

**Appendix I. Waterbody Inventory and Wetland Delineation Report** 

### WETLAND AND STREAM DELINEATION REPORT STONY POINT HORIZONTAL DIRECTIONAL DRILL

#### STONY POINT ROCKLAND COUNTY NEW YORK



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#### **Table of Contents**

1.0	INTF	RODUCTION	1
	1.1	Project Description and Purpose	1
	1.2	Report Purpose	
2.0	REG	BULATORY AUTHORITY	
	2.1	United States Army Corps of Engineers	
	2.2	New York State Department of Environmental Conservation	3
3.0	PRO	DJECT AREA CHARACTERISTICS	4
	3.1	Resources	4
	3.2	Vegetation and Ecological Communities	5
	3.3	Hydrology	6
		3.3.1 Hydrologic Mapping	6
		3.3.2 Hydrologic Character	6
		3.3.3 FEMA Flood Zone Mapping	7
	3.4	Federal and State Mapped Wetlands and Streams	7
	3.5	Physiography and Soil Characteristics	
		3.5.1 Physiography and Topography	8
		3.5.2 Site Soils	8
4.0	DEL	INEATION METHODOLOGY	10
	4.1	Hydrology	10
	4.2	Vegetation	11
	4.3	Soils	12
	4.4	Streams	13
5.0	RES	SULTS	13
	5.1	General Overview	13
	5.2	Delineated Wetlands	16
	5.3	Delineated Streams	17
6.0	CON	ICLUSIONS	18
7.0	RFF	ERENCES	10



#### **TABLES**

- Table 1. NYSDEC Mapped Freshwater Wetlands
- Table 2. NYSDEC Mapped Streams within the Project Area
- Table 3. Mapped Soils within the Project Area
- Table 4. Delineated Wetlands within the Project Area
- Table 5. Delineated Streams within the Project Area

#### **APPENDICES**

#### Appendix A – Figures

- Figure 1. Site Location
- Figure 2. Federal and State Resource and Floodplain Mapping
- Figure 3. Project Soils Map
- Figure 4. Delineated Wetlands and Other Waters

#### **Appendix B – Data Forms**

USACE Routine Wetland Determination Forms

TRC's Stream Inventory Data Forms

#### **Appendix C – Photograph Log**



#### 1.0 INTRODUCTION

#### 1.1 Project Description and Purpose

Champlain Hudson Power Express, Inc. (CHPE) and CHPE Properties, Inc. (the Client) is proposing the construction of ±339 miles of high voltage direct current underground and underwater transmission line from Montreal, Quebec, to Queens, New York. It will bring 1,250 megawatts of renewable energy into New York by the end of year 2025, the anticipated Project Commercial Operation Date construction, to reduce the dependency on fossil fuels and carbon emissions. The proposed Project will provide enough power for more than 1 million homes, along with numerous environmental and economic benefits to millions of residents in New York State communities.

This portion of the project applies to the Stony Point Horizontal Directional Drill (HDD) Project (Project), a transitional segment located in Stony Point, Rockland County, New York. This HDD operation will install conduits that will be used for the future installation of the submarine cable transition from the Hudson River to land cable for the overland route. The Stony Point HDD Segment is the first of four for transitional HDD's. CHPE contracted with TRC to delineate the boundaries of wetlands and aquatic features within the 27.5-acre Project Area (**Figure 1**, **Appendix A**).

#### 1.2 Report Purpose

TRC conducted a wetland and stream delineation of the Project Area on behalf of the Client on May 27, 2022. This report details the wetlands and surface water features identified within the Project Area (including rivers, streams, ponds, and lakes), regardless of jurisdictional status. However, this report's description of potential jurisdictional areas to regulatory agencies lends itself toward assessing jurisdiction and avoiding wetlands and surface waters by implementing setbacks during Project planning.

Delineation efforts included the following tasks:

- 1. A desktop review of existing, publicly available federal and state agency resources:
- 2. A field delineation of all aquatic features within the Project Area using a handheld Global Positioning System (GPS) with reported sub-meter accuracy; and,
- 3. Documentation of the delineated aquatic features including the assumed agency jurisdiction for each resource based on hydrology, vegetation, and hydric soils data collected in the field.



Conclusions proposed herein provide information necessary to support a permit application to the United States Army Corps of Engineers (USACE) and the New York State Department of Environmental Conservation (NYSDEC)<sup>1</sup>.

#### 2.0 REGULATORY AUTHORITY

#### 2.1 United States Army Corps of Engineers

In accordance with Section 404 of the Clean Water Act (CWA), the USACE asserts jurisdiction over Waters of the United States (WOTUS). WOTUS are defined as wetlands, streams, and other aquatic resources under the regulatory authority of Title 33 Code of Federal Regulations (CFR) Part 328 and the United States Environmental Protection Agency (EPA) per Title 40 CFR Part 230.3(s). Wetlands are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (EPA, 2001).

On June 22, 2020, the Navigable Waters Protection Rule took effect, replacing the prior Clean Water Rule established in 2015. The Navigable Waters Protection Rule (NWPR) outlined categories of waters considered jurisdictional, as well as those considered non-jurisdictional. However, On August 30, 2021, the U.S. District Court for the District of Arizona issued an order vacating and remanding the NWPR, nationwide.

In accordance with a September 2, 2021 directive from the Acting Assistant Secretary of the Army for Civil Works, the USACE has resumed conducting approved jurisdictional determinations (AJDs) nationwide, consistent with the pre-2015 WOTUS regulatory regime. The pre-2015 regulatory regime is the 1986 WOTUS regulation, as informed by previously issued 2003 SWANCC and 2008 Rapanos guidance documents resulting from US Supreme Court decisions.

#### **Summary of Key Points:**

The USACE (and Environmental Protection Agency [EPA]) will assert jurisdiction over the following waters:

- Traditional navigable waters;
- Wetlands adjacent to traditional navigable waters;
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and,
- Wetlands that directly abut such tributaries.

<sup>&</sup>lt;sup>1</sup> Because the Project is being reviewed pursuant to Article VII of New York Public Service Law, the NYSPSC is responsible for determining if the Project complies will all applicable state laws.



The agencies will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent;
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent; and.
- Wetlands adjacent to but that do not directly abut a relatively permanent nonnavigable tributary.

The agencies generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow); and,
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

The agencies will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters; and,
- Significant nexus includes consideration of hydrologic and ecologic factors.

#### 2.2 New York State Department of Environmental Conservation

The Freshwater Wetlands Act (Article 24 and Title 23 of Article 71 of the Environmental Conservation Law [ECL]) gives the NYSDEC jurisdiction over state-protected wetlands and adjacent areas, typically extending 100 feet from the wetland perimeter. To implement this Act, regulations were promulgated by the State under 6NYCRR Parts 663 and 664. Part 664 designates wetlands into four class ratings, with Class I being the highest or best quality wetland and Class IV being the lowest. Wetlands regulated by the State are those 12.4 acres (5 hectares) in size or larger, as well as those smaller than 12.4 acres, deemed to be of "unusual local importance." The Freshwater Wetlands Act requires the NYSDEC to map all state-protected wetlands. This allows landowners and other interested parties a means of determining where state jurisdictional wetlands exist, although the maps are legally only approximations—thus the need for on-site delineations. Under Part 663, approval under an Article 24 permit is required from the NYSDEC prior to most disturbances to a state-protected wetland or its protected adjacent area, including the removal of vegetation.

Article 15 of the ECL (Protection of Waters), and its implementing regulations under 6 NYCRR Part 608, provides the NYSDEC with regulatory jurisdiction over activities disturbing the bed or banks of protected streams, including small lakes and ponds with a surface area of 10 acres or less, located within the course of a protected stream. This law and regulation also provide NYSDEC jurisdiction over navigable waters of the State, including contiguous marshes, estuaries, tidal marshes and wetlands that are inundated at mean high water level or tide, A protected stream



is defined in the ECL as any stream, or particular portion of a stream, that has been assigned by the NYSDEC any of the following classifications or standards: AA, A, B, C(T), or C(TS) (6 NYCRR Part 701). State water quality classifications of unprotected watercourses include Class C and Class D streams. The classifications are defined below.

- A classification of AA or A indicates that the best use of the stream is as a source of water supply for drinking, culinary or food processing purposes, primary and secondary contact recreation, and fishing.
- The best usages of Class B waters are primary and secondary contact recreation and fishing.
- The best usage of Class C waters is fishing. Streams designated (T) indicate that they support trout, while those designated (TS) support trout spawning.
- Waters with a classification of D are generally suitable for fishing and non-contact recreation.

It should be noted, per 6 NYCRR Chapter X, Subchapter B, "All streams or other bodies of water which are not shown on the reference maps herein shall be assigned to Class D, as set forth in Part 701, supra, except that any continuous flowing natural stream which is not shown on the reference maps shall have the same classification and assigned standards as the waters to which it is directly tributary."

As previously indicated in Footnote #1, the NYSPSC is responsible for determining if the Project complies will all applicable state laws, including those listed above.

#### 3.0 PROJECT AREA CHARACTERISTICS

#### 3.1 Resources

The following publicly available resources were used in the investigation, delineation, and report preparation:

- United States Geological Survey (USGS) Haverstraw, New York 7.5-minute quadrangle;
- United States Department of Agriculture (USDA) Ecoregion Maps;
- NYSDEC Ecozone Mapping;
- USGS National Hydrography Dataset;
- USGS Hydrologic Unit Maps;



- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM)
   Panels;
- United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping;
- NYSDEC Environmental Resource Mapper (ERM);
- NYSDEC Freshwater Wetlands Mapping;
- USDA Natural Resources Conservation Service (NRCS) Web Soil Survey; and
- Recent aerial orthoimagery.

#### 3.2 Vegetation and Ecological Communities

The Project Area resides in the Laurentian Mixed Forest and Eastern Broadleaf Forest Provinces and the St. Lawrence Valley, Hudson Valley, and Lower New England Section ecoregions of the United States as defined by the USDA Forest Service (Bailey et al., 1995). Ecoregions are ecosystems of regional extent. The USDA identifies ecoregions by ecosystem characteristics into the following classifications:

- Domains: the largest ecosystem, which are groups of related climates and are differentiated based on precipitation and temperature.
- Divisions: represent the climates within domains and are differentiated based on precipitation levels and patterns, as well as temperature.
- Provinces: Subdivisions of divisions, which are differentiated based on vegetation or other natural land covers.
- Sections: Subdivisions of provinces based on terrain features; sections are the finest level of detail described for each subregion.
- Mountainous Areas: Mountainous regions that exhibit different ecological zones based on elevation.

Recent aerial orthoimagery of the Project Area and surrounding vicinity, obtained from Google Earth (V7.3.2.5776) (December 2020) indicates that the Project Area is predominantly covered by deciduous forests, open fields and quarry pits. The following ecological communities, as defined by *Ecological Communities of New York State* (Edinger et al., 2014), were identified on the Project Area at the time of the delineation:

Shallow emergent marsh



- Pits, quarries
- Successional open field
- Successional northern hardwoods
- Unpaved road/path

#### 3.3 Hydrology

#### 3.3.1 Hydrologic Mapping

The USGS has divided the country into hydrological units and sub-units based primarily on drainage basins and watershed boundaries. The main hydrologic unit levels are regions, sub-regions, basins, sub-basins, watersheds, and sub-watersheds. The hydrologic units are nested within each other, from the largest geographic area (regions) to the smallest geographic area (sub-watersheds). Each hydrologic unit is identified by a unique hydrologic unit code (HUC) consisting of two to twelve digits based on the six levels of classification in the hydrologic unit system. In addition to the hydrologic unit codes, each hydrologic unit is assigned a name corresponding to the unit's principal hydrologic feature, or to a cultural or political feature within the unit.

The region hydrologic unit level contains either the drainage area of a major river or the combined drainage areas of a series of rivers. Regions receive a two-digit code. The subjacent hydrologic unit levels are designated by the addition of another two digits with each level. Each sub-region includes the area drained by a river system, a reach of a river and its tributaries in that reach, a closed basin or basins, or a group of streams forming a coastal drainage area.

The Project Area is located within the USGS defined Lower Hudson River (HUC8- 02030101) sub-basin, Hudson-Peekskill Hollow Creek (HUC10- 0203010101) watershed, and the Furnace Brook-Hudson River (HUC12- 020301010105) sub-watershed.

The Lower Hudson River sub-basin extends from the southern end of Manhattan to the junction in Cohoes, NY, where it meets the Mohawk River. The sub-basin drains an area of 479,464 acres (749 square miles). Elevation in the sub-basin ranges from -7 to 1,374 feet above mean sea level (AMSL), with the highest elevations being in the northern portion. Average annual precipitation ranges from 41 to 48 inches and average temperature ranges from 44 to 54 degrees Fahrenheit.

#### 3.3.2 Hydrologic Character

The predominant surface waterbodies include a perennial tributary to the Hudson River located in the northwestern portion of the Project Area. Most aquatic features within the Project Area act



primarily as drainages to surface runoff and groundwater discharge. The wetland features onsite act primarily as groundwater recharge/discharge and flood flow alteration features.

The Project Area receives, on average, 50.98 inches of rainfall annually based on information for the Town of Suffern, New York, located 15 miles from Stony Point and 13 miles from Clarkstown (U.S. Climate Data, 2019). In addition to precipitation, on-site hydrology originates from surface runoff from the surrounding uplands and groundwater.

#### 3.3.3 FEMA Flood Zone Mapping

FEMA maintains materials developed to support flood hazard mapping for the National Flood Insurance Program (NFIP). According to FIRM panel 36087C0101G, effective 3/3/2014, the southwestern portion of the Project Area is within a 100-year, floodplain flood zone AE, which is a high-risk floodplain. The remaining portion of the Project Area is area of minimal flood zone hazard, flood zone X (see **Figure 2**, **Appendix A**).

#### 3.4 Federal and State Mapped Wetlands and Streams

The US Fish and Wildlife Service (USFWS) is the principal US federal agency tasked with providing information to the public on the status and trends of wetlands on a national scale. The USFWS National Wetland Inventory (NWI) is a publicly available resource that provides detailed information on the abundance, characteristics, and distribution of nationwide wetlands (where mapped). Unlike the NYSDEC wetland maps which denote state jurisdictional wetlands, NWI wetland maps do not denote federal jurisdiction with their mapped boundaries. NWI wetlands are used as a reference guide by TRC field biologists to conduct a more informed site survey in the demarcation or delineation of wetlands and streams, which could be subject to federal jurisdiction under the CWA within the target Project Area.

Review of the NWI mapping during the preliminary desktop analysis indicated one federally mapped feature within the Project Area (see **Figure 2**, **Appendix A**). NWI mapping data indicates that one palustrine emergent, persistent, seasonally flooded wetland (PEM1R) feature intersects the Project Area in the southwest. This feature comprises a total of 8.36 acres with approximately 0.06 acres within the Project Area. The field-delineated aquatic features within the Project Area are greater than those represented by the NWI mapping.

Review of the NYSDEC ERM indicated one NYSDEC freshwater wetland and its 100-foot adjacent area mapped within the Project Area, which are regulated under Article 24 of the ECL (see **Figure 2, Appendix A**). Table 1 provides a summary of the NYSDEC-regulated wetland mapped within the Project Area.



**Table 1. NYSDEC-Mapped Freshwater Wetlands** 

NYSDEC Wetland ID	Wetland Class (I, II, III, or IV) <sup>1</sup>	Total Wetland Area (Acres)	Wetland Area within the Project Area (Acres)							
HS-2		19.8	0.188							
<sup>1</sup> The NYSDEC classification system of freshwater wetlands designates wetlands into four class ratings, with Class I										

<sup>1</sup>The NYSDEC classification system of freshwater wetlands designates wetlands into four class ratings, with Class I being the highest or best quality wetland and Class IV being the lowest quality.

Based on NYSDEC stream classification mapping, one mapped stream is within the Project Area. State-protected streams are protected per Article 15 of the ECL (see Section 2.2). Table 2 below provides a detailed summary of the NYSDEC-classified priority (protected and unprotected) streams within the Project Area.

Table 2. NYSDEC-Mapped Streams within the Project Area

NYSDEC Stream Name and Regulatory ID Number	NYS Major Drainage Basin	USGS Sub- basin HUC 8 and Name	NYSDEC Classification <sup>1</sup> and Standard <sup>2</sup>	Cumulative Linear Feet within the Project Area
864-546	Lower Hudson	2030101	SC/C/SC/C	317

<sup>&</sup>lt;sup>1</sup>A classification of C indicates that the best use of the stream is fishing.

#### 3.5 Physiography and Soil Characteristics

#### 3.5.1 Physiography and Topography

The Project Area is within the Hudson Mohawk Lowlands Physiographic Province of New York State (New York State Department of Transportation, 2013). This Physiographic Province is a lowland area primarily bounded by uplands, extending almost the entire length north-south of eastern New York. Generally, the low relief is caused by glacial deposits, except for three ridges in the south of this Province. The landforms of the Project Area are cool wet hills and cool wet mountains on mixed sedimentary rock with grassland, forest, scrub, and shrub.

#### 3.5.2 Site Soils

The USDA NRCS Web Soil Survey is an online resource mapping tool that provides soil data and information for the vast majority of the nation. This information is produced by the National Cooperative Soil Survey (NCSS), in partnership with federal, regional, state, and local agencies and private entities and institutions.

<sup>&</sup>lt;sup>2</sup> These waters shall be suitable for fish, shellfish, and wildlife propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.



A total of five soil map units were identified within the Project Area. Soil map units represent a type of soil, a combination of soils, or miscellaneous land types. Soil map units are usually named for the predominant soil series or land types within the map unit. Due to limitations imposed by the small scale of the soil survey mapping, it is not uncommon to identify wetlands within areas not mapped as hydric soil, while areas mapped as hydric often do not support wetlands. This concept is emphasized by the NRCS:

"Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale."

Soil drainage in the Project Area is mostly well drained, with approximately 92.9 percent of the mapped soils classified as well drained. The remaining 7.1 percent consists of the Pits, quarries soil unit and do not contain a drainage classification.

The five soil map units identified within the Project Area by the NRCS are outlined in Table 3. Refer to **Figure 3** (**Appendix A**) for graphically depicted soil map units of the Project Area.

#### **Hydric Soil**

The Web Soil Survey of the Project Area was consulted prior to conducting the delineation to determine the extent of soils meeting hydric criteria as defined by the NRCS. The *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratories, 1987) (1987 Manual) defines a hydric soil as "a soil that in its undrained condition, is saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation."

Of the Project soils, none of the soils mapped within the Project Area contain higher percentages (33 percent or more) of mapping units with hydric soil inclusions. These higher rating percentages indicate the potential presence of a wetland feature on site. Hydric Soil Rating indicates the percentage of map units that meet the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor non-hydric components in the higher positions on the landform, and map units that are made up dominantly of non-hydric soils may have small areas of minor hydric components in the lower positions on the landform. As such, each map unit is rated based on its respective components and the percentage of each component within the map unit. Although a soil series will be given a general hydric soil rating on the Web Soil Survey, this rating is for reference only and does not supersede site-specific conditions documented in the field that constitute hydric soil presence in located wetlands.



Table 3. Mapped Soils within the Project Area

Map Unit Symbol	Map Unit Name	Slope (%)	Drainage Class	Hydric Rating (%)	Acres in Project Area	Percent of Project Area (%)
CkD	Charlton-Rock outcrop complex, hilly	20	Well drained	0	7.6	27.7
CoD	Chatfield-Rock outcrop complex, hilly	20	Well drained	0	7.2	26.1
Pv	Pits, quarry	3	N/A	4	7.1	25.9
Ur	Udorthents, refuse substratum	4	Well drained	0	4.4	16.0
YaD	Yalesville sandy loam, 15 to 25 percent slopes	20	Well drained	0	1.2	4.2

#### 4.0 DELINEATION METHODOLOGY

Prior to initiating field investigations, TRC conducted a desktop review of publicly available data to determine the potential presence of federal and state mapped wetlands and streams within the Project Area alongside other potential environmental constraints, which could impact the Project. TRC field biologists subsequently performed field investigations to identify aquatic features within the Project Area. Delineations for wetlands and streams were performed in accordance with criteria set forth in the 1987 Manual (Environmental Laboratory, 1987) and the 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0) (USACE, 2012) (Supplement). Data was collected from a sample plot in each delineated wetland. Depending on the size of the delineated area and any change in cover type, multiple sample plots of the delineated wetland may have been taken. Delineation data was recorded on USACE Routine Wetland Determination Forms (**Appendix B**). The boundaries of wetlands were demarcated with pink survey ribbon labeled "wetland delineation" and located with a GPS unit with reported sub-meter accuracy.

#### 4.1 Hydrology

The presence of wetland hydrology is determined based on primary and secondary indicators established by the USACE. The 1987 Manual defines the presence of wetland hydrology when at least one primary indicator or two secondary indicators are identified. One primary indicator is sufficient to determine if hydrology is present; however, if primary indicators are absent, two or more secondary indicators are required to determine the presence of wetland hydrology. If other



probable wetland hydrology evidence was found on-site, then such characteristics were subsequently documented on the USACE Routine Wetland Determination Form. Wetland hydrology indicators are grouped into 18 primary and 11 secondary indicators as presented in the Supplement.

Wetland hydrology may influence the characteristics of vegetation and soils due to anaerobic and reducing conditions (Environmental Laboratory, 1987). This influence is dependent on the frequency and duration of soil inundation or saturation which, in turn, is dependent on a variety of factors including topography, soil stratigraphy, and soil permeability, in conjunction with precipitation, runoff, and stormwater and groundwater influence.

#### 4.2 Vegetation

Hydrophytic vegetation is defined in the 1987 Manual as:

"...the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present."

Plants are categorized according to their occurrence in wetlands. Scientific names and wetland indicator statuses for vegetation are those listed in *The National Wetland Plant List: 2016 Wetland Ratings* (Lichvar et al., 2020) (NWPL). Due to regional differences in wetland vegetation, among other characteristics, the USACE divided the United States into regions to improve the accuracy and efficiency of wetland delineations. The indicator statuses specific to the "Northcentral and Northeast Region," as defined by the USACE, apply to the Project Area. The official short definitions for wetland indicator statuses are as follows:

- Obligate Wetland (OBL): Almost always occur in wetlands.
- Facultative Wetland (FACW): Usually occur in wetlands but may occur in non-wetlands.
- Facultative (FAC): Occur in wetlands and non-wetlands.
- Facultative Upland (FACU): Usually occur in non-wetlands but may occur in wetlands.
- Upland (UPL): Almost never occur in wetlands.

For species with no indicator status in the Project Area's region, the indicator status assigned to the species in the nearest adjacent region is applied. Plants that are not included on the NWPL within the Project Area's region, nor an adjacent region, are given no indicator status, and are not included in dominance calculations. Plants that are not listed in any region on the NWPL are considered as UPL on USACE Routine Wetland Determination Forms.



Vegetation in both upland and wetland communities was characterized using areal methods for instituting plot measurement. In accordance with USACE methodology, a plot radius of 30 feet around the soil sample location was applied to tree species and vines, a 15-foot radius for saplings/shrubs, and a 5-foot radius was utilized for herbaceous plants. After the measurement of percent coverage was determined for each species, an application of the 50/20 rule of dominance determination was utilized to determine hydrophytic dominance at sample plots. In using the 50/20 rule, the plants that comprise each stratum are ranked from highest to lowest in percent cover. The species that cumulatively equal or exceed 50 percent of the total percent cover for each stratum are dominant species, and any additional species that individually provides 20 percent or more percent cover are also considered dominant species of its respective strata. The total cover for each stratum, and subsequently the plot as a whole, could exceed 100 percent due to vegetation overlap.

Cover types are also assigned to each wetland. The delineated resources were classified in accordance with the system presented in *The Classification of Wetlands and Deepwater Habitats of the United States, Second Edition* (Federal Geographic Data Committee [FGDC], 2013). Field biologists assign cover types to wetlands based on this classification standard and utilize this document. TRC biologists used the definitions for perennial and intermittent streams found in *The Classification of Wetlands and Deepwater Habitats of the United States, Second Edition* (FGDC, 2013) when classifying delineated streams. Ephemeral streams have flowing water primarily from rainfall runoff and are above the water table.

#### 4.3 Soils

Hydric soil indicators were determined utilizing the Supplement with added provision from the *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils*, Version 8.2 (USDA NRCS, 2018). Soil characteristics were documented, such as color, texture, layer depth, presence of organic-layers, and evidence of redoximorphic features, which may include indicators such as reduction, oxidation, gleyed matrices, manganese features. Soil test pits were dug using a spade shovel to a depth of approximately 20 inches. If refusal of a soil sample to 20 inches occurred due to the presence of hardpan layer, rock, or hard fill materials, this occurrence was documented. Soil color was described using the *Munsell Soil Color Book* (Munsell Color, 2015). Texture was determined using the USDA feel method (Thien, 1979).

Hydric soil indicators applicable to the Project Area were determined using the *Land Resource Regions and Major Land Resource Areas of the United States, the Caribbean, and the Pacific Basin* (NRCS, 2006) (MLRA Handbook). Per the MLRA Handbook, the Project Area is within Major Land Resource Area 144A (New England and Eastern New York Upland, Southern Part) and 143 (Northeastern Mountains) of Land Resource Region (LRR) R (Northeastern Forage and Forest Region). Hydric soil indicators that do not apply to this MLRA were not considered.



#### 4.4 Streams

Streams and other non-wetland aquatic features (e.g., lakes and ponds) within the Project Area were identified by the presence of an OHWM, which is the line established by the fluctuations of water (33 CFR 328.3). The OHWM, where not established and available by public record, is indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris; or other characteristics of the surrounding areas.

The streams were delineated from bank to bank with blue flagging and points of the delineated boundaries were located with a handheld GPS unit set for sub-meter accuracy. In streams less than 6 feet wide, sub-meter GPS point capture and post-processing (differential correction) may yield imprecise stream bank measurements due to the narrow nature of the stream. In these circumstances, centerline delineations are applied to maintain accurate representation of stream sinuosity for planning and impact calculation purposes. Stream attributes including width, bank height, and water depth are measured and documented on TRC Stream Inventory Data Forms (Appendix B).

#### 5.0 RESULTS

#### 5.1 General Overview

The Project Area contains primarily forested land with reclaimed open field habitat from its historical use as a quarry pit. The estimated average diameter at breast height (DBH) of the trees ranged from 3 to 16 inches, with a few trees attaining DBH measurements of over 24 inches. Dominant vegetation at the Project Area included American sycamore (*Platanus occidentalis*), red maple (*Acer rubrum*), northern red oak (*Quercus rubra*), black locust (*Robinia pseudoacacia*), and American elm (*Ulmus americana*) in the tree strata; Morrow's honeysuckle (*Lonicera morrowii*), Japanese barberry (*Berberis thunbergii*), European buckthorn (*Rhamnus cathartica*), multiflora rose (*Rosa multiflora*), and privet (*Ligustrum vulgare*) in the shrub strata; common reed (*Phragmites australis*), sensitive fern (*Onoclea sensibilis*), Morrow's honeysuckle, common mugwort (*Artemisia vulgaris*), Japanese honeysuckle (*Lonicera japonica*), garlic mustard (*Alliaria petiolata*), common dandelion (*Taraxacum officinale*), and creeping-jenny (*Lysimachia nummularia*) in the herb strata.

TRC identified and delineated five wetlands and one stream within the Project Area (see **Figure 4, Appendix A**). Approximately 1.5% (0.504 acres) of the approximately 27.5-acre Project Area is classified as wetland. Representative photographs taken of each delineated wetland community and stream within the Project Area are provided in **Appendix C**. Completed USACE Routine Wetland Determination Forms and TRC Stream Inventory Data Forms are provided in **Appendix B**. Tables 4 and 5 below detail the wetlands and streams delineated at the Project Area.



**Table 4. Delineated Wetlands within the Project Area** 

Wetland Field Designation	Cover Typ	r Type Classification <sup>1</sup> and Acreage		Acreage NWI Cover ( within Type <sup>2</sup>		NWI Cover Wetland W		NWI Cover Wetland We		Potential Jurisdiction Under	Associated Buffer for NYSDEC	Latitude of Centroid	Longitude of Centroid
· g · · · · · · ·	PEM	PSS	PFO	PUB	Project Area	"	ID	Class <sup>3</sup>	Rapanos	Wetlands			
W-DJB-01	0.025	-	-	-	0.025	None	NA	NA	NA	-	41.2459	-73.9772	
W-DJB-02	0.043	-	-	-	0.043	None	NA	NA	NA	-	41.2432	-73.9802	
W-DJB-03	0.238	-	-	-	0.238	None	NA	NA	NA	-	41.2424	-73.9813	
W-DJB-04	-	-	0.188	-	0.188	PEM1R	NA	NA	USACE	100	41.2418	-73.9815	
W-DJB-05	0.010	-	-	-	0.010	None	NA	NA	NA	-	41.2422	-73.9816	
7	Total Wetland Acreage Delineated:												

 $<sup>^{1}\!</sup>PEM-palustrine\ emergent;\ PSS-palustrine\ scrub-shrub;\ PFO-palustrine\ forested;\ PUB-palustrine\ un\ consolidated\ bo\ ttom$ 

<sup>&</sup>lt;sup>2</sup>(PEM1R-palustrine, emergent, persistent, seasonally flooded wetland)

<sup>&</sup>lt;sup>3</sup>The NYSDEC classification system of freshwater wetlands designates wetlands into four class ratings (I–IV), with Class I being the highest or best quality wetland and Class IV being the lowest quality.



Table 5. Delineated Streams within the Project Area

Stream Field Designation	Flow Regime Classification	Linear Feet within Project Area	NYSDEC Stream Name and Regulatory ID Number	NYSDEC Classification <sup>1</sup> and Standard <sup>2</sup>	Potential Jurisdiction Under Rapanos	Associated Buffer	Latitude of Centroid	Longitude of Centroid
S-DJB-01	Perennial	317	Unnamed Trib to Hudson River	SC/C	USACE*	N/A	41.240	-73.982
Total Stream Length Delineated:		317						

<sup>&</sup>lt;sup>1</sup>A classification of C indicates that the best use of the stream is fishing.

<sup>&</sup>lt;sup>2</sup> These waters shall be suitable for fish, shellfish, and wildlife propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes. \*Under the Rapanos Approach, the USACE will decide jurisdiction of these streams through a significant nexus determination.



#### 5.2 Delineated Wetlands

Palustrine Forested wetlands (PFO) – A total of one wetland delineated within the Project Area contained characteristics representative of a forested wetland. Forested wetlands are dominated by woody vegetation that is at least 3 inches DBH, regardless of height, with an understory of shrub and herbaceous species. Understory vegetation presence readily varies, as the upper canopy of tree species may block sufficient light for extensive vegetative growth in the understory. Coniferous swamps, lowland hardwood swamps, and floodplain forests are common types of forested wetlands. Soils in forested wetlands are typically inundated or saturated early spring into summer. Some forested wetlands may dry up entirely, which reveal water stain marks along the trunks of exposed tree species and also shallow, buttressed root systems indicative of periods of heavy inundation events.

The forested wetland on the Project Area was dominated by red maple, black willow (*Salix nigra*), boxelder (*Acer negundo*), and green ash (*Fraxinus pennsylvanica*) in the tree strata. The shrub strata was dominated by black willow and multiflora rose. The herbaceous strata was dominated by common reed, creeping-jenny, and field horsetail (*Equisetum arvense*). Evidence of wetland hydrology includes surface water, high water table, saturation, geomorphic position, and the FAC-neutral test. The soils demonstrated a Depleted Matrix (F3) hydric soil indicator.

**Palustrine Emergent wetlands (PEM)** – A total of four wetlands delineated within the Project Area contained characteristics representative of an emergent wetland community. Emergent wetlands are dominated by herbaceous vegetation that comprises woody and non-woody plants that are less than 3.28 feet tall. Emergent wetlands typically contain deep, nutrient rich soils that remain heavily saturated or even inundated throughout the year.

Emergent wetlands on the Project Area were typically dominated by common reed, sensitive fern, and creeping-jenny. Evidence of wetland hydrology for these wetlands includes saturation, high water table, surface water, saturation visible on aerial imagery, geomorphic position, and the FAC-neutral test. Emergent wetlands within the Project Area generally demonstrate silt loam to clay loam soils. Variations in the soil matrices generally demonstrated Redox Dark Surface (F6) and Depleted Matrix (F3) hydric soil indicators.



#### 5.3 Delineated Streams

A total of one stream was delineated within the Project Area (see Table 5). Classification of streams were dependent on a temporal description of their usual level of flow regimes. Perennial streams tend to flow all year, except during severe drought conditions. Perennial streams can flow below the water table and receive groundwater flow sources from springs or groundwater seepages on slopes. Intermittent streams flow only during certain times of the year from alternating springs, snow melts, or from runoff from seasonal precipitation events. Intermittent streams can flow above or below the water table. Ephemeral streams flow sporadically and are entirely dependent on transient precipitation from storm events or from periodic snow melts. These streams tend to flow above the water table and are often found as drainage features adjacent to, or within, the headwaters of a more major stream system.

The stream identified in the Project Area was perennial in nature, flowing along a shallow gradient approximately one to five percent. Stream substrates observed were boulders, gravel, cobble, silt and clay. The lower downstream reach of the streambed was a concrete base with a constructed wall along the right bank. The stream enters a concrete box culvert, flows under Park Road, and exits the Project Area. Stream depths ranged from zero to six inches deep. The stream contains aquatic habitat, such as overhanging vegetation and riffle-pool sequences, and sufficient flow to establish and support fish populations.



#### 6.0 CONCLUSIONS

TRC identified and delineated a total of five wetlands (0.504 acres) in the Project Area. Of these wetlands, there was one (W-DJB-04) with PFO characteristics (0.188 acres), and four with PEM characteristics (0.316 acres). TRC assumes that one of the wetlands is likely to be USACE jurisdictional under the Rapanos Approach, as this wetland appears to have a surface water connection to WOTUS. There are no federally protected buffers or setbacks associated with USACE-regulated wetlands. TRC also assumes that four wetlands are isolated with no hydrological connection to WOTUS and would therefore be considered non-jurisdictional by the USACE. One wetland (W-DJB-04) is part of a portion of a NYSDEC mapped wetland (12.4 acres or larger) and would fall under NYSDEC jurisdiction and would therefore require a 100-foot buffer.

TRC identified one perennial stream (317 linear feet) in the Project Area. TRC assumes that the delineated stream will likely be USACE jurisdictional under Rapanos Approach as they are physically connected by surface flow to WOTUS or flow offsite and appear to connect to WOTUS. This stream would also be considered jurisdictional by the NYSDEC as these streams correspond with a NYSDEC mapped Class C stream and would therefore not require a buffer.

Final determination of the jurisdictional status of the wetlands and streams identified on the Project Area must be made by both the USACE and the NYSDEC upon completion of detailed reviews by each respective agency.



#### 7.0 REFERENCES

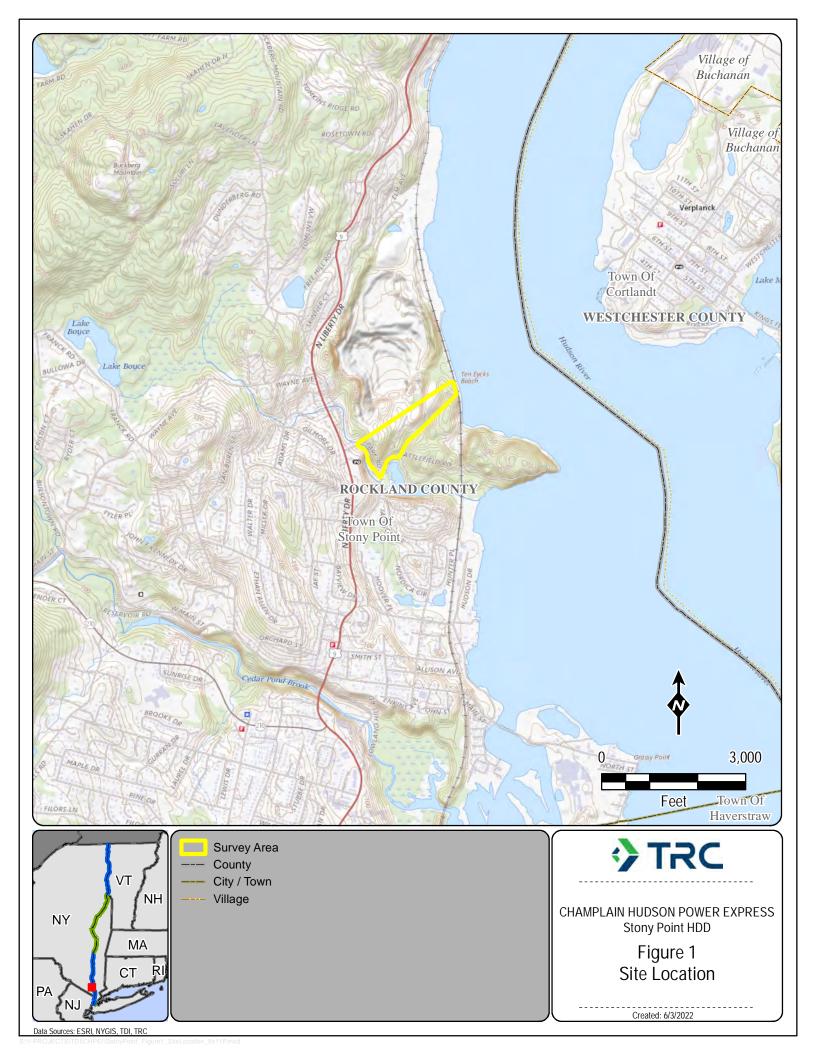
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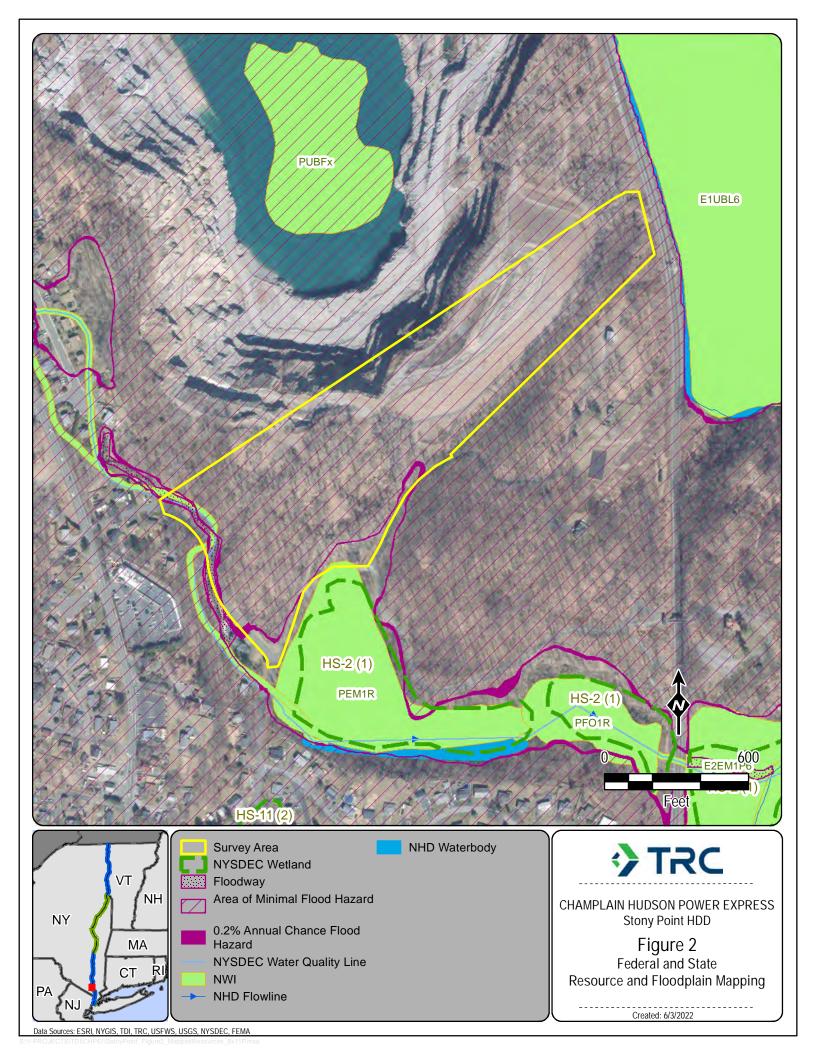


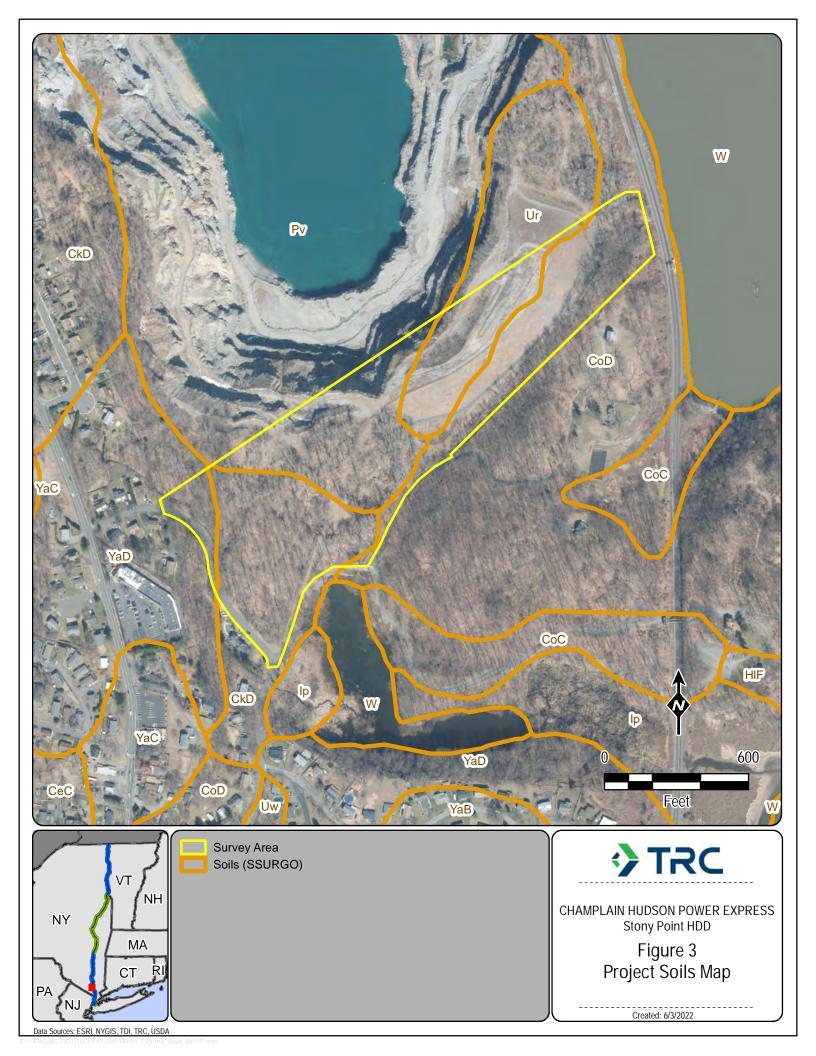
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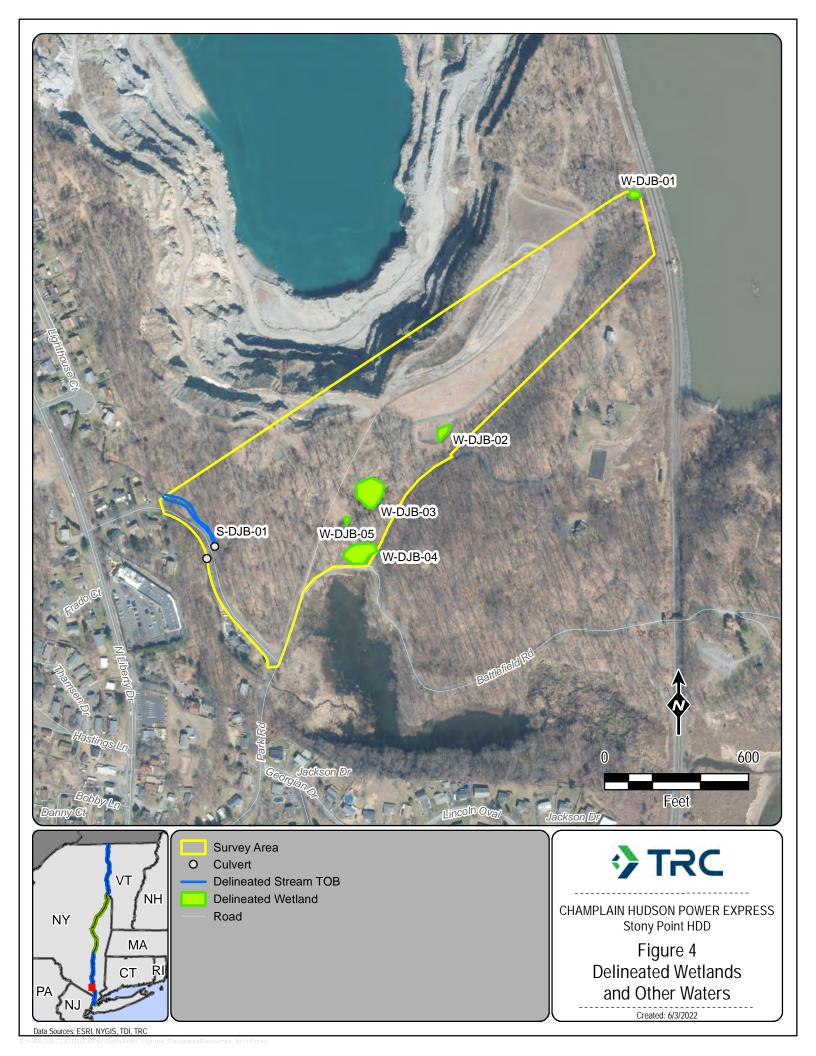


## APPENDIX A Figures











# APPENDIX B USACE Routine Wetland Determination Forms & TRC's Stream Inventory Data Forms

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

Project/Site: Stony Point HDD	City/County: Sto	ony Point, Rockland County	Sampling Date: 2	Sampling Date: 2022-May-24		
Applicant/Owner: Champlai	n Hudson Power Express (CHPE)	State: NY	Sampling Point: W-	DJB-01_PEM-1		
Investigator(s): David Bonon	no	Section, Township,	Range:			
Landform (hillslope, terrace, et	cc.): Toe slope	Local relief (concave, conv	vex, none): Convex	Slope (%): 1 to 10		
Subregion (LRR or MLRA):	LRR R	Lat: 41.245970666	7 Long: -73.9772833333	Datum: WGS84		
Soil Map Unit Name: Chatfie	eld Rock outcrop complex		NWI classificat	ti <b>on:</b> None		
Are climatic/hydrologic condition	ons on the site typical for this time of y	rear? Yes _✓_ No	(If no, explain in Remark	s.)		
Are Vegetation, Soil	_, or Hydrology significantly d	listurbed? Are "Norm	al Circumstances" present?	Yes No		
Are Vegetation, Soil	_, or Hydrology naturally prol	blematic? (If needed,	explain any answers in Remar	ks.)		
SUMMARY OF FINDINGS - Hydrophytic Vegetation Prese Hydric Soil Present?	- Attach site map showing sampl nt? Yes No Yes No	ling point locations, tran	·	s, etc. es No		
Wetland Hydrology Present?	Yes No	If yes, optional Wetland S	ite ID:	/-DJB-01		
HYDROLOGY						
Wetland Hydrology Indicators	:					
Primary Indicators (minimum	of one is required; check all that apply	)	Secondary Indicators (minimu	ım of two required)		
(Curface Water (A1)	Water Stained L	anyes (DO)	Surface Soil Cracks (B6)	•		
∕ Surface Water (A1) ⁄ High Water Table (A2)	Water-Stained Le Aquatic Fauna (B		Drainage Patterns (B10)			
✓ Figit Water Table (A2)  ✓ Saturation (A3)	Aquatic Fauria (B Marl Deposits (B		Moss Trim Lines (B16)			
Water Marks (B1)	Man Deposits (D Hydrogen Sulfide		Dry-Season Water Table (C	(2)		
Sediment Deposits (B2)	, ,	oheres on Living Roots (C3)	Crayfish Burrows (C8)			
Drift Deposits (B3)	Presence of Red	•	Saturation Visible on Aeria	• •		
Algal Mat or Crust (B4)	Recent Iron Redu	uction in Tilled Soils (C6)	Stunted or Stressed Plants	s (D1)		
Iron Deposits (B5)	Thin Muck Surfa	ce (C7)	✓ Geomorphic Position (D2)			
Inundation Visible on Aeria	al Imagery (B7) Other (Explain in	Remarks)	Shallow Aquitard (D3)	14)		
Sparsely Vegetated Conca	/e Surface (B8)		Microtopographic Relief (□ ✓ FAC-Neutral Test (D5)	<i>)</i> 4)		
Field Observations:			TAC-Neutral lest (DS)			
Surface Water Present?	Yes <u></u> ✓ No Deptl	h (inches):				
Water Table Present?	•	h (inches):	- Wetland Hydrology Present?	Yes _ <b>_</b> No		
Saturation Present?		h (inches):	-			
	763 <u>v</u> 140 Depa		=			
(includes capillary fringe)						
Remarks:	rology is met. A positive indication of w			dicators were present)		

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

<u> </u>							
<u>Tree Stratum</u> (Plot size: <u>30 ft</u> )		Dominant		Dominance Test works			
	% Cover	Species?	Status	Number of Dominant	•	2	(A)
1				Are OBL, FACW, or FAC			
2				Total Number of Domi	nant Species	2	(B)
3				Across All Strata:			
4.				Percent of Dominant S	•	100	(A/B)
5.				Are OBL, FACW, or FAC			
6.				Prevalence Index work			_
7.				Total % Cover		Multiply I	-
		= Total Cove	er	- OBL species	0	x 1 =	0
Sapling/Shrub Stratum (Plot size:15 ft)		-		FACW species	80	x 2 =	160
1. Acer negundo	20	Yes	FAC	FAC species	20	x 3 =	60
2.		163	TAC	- FACU species	0	x 4 =	0
				- UPL species	0	x 5 =	0
3.				- Column Totals	100	(A)	220 (B)
4				Prevalence I	ndex = B/A =	2.2	
5				Hydrophytic Vegetatio	n Indicators:		
6				1- Rapid Test for		/egetation	
7				2 - Dominance Te		egetation	
	20	= Total Cove	er	✓ 3 - Prevalence Inc			
Herb Stratum (Plot size: <u>5 ft</u> )				<del></del>		l (Duan dala a	
1. Phragmites australis	80	Yes	FACW	4 - Morphologica - data in Remarks or on			supporting
2.					-		nlain)
3.				Problematic Hyd			
4.				¹Indicators of hydric so		-	gy must be
5.				present, unless disturb		natic	
				Definitions of Vegetati			
6.				Tree – Woody plants 3			liameter at
7				breast height (DBH), re	-	_	
8				Sapling/shrub - Wood			BH and
9				greater than or equal			
10				Herb – All herbaceous	-		ardless of
11				size, and woody plants			
12.				Woody vines – All woo	dy vines great	ter than 3.	28 ft in
	80	= Total Cove	er	height.			
Woody Vine Stratum (Plot size: <u>30 ft</u> )		=		Hydrophytic Vegetation	on Present? \	∕es <u> </u>	0
1.							
2.				=			
3.		<del></del>		-			
· · · · · · · · · · · · · · · · · · ·				=			
				-			
4	0	= Total Cove					

Profile Des	cription: (Describe t Matrix	to the o	depth needed to o			indicato	r or confirm the al	osence of indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 - 4	10YR 3/1	95	10YR 4/6	5	С	M	Silt Loam	Remarks
4 - 16	10YR 5/2	95	10YR 4/6	<u>5</u>		M	Silt Loam	
	1011(3/2		1011(4/0				Sile Louin	
		- —		_				
		- —		-				
		- —		_				
		- —		_				<del></del>
		- —		-				
		- —		_				
		- —		_				
		- —					-	
¹Type: C = 0	Concentration, D = I	Depleti	on, RM = Reduced	l Mat	rix, MS =	Masked	Sand Grains. <sup>2</sup> Lo	ocation: PL = Pore Lining, M = Matrix.
Hydric Soil	Indicators:							Indicators for Problematic Hydric Soils <sup>3</sup> :
Histoso			•				R, MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	oipedon (A2)		Thin Dark Su					Coast Prairie Redox (A16) (LRR K, L, R)
	istic (A3)		Loamy Muck	-		(LRR K,	L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		Loamy Gleye					Dark Surface (S7) (LRR K, L)
	d Layers (A5)	(44	Depleted Ma					Polyvalue Below Surface (S8) (LRR K, L)
	d Below Dark Surfa	ice (A i	Depleted Da			'\		Thin Dark Surface (S9) (LRR K, L)
	ark Surface (A12) Mucky Mineral (S1)		Redox Depre		-	)		Iron-Manganese Masses (F12) (LRR K, L, R)
_			Redox Depre	:22101	15 (го)			Piedmont Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)							Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
_	Redox (S5)							Red Parent Material (F21)
	d Matrix (S6)	II DA 1	10D)					Very Shallow Dark Surface (TF12)
Dark Su	ırface (S7) <b>(LRR R, M</b>	ILKA 14	<del>1</del> 9B)					Other (Explain in Remarks)
3Indicators	of hydrophytic veg	etation	and wetland hyd	rolog	y must b	e preser	nt, unless disturbe	d or problematic.
Restrictive	Layer (if observed):							
	Type:		None			Hydric	Soil Present?	Yes No
	Depth (inches):							
Remarks:								
A positive in	ndication of hydric	soil wa	s observed. The c	riteri	on for hy	dric soil	is met.	

Hydrology Photos



Soil Photos



Photo of Sample Plot North



Photo of Sample Plot East



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

Project/Site: Stony Poin	t HDD		City/County: Stor	ny Point, Rockland County	/	Sampling Date: 2022-May-24		
Applicant/Owner: Ch	amplain Hudso	on Power Expre	ess (CHPE)	State: NY Sampling Point: W-DJB-0			)JB-01_UPL-1	
Investigator(s): David	Bonomo			Section, Township	p, Range:			
Landform (hillslope, teri	ace, etc.):	Foot slope		Local relief (concave, cor	nvex, none):	Convex	Slope (%): 5 to 10	
Subregion (LRR or MLRA	): LRR R			Lat: 41.24575466	667 <b>Long:</b>	-73.977183	Datum: WGS84	
Soil Map Unit Name: _	Chatfield rock	outcrop compl	lex			NWI classification	on: None	
Are climatic/hydrologic	onditions on t	the site typical	for this time of ye	ear? Yes 🔽 N	lo (If no	o, explain in Remarks.	)	
Are Vegetation,	oil, oi	r Hydrology	significantly di	sturbed? Are "Norr	mal Circums	tances" present?	Yes No	
Are Vegetation,	oil, oi	r Hydrology	naturally prob	lematic? (If needed	d, explain an	ny answers in Remark	s.)	
C. II. 43. 43. D. V. O. E. E. V. D. I	NGC ALL		. 10					
				ng point locations, tra	ansects, in	iportant features,	etc.	
Hydrophytic Vegetation	Present?		No <u></u>					
Hydric Soil Present?			No _ <b>_</b> _	Is the Sampled Area wit	hin a Wetlan	ıd? Ye	es No⁄_	
Wetland Hydrology Pre	sent?	Yes	No _ <b>_</b> _	If yes, optional Wetland	Site ID:			
Wetland Hydrology Ind Primary Indicators (min  Surface Water (A1)  High Water Table (A  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust (I	imum of one i: 2) B2)	\ \ \ \	Water-Stained Lea Aquatic Fauna (B1 Marl Deposits (B1 Hydrogen Sulfide Oxidized Rhizospl Presence of Redu	3) 5) Odor (C1) heres on Living Roots (C3)	Surface Surface Draina Moss Dry-Se Crayfine Satura	y Indicators (minimur ce Soil Cracks (B6) age Patterns (B10) Trim Lines (B16) eason Water Table (C2 sh Burrows (C8) ation Visible on Aerial ed or Stressed Plants	2) Imagery (C9)	
Iron Deposits (B5)			Thin Muck Surface			orphic Position (D2)		
Inundation Visible o	n Aerial Image	ery (B7)	Other (Explain in l	Remarks)		ow Aquitard (D3) topographic Relief (D4	4)	
Sparsely Vegetated	Concave Surfa	ce (B8)				leutral Test (D5)	+)	
Field Observations:								
Surface Water Present?	Υ	⁄es No <b>_</b> ✓	Depth	(inches):				
Water Table Present?	Υ	⁄es No <b>_</b> ∡	. Depth	(inches):	—   Wetland I	Hydrology Present?	Yes No _ <b>_</b> ✓	
Saturation Present?		/es No <b></b>		(inches):		nyaranagy r rasanar		
		es NO _ <b>Z</b>	_ Бериі	(IIICHES).	_			
(includes capillary fring				s, previous inspections), i				
Remarks:				of wetland hydrology wa:				

<u>Tree Stratum</u> (Plot size: <u>30 ft</u> ) 1.		Dominant Species?	Indicator Status	Dominance Test worksh Number of Dominant S Are OBL, FACW, or FAC:	pecies That	0	(A)
2.				Total Number of Domin		2	(B)
3.				Across All Strata:	:		
4				Percent of Dominant Sp - Are OBL, FACW, or FAC:		0	(A/B)
5				Prevalence Index works			
6				- Total % Cover		Multiply	Bv:
7				- OBL species	0	x 1 =	_ <del></del> 0
	0	= Total Cov	er	FACW species	0	x 2 =	0
Sapling/Shrub Stratum (Plot size: 15 ft )				FAC species	0	x 3 =	0
1.				- FACU species	20	x 4 =	80
2				- UPL species	70	x 5 =	350
3				- Column Totals	90	(A)	430 (B)
4.				Prevalence In		4.8	(-/
5				Hydrophytic Vegetation			
6.				1- Rapid Test for H		/ogotation	,
7				2 - Dominance Tes		egetatioi	1
	0	= Total Cov	er	3 - Prevalence Ind			
<u>Herb Stratum</u> (Plot size: <u>5 ft</u> )				4 - Morphological		(Provide	sunnorting
1. Artemisia vulgaris	70	Yes	UPL	- data in Remarks or on a		-	Supporting
2. Andropogon gerardii	10	No	FACU	- Problematic Hydro			xplain)
3				¹Indicators of hydric soi			
4				present, unless disturb			8)
5.				Definitions of Vegetatio	n Strata:		
6.				Tree – Woody plants 3 i		more in	diameter at
7.				breast height (DBH), reg			
8.				Sapling/shrub - Woody		_	DBH and
9.				greater than or equal to	3.28 ft (1 m	) tall.	
10.				Herb – All herbaceous (	non-woody)	plants, re	gardless of
11.				size, and woody plants	less than 3.2	8 ft tall.	
12.				Woody vines – All wood	ly vines great	ter than 3	3.28 ft in
	80	= Total Cov	er	height.			
Woody Vine Stratum (Plot size:30 ft)				Hydrophytic Vegetation	n Present? \	/es I	Vo <u> </u>
1. Lonicera japonica	10	Yes	FACU				
2	· · · · · · · · · · · · · · · · · · ·			-			
3.				-			
4.				-			
T	10	= Total Cov	or	-			
		- Total Covi					
Remarks: (Include photo numbers here or on a see No positive indication of hydrophytic vegetation v	•	50% of dom	inant speci	es indexed as FAC– or dri	er).		

	•	to the d	•			indicato	r or confirm the al	bsence of indicators.)
Depth	Matrix		Redox	Feat	ures			
(inches)	Color (moist)		Color (moist)	<u>%</u>	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 - 4	10YR 3/4	100		_			Silt Loam	
4 - 12	10YR 4/4	100		_			Silt Loam	<u> </u>
				_				
				_				
				_				
				_				
				_				
¹Type: C =	Concentration, D =	Depletic	n, RM = Reduced	Mat	rix, MS =	Masked	Sand Grains. <sup>2</sup> Lo	ocation: PL = Pore Lining, M = Matrix.
Hydric Soil	Indicators:	-						Indicators for Problematic Hydric Soils <sup>3</sup> :
Histoso	ol (A1)		Polyvalue Be	low S	Surface (S	88) <b>(LRR</b>	R, MLRA 149B)	2 cm Muck (A10) <b>(LRR K, L, MLRA 149B)</b>
Histic E	pipedon (A2)		Thin Dark Su	rface	(S9) (LRF	R R, MLR	A 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
Black H	listic (A3)		Loamy Muck	y Mir	eral (F1)	(LRR K,	L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
, ,	gen Sulfide (A4)		Loamy Gleye	d Ma	trix (F2)			Dark Surface (S7) (LRR K, L)
	ed Layers (A5)		Depleted Ma					Polyvalue Below Surface (S8) (LRR K, L)
	ed Below Dark Surf	ace (A11	<del></del>					Thin Dark Surface (S9) (LRR K, L)
	ark Surface (A12)		Depleted Dar			)		Iron-Manganese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)		Redox Depre	ssior	IS (F8)			Piedmont Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)							Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5)							Red Parent Material (F21)
	d Matrix (S6)		25.					Very Shallow Dark Surface (TF12)
Dark St	urface (S7) <b>(LRR R, N</b>	VILKA 14	9B)					Other (Explain in Remarks)
3Indicators	of hydrophytic veg	getation	and wetland hydr	olog	y must b	e preser	nt, unless disturbe	ed or problematic.
Restrictive	Layer (if observed)	:						
	Type:		Boulder			Hydric	Soil Present?	Yes No/_
	Depth (inches):		12					
Remarks:								
No positive	e indication of hydr	ic soils w	as observed. The	crite	erion for	hydric s	oil is not met.	

Photo of Sample Plot North



Photo of Sample Plot East



Project/Site: Stony Point HDD		City/County: Stor	ny Point, Rockland County		Sampling Date: 20	022-May-24
Applicant/Owner: Champlain	Hudson Power Ex	xpress (CHPE)	State: NY		Sampling Point: W-I	OJB-02_PEM-1
Investigator(s): David Bonomo	)		Section, Township,	Range:		
Landform (hillslope, terrace, etc.	.): Depressio	n	Local relief (concave, conv	/ex, none):	Concave	Slope (%): 10 to 20
Subregion (LRR or MLRA):	LRR R		Lat: 41.243206333	3 Long:	-73.9802491667	Datum: WGS84
Soil Map Unit Name: Clearfiel	d Rock outcrop co	omplex			NWI classificati	on: None
Are climatic/hydrologic condition	ns on the site typi	ical for this time of ye	ear? Yes 🟒 No	(If no	o, explain in Remarks	.)
Are Vegetation, Soil,	or Hydrology	/ significantly di	isturbed? Are "Norm	al Circums	tances" present?	Yes No
Are Vegetation, Soil,	or Hydrology	/ naturally prob	lematic? (If needed,	explain an	y answers in Remark	s.)
SUMMARY OF FINDINGS - A	Attach site ma	p showing sampli	ng point locations, trar	nsects, in	nportant features	, etc.
Hydrophytic Vegetation Present	t? Yes	5_ <b>✓</b> _No				
Hydric Soil Present?		s_ <b>✓</b> _ No	Is the Sampled Area withi	n a Wetlan	d? Yes	s No
Wetland Hydrology Present?		No	If yes, optional Wetland Si			DJB-02
			<u> </u>	ite ib.	<u>vv-</u>	DJB-02
Remarks: (Explain alternative p		•				
Covertype is PEM. Area is wetla	nd, all three wetla	and parameters are p	oresent. Area formerly used	d as a storr	nwater basın	
LIVEROLOCY						
HYDROLOGY						
Wetland Hydrology Indicators:						
Primary Indicators (minimum o	f one is required;	check all that apply)		Secondar	y Indicators (minimui	m of two required)
Surface Water (A1)		Water Stained Le	avos (PO)	Surfac	e Soil Cracks (B6)	
Surface Water (A1) High Water Table (A2)	-	Water-Stained Le Aquatic Fauna (B		Draina	age Patterns (B10)	
Saturation (A3)	-	Aquatic Fauria (B Marl Deposits (B1		Moss	Trim Lines (B16)	
Water Marks (B1)	-	Hydrogen Sulfide		-	eason Water Table (C	2)
Sediment Deposits (B2)	-		heres on Living Roots (C3)	-	sh Burrows (C8)	
Drift Deposits (B3)		Presence of Redu	_		ntion Visible on Aerial	
Algal Mat or Crust (B4)			ction in Tilled Soils (C6)		ed or Stressed Plants	(D1)
Iron Deposits (B5)		Thin Muck Surfac			orphic Position (D2)	
<u>✓</u> Inundation Visible on Aerial	Imagery (B7)	Other (Explain in	Remarks)		w Aquitard (D3)	4)
Sparsely Vegetated Concave	Surface (B8)				topographic Relief (D eutral Test (D5)	4)
Field Observations:				V FAC-N	eutrai lest (D3)	
Surface Water Present?	Yes No	Depth	(inches):			
Water Table Present?	Yes No	•	(inches):	- Wetland I	Hydrology Present?	Yes No
Saturation Present?				-	Trydrology Tresent.	
	Yes No	о <u>_<b>√</b></u> — Берин	(inches):	-		
(includes capillary fringe)						·
Describe Recorded Data (strear		ing well, aerial photo	s, previous inspections), if a	available:		
Formerly used as a storm water	r basin.					
Remarks:						
The criterion for wetland hydro	logy is met. A pos	sitive indication of we	etland hydrology was obser	ved (prima	ry and secondary ind	licators were present).
			, 3,		,	,

Tree Stratum (Plot size: _30 ft_)		Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species	That 3	(A)
1				Are OBL, FACW, or FAC:		`
2. 3.		·		Total Number of Dominant Speak Across All Strata:	ecies 3	(B)
4.		·		Percent of Dominant Species T Are OBL, FACW, or FAC:	hat 100	(A/B)
5				Prevalence Index worksheet:		
6				Total % Cover of:	Multiply	By:
7				- OBL species 10	x 1 =	10
	0	= Total Cov	er	FACW species 90	x 2 =	180
Sapling/Shrub Stratum (Plot size: 15 ft )				FAC species 0	x 3 =	0
1. <i>Salix nigra</i>	10	Yes	OBL	FACU species 0	x 4 =	0
2. <i>Platanus occidentalis</i>	10	Yes	FACW	UPL species 0	x 5 =	0
3				Column Totals 100		190 (B)
4				Prevalence Index = E	` ' _	130 (b)
5				-		
6				Hydrophytic Vegetation Indica		
7				1- Rapid Test for Hydroph		l
	20	= Total Cov	er	2 - Dominance Test is >50 2 - Prevalence Index is ≤		
Herb Stratum (Plot size: <u>5 ft</u> )				4 - Morphological Adapta		cupporting
1. Phragmites australis	80	Yes	FACW	data in Remarks or on a separ	=	supporting
2				Problematic Hydrophytic	-	(plain)
3				Indicators of hydric soil and w		•
4.				present, unless disturbed or p	, ,	6)
5.				Definitions of Vegetation Strat		
6.				Tree – Woody plants 3 in. (7.6 c		diameter at
7.				breast height (DBH), regardles	-	
8.				Sapling/shrub – Woody plants	-	DBH and
9.				greater than or equal to 3.28 f		
10.				Herb – All herbaceous (non-wo	ody) plants, re	gardless of
11				size, and woody plants less tha	ın 3.28 ft tall.	
11 12.				Woody vines – All woody vines	greater than 3.	.28 ft in
	80	= Total Cov	or	height.		
Woody Vine Stratum (Plot size: <u>30 ft</u> )		_ Total Cov	Ci	Hydrophytic Vegetation Prese	nt? Yes _✓_ N	lo
1						
2.						
3.						
4.						
	0	= Total Cov	er			
Remarks: (Include photo numbers here or on a se				_		

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC). A positive indication of hydrophytic vegetation was observed (Prevalence Index is  $\leq$  3.00). A positive indication of hydrophytic vegetation was observed (Rapid Test for Hydrophytic Vegetation).

Profile Desc	cription: (Describe t Matrix	o the o	depth needed to o			indicato	r or confirm the a	bsence of indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 - 12	10YR 5/2	95	10YR 4/6	5	С	M	Clay Loar	
12 - 16	10YR 6/2	95	10YR 4/6	5			Clay Loar	
12 10	1011(0)2		1011( 1// 0	<u> </u>			Ciay Loai	·
				_				
	-			-			•	
				-				
				-				
				_				<del></del>
				_			-	
				_				
				_				
¹Type: C = C	Concentration, D = I	Depleti	on, RM = Reduced	l Mat	rix, MS =	Masked	Sand Grains. <sup>2</sup> L	ocation: PL = Pore Lining, M = Matrix.
Hydric Soil	Indicators:							Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol					-		R, MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	oipedon (A2)		Thin Dark Su					Coast Prairie Redox (A16) (LRR K, L, R)
Black Hi			Loamy Muck	-		(LRR K,	L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		Loamy Gleye					Dark Surface (S7) (LRR K, L)
	d Layers (A5)		_✓ Depleted Ma					Polyvalue Below Surface (S8) (LRR K, L)
	d Below Dark Surfa	ice (A1						Thin Dark Surface (S9) <b>(LRR K, L)</b>
	ark Surface (A12)		Depleted Da			)		Iron-Manganese Masses (F12) (LRR K, L, R)
_	flucky Mineral (S1)		Redox Depre	essioi	IS (F8)			Piedmont Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)							Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
_	ledox (S5)							Red Parent Material (F21)
	d Matrix (S6)							Very Shallow Dark Surface (TF12)
Dark Su	rface (S7) <b>(LRR R, M</b>	ILRA 14	19B)					Other (Explain in Remarks)
3Indicators	of hydrophytic veg	etation	and wetland hyd	rolog	y must b	e preser	nt, unless disturbe	ed or problematic.
Restrictive I	_ayer (if observed):							
	Type:		None			Hydric	Soil Present?	Yes No
	Depth (inches):							
Remarks:								
A positive in	ndication of hydric	soil wa	s observed. The c	riteri	on for hy	dric soil	is met.	

Soil Photos



Photo of Sample Plot North



Project/Site: Stony Point HDD		City/County: Ston	y Point, Rockland County		Sampling Date: 202	22-May-24
Applicant/Owner: Champlair	า Hudson Power Expr	ess (CHPE)	State: NY		Sampling Point: W-DJ	B-02_UPL-1
Investigator(s): David Bonom	10		Section, Township,	Range:		
Landform (hillslope, terrace, etc	c.): Terrace		Local relief (concave, conv	/ex, none):_	Convex	Slope (%): 2 to 5
Subregion (LRR or MLRA):	LRR R		Lat: 41.243106166	7 Long:_	-73.9801906667	Datum: WGS84
Soil Map Unit Name: Clearfie	eld rock outcrop comp	olex			NWI classificatio	n: None
Are climatic/hydrologic condition	ons on the site typical	for this time of ye	ar? Yes <u>✓</u> No	(If no	, explain in Remarks.)	
Are Vegetation, Soil	, or Hydrology	significantly dis	sturbed? Are "Norm	al Circumst	ances" present?	Yes No
Are Vegetation, Soil	, or Hydrology	naturally probl	ematic? (If needed,	explain any	y answers in Remarks	.)
CLIMMADY OF FINIDINGS	Attach site man s	howing camplin	as point locations, tra	ocasts im	uportant foatures	ote
SUMMARY OF FINDINGS – Hydrophytic Vegetation Preser	-	No <u>_</u> ∠_	ig point locations, trai	isects, iiii	iportant reatures,	etc.
Hydric Soil Present?		No/	Is the Sampled Area with	in a Wotland	d? Vos	s No⁄_
			i		u: les	S NO
Wetland Hydrology Present?  Remarks: (Explain alternative p		No <b>/</b>	If yes, optional Wetland S	ite ID:		
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of		eck all that apply)		Secondary	/ Indicators (minimum	of two required)
Surface Water (A1)	,	Water-Stained Lea	was (RQ)	Surface	e Soil Cracks (B6)	
High Water Table (A2)		Aquatic Fauna (B1			ge Patterns (B10)	
Saturation (A3)		Marl Deposits (B1			Frim Lines (B16)	
Water Marks (B1)		Hydrogen Sulfide		-	ason Water Table (C2)	
Sediment Deposits (B2)		Oxidized Rhizosph	neres on Living Roots (C3)	-	sh Burrows (C8) tion Visible on Aerial I	magany (C9)
Drift Deposits (B3)		Presence of Reduc			d or Stressed Plants (I	
Algal Mat or Crust (B4)			ction in Tilled Soils (C6)		orphic Position (D2)	,
Iron Deposits (B5)		Thin Muck Surface			w Aquitard (D3)	
Inundation Visible on Aeria Sparsely Vegetated Concav		Other (Explain in F	Remarks)	Microte	opographic Relief (D4) eutral Test (D5)	)
Field Observations:					• • •	
Surface Water Present?	Yes No	<u>/</u> Depth (	(inches):			
Water Table Present?	Yes No _ <b>_</b>	<u>/</u> Depth (	(inches):	Wetland H	lydrology Present?	Yes No
Saturation Present?	Yes No _ <b>_</b>	/ Depth (	(inches):	-		
(includes capillary fringe)		_ '	· <u> </u>	-		
Describe Recorded Data (strea	m gauge monitoring	well aerial nhotos	nrevious inspections) if	availahle.		·
Remarks: The criterion for wetland hydro						

				1		
<u>Tree Stratum</u> (Plot size: <u>30 ft</u> )		Dominant Species?	Indicator Status	Dominance Test worksheet:  Number of Dominant Species 7	-hat	
1.	70 COVE	opecies:	Jiaius	Are OBL, FACW, or FAC:	0	(A)
2.	<del></del>			Total Number of Dominant Spe	cies	
3.	<del></del>			Across All Strata:	3	(B)
4.	<del></del>			Percent of Dominant Species T	hat 0	(A /D)
				Are OBL, FACW, or FAC:		(A/B)
5	<del></del>			Prevalence Index worksheet:		
6.	· ——			Total % Cover of:	<u>Multiply</u>	<u>/ By:</u>
7				OBL species 0	x 1 =	0
	0	= Total Cov	er	FACW species 0	x 2 =	0
Sapling/Shrub Stratum (Plot size: 15 ft)				FAC species 0	x 3 =	0
1				FACU species 43	x 4 =	172
2				UPL species 40	x 5 =	200
3				Column Totals 83	(A)	372 (B)
4				Prevalence Index = B		
5				Hydrophytic Vegetation Indicat		
6.				1- Rapid Test for Hydroph		n
7				2 - Dominance Test is > 50		"
	0	= Total Cov	er	3 - Prevalence Index is ≤ 1		
Herb Stratum (Plot size: <u>5 ft</u> )				4 - Morphological Adapta		cupporting
1. Artemisia vulgaris	40	Yes	UPL	data in Remarks or on a separa	•	supporting
2. Andropogon gerardii	28	Yes	FACU	Problematic Hydrophytic		vnlain)
3. Trifolium repens	5	No	FACU	¹Indicators of hydric soil and w		'
4.				present, unless disturbed or pr	-	ogy must be
5.				Definitions of Vegetation Strate		
6.				Tree – Woody plants 3 in. (7.6 c		diameter at
7.				breast height (DBH), regardless	-	diameter at
8.				Sapling/shrub - Woody plants	_	DBH and
9.				greater than or equal to 3.28 ft		22.1 0.10
10				Herb – All herbaceous (non-wo		egardless of
11	<del></del>			size, and woody plants less tha		
11	. ——			Woody vines – All woody vines		3.28 ft in
12	72	Total Co.		height.		
	73	= Total Cov	er	Hydrophytic Vegetation Prese	nt? Yes	No 🗸
Woody Vine Stratum (Plot size:30 ft)	40	V	FACIL	, a. op., yaa vagaaaaa		<u></u>
Lonicera japonica	10	Yes	FACU			
2.	. ——					
3						
4						
	10	= Total Cov	er			
Remarks: (Include photo numbers here or on a separat	te sheet.)					
No positive indication of hydrophytic vegetation was o		50% of dom	inant specie	es indexed as FAC– or drier).		

	•	to the de	•			indicato	r or confirm the a	bsence of indicators.)
Depth	Matrix		Redox					
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 - 4	10YR 3/4	100					Silt Loam	
4 - 12	10YR 4/4	100		_			Silt Loam	1
				_				
				_				
				_				
								<del></del>
1Type: C = C	Concentration, D =	Denletio	n PM = Peduced	Mati	riv MS =	Maskad	Sand Grains 21	ocation: PL = Pore Lining, M = Matrix.
Hydric Soil		2 chicu0	., Kivi – Keduced	iviati	בואו יעיי	MUSICU	Jana Granis, -L	Indicators for Problematic Hydric Soils <sup>3</sup> :
_			Dobaralua Do	۰ C	urfaca (C	.0) (I DD	D MI DA 140D)	•
Histoso	oipedon (A2)		Polyvalue Be Thin Dark Su				R, MLRA 149B)	2 cm Muck (A10) <b>(LRR K, L, MLRA 149B)</b>
	istic (A3)		Loamy Muck					Coast Prairie Redox (A16) (LRR K, L, R)
	en Sulfide (A4)		Loamy Gleye			(LIXIX IX,	L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
	d Layers (A5)		Depleted Ma					Dark Surface (S7) (LRR K, L)
	d Below Dark Surfa							Polyvalue Below Surface (S8) (LRR K, L)
	ark Surface (A12)		Depleted Dar			)		Thin Dark Surface (S9) (LRR K, L)
	Mucky Mineral (S1)		Redox Depre			,		Iron-Manganese Masses (F12) (LRR K, L, R)
Sandy G	Gleyed Matrix (S4)							Piedmont Floodplain Soils (F19) <b>(MLRA 149B)</b>
-	Redox (S5)							Mesic Spodic (TA6) <b>(MLRA 144A, 145, 149B)</b>
-	d Matrix (S6)							Red Parent Material (F21)
	urface (S7) <b>(LRR R, N</b>	/II RA 149	9B)					Very Shallow Dark Surface (TF12)
			,					Other (Explain in Remarks)
-	of hydrophytic veg		and wetland hydr	olog	y must b	e preser	nt, unless disturbe	ed or problematic.
Restrictive I	Layer (if observed):	:						
	Type:		Gravel			Hydric	Soil Present?	Yes No/_
	Depth (inches):		12					
Remarks:								
No positive	indication of hydri	ic soils w	as observed. The	crite	erion for	hydric s	oil is not met.	
L								

Photo of Sample Plot North



Photo of Sample Plot East



Project/Site: Stony Point H	IDD		City/County: Ston	y Point, Rockland County		Sampling Date:	2022-May-24
Applicant/Owner: Cham	plain Hudson Powe	er Expr	ess (CHPE)	State: NY		Sampling Point: W	-DJB-03_PEM-1
Investigator(s): David Bo	nomo			Section, Township,	Range:		
Landform (hillslope, terrac	e, etc.): Depre	ssion		Local relief (concave, conv	ex, none):	Concave	Slope (%): 1 to 10
Subregion (LRR or MLRA):	LRR R			<b>Lat:</b> 41.242448166	7 Long:	-73.9813625	Datum: WGS84
Soil Map Unit Name: Pit	s, quarry			_		NWI classifica	tion: None
Are climatic/hydrologic cor	nditions on the site	typical	for this time of year	ar? Yes <u>√</u> No	(If no	o, explain in Remarl	(S.)
Are Vegetation, Soi	, or Hydro	logy _	significantly dis	turbed? Are "Norm	al Circums	tances" present?	Yes No
Are Vegetation, Soi	, or Hydro	logy _	naturally probl	ematic? (If needed,	explain an	ny answers in Rema	rks.)
SUMMARY OF FINDING	GS – Attach site i	map s	howing samplir	ng point locations, tran	nsects, in	nportant feature	s, etc.
Hydrophytic Vegetation P	resent?	Yes	∠_ No				
Hydric Soil Present?		Yes	∠_ No	Is the Sampled Area withi	n a Wetlan	nd? Y	es No
Wetland Hydrology Prese	nt?	Yes	∠_ No	If yes, optional Wetland S	ite ID:	٧	V-DJB-03
Remarks: (Explain alterna				• •		·	
	•						
Covertype is PEM. Area is	wetland, all three v	<i>i</i> etiand	parameters are p	resent.			
HYDROLOGY							
IIIDROLOGI							
Wetland Hydrology Indica	tors:						
Primary Indicators (minim	um of one is requir	ed; ch	eck all that apply)		Secondar	y Indicators (minim	um of two required)
Comfort Makes (A1)			\\/atau Ctainad   aa	(DO)	Surfac	ce Soil Cracks (B6)	
Surface Water (A1)			Water-Stained Lea		Draina	age Patterns (B10)	
High Water Table (A2)			Aquatic Fauna (B1		Moss	Trim Lines (B16)	
Saturation (A3) Water Marks (B1)			Marl Deposits (B15 Hydrogen Sulfide		Dry-Se	eason Water Table (	C2)
	1			eres on Living Roots (C3)	Crayfi	sh Burrows (C8)	
Sediment Deposits (B2 Drift Deposits (B3)	.)		Presence of Reduc	_	✓ Satura	ation Visible on Aeri	al Imagery (C9)
Algal Mat or Crust (B4)				tion in Tilled Soils (C6)	Stunte	ed or Stressed Plant	s (D1)
Algai Mat of Crust (B4)			Thin Muck Surface		∕ Geom	orphic Position (D2	)
Inundation Visible on /	Aprial Imagery (R7)		Other (Explain in F		Shallo	w Aquitard (D3)	
Sparsely Vegetated Co			Other (Explain in F	Remarks)	Microt	topographic Relief (	D4)
sparsely vegetated co	ricave Surface (Bo)				∕ FAC-N	leutral Test (D5)	
Field Observations:							
Surface Water Present?	Yes	_ No	∠ Depth (	inches):	_		
Water Table Present?	Yes	No _,	∠ Depth (	inches):	Wetland I	Hydrology Present?	Yes No
Saturation Present?	Yes	_No	∠ Depth (	inches):			
(includes capillary fringe)							
Describe Recorded Data (	stream gauge, mon	itoring	well, aerial photos	, previous inspections), if	available:		
2 000.100 110001 000 2 010 (	sa ca gaage,e		,, ac.ia. p.iotos	, p. c			
Remarks:							
A positive indication of we	tland hydrology wa	as obse	erved (at least two	secondary indicators). The	criterion f	or wetland hydrolog	gy is met.

Tree Stratum (Plot size: <u>30 ft</u> )		Dominant Species?	Indicator Status	Dominance Test workshop Number of Dominant Sp			
1.	-	Species.	Status	Are OBL, FACW, or FAC:	ceres inde	3	(A)
· · · · · · · · · · · · · · · · · · ·				Total Number of Domina	nt Species	3	(D)
z				Across All Strata:			(B)
4.				Percent of Dominant Spe Are OBL, FACW, or FAC:	ecies That	100	(A/B)
5				Prevalence Index worksh	neet:		
6				Total % Cover o	<u>f:</u>	Multiply	By:
7				- OBL species	20	x 1 =	20
	0	= Total Cov	er	FACW species	120	x 2 =	240
Sapling/Shrub Stratum (Plot size: 15 ft )				FAC species	0	x 3 =	0
1. <i>Salix nigra</i>	20	Yes	OBL	FACU species	0	x 4 =	0
2				UPL species	0	x 5 =	0
3				Column Totals	140	(A)	260 (B)
4				Prevalence Ind		1.9	200 (2)
5.							<del></del> -
5.				Hydrophytic Vegetation I		( t - t ·	
7				1- Rapid Test for Hy		egetation	l
	20	= Total Cov	er	✓ 2 - Dominance Test			
Herb Stratum (Plot size: <u>5 ft</u> )		='		✓ 3 - Prevalence Inde		(Dura dala	
1. Phragmites australis	60	Yes	FACW	4 - Morphological A			supporting
2. Lysimachia nummularia	60	Yes	FACW	- data in Remarks or on a Problematic Hydro			(nicin)
3.				Indicators of hydric soil			-
4.				present, unless disturbed		-	gy must be
5.				Definitions of Vegetation		nacie	
5.				Tree – Woody plants 3 in		more in	diameter at
7.				breast height (DBH), rega			alameter at
3.				Sapling/shrub - Woody p		_	DBH and
				greater than or equal to			
10				Herb – All herbaceous (n			gardless of
				size, and woody plants le			
				Woody vines – All woody			.28 ft in
12				height.			
w 1 vr 6:	120	= Total Cov	er	Hydrophytic Vegetation	Present? \	es 🗸 N	lo
Noody Vine Stratum (Plot size: <u>30 ft</u> )						I	
1				=			
2.				-			
3							
4				.			
	0	= Total Cov	er				

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

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC). A positive indication of  $hydrophytic\ vegetation\ was\ observed\ (Prevalence\ Index\ is \le 3.00).\ A\ positive\ indication\ of\ hydrophytic\ vegetation\ was\ observed\ (Rapid\ Test\ for\ New York of the New York of$ Hydrophytic Vegetation).

	•	o the o	•			indicato	r or confirm the al	bsence of indicators.)
Depth _	Matrix		Redox					
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 - 4	10YR 3/1	95	10YR 4/6	5	C	M	Silt Loam	
4 - 16	10YR 5/2	95	10YR 4/6	5	C	M	Silt Loam	
				_				
							1	
				_				
				_			•	
1Typo: C = C	oncentration, D = [	) onloti	on PM - Poduco	- <u>-</u>	riv MC -	Maskod	Sand Grains 21	ocation: PL = Pore Lining, M = Matrix.
		Jepieti	on, Rivi – Reduced	ıvıaı	11X, 1VI3 -	Maskeu	Saliu GrailisLi	<u> </u>
Hydric Soil I			Daharak a Da		·	CO) (I DD	D MI DA 140D)	Indicators for Problematic Hydric Soils³:
Histosol	• •		•				R, MLRA 149B)	2 cm Muck (A10) <b>(LRR K, L, MLRA 149B)</b>
	oipedon (A2)		Thin Dark Su					Coast Prairie Redox (A16) <b>(LRR K, L, R)</b>
Black His	en Sulfide (A4)		Loamy Muck Loamy Gleye	-		(LKK K, I	L)	5 cm Mucky Peat or Peat (S3) <b>(LRR K, L, R)</b>
	d Layers (A5)		Loanly Gleye					Dark Surface (S7) (LRR K, L)
	d Below Dark Surfa	ce (A1						Polyvalue Below Surface (S8) (LRR K, L)
	ark Surface (A12)		Depleted Da			)		Thin Dark Surface (S9) (LRR K, L)
	lucky Mineral (S1)		Redox Depre			,		Iron-Manganese Masses (F12) (LRR K, L, R)
	ileyed Matrix (S4)		Redox Depre	233101	15 (10)			Piedmont Floodplain Soils (F19) (MLRA 149B)
-	edox (S5)							Mesic Spodic (TA6) <b>(MLRA 144A, 145, 149B)</b>
	Matrix (S6)							Red Parent Material (F21)
	rface (S7) <b>(LRR R, M</b>	II DA 1	10D)					Very Shallow Dark Surface (TF12)
Daik 3u	11ace (37) (LKK K, W	ILIVA 1-	+30)					Other (Explain in Remarks)
-	of hydrophytic vege	etation	and wetland hyd	rolog	y must b	e preser	nt, unless disturbe	ed or problematic.
	.ayer (if observed):							
	Type:		None	-		Hydric	Soil Present?	Yes✓_ No
	Depth (inches):							
Remarks:								
A positive in	ndication of hydric	soil wa	s observed. The c	riteri	on for hy	dric soil	is met.	

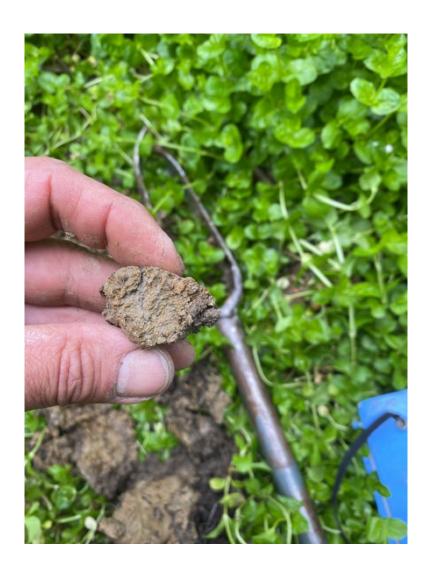




Photo of Sample Plot North



Photo of Sample Plot East



Project/Site: Stony Point	City/County: Sto	ony Point, Rockland County	Sampling Date: 2	2022-May-24
	Hudson Power Express (CHPE)	State: NY	Sampling Point: W	-DJB-04_PFO-1
Investigator(s): David Bonomo	)	Section, Township, Ra	inge:	
Landform (hillslope, terrace, etc.)	): Foot slope	Local relief (concave, convex,	, none): Concave	Slope (%): 1 to 10
Subregion (LRR or MLRA):L	_RR R	Lat: 41.2418928333	Long: -73.9815215	Datum: WGS84
Soil Map Unit Name: Charlton	rock outcrop complex		NWI classifica	tion:
Are climatic/hydrologic condition	ns on the site typical for this time of y	year? Yes _✓_ No	(If no, explain in Remark	s.)
Are Vegetation, Soil,	or Hydrology significantly o	disturbed? Are "Normal 0	Circumstances" present?	Yes No
Are Vegetation, Soil,	or Hydrology naturally pro	blematic? (If needed, ex	plain any answers in Remar	ks.)
SUMMARY OF FINDINGS – A	Attach site map showing samp	ling point locations, transe	ects, important feature	s, etc.
Hydrophytic Vegetation Present	:? Yes <u></u> ✓ No		<u>-</u>	
Hydric Soil Present?	Yes <u>✓</u> No	Is the Sampled Area within a	Wotland? V	es/_ No
		i		
Wetland Hydrology Present?	Yes No	If yes, optional Wetland Site	ID: V	V-DJB-04
	ocedures here or in a separate repo			
Covertype is PFO. Area is wetlan	nd, all three wetland parameters are	present.		
HYDROLOGY				
Wetland Hydrology Indicators:				
	f one is required; check all that apply	r) Se	econdary Indicators (minimu	ım of two required)
Trimary maleators (minimam or	one is required, effect all triat apply	4	_ Surface Soil Cracks (B6)	ani or two required)
∕ Surface Water (A1)	Water-Stained L		_ Drainage Patterns (B10)	
✓ High Water Table (A2)	Aquatic Fauna (E		_ Moss Trim Lines (B16)	
✓ Saturation (A3)	Marl Deposits (E		_ Dry-Season Water Table (0	[2]
Water Marks (B1)	Hydrogen Sulfid	e Odor (CT)	_ Crayfish Burrows (C8)	•
Sediment Deposits (B2)		pheres on Living Roots (C3)	 ∠ Saturation Visible on Aeria	al Imagery (C9)
Drift Deposits (B3)	Presence of Red	uced Iron (C4)	_ _ Stunted or Stressed Plants	
Algal Mat or Crust (B4)		uction in Tilled Soils (C6)	– ∠ Geomorphic Position (D2)	•
✓ Iron Deposits (B5)	Thin Muck Surfa		_ Shallow Aquitard (D3)	
✓ Inundation Visible on Aerial		n Remarks)	_ Microtopographic Relief ([	04)
Sparsely Vegetated Concave	Surface (B8)	_ <u>•</u>	∠ FAC-Neutral Test (D5)	
Field Observations:				
Surface Water Present?	Yes No Dept	th (inches):		
Water Table Present?	Yes _ 🗸 No Dept	th (inches): 2 W	etland Hydrology Present?	Yes No
Saturation Present?		th (inches):	,	
(includes capillary fringe)	763 <u>-</u> 7-110			
			etable.	<del> </del>
Describe Recorded Data (stream	n gauge, monitoring well, aerial phot	os, previous inspections), if ava	illable:	
Remarks:				
The criterion for wetland hydrol	logy is met. A positive indication of w	etland hydrology was observed	d (primary and secondary in	dicators were present).

VEGETATION - OSE Sciencific flames of pla		D	la di a tau	Dominance Test works	hoot:		
Tree Stratum (Plot size:30 ft)		Dominant Species?	Indicator Status	Number of Dominant S			
1. Salix nigra	40	Yes	OBL	Are OBL, FACW, or FAC	•	5	(A)
Fraxinus pennsylvanica	20	Yes	FACW	Total Number of Domir	nant Species	6	(D)
3. Acer negundo	10	No	FAC	Across All Strata:			(B)
4.			1710	Percent of Dominant S	pecies That	83.3	(A/B)
5.				Are OBL, FACW, or FAC			(,,,,,
6.				Prevalence Index work			
7.	<del></del>			Total % Cover		<u>Multiply</u>	-
··	70	= Total Cov	er	OBL species	60	x 1 =	60
Sapling/Shrub Stratum (Plot size:15 ft)		- 10tal Cov	Ci	FACW species	140	x 2 =	280
1. Salix nigra	20	Yes	OBL	FAC species	30	x 3 =	90
2. Rosa multiflora	10	Yes	FACU	FACU species	10	x 4 =	40
3.		163	TACO	UPL species	0	x 5 =	0
4.				Column Totals	240	(A)	470 (B)
5.				Prevalence Ir	ndex = B/A =	2	
6.				Hydrophytic Vegetation	n Indicators:		
				1- Rapid Test for I	ا Hydrophytic ا	/egetatio	า
7		T- t-l C-		✓ 2 - Dominance Te	st is >50%		
	30	= Total Cov	er	3 - Prevalence Ind	lex is ≤ 3.0 <sup>1</sup>		
Herb Stratum (Plot size: <u>5 ft</u> )	60	V	EA CIA/	4 - Morphological	Adaptations	¹ (Provide	supporting
1. Phragmites australis		Yes	FACW	data in Remarks or on	a separate sh	neet)	
Lysimachia nummularia	60	Yes	FACW	Problematic Hydr	ophytic Vege	tation¹ (E	xplain)
3. Equisetum arvense	20	No	FAC	<sup>1</sup> Indicators of hydric so	il and wetlan	d hydrolo	gy must be
4				present, unless disturb	ed or proble	matic	
5				Definitions of Vegetation	on Strata:		
6				Tree – Woody plants 3			diameter at
7				breast height (DBH), re	_	_	
8.				Sapling/shrub - Woody			DBH and
9				greater than or equal t			
10				Herb – All herbaceous		•	gardless of
11				size, and woody plants			206:
12				Woody vines – All wood	ay vines grea	ter than a	3.28 π In
	140	= Total Cov	er	height.			
Woody Vine Stratum (Plot size: 30 ft )				Hydrophytic Vegetatio	n Present? \	Yes 🟒 l	No
1							
2.							
3.							
4.							
	0	= Total Cov	er				
		-					

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

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC). A positive indication of hydrophytic vegetation was observed (Prevalence Index is  $\leq$  3.00).

Profile Desc	cription: (Describe t Matrix	to the o	depth needed to o			indicato	r or confirm the al	osence of indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 - 3	10YR 4/2	95	10YR 4/6	5	С	M	Silt Loam	Remarks
3 - 16	10YR 6/2	95	10YR 4/6	<u>5</u>		M	Silt Loam	
3-10	1011( 0/2		1011(4/0				Silt Loain	
		- —		-			-	
		- —		-				
		- —		_				
		- —		_				<del></del>
		- —		-				
		- —		_				
		- —		_				
		- —		_				
				_				
		- —						
¹Type: C = C	Concentration, D = I	Depleti	on, RM = Reduced	l Mat	rix, MS =	Masked	Sand Grains. <sup>2</sup> Lo	ocation: PL = Pore Lining, M = Matrix.
Hydric Soil	Indicators:							Indicators for Problematic Hydric Soils <sup>3</sup> :
Histoso			Polyvalue Be	low S	Surface (S	58) <b>(LRR</b>	R, MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	oipedon (A2)		Thin Dark Su					Coast Prairie Redox (A16) (LRR K, L, R)
Black Hi			Loamy Muck	-		(LRR K,	L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		Loamy Gleye					Dark Surface (S7) (LRR K, L)
	d Layers (A5)	(44	Depleted Ma					Polyvalue Below Surface (S8) (LRR K, L)
	d Below Dark Surfa	ice (A i				'\		Thin Dark Surface (S9) (LRR K, L)
	ark Surface (A12) Mucky Mineral (S1)		Depleted Da Redox Depre			)		Iron-Manganese Masses (F12) (LRR K, L, R)
-	•		Redox Depre	:22101	15 (го)			Piedmont Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)							Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5)							Red Parent Material (F21)
	d Matrix (S6)	II DA 1	10D)					Very Shallow Dark Surface (TF12)
Dark Su	rface (S7) <b>(LRR R, M</b>	ILKA 14	<del>1</del> 9B)					Other (Explain in Remarks)
	of hydrophytic veg		and wetland hyd	rolog	y must b	e preser	nt, unless disturbe	d or problematic.
Restrictive I	Layer (if observed):							
	Type:		None			Hydric	Soil Present?	Yes No
	Depth (inches):							
Remarks:								
A positive in	ndication of hydric	soil wa	s observed. The c	riteri	on for hy	dric soil	is met.	



Photo of Sample Plot East



Photo of Sample Plot West



Project/Site: Stony Point	HDD	City/Coun	ty: Stony Point, Rockland County	y Sampling Date: 2022-May-24			
Applicant/Owner: Char	nplain Hudson Pow	er Express (CHPE	) State: NY	Sampling	g Point: W-DJB-05_PEM-1		
Investigator(s): David B	onomo		Section, Township	, Range:			
Landform (hillslope, terra	ce, etc.): Depre	ession	Local relief (concave, conv	vex, none): Concave	e <b>Slope (%):</b> 1 to 10		
Subregion (LRR or MLRA):	LRR R		<b>Lat:</b> 41.242258166	57 <b>Long:</b> -73.9816	6686667 <b>Datum:</b> WGS84		
Soil Map Unit Name: P	its quarry			NW	VI classification:		
Are climatic/hydrologic co	nditions on the site	typical for this ti	me of year? Yes _✓_ No	(If no, explain	ı in Remarks.)		
Are Vegetation, So	il, or Hydro	ology signific	antly disturbed? Are "Norm	al Circumstances" p	oresent? Yes 🟒 No		
Are Vegetation, So	il, or Hydro	ology natura	lly problematic? (If needed,	, explain any answer	rs in Remarks.)		
SUMMARY OF FINDIN	GS – Attach site	map showing	sampling point locations, tra	nsects, importan	t features, etc.		
Hydrophytic Vegetation F	Present?	Yes 🟒 No	_				
Hydric Soil Present?		Yes 🟒 No	Is the Sampled Area with	in a Wetland?	Yes No		
Wetland Hydrology Prese	ent?	Yes No	If yes, optional Wetland S	ite ID:	W-DJB-05		
Remarks: (Explain alterna		<del></del>					
· •	•	•	·				
Covertype is PEM. Area is	wetland, all three v	wetland paramete	ers are present.				
HYDROLOGY							
Wetland Hydrology Indic	atore:						
Primary Indicators (minir		rod: chack all tha	t apply)	Secondary Indicate	ors (minimum of two required)		
Filliary indicators (illinii	num or one is requi	reu, check all tha	<u>с арріу)</u>	Surface Soil Cra	•		
Surface Water (A1)		Water-Sta	ined Leaves (B9)	Drainage Patte			
High Water Table (A2)	1	Aquatic Fa	auna (B13)	Moss Trim Line			
Saturation (A3)		Marl Depo	osits (B15)	Dry-Season Wa			
Water Marks (B1)		Hydrogen	Sulfide Odor (C1)	Crayfish Burrov			
Sediment Deposits (B	2)	Oxidized	Rhizospheres on Living Roots (C3)	•	on Visible on Aerial Imagery (C9)		
Drift Deposits (B3)		Presence	of Reduced Iron (C4)		• •		
Algal Mat or Crust (B4	4)	Recent Iro	on Reduction in Tilled Soils (C6)		essed Plants (D1)		
Iron Deposits (B5)			x Surface (C7)	Geomorphic Po			
Inundation Visible on	Aerial Imagery (B7)	Other (Ex	olain in Remarks)	Shallow Aquita			
Sparsely Vegetated C			,	Microtopograp			
				<u>✓</u> FAC-Neutral Te	st (D5)		
Field Observations:							
Surface Water Present?		_ No <b>/</b> _	Depth (inches):	_			
Water Table Present?	Yes	_ No <b>/</b> _	Depth (inches):	_ Wetland Hydrolog	y Present? Yes No		
Saturation Present?	Yes	_ No <b>/</b> _	Depth (inches):	_			
(includes capillary fringe)							
Describe Recorded Data	(stream gauge, mor	nitoring well, aeria	al photos, previous inspections), if	available:			
Remarks:							
A positive indication of w	etland hydrology w	as observed (at le	ast two secondary indicators). The	criterion for wetlan	nd hydrology is met.		

Tree Stratum (Plot size: <u>30 ft</u> )		Dominant	Indicator Status	Dominance Test works			
1.	% Cover	Species?	Status	Number of Dominant S Are OBL, FACW, or FAC		3	(A)
2.				Total Number of Domi			(D)
3.				Across All Strata:		3	(B)
4				Percent of Dominant S  Are OBL, FACW, or FAC	•	100	(A/B)
5.				Prevalence Index work			
6.				Total % Cover		Multiple	D. a
7.				OBL species	<u>01.</u> 20	Multiply x 1 =	<u>ъу.</u> 20
	0	= Total Cov	er	FACW species	125	x 2 =	250
Sapling/Shrub Stratum (Plot size: <u>15 ft</u> )		<u>-</u> '		FAC species	0	=	0
1. <i>Salix nigra</i>	20	Yes	OBL	FAC species FACU species	0	x 3 =	0
2.				UPL species		x 4 =	-
3.				-	0	x 5 =	0
4.				Column Totals	145	(A)	270 (B)
5.				Prevalence In		1.9	
5.				Hydrophytic Vegetation			
7.				1- Rapid Test for I		egetation/	1
	20	= Total Cov	er	2 - Dominance Te			
Herb Stratum (Plot size: <u>5 ft</u> )			·.	3 - Prevalence Inc			
1. Phragmites australis	60	Yes	FACW	4 - Morphological			supporting
2. Lysimachia nummularia	60	Yes	FACW	data in Remarks or on			
3. Onoclea sensibilis		No	FACW	Problematic Hydi			-
4.				Indicators of hydric so		•	gy must be
<u> </u>				present, unless disturb	•	Hatic	
6.	<del></del>			Definitions of Vegetation Tree – Woody plants 3		r mara in	diameter at
7.	<del></del>			breast height (DBH), re			ulainetei at
8.				Sapling/shrub - Woody	-	_	OBH and
9.				greater than or equal t			Di i di id
10				Herb – All herbaceous			gardless of
11				size, and woody plants		•	O
11				Woody vines – All woo			.28 ft in
12				height.	, ,		
	125	= Total Cov	er	Hydrophytic Vegetation	n Present? \	/es ./ N	No.
Woody Vine Stratum (Plot size: <u>30 ft</u> )				1., 3. 35.,, 3.5 . 380.0000		·> '	
1							
2.				-			
3				.			
4							
	0	= Total Cov	er				

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

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC). A positive indication of hydrophytic vegetation was observed (Prevalence Index is  $\leq$  3.00). A positive indication of hydrophytic vegetation was observed (Rapid Test for Hydrophytic Vegetation).

Profile Des	cription: (Describe t Matrix	to the o	depth needed to o			indicato	r or confirm the al	osence of indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 - 3	10YR 3/1	95	10YR 4/6	5	С	M	Silt Loam	Remarks
3 - 16	10YR 5/2	95	10YR 4/6	<u>5</u>		M	Silt Loam	
3-10	1011(3/2		1011(4/0				Silt Loain	
		- —		_			-	
		- —		-				
		- —		_				
		- —		_				
		- —		-				
				. —				
		- —		_				
				_				
		- —						
¹Type: C = 0	Concentration, D = I	Depleti	on, RM = Reduced	l Mat	rix, MS =	Masked	Sand Grains. <sup>2</sup> Lo	ocation: PL = Pore Lining, M = Matrix.
Hydric Soil	Indicators:							Indicators for Problematic Hydric Soils <sup>3</sup> :
Histoso			•				R, MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)		Thin Dark Su					Coast Prairie Redox (A16) (LRR K, L, R)
	istic (A3)		Loamy Muck	-		(LRR K,	L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		Loamy Gleye					Dark Surface (S7) (LRR K, L)
	d Layers (A5)	/ ^ 1	Depleted Ma					Polyvalue Below Surface (S8) (LRR K, L)
	d Below Dark Surfa ark Surface (A12)	ice (A i	Depleted Da			'\		Thin Dark Surface (S9) (LRR K, L)
	Mucky Mineral (S1)		Redox Depre			,		Iron-Manganese Masses (F12) (LRR K, L, R)
_	Gleyed Matrix (S4)		Redox Depre	.33101	13 (10)			Piedmont Floodplain Soils (F19) (MLRA 149B)
-	Redox (S5)							Mesic Spodic (TA6) <b>(MLRA 144A, 145, 149B)</b>
_	d Matrix (S6)							Red Parent Material (F21)
	u Matrix (36) ırface (S7) <b>(LRR R, M</b>	II DA 1	10D)					Very Shallow Dark Surface (TF12)
Dark 30	111ace (37) (LKK K, IV	ILKA 12	+96)					Other (Explain in Remarks)
	of hydrophytic veg		and wetland hyd	rolog	y must b	e preser	nt, unless disturbe	d or problematic.
Restrictive	Layer (if observed):							
	Type:		None			Hydric	Soil Present?	Yes No
	Depth (inches):							
Remarks:								
A positive i	ndication of hydric	soil wa	s observed. The c	riteri	on for hy	dric soil	is met.	

Photo of Sample Plot North



Photo of Sample Plot West



Project/Site: Stony Point	HDD	City/County	Stony Point, Rockland Cour	nty	Sampling Date: 2022-May-24		
Applicant/Owner: Char	nplain Hudson Pow	er Express (CHPE)	State:	NY	Sampling Point: W-DJ	B-03/04/05_UPL-1	
Investigator(s): David B	onomo		Section, Towns	hip, Range:			
Landform (hillslope, terra	ce, etc.): Hillslo	pe	Local relief (concave, c	convex, none):	Undulating	Slope (%): 10 to 20	
Subregion (LRR or MLRA):	LRR R		Lat: 41.242133	7695 <b>Long:</b>	-73.9816977902	Datum: WGS84	
Soil Map Unit Name: Cl	าarlton-Rock outcro	p complex			NWI classification	n: None	
Are climatic/hydrologic co	nditions on the site	typical for this time	e of year? Yes	No (If no	o, explain in Remarks.)		
Are Vegetation, So	l, or Hydro	ology significar	ntly disturbed? Are "No	ormal Circumst	tances" present?	Yes 🟒 No	
Are Vegetation, So	l, or Hydro	ology naturally	problematic? (If need	ded, explain an	y answers in Remarks.	)	
Hydrophytic Vegetation F		Yes No	mpling point locations, t		<u>-</u>		
Hydric Soil Present?		Yes No	Is the Sampled Area w	vithin a Wetlan	d? Yes	s No <u>-</u> ✓	
Wetland Hydrology Prese	nt?	Yes No	If yes, optional Wetlar	nd Site ID:			
HYDROLOGY							
Wetland Hydrology Indica	ators:						
Primary Indicators (minin		red; check all that a	(ylaq	Secondary	y Indicators (minimum	of two required)	
	•			-	e Soil Cracks (B6)	•	
Surface Water (A1) High Water Table (A2)		Water-Stain Aquatic Fau	ed Leaves (B9)	Draina	age Patterns (B10)		
Fight Water Table (A2) Saturation (A3)		Aquatic Fau Marl Deposi		Moss 1	Trim Lines (B16)		
Water Marks (B1)		· ·	ulfide Odor (C1)		eason Water Table (C2)		
Sediment Deposits (B	2)		izospheres on Living Roots ((	۲۱ -	sh Burrows (C8)	(50)	
Drift Deposits (B3)			Reduced Iron (C4)	Satura	ition Visible on Aerial Ir		
Algal Mat or Crust (B4	)	Recent Iron	Reduction in Tilled Soils (C6)		ed or Stressed Plants (D orphic Position (D2)	71)	
Iron Deposits (B5)		Thin Muck S			w Aquitard (D3)		
Inundation Visible on			ain in Remarks)		copographic Relief (D4)	1	
Sparsely Vegetated Co	ncave Surface (B8)				eutral Test (D5)		
Field Observations:							
Surface Water Present?	Yes	_ No <u></u> ✓	Depth (inches):				
Water Table Present?	Yes	_ No <u>_</u>	Depth (inches):	Wetland H	Hydrology Present?	Yes No <b>_</b> ✓	
Saturation Present?			Depth (inches):		, ω	•	
(includes capillary fringe)	103	_110_1/2					
		المنسمة المستسمنات	photos, previous inspections	) :£ a			
Remarks:			ation of wetland hydrology w				

<u> </u>				1		
<u>Tree Stratum</u> (Plot size: <u>30 ft</u> )		Dominant Species?		Dominance Test worksheet:		
A. Dahinia manuda anatis	-	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
1. Robinia pseudoacacia	60	Yes	FACU	Total Number of Dominant Species		
2. Platanus occidentalis	25	Yes	FACW	Across All Strata:	7	(B)
3				Percent of Dominant Species That	-	
4				- Are OBL, FACW, or FAC:	14.3	(A/B)
5				Prevalence Index worksheet:		
6				Total % Cover of:	Multiply E	3v:
7				OBL species 0	x 1 =	0
	85	= Total Cov	er	FACW species 25	x 2 =	50
Sapling/Shrub Stratum (Plot size: 15 ft)				FAC species 0	x 3 =	0
1. Berberis thunbergii	50	Yes	FACU	FACU species 175	x 4 =	700
2. Rosa multiflora	15	Yes	FACU	- UPL species 40	x 5 =	200
3. Ligustrum vulgare	10	No	FACU	Column Totals 240	_	950 (B)
4.					(A) _	930 (B)
5.				Prevalence Index = B/A =	4	
6.				Hydrophytic Vegetation Indicators:		
7.				1- Rapid Test for Hydrophytic \	/egetation	
	75	= Total Cov	er	2 - Dominance Test is > 50%		
Herb Stratum (Plot size: _ 5 ft)		-		3 - Prevalence Index is ≤ 3.0 <sup>1</sup>		
1. Artemisia vulgaris	40	Yes	UPL	4 - Morphological Adaptations	-	supporting
2. Alliaria petiolata	25	Yes	FACU	data in Remarks or on a separate sh	-	
3. Trifolium repens	- <del>- 23</del> - 5	No	FACU	Problematic Hydrophytic Vege		
4.			17100	¹Indicators of hydric soil and wetlan	, .	gy must be
5.				present, unless disturbed or proble	matic	
6.				Definitions of Vegetation Strata:		
7.				Tree – Woody plants 3 in. (7.6 cm) or		liameter at
				breast height (DBH), regardless of h	-	Diland
8.				Sapling/shrub – Woody plants less t greater than or equal to 3.28 ft (1 m		ъп апи
9.				Herb – All herbaceous (non-woody)		ardless of
10				size, and woody plants less than 3.2		aruless or
11				Woody vines – All woody vines great		28 ft in
12				height.		20 10 111
	70	= Total Cov	er		Vos N	
Woody Vine Stratum (Plot size: 30 ft )				Hydrophytic Vegetation Present?	ies iv	·
1. Lonicera japonica	10	Yes	FACU	-		
2				_		
3				-		
4				_		
	10	= Total Cov	er			
Remarks: (Include photo numbers here or on a separa	ate sheet \			_		
No positive indication of hydrophytic vegetation was		50% of dom	inant speci	os indoved as EAC- or drier)		
no positive indication of flydrophytic vegetation was t	observeu (≥	30% OF GOIT	illiant speci	es indexed as FAC- of difer).		

	•	to the de	•			ndicator	or confirm the ab	sence of indicat	ors.)
Depth	Matrix	04	Redox			1002	Toytura		Domarka
(inches) 0 - 4	Color (moist)	<u>%</u>	Color (moist)	90	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks
4 - 12	10YR 3/4	100		_			Silt Loam		
4-12	10YR 4/4	100		_			Silt Loam		
				-					
				_					
				_					
				_					
	-							· · · · · · · · · · · · · · · · · · ·	
				_					
				_					
				_					
				_					
¹Type: C = 0	Concentration, D =	Depletio	n, RM = Reduced	Mat	rix, MS =	Masked	Sand Grains. <sup>2</sup> Lo	cation: PL = Por	e Lining, M = Matrix.
Hydric Soil	Indicators:							Indicators for P	roblematic Hydric Soils³:
Histoso	l (A1)		Polyvalue Be	low S	urface (S	8) (LRR F	, MLRA 149B)	2 cm Muck	(A10) <b>(LRR K, L, MLRA 149B)</b>
Histic E	pipedon (A2)		Thin Dark Su	rface	(S9) (LRR	R, MLRA	(149B)		e Redox (A16) <b>(LRR K, L, R)</b>
Black H	istic (A3)		Loamy Mucky	y Mir	eral (F1)	(LRR K, L	)		/ Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		Loamy Gleye						te (S7) <b>(LRR K, L)</b>
	ed Layers (A5)		Depleted Ma						elow Surface (S8) (LRR K, L)
	ed Below Dark Surfa	ace (A11)	· <del></del>						urface (S9) <b>(LRR K, L)</b>
	ark Surface (A12)		Depleted Dar						inese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)		Redox Depre	ssior	ıs (F8)			_	loodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)							Mesic Spod	ic (TA6) <b>(MLRA 144A, 145, 149B)</b>
_	Redox (S5)							Red Parent	Material (F21)
	d Matrix (S6)							Very Shallo	w Dark Surface (TF12)
Dark Su	ırface (S7) <b>(LRR R, N</b>	/ILRA 149	9B)						ain in Remarks)
<sup>3</sup> Indicators	of hydrophytic veg	etation a	and wetland hydr	olog	y must be	e present	t, unless disturbed	d or problematio	
Restrictive	Layer (if observed):								
	Type:		Boulder			Hydric	Soil Present?	Yes	No <b>/</b> _
	Depth (inches):		12	•		,			
Remarks:	Deptir (interies).					ı		•	
NO POSITIVE	indication of hydri	IC SOIIS W	as observed. The	Crite	erion ior	nyune so	ii is not met.		

Photo of Sample Plot North



Photo of Sample Plot East





# STREAM AND WATERBODY INVENTORY

CLIENT: CHPE PROJECT: STONY POINT HDD

S-DJB-01, Perennial

PLOT OVERVIEW								
ID	S-DJB-01	OJB-01 Classification Perennial						
Waterbody Name	<b>Date</b> 2022-05-24 13:11:40							
Evaluators	David Bonomo	David Bonomo						
Address (Approx.)	68 Park Rd Stony Point Rockland C	ounty NY 10980 US						
<b>Location Description</b>								
Lat. / Long. (WGS84)	41.24256515, -73.98493194							

STREAM / WATERBODY CHARACTERISTICS								
Flow Stage	Moderate	Flow Direction	S					
Average Depth (in.)	4	Probed Stream Depth	0 to 6 inches					
Perceptible Flow	Yes	Obstruction	NA					
Channel Substrate	Boulders,Cobble/Gravel,Silt/Clay	Channel Gradient	2 to 4% (1 to 2 deg) Moderate					
Is floodplain present?	no	Bankfull Width (ft)	NA					
<b>Existing Water Width (ft)</b>	8	Top of Bank (ft)	15					
Water Quality	Clear	Presumed Regulatory Authority						
Ordinary High Water Mark (ft)	10	Canopy Closure (Est.)	40 to 50%					
OHWM Indicators	Bed and Banks, Deposition, Scour							
<b>Water Quality Comments</b>								
Bank Substrate	Cobble/Gravel							
Aquatic Habitat	Overhanging Vegetation, Riffle - P	ool						
Observed Use	Drainage							
Observed Fauna								
RTE Species & Evidence								
Notes								

	BANK HEIGHT (ft)	BANK SLOPE	BANK EROSION POTENTIAL
Left Bank	10	> 35% (> 20 deg) Very Steep	Low
Right Bank	3	25 to 35% (14 to 20 deg) Steep	Moderate

# **PHOTOS**

# **Upstream Photo:**



#### **Downstream Photo:**



# **Across Stream/Waterbody Photo:**





# APPENDIX C Photograph Log



**Photograph 1.** View of PEM Wetland W-DJB-01 located along the eastern portion of the Project Area boundary. Wetland hydrology is evident in the foreground with common reed as the dominant vegetation. Photo taken on 5/27/2022.



**Photograph 2.** View of PEM Wetland W-DJB-02 located near the center of the Project Area. Common reed was the dominant vegetation within this depressional feature formerly utilized as a stormwater basin. Photo taken on 5/27/2022.





**Photograph 3.** View of PEM Wetland W-DJB-03 located in the southwestern portion Project Area. Common reed was the dominant vegetation as seen in the background. Photo taken on 5/27/2022.



**Photograph 4.** View of PFO Wetland W-DJB-04 located along the southwestern portion Project Area. Common reed was the dominant emergent vegetation seen in the foreground with a forested canopy. Photo taken on 5/27/2022.





**Photograph 5.** View of PEM Wetland W-DJB-05 located in the southwestern portion Project Area. Common reed as the dominant vegetation seen in the background. Photo taken on 5/27/2022.



**Photograph 6.** View of perennial Stream S-DJB-01 located in the northwestern portion Project Area. Photo taken on 5/27/2022.





**Photograph 7.** Upstream view of perennial Stream S-DJB-01. Photo taken on 5/27/2022.



**Photograph 8.** Typical view of the upland habitat at USACE data point W-DJB-01\_UPL-1 in the eastern portion of the Project Site. Photo taken on 5/27/2022.





**Photograph 9.** View of upland habitat in the eastern portion of the Project Site. Photo taken on 5/27/2022.



**Photograph 10.** View of upland habitat overlooking Wetland W-DJB-02. Photo taken on 5/27/2022.





**Photograph 11.** View of quarry pits located along the northern Project Site boundary. Photo taken on 5/27/2022.



**Photograph 12.** View of quarry pits located along the northern Project Site boundary. Photo taken on 5/27/2022.

