

**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*

*Prepared for:*  
**Transmission Developers Inc.**  
1301 Avenue of the Americas  
26<sup>th</sup> Floor  
New York, NY 10019

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

*June 2023*

SIGNATURE PAGE

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

Report Prepared By:



---

John W. Greaves  
Senior Scientist

Report Reviewed By:



---

Christopher R. Einstein, PWS  
Principal Scientist

## TABLE OF CONTENTS

1.0	INTRODUCTION .....	1
2.0	SEGMENT 11-PACKAGE 7A CORRIDOR OVERVIEW .....	2
3.0	WETLAND DELINEATION METHODOLOGY .....	4
4.0	WETLAND & WATERBODIES DELINEATION RESULTS.....	6
4.1	Vegetation .....	7
4.1.1	Palustrine Emergent Wetland .....	7
4.1.2	Palustrine Scrub-Shrub Wetland.....	8
4.1.3	Palustrine Forested Wetland .....	9
4.1.4	Open Water .....	9
4.2	Hydrology .....	10
4.2.1	Streams.....	10
4.2.2	Wetlands .....	10
4.3	Soils.....	10
4.4	Natural Resource Conservation Service Soil Series Descriptions.....	11
5.0	SUMMARY .....	15
6.0	REFERENCES .....	16

## LIST OF ATTACHMENTS

- Attachment 1 Wetland Determination Data Sheets and Wetland Photographs
- Attachment 2 NWI & State Wetland and Stream Mapping
- Attachment 3 NRCS Soil Mapping
- Attachment 4 Tables
- Attachment 5 Wetlands and Waterbodies Delineation Mapping
- Attachment 6 Waterbody Photographs



## **1.0 INTRODUCTION**

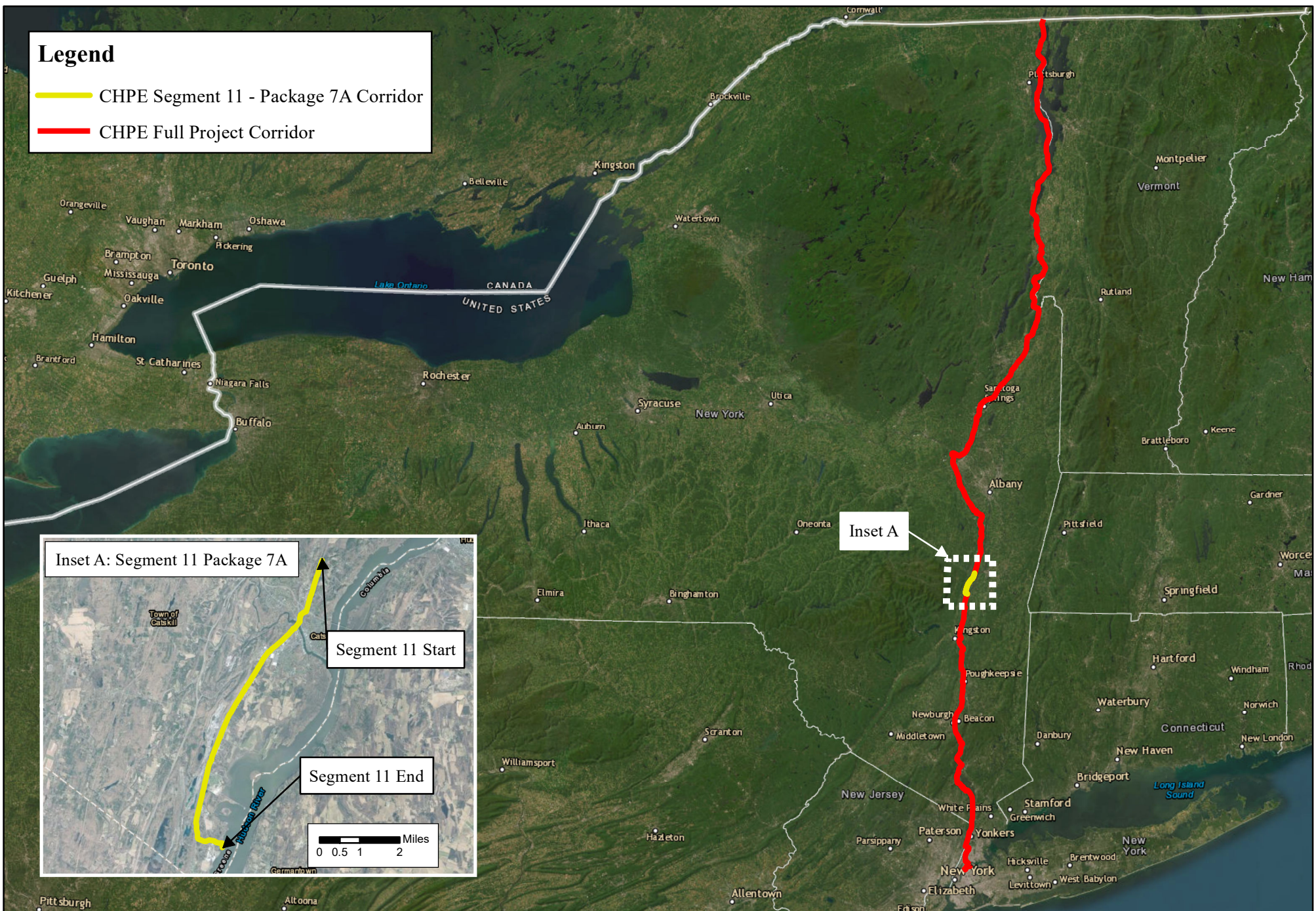
CHA Consulting, Inc. (“CHA”) has prepared this wetland and waterbodies delineation report on behalf of Champlain Hudson Power Express, Inc. (“CHPE”) and Kiewit Construction (Kiewit) for the Champlain Hudson Power Express Project (Project). CHA was retained by Kiewit to identify and delineate jurisdictional wetlands and waterbodies regulated under Section 404 of the Clean Water Act (CWA), Section 10 of the Rivers and Harbors Act of 1899, 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>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>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

- Browne, S. et. al. 1995. New York State Freshwater Wetlands Delineation Manual. New York State Department of Environmental Conservation, Division of Fish and Wildlife, Bureau of Habitat, Albany, NY.
- Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe, 1979. *Classification of wetlands and deepwater habitats of the United States*. U. S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.
- Edinger, G. J., D. J. Evans, S. Gebauer, T. G. Howard, D. M. Hunt, and A. M. Olivero (editors). 2014. *Ecological Communities of New York State*. Second Edition. A revised and expanded edition of Carol Reshke's *Ecological Communities of New York State*. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Natural Resources Conservation Service (NRCS), United States Department of Agriculture. Web soil Survey. Map Unit Descriptions. Accessed online May 10, 2022: <https://websoilsurvey.nrcs.usda.gov/app/>.
- New York State Department of Environmental Conservation. Lower Hudson Watershed. Accessed online May 4, 2022: <https://www.dec.ny.gov/lands/48367.html>.
- United States Army Corps of Engineers. 1987 Wetland Delineation Manual. Technical Report Y-87-1. Experimental Laboratory, Vicksburg, MS.
- United States Army Corps of Engineers. 2012. *Regional Supplement to the Corps of Engineers Wetland Manual: Northcentral and Northeast Region (Version 2.0)*. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.



**ATTACHMENT 1**  
**WETLAND DETERMINATION DATA SHEETS AND**  
**WETLAND PHOTOGRAPHS**

<b>U.S. Army Corps of Engineers</b> <b>WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region</b> See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R	<b>OMB Control #: 0710-0024, Exp: 11/30/2024</b> <b>Requirement Control Symbol EXEMPT:</b> <b>(Authority: AR 335-15, paragraph 5-2a)</b>
--	--

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, Township, Range: \_\_\_\_\_  
Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope %: 2  
Subregion (LRR or MLRA): LRR R Lat: 42.243688 Long: -73.859335 Datum: WGS84  
Soil Map Unit Name: NrD - Nassau channery silt loam, hilly, very rocky NWI classification: PEM1  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes x No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>near flag 7A-W-50</u>
---	--

Remarks: (Explain alternative procedures here or in a separate report.)  
Purple loosestrife marsh within a periodically maintained power line ROW.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators</u> (minimum of one is required; check all that apply) <u>X</u> Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ 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) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators</u> (minimum of two required) _____ Surface Soil Cracks (B6) <u>X</u> Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
--	---

<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>1</u> Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____
---	---

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

Remarks:  
Inundation limited to patchy areas within tire ruts and other small depressions.

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

 Sampling Point: 7A-W Wet (PEM)

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				<b>Prevalence Index worksheet:</b>  <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>70</u></td> <td>x 1 = <u>70</u></td> </tr> <tr> <td>FACW species <u>35</u></td> <td>x 2 = <u>70</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>115</u> (A)</td> <td><u>180</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>1.57</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>70</u>	x 1 = <u>70</u>	FACW species <u>35</u>	x 2 = <u>70</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>115</u> (A)	<u>180</u> (B)	Prevalence Index = B/A = <u>1.57</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>70</u>	x 1 = <u>70</u>																			
FACW species <u>35</u>	x 2 = <u>70</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>10</u>	x 4 = <u>40</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>115</u> (A)	<u>180</u> (B)																			
Prevalence Index = B/A = <u>1.57</u>																				
=Total Cover																				
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>																				
1. <u>Lonicera morrowii</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Cornus amomum</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover																				
<b>Herb Stratum (Plot size: <u>5'</u>)</b>																				
1. <u>Lythrum salicaria</u>	<u>60</u>	<u>Yes</u>	<u>OBL</u>																	
2. <u>Bidens frondosa</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Solidago gigantea</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																	
4. <u>Persicaria sagittata</u>	<u>10</u>	<u>No</u>	<u>OBL</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
=Total Cover																				
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
=Total Cover																				

**Hydrophytic Vegetation Indicators:**  
1 - Rapid Test for Hydrophytic Vegetation  
X 2 - Dominance Test is >50%  
X 3 - Prevalence Index is ≤3.0<sup>1</sup>  
4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
   Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<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.  
  
**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  
  
**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  
  
**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?**      Yes X      No

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

## SOIL

Sampling Point: 7A-W Wet (PEM)

[illegible]





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



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

**Segment 11 – Package 7A**

## **SITE PHOTOGRAPHS**

**Champlain Hudson Power Express**

<b>U.S. Army Corps of Engineers</b> <b>WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region</b> See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R	<b>OMB Control #: 0710-0024, Exp: 11/30/2024</b> <b>Requirement Control Symbol EXEMPT:</b> <b>(Authority: AR 335-15, paragraph 5-2a)</b>
--	--

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, Township, Range: \_\_\_\_\_

Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope %: 5

Subregion (LRR or MLRA): LRR R Lat: 42.243770 Long: -73.859324 Datum: WGS84

Soil Map Unit Name: NrD - Nassau channery silt loam, hilly, very rocky NWI classification: \_\_\_\_\_

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

Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes x No \_\_\_\_\_

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

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u> If yes, optional Wetland Site ID: <u>Upland adjacent to Wetland 7A-W near flag 50</u>
---	---

Remarks: (Explain alternative procedures here or in a separate report.)  
 Successional old field within periodically maintained power line ROW.

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Surface Water (A1)  <input type="checkbox"/> High Water Table (A2)  <input type="checkbox"/> Saturation (A3)  <input type="checkbox"/> Water Marks (B1)  <input type="checkbox"/> Sediment Deposits (B2)  <input type="checkbox"/> Drift Deposits (B3)  <input type="checkbox"/> Algal Mat or Crust (B4)  <input type="checkbox"/> Iron Deposits (B5)  <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)  <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)         </div> <div style="width: 50%;"> <input type="checkbox"/> Water-Stained Leaves (B9)  <input type="checkbox"/> Aquatic Fauna (B13)  <input type="checkbox"/> Marl Deposits (B15)  <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)  <input type="checkbox"/> Presence of Reduced Iron (C4)  <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)  <input type="checkbox"/> Thin Muck Surface (C7)  <input type="checkbox"/> Other (Explain in Remarks)         </div> </div>		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
---	--	---

<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u>
--	---

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

Remarks:

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

 Sampling Point: 7A-W Upl (PEM)

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				<b>Prevalence Index worksheet:</b>  <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>80</u></td> <td>x 4 = <u>320</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>105</u> (A)</td> <td><u>405</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>3.86</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>80</u>	x 4 = <u>320</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>105</u> (A)	<u>405</u> (B)	Prevalence Index = B/A = <u>3.86</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>20</u>	x 3 = <u>60</u>																			
FACU species <u>80</u>	x 4 = <u>320</u>																			
UPL species <u>5</u>	x 5 = <u>25</u>																			
Column Totals: <u>105</u> (A)	<u>405</u> (B)																			
Prevalence Index = B/A = <u>3.86</u>																				
=Total Cover																				
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>																				
1. <u>Lonicera morrowii</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover																				
<b>Herb Stratum (Plot size: <u>5'</u>)</b>																				
1. <u>Solidago canadensis</u>	<u>60</u>	<u>Yes</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  <u>      </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Setaria pumila</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u>Lonicera morrowii</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
4. <u>Potentilla simplex</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
5. <u>Monarda punctata</u>	<u>5</u>	<u>No</u>	<u>UPL</u>																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
=Total Cover																				
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
=Total Cover																				

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



## SOIL

Sampling Point: 7A-W UpI (PEM)

[illegible]





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



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

**Segment 11 – Package 7A**

## **SITE PHOTOGRAPHS**

**Champlain Hudson Power Express**

<b>U.S. Army Corps of Engineers</b> <b>WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region</b> See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R	<b>OMB Control #: 0710-0024, Exp: 11/30/2024</b> <b>Requirement Control Symbol EXEMPT:</b> <b>(Authority: AR 335-15, paragraph 5-2a)</b>
--	--

Project/Site: CHPE City/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, Township, Range: \_\_\_\_\_

Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope %: 3

Subregion (LRR or MLRA): LRR R Lat: 42.244490 Long: -73.858448 Datum: WGS84

Soil Map Unit Name: NrD - Nassau channery silt loam, hilly, very rocky NWI classification: PFO4

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

Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes x No \_\_\_\_\_

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>near flag 7A-W-7</u>
---	---

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

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators</u> (minimum of one is required; check all that apply)	<u>Secondary Indicators</u> (minimum of two required)
<div style="display: flex; justify-content: space-between;"> <div>           _____ Surface Water (A1)            _____ High Water Table (A2)  <u>X</u> Saturation (A3)            _____ Water Marks (B1)  <u>X</u> Sediment Deposits (B2)            _____ Drift Deposits (B3)            _____ Algal Mat or Crust (B4)            _____ Iron Deposits (B5)            _____ Inundation Visible on Aerial Imagery (B7)            _____ Sparsely Vegetated Concave Surface (B8)         </div> <div> <u>X</u> Water-Stained Leaves (B9)            _____ Aquatic Fauna (B13)            _____ Marl Deposits (B15)            _____ Hydrogen Sulfide Odor (C1)            _____ Oxidized Rhizospheres on Living Roots (C3)            _____ Presence of Reduced Iron (C4)            _____ Recent Iron Reduction in Tilled Soils (C6)            _____ Thin Muck Surface (C7)            _____ Other (Explain in Remarks)         </div> </div>	_____ Surface Soil Cracks (B6) <u>X</u> Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)

<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____
---	---

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

Remarks:

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

 Sampling Point: 7A-W Wet (PFO)

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u><i>Thuja occidentalis</i></u>	<u>50</u>	<u>Yes</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>83.3%</u> (A/B)																
2. <u><i>Acer rubrum</i></u>	<u>10</u>	<u>No</u>	<u>FAC</u>																	
3. <u><i>Fraxinus pennsylvanica</i></u>	<u>10</u>	<u>No</u>	<u>FACW</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>70</u>	=Total Cover																	
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>																				
1. <u><i>Fraxinus pennsylvanica</i></u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>	<b>Prevalence Index worksheet:</b>  <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>90</u></td> <td>x 2 = <u>180</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>7</u></td> <td>x 4 = <u>28</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>107</u> (A)</td> <td><u>238</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.22</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>90</u>	x 2 = <u>180</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>7</u>	x 4 = <u>28</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>107</u> (A)	<u>238</u> (B)	Prevalence Index = B/A = <u>2.22</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>90</u>	x 2 = <u>180</u>																			
FAC species <u>10</u>	x 3 = <u>30</u>																			
FACU species <u>7</u>	x 4 = <u>28</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>107</u> (A)	<u>238</u> (B)																			
Prevalence Index = B/A = <u>2.22</u>																				
2. <u><i>Lonicera morrowii</i></u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u><i>Rosa multiflora</i></u>	<u>2</u>	<u>No</u>	<u>FACU</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>17</u>	=Total Cover																	
<b>Herb Stratum (Plot size: <u>5'</u>)</b>																				
1. <u><i>Onoclea sensibilis</i></u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  <u>      </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u><i>Fraxinus pennsylvanica</i></u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u><i>Cornus amomum</i></u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
		<u>20</u>	=Total Cover																	
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>																				
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
		_____	=Total Cover																	

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

## SOIL

Sampling Point: 7A-W Wet (PFO)

[illegible]





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



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

<b>U.S. Army Corps of Engineers</b> <b>WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region</b> See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R	<b>OMB Control #: 0710-0024, Exp: 11/30/2024</b> <b>Requirement Control Symbol EXEMPT:</b> <b>(Authority: AR 335-15, paragraph 5-2a)</b>
--	--

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, Township, Range: \_\_\_\_\_

Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope %: 15

Subregion (LRR or MLRA): LRR R Lat: 42.243406 Long: -73.858858 Datum: WGS84

Soil Map Unit Name: NrD - Nassau channery silt loam, hilly, very rocky NWI classification: \_\_\_\_\_

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

Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes x No \_\_\_\_\_

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

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u> If yes, optional Wetland Site ID: <u>near flag 7A-W-7</u>
---	---

Remarks: (Explain alternative procedures here or in a separate report.)  
 Mixed evergreen/deciduous forest.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ 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) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
---	---

<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u>
--	---

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

Remarks:

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

 Sampling Point: 7A-W Upl (PFO)

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u><i>Thuja occidentalis</i></u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>8</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25.0%</u> (A/B)																
2. <u><i>Acer rubrum</i></u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u><i>Acer saccharum</i></u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>																	
4. <u><i>Pinus strobus</i></u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>																	
5. <u><i>Quercus rubra</i></u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
<u>100</u>		=Total Cover		<b>Prevalence Index worksheet:</b>  <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>83</u></td> <td>x 4 = <u>332</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>123</u></td> <td>(A) <u>432</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>3.51</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>83</u>	x 4 = <u>332</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>123</u>	(A) <u>432</u> (B)	Prevalence Index = B/A = <u>3.51</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>20</u>	x 2 = <u>40</u>																			
FAC species <u>20</u>	x 3 = <u>60</u>																			
FACU species <u>83</u>	x 4 = <u>332</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>123</u>	(A) <u>432</u> (B)																			
Prevalence Index = B/A = <u>3.51</u>																				
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>																				
1. <u><i>Acer saccharum</i></u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
<u>5</u>		=Total Cover																		
<b>Herb Stratum (Plot size: <u>5'</u>)</b>																				
1. <u><i>Alliaria petiolata</i></u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  <u>_____</u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u><i>Symphyotrichum ericoides</i></u>	<u>8</u>	<u>Yes</u>	<u>FACU</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
<u>18</u>		=Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>																				
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
<u>_____</u>		=Total Cover		<b>Hydrophytic Vegetation Present?</b> Yes <u>_____</u> No <u>X</u>																

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

## SOIL

Sampling Point: 7A-W Upl (PFO)

[illegible]





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



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

**Segment 11 – Package 7A**

## **SITE PHOTOGRAPHS**

**Champlain Hudson Power Express**

<b>U.S. Army Corps of Engineers</b> <b>WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region</b> See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R	<b>OMB Control #: 0710-0024, Exp: 11/30/2024</b> <b>Requirement Control Symbol EXEMPT:</b> <b>(Authority: AR 335-15, paragraph 5-2a)</b>
--	--

Project/Site: CHPE City/County: Catskill / Greene County Sampling Date: 1/31/23  
Applicant/Owner: TDI State: NY Sampling Point: FA-AP, AD, AN Wet  
Investigator(s): N. Frazer & J. Greaves Section, Township, Range: \_\_\_\_\_  
Landform (hillside, terrace, etc.): depression/ponded Local relief (concave, convex, none): concave Slope %: 0  
Subregion (LRR or MLRA): LRR R Lat: 42-14-35.07N Long: 73-51-33.73W Datum: WGS84  
Soil Map Unit Name: Nassau channery silt loam (NrD) NWI classification: PEM  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are “Normal Circumstances” present? Yes x No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>near flag 7A-X-10</u>
---	--

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

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators</u> (minimum of one is required; check all that apply) <u>X</u> Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) <u>X</u> Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators</u> (minimum of two required) _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
---	---

<b>Field Observations:</b> Surface Water Present? Yes <u>x</u> No _____ Depth (inches): <u>5</u> Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____
---	---

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

Remarks:  
ponded

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

 Sampling Point: FA-AP, AO, AN Wet

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)  <b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>40</u></td> <td>x 1 = <u>40</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>60</u> (A)</td> <td><u>80</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>1.33</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>40</u>	x 1 = <u>40</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>60</u> (A)	<u>80</u> (B)	Prevalence Index = B/A = <u>1.33</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>40</u>	x 1 = <u>40</u>																			
FACW species <u>20</u>	x 2 = <u>40</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>60</u> (A)	<u>80</u> (B)																			
Prevalence Index = B/A = <u>1.33</u>																				
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		=Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>																				
1. <u>Fraxinus pennsylvanica</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Cornus amomum</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		=Total Cover																		
<b>Herb Stratum (Plot size: <u>5'</u>)</b>																				
1. <u>Carex stricta</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  <u>      </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Lythrum salicaria</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>																	
3. <u>Onoclea sensibilis</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
		=Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>																				
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
		=Total Cover																		

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

## SOIL

Sampling Point: FA-AP, AO, AN Wet

[illegible]





**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**

**Champlain Hudson Power Express**

<b>U.S. Army Corps of Engineers</b> <b>WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region</b> See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R	<b>OMB Control #: 0710-0024, Exp: 11/30/2024</b> <b>Requirement Control Symbol EXEMPT:</b> <b>(Authority: AR 335-15, paragraph 5-2a)</b>
--	--

Project/Site: CHPE City/County: Catskill / Greene County Sampling Date: 1/31/23  
Applicant/Owner: TDI State: NY Sampling Point: FA/AP, AD, AN Upland  
Investigator(s): N. Frazer & J. Greaves Section, Township, Range: \_\_\_\_\_  
Landform (hillside, terrace, etc.): hillslope Local relief (concave, convex, 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 loam (NrD) NWI classification: n/a  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are “Normal Circumstances” present? Yes x No \_\_\_\_\_  
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u> If yes, optional Wetland Site ID: <u>near flag 7A-X-10</u>
---	--

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

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ____ Surface Water (A1)      ____ Water-Stained Leaves (B9) ____ High Water Table (A2)      ____ Aquatic Fauna (B13) ____ Saturation (A3)      ____ Marl Deposits (B15) ____ Water Marks (B1)      ____ Hydrogen Sulfide Odor (C1) ____ Sediment Deposits (B2)      ____ Oxidized Rhizospheres on Living Roots (C3) ____ Drift Deposits (B3)      ____ Presence of Reduced Iron (C4) ____ 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)      ____ Other (Explain in Remarks) ____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ____ Surface Soil Cracks (B6) ____ Drainage Patterns (B10) ____ Moss Trim Lines (B16) ____ Dry-Season Water Table (C2) ____ Crayfish Burrows (C8) ____ Saturation Visible on Aerial Imagery (C9) ____ Stunted or Stressed Plants (D1) ____ Geomorphic Position (D2) ____ Shallow Aquitard (D3) ____ Microtopographic Relief (D4) ____ FAC-Neutral Test (D5)
---	--

<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u>
--	---

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

Remarks:



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

 Sampling Point: FA-AP, AO, AN Upland

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Quercus rubra</u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)  <b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>108</u></td> <td>x 4 = <u>432</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>108</u> (A)</td> <td><u>432</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>4.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>108</u>	x 4 = <u>432</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>108</u> (A)	<u>432</u> (B)	Prevalence Index = B/A = <u>4.00</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>108</u>	x 4 = <u>432</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>108</u> (A)	<u>432</u> (B)																			
Prevalence Index = B/A = <u>4.00</u>																				
2. <u>Ostrya virginiana</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>60</u>	=Total Cover	<b>Hydrophytic Vegetation Indicators:</b> <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  <u>Problematic Hydrophytic Vegetation</u> <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>																				
1. <u>Pinus strobus</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Fagus grandifolia</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Rubus allegheniensis</u>	<u>2</u>	<u>No</u>	<u>FACU</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>32</u>	=Total Cover	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.  <b>Hydrophytic Vegetation Present?</b> Yes <u>      </u> No <u>X</u>																
<b>Herb Stratum (Plot size: <u>5'</u>)</b>																				
1. <u>Fagus grandifolia</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Juniperus virginiana</u>	<u>1</u>	<u>No</u>	<u>FACU</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
		<u>16</u>	=Total Cover																	
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
		_____	=Total Cover																	

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

## SOIL

**Sampling Point:** FA-AP, AO, AN Upland

[illegible]



**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**

**Champlain Hudson Power Express**



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Champlain Hudson Express City/County: Greene Sampling Date: November 17, 2021

Applicant/Owner: CHA State: NY Sampling Point: Wet FA-AP, AO, AN

Investigator(s): Tristen Peterson Section, Township, Range: Catskill

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR R Lat: 42.242503°N Long: -73.859980°W Datum: NAD83

Soil Map Unit Name: NrD- Nassau channery silt loam, hilly, very rocky NWI classification: Not Mapped

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

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

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

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u>      </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u>      </u>
Hydric Soil Present?	Yes <u>X</u> No <u>      </u>	
Wetland Hydrology Present?	Yes <u>X</u> No <u>      </u>	

If yes, optional Wetland Site ID: AP

Remarks: (Explain alternative procedures here or in a separate report.)  
PSS Wetland located within a depression adjacent to access road and railroad bed

## HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<u>      </u> Surface Water (A1)	<u>X</u> Water-Stained Leaves (B9)	<u>      </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u>      </u> Aquatic Fauna (B13)	<u>X</u> Drainage Patterns (B10)
<u>X</u> Saturation (A3)	<u>      </u> Marl Deposits (B15)	<u>      </u> Moss Trim Lines (B16)
<u>      </u> Water Marks (B1)	<u>      </u> Hydrogen Sulfide Odor (C1)	<u>      </u> Dry-Season Water Table (C2)
<u>      </u> Sediment Deposits (B2)	<u>      </u> Oxidized Rhizospheres on Living Roots (C3)	<u>      </u> Crayfish Burrows (C8)
<u>      </u> Drift Deposits (B3)	<u>      </u> Presence of Reduced Iron (C4)	<u>      </u> Saturation Visible on Aerial Imagery (C9)
<u>      </u> Algal Mat or Crust (B4)	<u>      </u> Recent Iron Reduction in Tilled Soils (C6)	<u>      </u> Stunted or Stressed Plants (D1)
<u>      </u> Iron Deposits (B5)	<u>      </u> Thin Muck Surface (C7)	<u>X</u> Geomorphic Position (D2)
<u>      </u> Inundation Visible on Aerial Imagery (B7)	<u>      </u> Other (Explain in Remarks)	<u>      </u> Shallow Aquitard (D3)
<u>      </u> Sparsely Vegetated Concave Surface (B8)		<u>      </u> Microtopographic Relief (D4)
		<u>      </u> FAC-Neutral Test (D5)

<b>Field Observations:</b> Surface Water Present? Yes <u>      </u> No <u>X</u> Depth (inches): Water Table Present? Yes <u>X</u> No <u>      </u> Depth (inches): 5 Saturation Present? Yes <u>X</u> No <u>      </u> Depth (inches): 2 (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u>      </u>
--	--

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

Remarks:

Sampling Point: DP-AP

Tree Stratum (Plot size: 30 ft. )		Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
6.				
7.				
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)				
1.	Cornus amomum	15	Yes	FACW
2.	Cornus alba	30	Yes	FACW
3.				
4.				
5.				
6.				
7.				
		45	= Total Cover	
Herb Stratum (Plot size: 5 ft.)				
1.	Phalaris arundinacea	25	Yes	FACW
2.	Lythrum salicaria	35	Yes	OBL
3.	Alliaria petiolata	5	No	FACU
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		65	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)				
1.				
2.				
3.				
4.				
		0	= Total Cover	

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>35</u>	x 1 = <u>35</u>
FACW species <u>70</u>	x 2 = <u>140</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>5</u>	x 4 = <u>20</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>110</u>	(A) <u>195</u> (B)

Prevalence Index = B/A = 1.77

**Hydrophytic Vegetation Indicators:**

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0<sup>1</sup>

   4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

   Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<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.

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

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

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

**Hydrophytic Vegetation Present?**

Yes    No X

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

## SOIL

Sampling Point: DP-AP

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

[illegible]<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:

- |   |  |
|---|--|
| <input type="checkbox"/> Histosol (A1)                                | <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R</b> ,     |
| <input type="checkbox"/> Histic Epipedon (A2)                         | <b>MLRA 149B)</b>  |
| <input type="checkbox"/> Black Histic (A3)                            | <input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b> |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                        | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L</b> )      |
| <input type="checkbox"/> Stratified Layers (A5)                       | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                          |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)            | <input type="checkbox"/> Depleted Matrix (F3)                              |
| <input type="checkbox"/> Thick Dark Surface (A12)                     | <input checked="" type="checkbox"/> <b>X</b> Redox Dark Surface (F6)       |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                     | <input type="checkbox"/> Depleted Dark Surface (F7)                        |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                     | <input type="checkbox"/> Redox Depressions (F8)                            |
| <input type="checkbox"/> Sandy Redox (S5)                             |  |
| <input type="checkbox"/> Stripped Matrix (S6)                         |  |
| <input type="checkbox"/> Dark Surface (S7) ( <b>LRR R, MLRA 149B)</b> |  |

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)  
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)  
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)  
☐ Dark Surface (S7) (**LRR K, L, M**)  
☐ Polyvalue Below Surface (S8) (**LRR K, L**)  
☐ Thin Dark Surface (S9) (**LRR K, L**)  
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)  
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)  
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)  
☐ Red Parent Material (F21)  
☐ Very Shallow Dark Surface (TF12)  
☐ 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	X	No
----------------------	-----	---	----

Remarks:





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



Wetland FA-AP, AO, AN - Soils

**Segment 11 - Package 7A**

## **SITE PHOTOGRAPHS**

**Champlain Hudson Power Express**

Project/Site:	Champlain Hudson Express		City/County:	Greene		Sampling Date:	November 17, 2021	
Applicant/Owner:	CHA		State:	NY		Sampling Point:	Upl FA-AP, AO, AN	
Investigator(s):	Tristen Peterson		Section, Township, Range:		Catskill			
Landform (hillslope, terrace, etc.):	Terrace		Local relief (concave, convex, none):		Convex		Slope (%): 1	
Subregion (LRR or MLRA):		LRR R		Lat: 42.242736°N		Long: -73.859879°W		Datum: NAD83
Soil Map Unit Name:	NrD- Nassau channery silt loam, hilly, very rocky					NWI classification:	Not Mapped	
Are climatic / hydrologic conditions on the site typical for this time of year? Yes				<input checked="" type="checkbox"/>		No (If no, explain in Remarks.)		
Are Vegetation	Soil	or Hydrology	significantly disturbed?		Are "Normal Circumstances" present?		Yes	<input checked="" type="checkbox"/>
Are Vegetation	Soil	or Hydrology	naturally problematic?		(If needed, explain any answers in Remarks.)			

Hydrophytic Vegetation Present?	Yes _____	No <u><b>X</b></u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u><b>X</b></u> If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes _____	No <u><b>X</b></u>	
Wetland Hydrology Present?	Yes _____	No <u><b>X</b></u>	
Remarks: (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:			Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)				
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)		
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)		
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)		
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)		
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)		
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)		
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)		
		<input type="checkbox"/> FAC-Neutral Test (D5)		
<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Water Table Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Saturation Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): (includes capillary fringe)			<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks: No wetland hydrology present at data point				

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

 Sampling Point: DP-AP-Upland

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

## SOIL

Sampling Point: DP-AP-Upland

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

[illegible]<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:

- |   |  |
|---|--|
| <input type="checkbox"/> Histosol (A1)                                | <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R</b> ,     |
| <input type="checkbox"/> Histic Epipedon (A2)                         | <b>MLRA 149B)</b>  |
| <input type="checkbox"/> Black Histic (A3)                            | <input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b> |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                        | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L</b> )      |
| <input type="checkbox"/> Stratified Layers (A5)                       | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                          |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)            | <input type="checkbox"/> Depleted Matrix (F3)                              |
| <input type="checkbox"/> Thick Dark Surface (A12)                     | <input type="checkbox"/> Redox Dark Surface (F6)                           |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                     | <input type="checkbox"/> Depleted Dark Surface (F7)                        |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                     | <input type="checkbox"/> Redox Depressions (F8)                            |
| <input type="checkbox"/> Sandy Redox (S5)                             |  |
| <input type="checkbox"/> Stripped Matrix (S6)                         |  |
| <input type="checkbox"/> Dark Surface (S7) ( <b>LRR R, MLRA 149B)</b> |  |

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)  
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)  
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)  
☐ Dark Surface (S7) (**LRR K, L, M**)  
☐ Polyvalue Below Surface (S8) (**LRR K, L**)  
☐ Thin Dark Surface (S9) (**LRR K, L**)  
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)  
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)  
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)  
☐ Red Parent Material (F21)  
☐ Very Shallow Dark Surface (TF12)  
☐ 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:

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**

**Champlain Hudson Power Express**

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Champlain Hudson Express City/County: Greene Sampling Date: November 17, 2021  
 Applicant/Owner: CHA State: NY Sampling Point: Wet FA-AP, AO, AN  
 Investigator(s): Tristen Peterson Section, Township, Range: Catskill  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1  
 Subregion (LRR or MLRA): LRR R Lat: 42.241708°N Long: -73.860231°W Datum: NAD83  
 Soil Map Unit Name: NrD- Nassau channery silt loam, hilly, very rocky NWI classification: Not Mapped  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No        (If no, explain in Remarks.)  
 Are Vegetation       , Soil       , or Hydrology        significantly disturbed? Are "Normal Circumstances" present? Yes X No         
 Are Vegetation       , Soil       , or Hydrology        naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u>      </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u>      </u>
Hydric Soil Present?	Yes <u>X</u> No <u>      </u>		
Wetland Hydrology Present?	Yes <u>X</u> No <u>      </u>		If yes, optional Wetland Site ID: <u>AO</u>
Remarks: (Explain alternative procedures here or in a separate report.) PSS Wetland located within a depression adjacent to access road and railroad bed			

## HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<u>      </u> Surface Water (A1)	<u>      </u> Water-Stained Leaves (B9)	<u>      </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u>      </u> Aquatic Fauna (B13)	<u>X</u> Drainage Patterns (B10)
<u>X</u> Saturation (A3)	<u>      </u> Marl Deposits (B15)	<u>      </u> Moss Trim Lines (B16)
<u>      </u> Water Marks (B1)	<u>      </u> Hydrogen Sulfide Odor (C1)	<u>      </u> Dry-Season Water Table (C2)
<u>      </u> Sediment Deposits (B2)	<u>      </u> Oxidized Rhizospheres on Living Roots (C3)	<u>      </u> Crayfish Burrows (C8)
<u>      </u> Drift Deposits (B3)	<u>      </u> Presence of Reduced Iron (C4)	<u>      </u> Saturation Visible on Aerial Imagery (C9)
<u>      </u> Algal Mat or Crust (B4)	<u>      </u> Recent Iron Reduction in Tilled Soils (C6)	<u>      </u> Stunted or Stressed Plants (D1)
<u>      </u> Iron Deposits (B5)	<u>      </u> Thin Muck Surface (C7)	<u>X</u> Geomorphic Position (D2)
<u>      </u> Inundation Visible on Aerial Imagery (B7)	<u>      </u> Other (Explain in Remarks)	<u>      </u> Shallow Aquitard (D3)
<u>      </u> Sparsely Vegetated Concave Surface (B8)		<u>      </u> Microtopographic Relief (D4)
		<u>      </u> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <u>      </u> No <u>X</u> Depth (inches): Water Table Present? Yes <u>X</u> No <u>      </u> Depth (inches): 10 Saturation Present? Yes <u>X</u> No <u>      </u> Depth (inches): 8 (includes capillary fringe)		Wetland Hydrology Present? Yes <u>X</u> No <u>      </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



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

 Sampling Point: DP-AO

Tree Stratum (Plot size: 30 ft. )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>15</u></td> <td>x 1 = <u>15</u></td> </tr> <tr> <td>FACW species <u>110</u></td> <td>x 2 = <u>220</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>25</u></td> <td>x 4 = <u>100</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>150</u> (A)</td> <td><u>335</u> (B)</td> </tr> </table> Prevalence Index = B/A = 2.23	Total % Cover of:	Multiply by:	OBL species <u>15</u>	x 1 = <u>15</u>	FACW species <u>110</u>	x 2 = <u>220</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>25</u>	x 4 = <u>100</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>150</u> (A)	<u>335</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>15</u>	x 1 = <u>15</u>																	
FACW species <u>110</u>	x 2 = <u>220</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>25</u>	x 4 = <u>100</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>150</u> (A)	<u>335</u> (B)																	
Sapling/Shrub Stratum (Plot size: 15 ft.)																		
1. <u>Cornus amomum</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>															
2. <u>Cornus alba</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>															
3. <u>Salix discolor</u>	<u>5</u>	<u>No</u>	<u>FACW</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
<u>50</u> = Total Cover																		
Herb Stratum (Plot size: 5 ft.)																		
1. <u>Phalaris arundinacea</u>	<u>60</u>	<u>Yes</u>	<u>FACW</u>															
2. <u>Solidago canadensis</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>															
3. <u>Lythrum salicaria</u>	<u>15</u>	<u>No</u>	<u>OBL</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>100</u> = Total Cover																		
Woody Vine Stratum (Plot size: 30 ft.)																		
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No      _____														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

## SOIL

Sampling Point: DP-AO

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

[illegible]<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:

- |   |  |
|---|--|
| <input type="checkbox"/> Histosol (A1)                                | <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R</b> ,     |
| <input type="checkbox"/> Histic Epipedon (A2)                         | <b>MLRA 149B)</b>  |
| <input type="checkbox"/> Black Histic (A3)                            | <input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b> |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                        | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L</b> )      |
| <input type="checkbox"/> Stratified Layers (A5)                       | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                          |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)            | <input type="checkbox"/> Depleted Matrix (F3)                              |
| <input type="checkbox"/> Thick Dark Surface (A12)                     | <input checked="" type="checkbox"/> <b>X</b> Redox Dark Surface (F6)       |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                     | <input type="checkbox"/> Depleted Dark Surface (F7)                        |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                     | <input type="checkbox"/> Redox Depressions (F8)                            |
| <input type="checkbox"/> Sandy Redox (S5)                             |  |
| <input type="checkbox"/> Stripped Matrix (S6)                         |  |
| <input type="checkbox"/> Dark Surface (S7) ( <b>LRR R, MLRA 149B)</b> |  |

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)  
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)  
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)  
☐ Dark Surface (S7) (**LRR K, L, M**)  
☐ Polyvalue Below Surface (S8) (**LRR K, L**)  
☐ Thin Dark Surface (S9) (**LRR K, L**)  
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)  
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)  
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)  
☐ Red Parent Material (F21)  
☐ Very Shallow Dark Surface (TF12)  
☐ 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	X	No
----------------------	-----	---	----

Remarks: