.					
, ,	,						

#### **VEGETATION** – Use scientific names of plants.

	A la a a l 4 a	Daminant	lu di a a ka u				
Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
				Number of Dominant Species			
<u> </u>				That Are OBL, FACW, or FAC:3 (A)			
B.				Total Number of Dominant			
i				Species Across All Strata: 4 (B)			
j				Description Charles			
3.				Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B			
·				Prevalence Index worksheet:			
		=Total Cover		Total % Cover of: Multiply by:			
sapling/Shrub Stratum (Plot size: 15' )				OBL species 70 x 1 = 70			
. Lonicera morrowii	10	Yes	FACU	FACW species 35 x 2 = 70			
. Cornus amomum	5	Yes	FACW	FAC species 0 x 3 = 0			
				FACU species 10 x 4 = 40			
				UPL species 0 x 5 = 0			
				Column Totals: 115 (A) 180 (B			
				Prevalence Index = B/A = 1.57			
·				Hydrophytic Vegetation Indicators:			
·	15	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation			
Jorh Stratum (Plot aize: E' )		- Total Cover		1 <del>-</del>			
Herb Stratum (Plot size: 5' )	00	Vaa	ODI	X 2 - Dominance Test is >50%			
Lythrum salicaria	60	Yes	OBL	<ul> <li>X 3 - Prevalence Index is ≤3.0¹</li> <li>4 - Morphological Adaptations¹ (Provide supporting)</li> </ul>			
2. Bidens frondosa	20	Yes	FACW	data in Remarks or on a separate sheet)			
3. Solidago gigantea	10	<u>No</u>	FACW	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
Persicaria sagittata	10	No	OBL				
5. 5.							
· ·.				Definitions of Vegetation Strata:			
3.				Tree Meady plants 2 in (7.6 cm) or more in			
).				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	100	=Total Cover		<b>Herb</b> – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall.			
Noody Vine Stratum (Plot size: 30' )		rotal Covol					
				<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.			
2.							
				Hydrophytic			
·				Vegetation Present? Yes X No			
··		=Total Cover		1335M1 133 <u>X</u> 110 <u></u>			
		10141 00101					

SOIL Sampling Point: 7A-W Wet (PEM)

Depth	Matrix	io the de	•	ox Featur		atur or co	onfirm the absence o	n muicaturs.)			
(inches)	Color (moist)	%	Color (moist)	%_	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks			
0-2	10YR 2/1	98	10YR 3/6	2	c	m	Loamy/Clayey	Prominent redox concentrations			
2-15	2.5Y 4/2	93	10YR 4/6	2	c	m_	Loamy/Clayey	Prominent redox concentrations			
			10YR 2/1	5	d	m					
15-18	7.5YR 3/2	80	10YR 4/6	20	С	m	Loamy/Clayey	Prominent redox concentrations			
			10YR 2/1	5	C	m_		Faint redox concentrations			
							_				
				- —							
				- —							
				- —							
				- —							
1Typo: C=Co	oncentration, D=Depl	Lotion PI	M-Poducod Matrix	- <u></u>	kod San	d Grains	<sup>2</sup> l ocation: [	PL=Pore Lining, M=Matrix.			
Hydric Soil I		ellon, Kr	vi-Reduced Matrix,	IVIO-IVIAS	keu San	u Grains.		for Problematic Hydric Soils <sup>3</sup> :			
Histosol			Dark Surface	(S7)				uck (A10) ( <b>LRR K, L, MLRA 149B</b> )			
Histic Ep	ipedon (A2)		Polyvalue Bel	low Surfa	ce (S8) (	LRR R,	Coast P	Prairie Redox (A16) ( <b>LRR K, L, R</b> )			
Black His	stic (A3)		MLRA 149I	B)			5 cm M	ucky Peat or Peat (S3) ( <b>LRR K, L, R</b> )			
— Hydrogei	n Sulfide (A4)		Thin Dark Sur	rface (S9	) (LRR R	R, MLRA 1	149B) Polyvalı	ue Below Surface (S8) ( <b>LRR K, L</b> )			
Stratified	Layers (A5)		High Chroma	Sands (S	S11) ( <b>LR</b>	R K, L)	Thin Da	rk Surface (S9) ( <b>LRR K, L</b> )			
X Depleted	Below Dark Surface	e (A11)	Loamy Mucky	/ Mineral	(F1) ( <b>LR</b>	RK, L)	Iron-Ma	nganese Masses (F12) ( <b>LRR K, L, R</b> )			
Thick Da	rk Surface (A12)		Loamy Gleye	d Matrix (	(F2)		Piedmont Floodplain Soils (F19) (MLRA 149B)				
Mesic Sp	oodic (A17)		X Depleted Mat	rix (F3)			Red Parent Material (F21) (outside MLRA 145)				
(MLR	A 144A, 145, 149B)		Redox Dark S	_ Redox Dark Surface (F6)				Very Shallow Dark Surface (F22)			
	ucky Mineral (S1)		Depleted Dark		, ,		Other (E	Explain in Remarks)			
	leyed Matrix (S4)		Redox Depres		8)		2				
	edox (S5)		Marl (F10) ( <b>L</b> l					ors of hydrophytic vegetation and			
Stripped	Matrix (S6)		Red Parent M	laterial (F	21) <b>(ML</b>	RA 145)	wetland hydrology must be present, unless disturbed or problematic.				
Restrictive L	_ayer (if observed):						dilics	3 disturbed of problematic.			
Type:											
Depth (in	nches):						Hydric Soil Prese	ent? Yes X No			
Remarks:											



Wetland 7A-W (PEM community) - View facing east.



Wetland 7A-W (PEM community) - Soils

Segment 11 – Package 7A

**SITE PHOTOGRAPHS** 

**Champlain Hudson Power Express** 

#### **U.S. Army Corps of Engineers**

#### WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CHPE	(	City/County: Catskill	/ Greene County	Sampling Date: 2/2/2023		
Applicant/Owner: TDI			State: NY	Sampling Point: 7A-W Upl (PEM)		
Investigator(s): N. Frazer & J. Greaves		Section, To	wnship, Range:			
Landform (hillside, terrace, etc.): Hillslope	Local re	elief (concave, conve	ex, none): Concave	Slope %: 5		
Subregion (LRR or MLRA): LRR R	Lat: 42.243770	•	-73.859324	 Datum: WGS84		
Soil Map Unit Name: NrD - Nassau channery			NWI classification:			
Are climatic / hydrologic conditions on the site		Yes x		explain in Remarks.)		
Are Vegetation , Soil , or Hydrol			nal Circumstances" prese	,		
			•			
Are Vegetation, Soil, or Hydrol	<u> </u>		d, explain any answers in	•		
SUMMARY OF FINDINGS – Attach	site map showing samp	pling point loca	tions, transects, ım	portant teatures, etc.		
Hydrophytic Vegetation Present?	Yes No _X_	Is the Sampled A	rea			
Hydric Soil Present?	Yes No X	within a Wetland	? Yes	No X		
Wetland Hydrology Present?	Yes No X	If yes, optional We	etland Site ID: Upland adja	acent to Wetland 7A-W near flag 50		
Remarks: (Explain alternative procedures he						
Successional old field within periodically mair	ntained power line ROW.					
HYDROLOGY						
			2 Length diagham (m			
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is require	ad about all that apply)		•	ninimum of two required)		
Surface Water (A1)	Water-Stained Leaves (B	30)	Surface Soil Cracks Drainage Patterns (	` '		
High Water Table (A2)	Aquatic Fauna (B13)	9)	Moss Trim Lines (B	· ·		
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)				
Water Marks (B1)	Hydrogen Sulfide Odor (C					
Sediment Deposits (B2)	Oxidized Rhizospheres or	· · · · · · · · · · · · · · · · · · ·				
Drift Deposits (B3)	Presence of Reduced Iron					
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	, ,					
Sparsely Vegetated Concave Surface (B		, 	FAC-Neutral Test (I	05)		
Field Observations:						
Surface Water Present? Yes	No X Depth (inches):					
	No X Depth (inches):					
Saturation Present? Yes	No X Depth (inches):	Wetlan	d Hydrology Present?	Yes No _X		
(includes capillary fringe)						
Describe Recorded Data (stream gauge, mor	nitoring well, aerial priolos, prev	vious inspections), ii	avaliable:			
Remarks:						

#### **VEGETATION** – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: 30' )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1.				Number of Dominant Species			
2				That Are OBL, FACW, or FAC:1 (A)			
3. 4.				Total Number of Dominant Species Across All Strata:3(B)			
5 6				Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)			
7				Prevalence Index worksheet:			
		=Total Cover		Total % Cover of: Multiply by:			
Sapling/Shrub Stratum (Plot size:)				OBL species 0 x 1 = 0			
1. Lonicera morrowii	10	Yes	FACU	FACW species 0 x 2 = 0			
2				FAC species 20 x 3 = 60			
3.				FACU species 80 x 4 = 320			
4				UPL species 5 x 5 = 25			
5				Column Totals: 105 (A) 405 (B)			
6.				Prevalence Index = B/A = 3.86			
7.				Hydrophytic Vegetation Indicators:			
	10	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation			
Herb Stratum (Plot size: 5' )		•		2 - Dominance Test is >50%			
Solidago canadensis	60	Yes	FACU	3 - Prevalence Index is ≤3.0 <sup>1</sup>			
Setaria pumila	20	Yes	FAC	4 - Morphological Adaptations <sup>1</sup> (Provide supporting			
				data in Remarks or on a separate sheet)			
3. Lonicera morrowii	5	No No	FACU	Duckle mestical hadron kertical / constation 1 (Familia)			
4. Potentilla simplex	5	No	FACU	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)			
<ul><li>5. Monarda punctata</li><li>6.</li></ul>	5	No	UPL	- 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 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.				Herb – All herbaceous (non-woody) plants, regardless			
	95	=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		<u> </u>		height.			
2.							
3.		. <u></u>		Hydrophytic Vegetation			
4				Present?			
		=Total Cover					
Remarks: (Include photo numbers here or on a separ	ate sheet.)						
` .	,						

Sampling Point: 7A-W Upl (PEM)

SOIL Sampling Point 7A-W Upl (PEM)

		o the de	-			ator or co	onfirm the absence of inc	licators.)
Depth	Matrix	0/		x Featur		1 2	Tardina	Damarka
(inches)	Color (moist)	<u>%</u>	Color (moist)		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-9	10YR 3/3	100					Loamy/Clayey	
								_
1- 0.0							2, ,, ,,	
	ncentration, D=Deple	etion, Ri	M=Reduced Matrix, N	/IS=Mas	ked Sand	Grains.		ore Lining, M=Matrix.
Hydric Soil In				· \				roblematic Hydric Soils <sup>3</sup> :
— Histosol (	·		Dark Surface (		.=			A10) (LRR K, L, MLRA 149B)
	pedon (A2)		Polyvalue Belo		ce (S8) (	LRR R,		e Redox (A16) (LRR K, L, R)
Black His			MLRA 149B	•				Peat or Peat (S3) (LRR K, L, R)
	Sulfide (A4)		Thin Dark Surf					elow Surface (S8) ( <b>LRR K, L</b> )
	Layers (A5)		High Chroma S					urface (S9) ( <b>LRR K, L</b> )
	Below Dark Surface	(A11)	Loamy Mucky			<b>R K</b> , <b>L</b> )		ese Masses (F12) ( <b>LRR K, L, R</b> )
	k Surface (A12)		Loamy Gleyed		F2)			oodplain Soils (F19) (MLRA 149B)
Mesic Sp	odic (A17)		Depleted Matri					Material (F21) (outside MLRA 145)
(MLRA	A 144A, 145, 149B)		Redox Dark Su		-			v Dark Surface (F22)
Sandy Mu	ucky Mineral (S1)		Depleted Dark	Surface	e (F7)		Other (Expla	in in Remarks)
Sandy Gl	eyed Matrix (S4)		Redox Depress	sions (F	8)			
Sandy Re	edox (S5)		Marl (F10) ( <b>LR</b>	RK, L)			<sup>3</sup> Indicators o	f hydrophytic vegetation and
Stripped	Matrix (S6)		Red Parent Ma	aterial (F	21) <b>(MLF</b>	RA 145)	wetland hy	drology must be present,
							unless dist	turbed or problematic.
Restrictive L	ayer (if observed):							
Type:	Rock	<						
Depth (in	ches):	9					Hydric Soil Present?	Yes No _X_
Remarks:								



**Upland 7A-W (PEM community) - View facing** 



**Upland 7A-W (PEM community) - Soils** 

Segment 11 – Package 7A

## **SITE PHOTOGRAPHS**

**Champlain Hudson Power Express** 

#### U.S. Army Corps of Engineers

#### WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CHPE	Ci	ity/County: Catskill	/ Greene County	Sampling Date: 2/2/2023			
Applicant/Owner: TDI			State: NY	Sampling Point: 7A-W Wet (PFO)			
Investigator(s): N. Frazer & J. Greaves		Section, Tov	wnship, Range:				
Landform (hillside, terrace, etc.): Hillslope	Local relie	ef (concave, conve	x, none): Convex	Slope %: 3			
Subregion (LRR or MLRA): LRR R	Lat: 42.244490	•	-73.858448	 Datum: WGS84			
Soil Map Unit Name: NrD - Nassau channery			NWI classification:	<del></del>			
Are climatic / hydrologic conditions on the site		Yes x		explain in Remarks.)			
Are Vegetation , Soil , or Hydro			al Circumstances" prese				
			•	<del></del>			
Are Vegetation, Soil, or Hydro	<u> </u>		l, explain any answers in	·			
SUMMARY OF FINDINGS – Attach	Site map snowing sample	Ing point iocat	ions, transects, iiii	portant features, etc.			
Hydrophytic Vegetation Present?	Yes X No I	Is the Sampled Ar	ea				
Hydric Soil Present?		within a Wetland?		No			
Wetland Hydrology Present?	Yes X No I	If yes, optional We	tland Site ID: near flag	7A-W-7			
Remarks: (Explain alternative procedures he	ere or in a separate report.)						
White cedar wetland.							
HYDROLOGY							
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)			
Primary Indicators (minimum of one is require	ed: check all that apply)		Surface Soil Cracks				
Surface Water (A1)	X Water-Stained Leaves (B9)	)	X Drainage Patterns (				
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 (C1)						
X Sediment Deposits (B2)		Rhizospheres 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 in Til	illed Soils (C6)	X Geomorphic Position (D2)				
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D	3)			
Inundation Visible on Aerial Imagery (B7	) Other (Explain in Remarks)	1	Microtopographic Re	elief (D4)			
Sparsely Vegetated Concave Surface (B	8)		X FAC-Neutral Test (	D5)			
Field Observations:							
Surface Water Present? Yes	No X Depth (inches):						
Water Table Present? Yes	No X Depth (inches):						
Saturation Present? Yes X	No Depth (inches):	0 Wetlan	d Hydrology Present?	YesX_ No			
(includes capillary fringe)							
Describe Recorded Data (stream gauge, moi	nitoring well, aerial photos, previo	ous inspections), it	available:				
Remarks:							

#### **VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size: 30' )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. Thuja occidentalis	50	Yes	FACW	Dominance rest worksheet.			
2. Acer rubrum	10	No	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)			
				That Are OBL, FACW, or FAC:5 (A)			
3. <u>Fraxinus pennsylvanica</u>	10	No	FACW	Total Number of Dominant			
1.				Species Across All Strata: 6 (B)			
5.				Percent of Dominant Species			
S				That Are OBL, FACW, or FAC: 83.3% (A/B)			
7	70	T-1-1 0		Prevalence Index worksheet:			
2 1 (2) 1 2 1 (7) 1 (7)	70	=Total Cover		Total % Cover of: Multiply by:			
Sapling/Shrub Stratum (Plot size: 15' )	40		E4 014/	OBL species 0 x1 = 0			
Fraxinus pennsylvanica	10	Yes	FACW	FACW species 90 x 2 = 180			
2. Lonicera morrowii	5	Yes	FACU	FAC species10 x 3 =30			
3. Rosa multiflora	2	No	<u>FACU</u>	FACU species 7 x 4 = 28			
4				UPL species0 x 5 =0			
5				Column Totals: 107 (A) 238 (B)			
S				Prevalence Index = B/A = 2.22			
7				Hydrophytic Vegetation Indicators:			
	17	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation			
Herb Stratum (Plot size:)				X 2 - Dominance Test is >50%			
1. Onoclea sensibilis	10	Yes	FACW	X 3 - Prevalence Index is ≤3.0 <sup>1</sup>			
2. Fraxinus pennsylvanica	5	Yes	FACW	4 - Morphological Adaptations <sup>1</sup> (Provide supporti data in Remarks or on a separate sheet)			
3. Cornus amomum	5	Yes	FACW				
1				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)			
5				<sup>1</sup> Indicators of hydric soil and wetland hydrology must			
5				be present, unless disturbed or problematic.			
7				Definitions of Vegetation Strata:			
3				Tree – Woody plants 3 in. (7.6 cm) or more in			
)				diameter at breast height (DBH), regardless of height.			
10				Sapling/shrub – Woody plants less than 3 in. DBH			
I1				and greater than or equal to 3.28 ft (1 m) tall.			
12				Herb – All herbaceous (non-woody) plants, regardless			
	20	=Total Cover		of size, and woody plants less than 3.28 ft tall.			
Noody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in			
1				height.			
2				Hydrophytic			
3.	-			Hydrophytic Vegetation			
1				Present? Yes X No No			
		=Total Cover					

SOIL Sampling Point: 7A-W Wet (PFO)

Profile Desci	ription: (Describe t	o the de	pth needed to docu	ment th	he indica	ator or co	onfirm the absence of	indicators.)			
Depth	Matrix			Featur							
(inches)	Color (moist)		Color (moist)		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks			
0-13	10YR 2/1	98	10YR 3/6		<u> </u>	<u>m</u>	Loamy/Clayey	Prominent redox concentrations			
13-18	2.5Y 2.5/1	65	10YR 4/6	30	C	<u>m</u>	Loamy/Clayey	Prominent redox concentrations			
			10YR 2/1	5	c	<u>m</u>		Faint redox concentrations			
	-										
		etion, RN	/I=Reduced Matrix, M	S=Masl	ked Sand	d Grains.		L=Pore Lining, M=Matrix.			
Hydric Soil II Histosol (			Dark Surface (S	37)			Indicators for Problematic Hydric Soils <sup>3</sup> : 2 cm Muck (A10) (LRR K, L, MLRA 149B)				
	ipedon (A2)		Polyvalue Belov		ce (S8) (	LRR R,	Coast Prairie Redox (A16) (LRR K, L, R)				
Black His			MLRA 149B)		( ) (	,	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)				
Hydroger	n Sulfide (A4)		Thin Dark Surfa	ace (S9)	(LRR R	, MLRA 1	149B) Polyvalue Below Surface (S8) (LRR K, L)				
Stratified	Layers (A5)		High Chroma S	ands (S	811) ( <b>LR</b> I	R K, L)	Thin Dark Surface (S9) (LRR K, L)				
	Below Dark Surface	(A11)	Loamy Mucky N	Mineral	(F1) ( <b>LR</b>	R K, L)	Iron-Manganese Masses (F12) (LRR K, L, R)				
	rk Surface (A12)		Loamy Gleyed		F2)		Piedmont Floodplain Soils (F19) (MLRA 149B)				
	odic (A17)		Depleted Matrix		-0)		Red Parent Material (F21) (outside MLRA 145)				
-	A 144A, 145, 149B)		X Redox Dark Su				Very Shallow Dark Surface (F22) Other (Explain in Remarks)				
	ucky Mineral (S1) leyed Matrix (S4)		Depleted Dark				Other (E)	xpiairi iri Remarks)			
Sandy Re			Marl (F10) (LRI		0)		<sup>3</sup> Indicators of hydrophytic vegetation and				
	Matrix (S6)		Red Parent Ma		21) <b>(ML</b> F	RA 145)	wetland hydrology must be present,				
	. ,			`			unless disturbed or problematic.				
	ayer (if observed):										
Type: _											
Depth (in	ches):						Hydric Soil Presen	t? Yes X No			
Remarks:											



Wetland 7A-W (PFO community) - View facing east.



Wetland 7A-W (PFO community) - Soils

Segment 11 – Package 7A

**SITE PHOTOGRAPHS** 

**Champlain Hudson Power Express** 

#### U.S. Army Corps of Engineers

#### WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CHPE		City/County: Catskill	/ Greene County	Sampling Date: 2/2/2023			
Applicant/Owner: TDI			State: NY	Sampling Point: 7A-W Upl (PFO)			
Investigator(s): N. Frazer & J. Greaves		Section, To	wnship, Range:				
Landform (hillside, terrace, etc.): Hillslope	Local re	elief (concave, conve	ex, none): Convex	Slope %: 15			
Subregion (LRR or MLRA): LRR R	Lat: 42.243406	•	-73.858858	 Datum: WGS84			
Soil Map Unit Name: NrD - Nassau channery		~	NWI classification:				
Are climatic / hydrologic conditions on the site		Yes x	No (If no,	explain in Remarks.)			
Are Vegetation , Soil , or Hydrol			nal Circumstances" prese	,			
			·				
Are Vegetation, Soil, or Hydrol	<u></u>		d, explain any answers in	·			
SUMMARY OF FINDINGS – Attach	site map snowing samp	pling point loca	tions, transects, im	iportant features, etc.			
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled A	rea				
Hydric Soil Present?	Yes No X	within a Wetland	? Yes	No X			
Wetland Hydrology Present?	Yes No X	If yes, optional We	etland Site ID: near flag	7A-W-7			
Remarks: (Explain alternative procedures he	ere or in a separate report.)						
Mixed evergreen/deciduous forest.							
HYDROLOGY							
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)			
Primary Indicators (minimum of one is require	ed; check all that apply)		Surface Soil Cracks	s (B6)			
Surface Water (A1)	Water-Stained Leaves (B	19)	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 (C						
Sediment Deposits (B2)	Oxidized Rhizospheres or						
Drift Deposits (B3)	Presence of Reduced Iron		Stunted or Stressed Plants (D1)				
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)					
Iron Deposits (B5)	Thin Muck Surface (C7)	,					
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B	· <del></del> · · ·	FAC-Neutral Test (D5)					
Field Observations:	0)	<del></del>	FAC-Neutial Test (L	J5)			
Surface Water Present? Yes	No X Depth (inches):						
	No X Depth (inches):						
Saturation Present? Yes	No X Depth (inches):		d Hydrology Present?	Yes No _X_			
(includes capillary fringe)	77 Bakar (manaz).		a 11, a. 0.0 gy 00 0				
Describe Recorded Data (stream gauge, mor	nitoring well, aerial photos, prev	vious inspections), if	available:				
		·					
Remarks:							

#### **VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size: 30' )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
	20	Yes	FACW	Dominance rest worksheet.			
	20			Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)			
2. Acer rubrum		Yes	FAC	That Are OBL, FACW, or FAC:(A)			
3. Acer saccharum	20	Yes	FACU	Total Number of Dominant			
4. Pinus strobus	20	Yes	FACU	Species Across All Strata: 8 (B)			
<ul><li>5. Quercus rubra</li><li>6</li></ul>	20	Yes	FACU	Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)			
7.				Prevalence Index worksheet:			
	100	=Total Cover		Total % Cover of: Multiply by:			
Sapling/Shrub Stratum (Plot size: 15' )				OBL species 0 x 1 = 0			
1. Acer saccharum	5	Yes	FACU	FACW species 20 x 2 = 40			
2.				FAC species 20 x 3 = 60			
3.				FACU species 83 x 4 = 332			
4				UPL species 0 x 5 = 0			
5.				Column Totals: 123 (A) 432 (B)			
6				Prevalence Index = B/A = 3.51			
7.				Hydrophytic Vegetation Indicators:			
·· ——	5	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation			
Herb Stratum (Plot size: 5' )		10101 00101		2 - Dominance Test is >50%			
Alliaria petiolata	10	Yes	FACU	3 - Prevalence Index is ≤3.0 <sup>1</sup>			
Symphyotrichum ericoides	8	Yes	FACU	4 - Morphological Adaptations <sup>1</sup> (Provide supporting			
3		165	<u> </u>	data in Remarks or on a separate sheet)			
4.				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)			
<ul><li>5.</li><li>6.</li></ul>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
7.				Definitions of Vegetation Strata:  Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.			
8.							
9		·					
10							
12.							
	18	=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:30')				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 separ	rate sheet )						
Tromano. (morado prioto framboro from or on a dopar	ato onoot.)						

Sampling Point: 7A-W Upl (PFO)

SOIL Sampling Point: 7A-W Upl (PFO)

		the de				itor or co	onfirm the absence of i	indicators.)
Depth	Matrix			ox Featur		. 2		
(inches)	Color (moist)	<u>%</u>	Color (moist)		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6	10YR 2/2	100					Loamy/Clayey	
				- —				
				- —				
			-					
				- —				
1 <sub>Turner</sub> C=Ce	ncentration, D=Deple	tion DM	I=Daduard Matrix		——	Crains	<sup>2</sup> l costion: DL:	=Pore Lining, M=Matrix.
Hydric Soil I		tion, Kiv	i-Reduced Matrix,	IVIO-IVIASI	keu Sanc	i Giallis.		Problematic Hydric Soils <sup>3</sup> :
-			Dark Surface	(87)				=
— Histosol (			Dark Surface Polyvalue Bel		00 (89) (1	DD D		k (A10) (LRR K, L, MLRA 149B)
	ipedon (A2)				ce (36) (I	LKK K,		irie Redox (A16) (LRR K, L, R)
Black His	n Sulfide (A4)		MLRA 149E	•	/I DD D	MI DA 1		ky Peat or Peat (S3) (LRR K, L, R)
	Layers (A5)		Thin Dark Sur High Chroma					Below Surface (S8) (LRR K, L) Surface (S9) (LRR K, L)
		(111)						
	Below Dark Surface	(A11)	Loamy Mucky			K N, L)		ranese Masses (F12) (LRR K, L, R)
	rk Surface (A12)		Loamy Gleyed		F2)			Floodplain Soils (F19) (MLRA 149B)
	odic (A17)		Depleted Mati		·e)			nt Material (F21) (outside MLRA 145)
	A 144A, 145, 149B)		Redox Dark S		-			low Dark Surface (F22)
	ucky Mineral (S1)		Depleted Dark		` '		— Other (EX	plain in Remarks)
	leyed Matrix (S4)		Redox Depres		5)		31	
	edox (S5)		Marl (F10) (LF		04) /BAL F	24.45		s of hydrophytic vegetation and
Stripped	Matrix (S6)		Red Parent M	iateriai (F	21) (MLF	KA 145)		hydrology must be present,
Postrictivo I	.ayer (if observed):						uniess	disturbed or problematic.
Type:	Rock	(						
	ches):	6					Hydric Soil Present	? Yes No X
							Tryuno con riccont	165
Remarks:								



Upland 7A-W (PFO community) - View facing south.



**Upland 7A-W (PFO community) - Soils** 

Segment 11 – Package 7A

# **SITE PHOTOGRAPHS**

#### U.S. Army Corps of Engineers

#### WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CHPE	City/C	City/County: Catskill / Greene County Sampling Date: 1/31/23					
Applicant/Owner: TDI		State	e: NY Sampling Point: FA-AP, AO, AN West				
Investigator(s): N. Frazer & J. Greaves		Section, Township, Range	e:				
Landform (hillside, terrace, etc.): depression/pond	ded Local relief (c	— oncave, convex, none): cond	cave Slope %: 0				
	Lat: 42-14-35.07N	Long: 73-51-33.73V	<del></del> -				
Soil Map Unit Name: Nassau channery silt loam (N	-		ssification: PEM				
Are climatic / hydrologic conditions on the site typica	·	Yes x No	(If no, explain in Remarks.)				
Are Vegetation , Soil , or Hydrology	·	Are "Normal Circumstar	<b>-</b> ` ' ' '				
<del></del>	<del></del>	(If needed, explain any	· — —				
Are Vegetation, Soil, or Hydrology _ SUMMARY OF FINDINGS – Attach site i			•				
	map onothing camping						
Hydrophytic Vegetation Present? Yes _		ne Sampled Area					
- ·			res X No No				
Wetland Hydrology Present? Yes_		es, optional Wetland Site ID:	near flag 7A-X-10				
Remarks: (Explain alternative procedures here or i Shallow emergent marsh.	in a separate report.)						
Stratiow emergent marsh.							
HYDROLOGY							
Wetland Hydrology Indicators:		Secondary In	ndicators (minimum of two required)				
Primary Indicators (minimum of one is required; che	eck all that apply)	Surface S	Soil Cracks (B6)				
<del></del> -	Water-Stained Leaves (B9)		Patterns (B10)				
I —	Aquatic Fauna (B13)		m Lines (B16)				
I ——	Marl Deposits (B15)		son Water Table (C2)				
l <del></del>	Hydrogen Sulfide Odor (C1)		Burrows (C8)				
<del></del> -	Oxidized Rhizospheres on Livin	· · · · —	on Visible on Aerial Imagery (C9)				
<del></del>	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled		or Stressed Plants (D1)				
I — · · · · —	Thin Muck Surface (C7)	· · · — ·	ohic Position (D2) Aquitard (D3)				
I <del></del>	Other (Explain in Remarks)		ographic Relief (D4)				
Sparsely Vegetated Concave Surface (B8)	Julie (Explain in Nomano,		utral Test (D5)				
Field Observations:		<del></del>					
Surface Water Present? Yes x No	Depth (inches): 5						
	x Depth (inches):	_					
Saturation Present? Yes No	x Depth (inches):	Wetland Hydrology I	Present?				
(includes capillary fringe)							
Describe Recorded Data (stream gauge, monitoring	g well, aerial photos, previous in	nspections), if available:					
Remarks: ponded							
ponded							

### **VEGETATION** – Use scientific names of plants.

	EGETATION – Use scientific names of plants.							
Free Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:				
·				Number of Dominant Species				
·				That Are OBL, FACW, or FAC:5 (A)				
•				Total Number of Dominant				
·				Species Across All Strata: 5 (B)				
·				Percent of Dominant Species				
·				That Are OBL, FACW, or FAC:100.0% (A/B				
·				Prevalence Index worksheet:				
		=Total Cover		Total % Cover of: Multiply by:				
apling/Shrub Stratum (Plot size: 15' )				OBL species 40 x 1 = 40				
Fraxinus pennsylvanica	5	Yes	FACW	FACW species 20 x 2 = 40				
Cornus amomum	5	Yes	FACW	FAC species0 x 3 =0				
·				FACU species 0 x 4 = 0				
·				UPL species0 x 5 =0				
·				Column Totals: 60 (A) 80 (B				
·				Prevalence Index = B/A =1.33				
·				Hydrophytic Vegetation Indicators:				
	10	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation				
erb Stratum (Plot size:5' )				X 2 - Dominance Test is >50%				
. Carex stricta	20	Yes	OBL	X 3 - Prevalence Index is ≤3.0 <sup>1</sup>				
Lythrum salicaria	20	Yes	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting				
. Onoclea sensibilis	10	Yes	FACW	data in Remarks or on a separate sheet)				
Ondida sensibilis				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
i				<sup>1</sup> Indicators of hydric soil and wetland hydrology must				
	-			be present, unless disturbed or problematic.				
·				Definitions of Vegetation Strata:				
·				Tree – Woody plants 3 in. (7.6 cm) or more in				
				diameter at breast height (DBH), regardless of height				
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				
	50	=Total Cover		of size, and woody plants less than 3.28 ft tall.				
Voody Vine Stratum (Plot size: 30' )				Woody vines – All woody vines greater than 3.28 ft i				
·				height.				
				Hydrophytic Vegetation				
				Present? Yes X No				

SOIL Sampling Point: FA-AP, AO, AN Wet

Profile Desc	ription: (Describe t	to the de				tor or co	nfirm the absence of	indicators.)				
Depth	Matrix			x Featur								
(inches)	Color (moist)	%	Color (moist)		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks				
1							2					
	ncentration, D=Depl	etion, RM	1=Reduced Matrix, N	/IS=Masl	ked Sand	Grains.		=Pore Lining, M=Matrix.				
Hydric Soil I								r Problematic Hydric Soils <sup>3</sup> :				
Histosol (	· · · · · ·		Dark Surface (					ck (A10) (LRR K, L, MLRA 149B)				
	ipedon (A2)		Polyvalue Belo		ce (S8) (I	_RR R,		airie Redox (A16) (LRR K, L, R)				
Black His			MLRA 149B	•			5 cm Mucky Peat or Peat (S3) (LRI					
	n Sulfide (A4)		Thin Dark Surf		-							
	Layers (A5)		High Chroma S									
	Below Dark Surface	(A11)	Loamy Mucky			R K, L)	Iron-Manganese Masses (F12) (LRR K, L, R)					
	rk Surface (A12)		Loamy Gleyed		F2)			Floodplain Soils (F19) ( <b>MLRA 149B</b> )				
Mesic Sp	odic (A17)		Depleted Matri	x (F3)				nt Material (F21) <b>(outside MLRA 145</b> )				
(MLR	A 144A, 145, 149B)		Redox Dark Su		-			llow Dark Surface (F22)				
Sandy M	ucky Mineral (S1)		Depleted Dark	Surface	(F7)		Other (Ex	rplain in Remarks)				
	eyed Matrix (S4)		Redox Depress		8)							
	edox (S5)		Marl (F10) ( <b>LR</b>					s of hydrophytic vegetation and				
Stripped	Matrix (S6)		Red Parent Ma	aterial (F	21) <b>(MLF</b>	RA 145)	wetland	d hydrology must be present,				
							unless	disturbed or problematic.				
Restrictive L	ayer (if observed):											
Type: _												
Depth (in	ches):						Hydric Soil Presen	t? Yes X No				
Remarks:			<u> </u>									
	undated and domina	ated by O	BL and FACW spec	ies, ther	efore soi	ls were no	ot obtained.					
		•	·									



Wetland FA-AP, AO, AN (7A-X-10) - View facing southwest.



Wetland FA-AP, AO, AN (7A-X-10) - Soils

Segment 11 – Package 7A

### **SITE PHOTOGRAPHS**

#### U.S. Army Corps of Engineers

#### WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CHPE	(	City/County: Catskil	/ Greene County	Sampling Date: 1/31/23
Applicant/Owner: TDI			State: NY	Sampling Point: FA-AP, AO, AN Upland
Investigator(s): N. Frazer & J. Greaves		Section, To	wnship, Range:	
Landform (hillside, terrace, etc.): hillslope	Local re	lief (concave, conve	x, none): convex	Slope %:3
Subregion (LRR or MLRA): LRR R	Lat: 42-14-34.95N	Long:	73-51-33.54W	Datum: WGS84
Soil Map Unit Name: Nassau channery silt le	oam (NrD)		NWI classification:	 : n/a
Are climatic / hydrologic conditions on the site	e typical for this time of year?	Yes x	No (If no.	, explain in Remarks.)
	•		`	,
<del></del>				·
Hydrophytic Vegetation Present?	Yes No _X_	Is the Sampled A	rea	
Hydric Soil Present?	Yes No X			X
	State   NY   Sampling Point   State   NY   Sampling Point   Stigator(s)   N. Frazer & J. Greaves   Section, Township, Range:   Section, Town			
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (	minimum of two required)
Primary Indicators (minimum of one is require	red; check all that apply)		Surface Soil Crack	(s (B6)
· · ·	<del></del>	9)		
				·
	<del></del>	•	<u> </u>	` '
				= : : :
				` ,
	<del></del>	Tilled Golls (Go)		
		s)		
	· — ` `	-,		
Field Observations:	,		<del>_</del>	
	No x Depth (inches):			
Water Table Present? Yes	No x Depth (inches):			
Saturation Present? Yes			d Hydrology Present?	Yes No X
(includes capillary fringe)		_		
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, prev	rious inspections), if	available:	
Remarks:				

### **VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size: 30' )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Quercus rubra	50	Yes	FACU	
Ostrya virginiana	10	No	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
3.				Total Number of Dominant
4.				Species Across All Strata: 4 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 0.0% (A/B)
7		<u> </u>		Prevalence Index worksheet:
	60	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species0 x 1 =0
1. Pinus strobus	20	Yes	FACU	FACW species 0 x 2 = 0
2. Fagus grandifolia	10	Yes	FACU	FAC species 0 x 3 = 0
3. Rubus allegheniensis	2	No	FACU	FACU species108 x 4 =432
4				UPL species0 x 5 =0
5				Column Totals: 108 (A) 432 (B)
6.				Prevalence Index = B/A = 4.00
7				Hydrophytic Vegetation Indicators:
	32	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5' )				2 - Dominance Test is >50%
1. Fagus grandifolia	15	Yes	FACU	3 - Prevalence Index is ≤3.0 <sup>1</sup>
Juniperus virginiana	1	No	FACU	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
3.				data in Remarks or on a separate sheet)
4				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
5		. <u></u>		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
6				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
	16	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30' )				Woody vines – All woody vines greater than 3.28 ft in
1.				height.
2.				Hydrophytic
3.				Vegetation
4.				Present?
		=Total Cover		
Remarks: (Include photo numbers here or on a separ	rate sheet.)			

Sampling Point: FA-AP, AO, AN Upland

SOIL Sampling Point FA-AP, AO, AN Upland

	•	the de	-			tor or co	onfirm the absence of ind	licators.)
Depth	Matrix			x Featur		. 2		
(inches)	Color (moist)		Color (moist)		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-4	10YR 2/1	100					Loamy/Clayey	
4-10	2.5Y 4/3	100					Loamy/Clayey	
							· ·	
								_
<sup>1</sup> Type: C=Co	ncentration, D=Deple	tion, RN	======================================	 √S=Masl	ked Sand	Grains.	<sup>2</sup> Location: PL=Pe	ore Lining, M=Matrix.
Hydric Soil In	ndicators:							roblematic Hydric Soils <sup>3</sup> :
Histosol (	A1)		Dark Surface (	(S7)			2 cm Muck (/	A10) ( <b>LRR K, L, MLRA 149B</b> )
Histic Epi	pedon (A2)		Polyvalue Beld	ow Surfac	ce (S8) (I	LRR R,	Coast Prairie	Redox (A16) ( <b>LRR K, L, R</b> )
Black His			MLRA 149B	•				Peat or Peat (S3) (LRR K, L, R)
	Sulfide (A4)		Thin Dark Surf					elow Surface (S8) (LRR K, L)
	Layers (A5)	(444)	High Chroma S					urface (S9) (LRR K, L)
	Below Dark Surface	(A11)	Loamy Mucky			≺ K, L)		ese Masses (F12) (LRR K, L, R)
	k Surface (A12) odic (A17)		Loamy Gleyed Depleted Matri		12)			podplain Soils (F19) ( <b>MLRA 149B</b> ) Material (F21) <b>(outside MLRA 145)</b>
	A 144A, 145, 149B)		Redox Dark St		·6)			Dark Surface (F22)
	ucky Mineral (S1)		Depleted Dark				<del></del>	in in Remarks)
Sandy Gl	eyed Matrix (S4)		Redox Depres					,
Sandy Re	edox (S5)		Marl (F10) ( <b>LR</b>	RK, L)			<sup>3</sup> Indicators of	f hydrophytic vegetation and
Stripped	Matrix (S6)		Red Parent Ma	aterial (F	21) <b>(MLF</b>	RA 145)	wetland hy	drology must be present,
							unless dist	urbed or problematic.
	ayer (if observed):							
Type: _	rock							
Depth (in	ches):	10					Hydric Soil Present?	Yes No _X
Remarks:								



Upland FA-AO, AP, AN (7A-X-10) - View facing east.



Upland FA-AO, AP, AN (7A-X-10) - Soils

Segment 11 – Package 7A

**SITE PHOTOGRAPHS** 

#### WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site:	Champlain Huds	on Express		City/Coun	nty: Greene		S	ampling Date:	November 17, 2021
Applicant/Owner:	CHA			State:	NY		Sa	ampling Point:	Wet FA-AP, AO, AN
Investigator(s):	Tristen Peterson			Section, To	ownship, Range:	Catskill			
Landform (hillslope,		Depression		·	f (concave, convex		Concave		Slope (%): 1
	•	LRR R		Lat: 42.242503°		ng: -73.85998			Datum: NAD83
Subregion (LRR or			Eller vary ro		'N Lon	lg: -13.00990		" -ti-n. Not	
Soil Map Unit Name		u channery silt loam			V N		NWI classif		Mapped
Are climatic / hydrol	· ·	•	•			(If no.			
		, or Hydrology				"Normal Circun	mstances" pı	resent?	Yes X No
Are Vegetation	, Soil	, or Hydrology	natu	rally problematic?	? (If ne	eeded, explain	any answers	s in Remarks.	)
SUMMA	ARY OF FIND	NGS – Attach	site map s	showing sam	pling point lo	cations, tr	ansects,	important	features, etc.
Hydrophytic Vege	etation Present?	Yes	<b>X</b> No		Is the Sampled	Area			
Hydric Soil Prese		Yes	<b>X</b> No		within a Wetland		Yes	X No	
Wetland Hydrolog		Yes	X No		If yes, optional W	/etland Site ID:	: <u>AP</u>		_
HYDROLOGY									
	Indicatora						Casandonyl		in the required
Wetland Hydrolo		i des els abands	" " -t -mah.()						imum of two required)
-		is required; check		Otainad Lagyon (I	20)		<u>.</u> l	oil Cracks (B6)	
X High Water				Stained Leaves (B c Fauna (B13)	39)	<u>X</u>	•	Patterns (B10) Lines (B16)	
X Saturation (A				eposits (B15)		_		n Lines (616) on Water Table	a (C2)
Water Marks	-			gen Sulfide Odor (0	(C1)		•	urrows (C8)	, (02)
Sediment De					on Living Roots (C	.3)			rial Imagery (C9)
Drift Deposit				nce of Reduced Iro	= -			Stressed Plan	
Algal Mat or				t Iron Reduction in	,	X	<u>.</u> l	nic Position (D	
Iron Deposits	s (B5)		Thin M	uck Surface (C7)		<u> </u>	Shallow Ad	quitard (D3)	
	isible on Aerial Im		Other (	(Explain in Remark	ks)		Microtopoç	graphic Relief	(D4)
Sparsely Ve	getated Concave S	Surface (B8)					FAC-Neutr	ral Test (D5)	
Field Observatio	ns:								
Surface Water Pre		Yes No							
Water Table Pres		Yes X No			'	Wetland Hydr	rology Pres	ent? Yes	s <u>X</u> No
Saturation Preser		Yes X No	Depth	(inches): 2					
(includes capillary  Describe Records	<u> </u>	auge, monitoring we	ell aerial photo	os previous inspe	ections) if available	<u> </u>			
D0001100 1.000	שנע נטווטעוויי פיי	iugo, mormeg	oli, aonai piicii	75, proviousor -	, ii a . a . a . a	<b>7.</b>			
Remarks:									

ree Stratum (Plot size: 30 ft. )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
				Number of Dominant Species That Are OBL, FACW, or FAC	: 4 (A)
				Total Number of Dominant Species Across All Strata:	4 (B)
				December 1 December 1 October	
				Percent of Dominant Species That Are OBL, FACW, or FAC	:100(A/E
				Prevalence Index worksheet	
		T-t-I O		Total % Cover of:	Multiply by:
	0	= Total Cover			x 1 = 35
pling/Shrub Stratum (Plot size: 15 ft.)				FACW species 70  FAC species 0	x = 2 = 140 x = 3 = 0
Cornus amomum	15	Yes	FACW	FACU species 5	
Cornus alba	30	Yes	FACW	UPL species 0	x 5 = 0
					(A) 195 (B
					( )
				Prevalence Index = B/A	= 1.77
				Hydrophytic Vegetation Indi	cators:
				X 1 - Rapid Test for Hydrop	hytic Vegetation
				X 2 - Dominance Test is >5	
oh Otroburg (Disk sings 5.44)	45	= Total Cover		X 3 - Prevalence Index is ≤ 4 - Morphological Adapta	
b Stratum (Plot size: 5 ft.)				data in Remarks or or	
Phalaris arundinacea	25	Yes	FACW		
Lythrum salicaria	35	Yes	OBL	Problematic Hydrophytic	Vegetation <sup>1</sup> (Explain)
Alliaria petiolata	5	No	FACU	<sup>1</sup> Indicators of hydric soil and w	·
				be present, unless disturbed o	r problematic.
				Definitions of Vegetation Str	ata:
				Tree – Woody plants 3 in. (7.6	cm) or more in diameter
				at breast height (DBH), regard	less of height.
				Sapling/shrub – Woody plant	s less than 3 in. DBH
				and greater than or equal to 3.	28 ft (1 m) tall.
				Herb – All herbaceous (non-w	oody) plants, regardless of
0.				size, and woody plants less the	an 3.28 ft tall.
1				Woody vines – All woody vine	es greater than 3.28 ft in
2				height.	
	65	= Total Cover			
pody Vine Stratum (Plot size: 30 ft.)					
				Hydrophytic	
				Vegetation Present? Yes	_X No
				103	
	0	= Total Cove	<u> </u>		

SOIL Sampling Point: DP-AP Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Color (moist) Color (moist) (inches) % Texture Remarks 10YR 2/1 100 Clay 0-6 10YR 3/2 2.5YR 4/6 6-12 10YR 3/2 2.5YR 4/6 Clay <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils<sup>3</sup>: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L, M) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR K, L) X Redox Dark Surface (F6) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Red Parent Material (F21) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) <sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: None Depth (inches): Hydric Soil Present? Yes No Remarks:



Wetland FA-AP, AO, AN - View facing north.



Wetland FA-AP, AO, AN - Soils

# Segment 11 - Package 7A

# **SITE PHOTOGRAPHS**

#### WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Nestigator(s): Tristen Peterson   Section, Township, Range: Catskill	Project/Site:	Champlain Huds	on Express		City/Coun	ity: Green	e	Sampling Date:	November 17, 2021			
Vereinstrict   Triston Peterson   Section, Township, Range: Catabill   Concess   Convex   Stope (%)   1   1   1   1   1   1   1   1   1	Applicant/Owner:	State: NY Sampling Point: Upi FAAP, AC estigatorOvmer: CHA State: NY Sampling Point: Upi FAAP, AC estigatorOvmer: CHAP State Peterson Section, Township, Range: Catskill Upi FAAP, AC extended (Concave, convex, none): Convex Slope (%):				Upl FA-AP, AO, AN						
Local relief (concave, correx, none):	Investigator(s):				Section, To	ownship, Range	e: Catskill		<u> </u>			
ubregion (LRR or MLRA): LRR R Lat. 42.242736*N Long: -73.858979*W Datum: NAD83  oil Mage Unit Name: NICh Nassau channery sit loam, filly, very cotely NN1 classification: Not Mapped re climatic? hydrologic conditions on the site typical for this time of year? Yes X No ((I'no, explain in Remarks.)  The Vegetation Soil or Hydrology assignificantly disturbed? Are "Normal Circumstances" present? Yes X No SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes No X Is the Sampled Area within a Wetland? Yes No X Science Water (I'm Within a Wetland? Yes No X Water Science (I'm Within a Wetland? Yes No X Water Science (I'm Within a Wetland? Yes No X Water Science (I'm Within a Wetland? Yes No X Water Science (I'm Within a Wetland? Yes No X Water Science (I'm Within a Wetland? Yes No X Water Science (I'm Within a Wetland? Yes No X Water Science (I'm Within a Wetland? Yes No X Water Science (I'm Within a Wetland? Yes No X Water Science (I'm Within a Wetland? Yes No X Water Science (I'm Within a Wetland? Yes No X Water Science (I'm Wit						_			Slone (%): 1			
iil Map Unit Name: M/D- Nassau channery sill toam, hilly, very rocky		•				•						
re dimatic / hydrologic conditions on the site typical for this time of year? Yes	Subregion (LRR or	MLR <u>A):</u>	LRR R		Lat: 42.242/36	°N	Long: -73.859879*VV		Datum: INADOS			
re Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No re Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes No X Is the Sampled Area within a Wetland Pydrology Present? Yes No X If yes, optional Wetland Site ID:  Wetland Hydrology Present? Yes No X If yes, optional Wetland Site ID:  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1) Aquatic Fauna (B13) Mare Stained Leaves (B8) Drainage Patterns (B10)  High Water Table (A2) Aquatic Fauna (B13) Moss Trim Lines (B16)  Surface Water (A1) Privage Sulfide Odor (C1) Crayfielh Burrows (C8)  Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfielh Burrows (C8)  Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Stautadion Visible on Aerial Imagery (C9)  Drift Deposits (B3) Presence of Reduced Iron (C4) Stautad of Stressed Plants (D1)  Spansey Vegetated Concave Surface (B8) Presence of Reduced Iron (C4) Shallow Aquatic (D3)  In undiation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)  Spansey Vegetated Concave Surface (B8) Price (B4) Depth (inches):  Water Table Present? Yes No X Depth (inches):  Wetland Hydrology Present? Yes No X Depth (inches):	Soil Map Unit Name	e: NrD- Nassau	u channery silt loam,	, hilly, very rocl	ky		NWI cla	ssification: Not N	Mapped			
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present?	Are climatic / hydrol	logic conditions on	the site typical for t	his time of yea	ır? Yes	<b>X</b> N	o (If no, explain	in Remarks.)				
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.  Hydrophylic Vegetation Present? Yes No X within a Wettand? Yes No X Wettand Hydrology Present? Yes No X Wettand Explain alternative procedures here or in a separate report.)  Upland data point for the AP portion of Wettand FA-AP, AO, AN, located at the bottom of a hillslope adjacent to an access road.  **POROLOGY**  Wettand Hydrology Indicators:    Secondary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (86)   Surface Valer (A1) Water-Stained Leaves (89) Drainage Patterns (810)   High Water Table (A2) Aqualic Fauna (813) Moss Tim Lines (816)   Saturation (A3) Moss Tim Lines (816)   Saturation (A3) Moss Tim Lines (816)   Secondary Indicators (minimum of two required)   Physical Research (A2) Moss Tim Lines (816)   Secondary Indicators (minimum of two required)   Physical Research (A2) Moss Tim Lines (816)   Day-Season Water Table (A2) Aqualic Fauna (813) Moss Tim Lines (816)   Secondary Indicators (minimum of two required)   Physical Research (A3) Moss Tim Lines (816)   Day-Season Water Table (A2) Moss Tim Lines (816)   Secondary Indicators (minimum of two required)   Physical Research (A3) Moss Tim Lines (816)   Day-Season Water Table (A2) Moss Tim Lines (816)   Day-Season Water Table (A2) Moss Tim Lines (816)   Secondary Indicators (minimum of two required)   Physical Research (A3) Moss Tim Lines (816)   Day-Season Water Table (A2) Moss Tim Lines (816)   Secondary Indicators (minimum of two required)   Physical Research (A3) Moss Tim Lines (816)   Day-Season Water Table (A2) Moss Tim Lines (A3)   Moss Tim Lines (A3) Moss Tim Lines (A3)   Moss Tim Lines (A3	Are Vegetation	, Soil	, or Hydrology	signifi	icantly disturbed	?	Are "Normal Circumstances	" present?	Yes X No			
Hydrophytic Vegetation Present? Yes No X within a Wetland? Wetland Hydrology Present? Yes No X If yes, optional Wetland Site ID: Wetland Hydrology Present? Wetland Hydrology Present? Wetland Hydrology Present? Wetland FA-AP, AO, AN, located at the bottom of a hillslope adjacent to an access road.  WPDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (Bib) High Water Table (A2) Aquatic Fauna (B13) Moss Trim Lines (B16) Saturation (A3) Mart Deposits (B15) Depth (and Soil Cracks (B2) Drill Deposits (B2) Drill Deposits (B2) Drill Deposits (B2) Drill Deposits (B2) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Final Mater Crust (B4) Final Mater (B4)	Are Vegetation	, Soil	, or Hydrology	natura	ally problematic?	· (I	If needed, explain any ans	wers in Remarks.)				
Hydric Soil Present?  Yes No X  Wetland Hydrology Present?  Yes No X  If yes, optional Wetland?  Yes No X  If yes, optional Wetland Site ID:  Wetland Hydrology Present?  Wetland Hydrology Present?  Wetland Hydrology Indicators (minimum of two required)  Primary Indicators (minimum of one is required; check all that apply)  Surface Soil Cracks (B6)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Primary Indicators (B10)  Water Marks (B1)  Primary Indicators (B2)  Oxidized Rhizospheres on Living Roots (C3)  Sediment Deposits (B3)  Presence of Reduced Iron (C4)  Signal Mat or Crust (B4)  Recent Iron Reduction in Tilled Soils (C6)  In Opposits (B3)  Presence of Reduced Iron (C4)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water (Pasent?  Yes No X  Depth (inches):  Water Fesent?  Yes No X  Depth (inches):  Water Marks (B1)  Presence of Reduced Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Wetland Hydrology Present?  Yes No X  Depth (inches):  We	SUMMA	ARY OF FIND	NGS – Attach	site map s	howing sam	pling point	locations, transect	ts, important f	features, etc.			
Hydric Soil Present?  Yes No X  Wetland Hydrology Present?  Yes No X  If yes, optional Wetland?  Yes No X  If yes, optional Wetland Site ID:  Wetland Hydrology Present?  Wetland Hydrology Present?  Wetland Hydrology Indicators (minimum of two required)  Primary Indicators (minimum of one is required; check all that apply)  Surface Soil Cracks (B6)  Surface Water (A1)  High Water Table (A2)  Aquatic Fauna (B13)  Aquatic Fauna (B13)  Agater Marks (B1)  Hydrogen Sulfide Odor (C1)  Sediment Deposits (B3)  Presence of Reduced Iron (C4)  Suturation (Na)  Again Mar Or Crust (B4)  Again Mar Or Crust (B4)  Recent Iron Reduction in Tilled Soils (C6)  In Indicator (Nation Area)  Again Marks (B1)  Again Marks (B4)  A	Hydrophytic Vege	etation Present?	Yes	No	х	Is the Sampl	ed Area					
Wetland Hydrology Present?  Ves No X If yes, optional Wetland Site ID:  Lemarks: (Explain alternative procedures here or in a separate report.)  Upland data point for the AP portion of Wetland FA-AP, AO, AN, located at the bottom of a hillslope adjacent to an access road.  Wetland Hydrology Indicators:  Wetland Hydrology Indicators:  Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Surface Water (A1)  Surface Water (A1)  High Water Table (A2)  Aquatic Fauna (B13)  And Deposits (B15)  Saturation (A3)  Mart Deposits (B15)  Sediment Deposits (B2)  Drift Deposits (B2)  Drift Deposits (B3)  Presence of Reduced Iron (C4)  Algal Mat or Crust (B4)  Recent Iron Reduction in Tilled Soils (C6)  Iron Deposits (B5)  Thundation Visible on Aerial Imagery (B7)  John Cher (Explain in Remarks)  Surface Soil Cracks (B6)  Drift Deposits (B5)  Thin Muck Surface (C7)  Shallow Aquitard (D3)  Intrudiator Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present?  Yes No X Depth (inches):  Wetland Hydrology Present? Yes No X Depth (inches):  Wetland Hydrology Present? Yes No X Depth (inches):  Wetland Hydrology Present? Yes No X Depth (inches):  Wetland Hydrology Present? Yes No X Depth (inches):  Wetland Hydrology Present? Yes No X Depth (inches):  Wetland Hydrology Present? Yes No X Depth (inches):  Wetland Hydrology Present? Yes No X Depth (inches):  Wetland Hydrology Present? Yes No X Depth (inches):  Wetland Hydrology Present? Yes No X Depth (inches):  Wetland Hydrology Present? Yes No X Depth (inches):  Wetland Hydrology Present? Yes No X Depth (inches):  Wetland Hydrology Present? Yes No X Depth (inches):  Wetland Hydrology Present? Yes No X Depth (inches):								No	X			
Upland data point for the AP portion of Wetland FA-AP, AO, AN, located at the bottom of a hillslope adjacent to an access road.    Very Company Indicators   Secondary Indicators (minimum of two required)	-		·			If yes, optiona	al Wetland Site ID:					
Primary Indicators (minimum of one is required; check all that apply)  Surface Soil Cracks (B6)  Surface Water (A1)  High Water Table (A2)  Aquatic Fauna (B13)  Moss Trim Lines (B16)  Saturation (A3)  Marl Deposits (B15)  Dry-Season Water Table (C2)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Marks:  Wetland Hydrology Present?  Yes  No  X  Depth (inches):  Wetland Hydrology Present?  Yes  No  X  Depth (inches):  Wetland Hydrology Present?  Yes  No  X  Depth (inches):  Wetland By available:  Remarks:	HYDROLOGY											
Primary Indicators (minimum of one is required; check all that apply)  Surface Soil Cracks (B6)  Surface Water (A1)  High Water Table (A2)  Aquatic Fauna (B13)  Moss Trim Lines (B16)  Saturation (A3)  Marl Deposits (B15)  Dry-Season Water Table (C2)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Marks:  Wetland Hydrology Present?  Yes  No  X  Depth (inches):  Remarks:	Wetland Hydrolo	ogy Indicators:					Seconda	ry Indicators (minir	mum of two required)			
Surface Water (A1)	_		is required; check a	all that apply)			-					
High Water Table (A2)  Aquatic Fauna (B13)  Moss Trim Lines (B16)  Saturation (A3)  Marl Deposits (B15)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Sediment Deposits (B2)  Oxidized Rhizospheres on Living Roots (C3)  Saturation Visible on Aerial Imagery (C9)  Drift Deposits (B3)  Presence of Reduced Iron (C4)  Iton Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present?  Yes  No  X  Depth (inches):  Water Table (A2)  Aquatic Fauna (B13)  Moss Trim Lines (B16)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)  Field Observations:  Surface Water Present?  Yes  No  X  Depth (inches):  Wetland Hydrology Present?  Yes  No  X  Depth (inches):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:		•			Stained Leaves (F	39)						
					-	,						
Sediment Deposits (B2)  Drift Deposits (B3)  Presence of Reduced Iron (C4)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present?  Yes  No  X  Depth (inches):  Wetland Hydrology Present?  Yes  No  X  Depth (inches):  Wetland Hydrology Present?  Yes  No  X  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Stunted or Stressed Plants (D1)  Shallow quitarion (D2)  Shallow quitarion (D	Saturation (A	<b>A3</b> )					Dry-Season Water Table (C2)					
Drift Deposits (B3)	Water Marks	s (B1)		Hydroge	en Sulfide Odor (	C1)	Crayfish Burrows (C8)					
Algal Mat or Crust (B4)	Sediment De	eposits (B2)		Oxidized	d Rhizospheres o	on Living Roots	ving Roots (C3) Saturation Visible on Aerial Imagery (C9)					
Iron Deposits (B5)				Presence	e of Reduced Iro	on (C4)	Stunted	I or Stressed Plant	ts (D1)			
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)  FAC-Neutral Test (D5)  Field Observations: Surface Water Present?  Water Table Present?  Yes No X Depth (inches): Wetland Hydrology 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, previous inspections), if available:  Remarks:	I —	, ,				•			)			
Sparsely Vegetated Concave Surface (B8)  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):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:			· <del></del>				<del></del>					
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):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:			• , , ,	Other (E	Explain in Remart	ks)			D4)			
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, previous inspections), if available:  Remarks:			Jul. 200 (= 1)				·	741.4				
Water Table Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Saturation Present? Yes No X Depth (inches): (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:			Yes No	X Depth (	(inches):							
Saturation Present? Yes No X Depth (inches): (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:							Wetland Hydrology P	resent? Yes	No X			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	Saturation Preser	nt?					<del>-</del> -		<del></del>			
Remarks:			<del></del>									
	Describe Recorde	ed Data (stream ga	auge, monitoring we	II, aerial photos	s, previous inspe	ections), if avail	able:					
	Remarks:											
	No wetland hyd	rology present a	at data point									

Tree Stratum (Plot size: 30 ft. )	Absolute % Cover		Indicator Status	Dominance Test worksheet:	
	70 COVE	Оресіез:	Otatus	Number of Dominant Species	(*)
1				That Are OBL, FACW, or FAC: 0	_(A)
2				Total Number of Dominant	(D)
3				Species Across All Strata: 3	_(B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 0	(A/B)
5					(700)
6				Prevalence Index worksheet:	
7				Total % Cover of: Multiply by:	-
	0	= Total Cover		OBL species 0 x 1 = 0	
Sapling/Shrub Stratum (Plot size: 15 ft.)				FACW species $0$ $x 2 = 0$ FAC species $0$ $x 3 = 0$	
Lonicera morrowii	30	Yes	FACU	FACU species 130 x 4 = 520	
2				UPL species 0 x 5 = 0	
3				Column Totals: 130 (A) 520	
4					
5				Prevalence Index = B/A = 4	
6				Hydrophytic Vegetation Indicators:	
7				1 - Rapid Test for Hydrophytic Vegetation	
	30	= Total Cover		2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 <sup>1</sup>	
Herb Stratum (Plot size: 5 ft.)		= Total Cover		4 - Morphological Adaptations <sup>1</sup> (Provide supporting	Ì
Solidago canadensis	60	Yes	FACU	data in Remarks or on a separate sheet)	
Dactylis glomerata	40		FACU	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
3.				<sup>1</sup> Indicators of hydric soil and wetland hydrology must	
				be present, unless disturbed or problematic.	
4				Definitions of Variation Strate.	
5				Definitions of Vegetation Strata:	
6				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
7					
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
9				Herb – All herbaceous (non-woody) plants, regardless of	f
10				size, and woody plants less than 3.28 ft tall.	'
11				Woody vines – All woody vines greater than 3.28 ft in	
12				height.	
	100	= Total Cover			
Woody Vine Stratum (Plot size: 30 ft.)					
1					
2				Hydrophytic Vegetation	
3.				Present? Yes No _X	
4.					
	0	= Total Cove	r		
Remarks: (Include photo numbers here or on a separate sheet.)		10141 0010			
No hydrophytic vegetation found at data point	'				

Sampling Point: DP-AP-Upland

SOIL Sampling Point: DP-AP-Upland Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Color (moist) Color (moist) (inches) % Texture Remarks 0-10 10YR 3/3 100 Silty Clay Loam <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils<sup>3</sup>: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L, M) Hydrogen Sulfide (A4) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Red Parent Material (F21) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) <sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Bedrock Depth (inches): 10 Hydric Soil Present? Yes No X Remarks: No hydric soils present at data point, could not dig past 10 inches due to bedrock



Upland FA-AP, AO, AN - View facing North.



Upland FA-AP, AO, AN - Soils.

# Segment 11 - Package 7A

# **SITE PHOTOGRAPHS**

#### WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site:	Champlain Huds	on Express		City/Coun	nty: Greene		s	Sampling Date	e: November 17, 2021
Applicant/Owner:	CHA			State:	NY		S	ampling Point:	: Wet FA-AP, AO, AN
Investigator(s):	Tristen Peterson	<u> </u>		Section, To	ownship, Range:	Catskill			
Landform (hillslope,		Depression			f (concave, convex, no		Concave		Slope (%): 1
Subregion (LRR or		LRR R		Lat: 42.241708°		-73.86023			Datum: NAD83
• .			1.91		'N LONG.			n n Ne	
Soil Map Unit Name		u channery silt loam					NWI classif		ot Mapped
Are climatic / hydrol	-		•			(If no,	, explain in I	Remarks.)	
		, or Hydrology				ormal Circun	nstances" p	resent?	Yes X No
Are Vegetation	, Soil	, or Hydrology	natu	rally problematic?	(If need	ded, explain	any answer	rs in Remarks	3.)
SUMMA	ARY OF FIND	NGS – Attach	site map s	showing sam	pling point loca	ations, tra	ansects,	importan	t features, etc.
Hydrophytic Vege	etation Present?	Yes	<b>X</b> No		Is the Sampled Are	ea			
Hydric Soil Prese		Yes	X No		within a Wetland?		Yes	X No	
Wetland Hydrolog		Yes	X No		If yes, optional Wetla	land Site ID:	: <u>AO</u>	)	
HYDROLOGY									
	Indicators						Cacandonil	l- disstare (mi	= '= of two required)
Wetland Hydrolo		'iadı abaalı	U the et annha)						nimum of two required)
		e is required; check				— <del>_</del>		oil Cracks (Be	
X High Water				Stained Leaves (E c Fauna (B13)	39)	<u>X</u>		Patterns (B10 n Lines (B16)	
X Saturation (A				eposits (B15)		_		on Water Tab	
Water Marks	-		<del></del>	gen Sulfide Odor (i	(C1)	_	=	Burrows (C8)	ie (02)
Sediment De			_	-	on Living Roots (C3)		-		erial Imagery (C9)
Drift Deposit				nce of Reduced Iro	= ' '	_		r Stressed Pla	
Algal Mat or				t Iron Reduction in	* *	Х		nic Position (E	
Iron Deposits	s (B5)		Thin M	luck Surface (C7)			Shallow A	quitard (D3)	•
	isible on Aerial Im		Other (	(Explain in Remarl	ks)	_	Microtopo	graphic Relie	f (D4)
Sparsely Ve	getated Concave S	Surface (B8)					FAC-Neuti	ral Test (D5)	
Field Observatio									
Surface Water Pre		Yes No _							
Water Table Pres		Yes X No			We	etland Hydr	ology Pres	ent? Ye	s <u>X</u> No
Saturation Preser		Yes X No	Depth	(inches): 8					
(includes capillary  Describe Records	<u> </u>	auge monitoring w	ell aerial photo	os previous inspe	ections), if available:				
Describe Necesar	u Data (Stroum go	luge, mormoring	ell, aeriai prioc	3, previous mops	ollona, ii avanabio.				
Remarks:									

ee Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test	worksheet:			
				Number of Domin			3	(A)
								(, ,
				Total Number of I Species Across A			4	(B)
				Percent of Domin	ant Species			
				That Are OBL, FA			75	(A/E
				Prevalence Inde		N	lultiply by:	_
	<u> </u>	= Total Cover		OBL species	15	x 1 =	15	
oling/Shrub Stratum (Plot size: 15 ft.)				FACW species	110	x 2 =	220	
Cornus amomum	25	Yes	FACW	FAC species	0	x 3 =	0	
Cornus alba			FACW	FACU species	25	x 4 =	100	
	5		FACW	UPL species	0	-		
				Column Totals:	150	(A)	335	(B
				Prevalence	e Index = B/A =	2.23		
				Hydrophytic Veg	notation Indica	tors:		
				1	est for Hydrophy		tation	
				X 2 - Dominan	ce Test is >50%	6		
	50	= Total Cover		X 3 - Prevalen				
b Stratum (Plot size: 5 ft.)				4 - Morpholo	ogical Adaptatio Remarks or on a			ng
Phalaris arundinacea	60	Yes	FACW	data iii i	ternaries or our c	Сориги	o snoot)	
Solidago canadensis	25	Yes	FACU	Problematic	Hydrophytic Ve	egetation	<sup>1</sup> (Explain)	
Lythrum salicaria	15	No	OBL	<sup>1</sup> Indicators of hyd	fric soil and wet	land hyd	Irology must	
				be present, unles	s disturbed or p	roblema	tic.	
				Definitions of Ve	egetation Strat	a:		
				Tree – Woody pla	ants 3 in. (7.6 ci	m) or mo	re in diamete	r
				at breast height (I	DBH), regardles	ss of hei	ght.	
				Sapling/shrub –	Woody plants I	ess than	3 in. DBH	
				and greater than	or equal to 3.28	3 ft (1 m)	tall.	
).				Herb – All herbad			_	of
				size, and woody	olants less than	3.28 ft t	all.	
1				Woody vines – A	II woody vines	greater t	han 3.28 ft in	
2		T		height.				
	100	= Total Cover						
ody Vine Stratum (Plot size: 30 ft.)								
				Hydrophytic				
				Vegetation				
				Present?	Yes .	<u> </u>	۱o	
		= Total Cove						

SOIL Sampling Point: DP-AO Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Color (moist) Color (moist) Loc<sup>2</sup> (inches) Texture Remarks 10YR 3/2 70 7.5YR 5/6 Clay 0-8 10YR 3/1 7.5YR 5/6 Clay <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils<sup>3</sup>: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L, M) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR K, L) X Redox Dark Surface (F6) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Red Parent Material (F21) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) <sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: None Depth (inches): Hydric Soil Present? Yes No Remarks: