

# Wetland Identification and Delineation Report Update

### West River - Elm West and Elm West - Allings Crossing Transmission Line Railroad Project

West Haven and New Haven, CT

BL Project No.: 17S3304-A, B, and D



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# Contents

١.	INTRODUCTION1
II.	METHODS
III.	REGULATORY INFORMATION
S	tate/Municipal Jurisdiction
F	ederal Jurisdiction
IV.	FUNCTIONS AND VALUES
V.	SITE INVESTIGATION
VI.	RESOURCE DESCRIPTIONS
٧	Vetland Complex A
	West River: USFWS Classification E1UBL
	State Regulated Tidal Wetland7
	Wetland 1: USFWS Classification E2EM5/SS1P7
	Wetland 2: USFWS Classification E2EM5/SS1P8
	Wetland 3: USFWS Classification PEM5E10
	Wetland 4: USFWS Classification E1UBL10
٧	Vetland Complex B11
	Pond 1: USFWS Classification PUBHx11
٧	Vetland Complex C12
	Cove River: USFWS Classification R5UBH12
	Stream 1: USFWS Classification R4SBCh12
	Wetland 5: USFWS Classification PSS1Eh13
	Wetland 6: USFWS Classification PFO1E144
٧	Vetland Complex D14
	Stream 3: USFWS Classification R4UBCh14
	Wetland 7: USFWS Classification PFO1E15
	Wetland 9: USFWS Classification PSS1E16
٧	Vetland Complex E177

Stream 4 and 7: USFWS Classification R4UBC/R4SBC	17
Wetland 8: USFWS Classification PSS1E	17
Stream 5: USFWS Classification R4UBC	18
Connecticut Wetland 1 (CT1)	19
Stream 6: USFWS Classification R4UBC	19
Stream 8: USFWS Classification R4SBC	20
Stream 9: USFWS Classification R4SBC	20
VII. VERNAL POOL INVESTIGATION	20
VIII. SUMMARY	22
IX. PREPARERS	24
REFERENCES	26

# Figures

Project Area Location Map 2

# Appendices

- A. Project Location Mapping
- B. Resource Mapping
- C. Inland Wetland Delineation Mapping
- D. Delineated Coastal Resources Mapping
- E. Photographs
- F. Wetland Data Sheets
- G. CT Wetland 2 Aerials
- H. Topographic LiDAR Exhibit

## I. INTRODUCTION

BL Companies, Inc. (BL) conducted a site investigation to confirm and extend previously delineated state and federal wetlands and Waters of the United States, state regulated tidal resources including all land below the coastal jurisdiction line (CJL) and tidal vegetation up to one foot above the CJL and vernal pools previously identified by BL in 2018 within the corridor along approximately 2.6 miles of the Metro North Railroad corridor in the Cities of New Haven and West Haven, located in New Haven County, Connecticut (Figure 1). The investigation extends from approximately 350 feet east of the Ella T Grasso Boulevard overpass, in the vicinity of the West River substation, to approximately the Allings Crossing Road overpass, in the vicinity of the Allings Crossing substation (hereinafter referred to as the "project area"). Project location mapping is provided in Appendix A. The coordinates for the approximate center of the project are Latitude 41.2827 N and Lonaitude -72.9476 W. The resource confirmation and extension followed the railroad right-of-way (ROW) and access road maps provided by United Illuminating (UI) Company ("Client") and verified by BL's survey crew. The ROW width varies throughout the project from 90 feet to over 300 feet in some portions of the corridor. It should be noted that in some areas, the adjacent property owners are encroaching on the railroad ROW; areas of encroachment were visually assessed but were not physically walked per the Client's request to avoid confrontation from the adjacent property owners. Investigators avoided hanging flags in areas immediately adjacent to private residences to avoid drawing attention; instead only GPS points were taken in these locations.

The project area lies within the West River drainage basin (5305) and South Central Shoreline drainage basin (5000). The project area does not fall within a public water supply or Aquifer Protection Area (APA). The eastern portion of the project area, east of Campbell Avenue in West Haven, falls within the Coastal Area Management (CAM) zone. Coastal resources within the CAM portion of the project include intertidal flats, tidal wetlands, and coastal flood hazard area. Several coastal and inland resources were identified on the U.S. Fish and Wildlife Service's National Wetlands Inventory (NWI) mapping. Preliminary review of soil mapping provided by the Natural Resource Conservation Service did not identify any areas of hydric, poorly drained, or very poorly drained soils. FEMA mapping indicates that floodplain and floodway are present throughout the corridor. Resource mapping is provided in **Appendix B**.

The purpose of this report is to confirm and extend previously documented state and federal jurisdictional wetlands, i.e., Waters of the United States, tidal wetlands, and coastal resources, as well as vernal pools. It should be noted that vernal pools can only be accurately identified during the early spring while water levels are high, and signs of

Wetland Identification and Delineation Update Report New Haven and West Haven, CT -1-

amphibian breeding are evident. Vernal pools in Connecticut are based upon certain obligate species being present and utilizing the pool for breeding. The wetland delineations were completed during the appropriate time of year to assess vernal pools, in the spring of 2018 and confirmed in the spring of 2021, and no evidence of vernal pool species was observed throughout the project limits.



Figure 1 – Project Area Location Map New Haven and West Haven, CT

# II. METHODS

This investigation involved a wetland/watercourse delineation that was completed by wetland scientists and a Certified Professional Soil Scientist (CPSS) and conducted in accordance with the principles and practices noted in the United States Department of Agriculture (USDA) Soil Survey Manual (1993). The soil classification system of the National Cooperative Soil Survey was used in this investigation to identify the soil map units present on the project site.

Vegetation, soils, and hydrology were observed and documented during the Site investigation in accordance with state and federal delineation methodologies. Soil types were identified by observing soil morphology (soil texture, color, structure, etc.). To observe the morphology of the soils, hand borings (generally to a depth of two feet) are completed. Where wetland and/or watercourses were determined to be present, their boundaries were identified with flags and hung from vegetation or small stakes if in fields or grass communities. These flags are labeled "Wetland Boundary" and generally spaced approximately 50 feet apart and located using handheld Trimble® GPS units with submeter accuracy. It is important to note that flagged wetland and watercourse boundaries are subject to verification by local, state, and/or federal regulatory agencies.

# III. REGULATORY INFORMATION

Wetlands and watercourses are regulated by state, municipal, and federal laws and regulations, each with different definitions and regulatory requirements. Accordingly, the state and municipalities may regulate wetland and waters that fall outside of federal jurisdiction; however, where federal jurisdiction exists, concurrent state jurisdiction is almost always present.

# State/Municipal Jurisdiction

Inland wetland determinations are based on the presence of poorly drained, very poorly drained, alluvial, or floodplain soils and submerged land. Watercourses are defined as "rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private, which are contained within, flow through or border upon the state or any portion thereof." Intermittent watercourse determinations are made based on the presence of a defined permanent channel and bank, and two of the following characteristics: (1) evidence of scour or deposits of recent alluvium or detritus, (2) the presence of standing or flowing water for a duration longer than a particular storm incident, and (3) the presence of hydrophytic vegetation. (See Inland Wetlands and Watercourses Act §22a-38 CGS.) Municipalities may impose additional regulations on inland wetlands and watercourses, but have no jurisdiction over state-regulated tidal wetlands.

The Connecticut Department of Energy and Environmental Protection's (DEEP) Land and Water Resources Division regulates all activities conducted in inland and tidal wetlands and in tidal, coastal or navigable waters in Connecticut under the Structures, Dredging and Fill Act (Conn. Gen. Statutes (CGS) Sec. 22a-359 - 22a-363f, inclusive) and the Tidal Wetlands Act (CGS Sec. 22a-28 - 22a-35, inclusive). Effective October 2012, the High Tide Line (HTL), which was used as the jurisdictional limit for DEEP, was replaced by a Coastal

Wetland Identification and Delineation Update ReportNew Haven and West Haven, CT-3-

Jurisdiction Line (CJL), which established a specifically determined elevation as the regulatory limit for each coastal municipality. The CJL for both West Haven and New Haven is 4.6' (NAVD 88) for Long Island Sound. Tidal wetlands are also separately regulated, including in areas up to one foot above the CJL if the area is deemed "capable of supporting" tidal wetland vegetation based on field investigations, through identification of certain plants and the presence of tidal waters. Therefore, state jurisdiction may extend up to elevation 5.6' (NAVD 88) in areas where tidal vegetation is identified; the tidal vegetation may extend above this elevation, but would not be considered regulated unless it is also delineated as state or federal inland wetland.

# Federal Jurisdiction

Jurisdictional wetlands at the Federal level consist of "Waters of the United States", which includes lakes, rivers and streams, as well as vegetated wetlands (See 33 CFR 328.8). The onsite waters and wetlands, regulated by the U.S. Army Corps of Engineers, were delineated in accordance with the Corps of Engineers Wetlands Delineation Manual (USACE 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual Northcentral and Northeast Region (Version 2.0) (January 2012). This Manual requires there to be dominant hydrophytic vegetation, hydric soils, and hydrological conditions present in determining wetland areas

Federal coastal jurisdiction under the Section 404 Clean Water Act includes navigable waters of the U.S. below the High Tide Line (HTL). Federal jurisdiction includes all waters and their tributaries to the head of tide, which extends shoreward to the mean high water line under Section 10 of the Rivers and Harbors Act, and extends shoreward to the 1-year frequency tidal flood under Section 404 of the Clean Water Act. The HTL for New Haven and West Haven is 4.6' and is coincident with the CJL.

# IV. FUNCTIONS AND VALUES

Biophysical elements such as a wetland's landscape position, size, geology, hydrology, substrate, and vegetation determine the wetland functions and to what capacity they are performed. Due to the differing biophysical characteristics between on-site wetlands, the functions the wetlands provide and the capacity to perform those functions vary. To better understand these differences, a description of the assessed wetland functional values was completed based on the United States Army Corps of Engineers (USACE) Highway Methodology Workbook (1993) and its supplement workbook. This method requires a description of each of the wetland communities as well as indicating the functions they provide. The USACE workbook includes 13 functions and values that have been recognized as functions wetlands can provide. These include

Wetland Identification and Delineation Update Report New Haven and West Haven, CT -4-

groundwater recharge/discharge, flood flow alteration, fish and shellfish habitat, sediment/toxicant retention, nutrient removal/retention/transformation, production export, sediment/ shoreline stabilization, wildlife habitat, recreation, education/scientific value, uniqueness/ heritage, visual quality/aesthetics, and habitat for threatened or endangered species.

# V. SITE INVESTIGATION

The project area was re-evaluated on August 2, 2021 with temperatures in the mid-60's °F under sunny conditions. Specifically, the Wetland 2 area (see **Wetland 2** narrative below) was re-evaluated in order to delineate between inland and tidal wetlands within this feature.

Areas identified in 2018 and confirmed on April 5, 6, and 7, 2021 as jurisdictional wetlands at the federal, state and municipal levels during the field investigations included:

- 1. West River, an estuarine subtidal unconsolidated bottom subtidal (E1UBL) watercourse;
- Four (4) emergent federally-regulated wetlands and areas of tidal vegetation located adjacent to the West River, north and south of the railroad right-ofway (ROW);
- **3.** One (1) pond north of the railroad ROW;
- 4. Cove River, a riverine perennial unconsolidated bottom watercourse (R5UBH);
- 5. Eight (8) intermittent watercourses, located in the western portion of the corridor, four (4) are located south of the ROW, and four (4) are located north of the ROW
- **6.** Two (2) palustrine forested wetlands located north of the railroad ROW adjacent to the Cove River and an intermittent watercourse;
- 7. Three (3) palustrine scrub-shrub wetlands located north and south of the ROW, and associated with one intermittent unnamed tributary to the Cove River and two separate intermittent watercourses.

It should be noted that one emergent wetland, Wetland 1, which is part of Complex A was extended in the vicinity of a proposed access road.

Three of these resources, the pond, one emergent wetland, and one intermittent watercourse, were characterized by pooled water that could potentially offer habitat for vernal pool species. These resources were assessed for vernal pool species; however, no evidence of obligate vernal pool species was observed.

Data on the current plant communities, soils, and hydrology were documented to support the wetland delineation using Army Corps Wetland Determination Data Forms. Descriptions of the delineated wetland resources are provided in Section VI. The delineated inland wetlands and watercourses and location of the data points is identified on the wetland mapping located in **Appendix C**. Delineated coastal resources are mapped in **Appendix D**. Photographs of the identified wetland resources, taken to provide visual documentation of the area, are located in **Appendix E**, and data sheets are located in **Appendix F**.

# VI. **RESOURCE DESCRIPTIONS**

The identified resources have been grouped based on hydrological connections between watercourses and/or wetlands. A total of five wetland complexes are described below.

# Wetland Complex A

Wetland Complex A consists of the West River, Wetland 1, Wetland 2, Wetland 3, Wetland 4, and areas of tidal vegetation on the banks adjacent to the river. The wetlands are tidally influenced and hydraulically connected via the West River.

# West River: USFWS Classification E1UBL

West River is classified as an estuarine subtidal unconsolidated bottom subtidal (E1UBL) watercourse according to USFWS National Wetland Inventory (NWI) mapping. The watercourse flows south into the New Haven Harbor, which is a tributary to Long Island Sound, and is subject to the ebb and flood of the tides. The substrate of the river consists of an unconsolidated organic muck. During low tide, expanses of the substrate are exposed, forming intertidal flats that provide habitat for shellfish, namely mussels, and foraging habitat for birds. Intertidal flats are especially prevalent north of the railroad bridge crossing. Some intertidal areas are stabilized with dense vegetation, forming low and high marsh habitat. Slopes in the vicinity of the Metro North railroad crossing over the river are protected by riprap, which also provides substrate for mussels and tidal vegetation.

According to published Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for New Haven County, Connecticut (09009C0437J), effective July 8, 2013, West River is within a mapped FEMA 100-year floodplain.

### State Regulated Tidal Wetland

Tidal vegetation (as classified by Chapter 440 Sec. 22a-29(2) of the General Statutes of Connecticut) including smooth cordgrass (Spartina alterniflora), hightide bush (Iva frutescens), and sea lavender (Limonium nashi) were observed and delineated in several areas bordering the West River. Areas where the tidal vegetation occurs at or below the CJL, or up to 1 foot above the CJL, is considered state regulated tidal wetland. In some areas the tidal vegetation may extend multiple feet above the CJL, however that area would not be considered regulated unless it is also delineated as state or federal inland wetland. For this specific site, the tidal vegetation was generally found to be at or below the CJL elevation, except in a portion of the Wetland 2 area, where common reed (Phragmites australis) was located above the CJL elevation (see **Appendix D**).

Hightide bush, a shrub found in high to upper high marsh habitat, was observed in the northeast, southeast, and northwest quadrants of the West River bridge, growing along slopes. Given that this species often grows at the upper limits of tidal marsh, it generally represents the "limits of tidal vegetation" in those three quadrants of the bridge.

Smooth cordgrass is a grass that is generally found in the low marsh and is capable of being inundated twice daily and can also withstand the salt water. This species was observed in the northeast, southeast, southwest, and northwest quadrants of the bridge, growing along the edge of water and in the crevices of riprap where sediments have built up. This low marsh habitat is also present along the southern portion of Wetland 1, paralleling the West River and extending off-site. More extensive low marsh dominated by smooth cordgrass is also present in the northeastern portion of Wetland 2, adjacent to the West River, and extends off-site to the north.

Very sparse sea lavender individuals were observed in the northeast quadrant of the bridge growing within the riprap at a slightly higher elevation than the smooth cordgrass.

A map depicting the limits of tidal vegetation and intertidal flats as well as GPS locations of the smooth cordgrass (labeled "Spartina" on the map) and the hightide bush (labeled "Iva" on the map) are provided with the delineated features map in **Appendix D**.

## Wetland 1: USFWS Classification E2EM5/SS1P

Wetland 1 is an NWI mapped wetland classified as an estuarine intertidal emergent *Phragmites australis* irregularly flooded (E2EM5P). The wetland is located south of the railroad ROW and west of the West River. The wetland parallels the tracks for approximately 1,500 feet and extends off-site to the south. Wetland 1 receives overland

flows from the railroad ROW as well as the hydrology from the West River. Primary wetland hydrology indicators for the wetland included 1" of surface water, high water table (to soil surface), saturation (to soil surface), drift deposits, and hydrogen sulfide odor; two secondary hydrology indicators, geomorphic position and microtopographic relief, were also noted. Wetland 1 is dominated by a monoculture of common reed (*Phragmites australis*); trees, shrubs, and vines are largely absent from this feature. Wetland 1's boundary was extended during the 2021 field efforts in the vicinity of a proposed access road, near I-95.

The wetland soil series identified through available mapping is Udorthents-Urban land complex (306) and Udorthents, smoothed (308). Udorthents consist primarily of areas that have been cut for leveling or filled for development; evidence of manipulation is present in the form of berms, riprap, and fill slopes. The soil exhibited histosol (A1) and hydrogen sulfide (A4) hydric soil indicators.

This wetland system provides the following functions and values: groundwater discharge, flood flow alteration, fish and shellfish habitat, sediment/toxicant retention, nutrient removal/retention/transformation, and sediment/shoreline stabilization. The wetland's location immediately adjacent to the river allows it to discharge groundwater and function as floodplain during storm events and high tides. Mussels were noted in portions of the wetland immediately adjacent to the river. Despite the fact that common reed is a highly invasive non-native species, the density of the vegetation aids in sediment and toxicant retention as well as nutrient attenuation and sediment and shoreline stabilization.

According to published Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for New Haven County, Connecticut (09009C0437J), effective July 8, 2013, Wetland 1 is within a mapped FEMA 100-year floodplain.

# Wetland 2: USFWS Classification E2EM5/SS1P

Wetland 2 is classified as an estuarine intertidal emergent *Phragmites australis* irregularly flooded (E2EM5P) and estuarine intertidal scrub-shrub broad-leaved deciduous irregularly flooded (E2SS1P) wetland. Field investigations classified the wetland present within the ROW as largely emergent, while trees and shrubs were present they are very sparsely interspersed throughout the landscape; more prevalent trees and shrubs were noted north of the ROW. The wetland is located north of the railroad ROW and west of West River. The wetland parallels the tracks for approximately 1,700 feet and extends off-site to the north. Wetland 2 receives overland flows from the railroad ROW as well as hydrology from the West River. A tidally influenced channel was noted within the eastern

portion of the wetland, varying from only a few inches of water to over 2 feet. The substrate throughout the channel varied slightly and consisted mainly of a silty muck. substrate with drift deposits and detritus. Water could be seen flowing into the West River during low tide from the eastern portion of Wetland 2, and water levels within the eastern portion of the channel appeared higher during high tide, although the flow was less noticeable. On August 2, 2021 Wetland 2 was re-evaluated in order to delineate between the portions of Wetland 2 that are inland wetlands and tidal wetlands. For this purpose, existing project aerial LiDAR data was utilized to generate topographic contours relative to NAVD88 datum which were verified with existing project survey control. During field survey verification of the LiDAR data supplemental tidal vegetation limits were found, delineated, and located via GPS within the area approximately 1 foot above the Coastal Jurisdiction Line (CJL) (Elevation of 4.6' - NAVD88 Datum) for an approximate tidal vegetation elevation of 5.6' (NAVD88). Appendix H Sheet 3 of 3 depicts this tidal wetland area just northwest of the railroad crossing of West River, with wetland flagging (WF) tidal wetland line (TWL) points labeled WF-TWL-1 through WF-TWL-11. The Wetland 2 sample point location displayed one primary wetland hydrology indicator, saturation (6" below soil surface), and three secondary indicators including drainage patters, saturation visible on aerial imagery, and geomorphic position. Wetland 2 is dominated by a monoculture of common reed (Phragmites australis); an herbaceous vine, ground nut (Apios americana) was also noted in the herb stratum but not dominant, and Asiatic bittersweet (Celastrus orbiculatus) was dominant in the woody vine stratum.

The soil series identified is dumps (302). Dumps consists of areas used for trash disposal, and are generally located on outwash terraces. Many of the dumps are adjacent to streams. Wetland 2 exhibited the Sandy Redox (S5) hydric soil indicator.

Wetland 2 provides the following functions and values: groundwater discharge, flood flow alteration, fish and shellfish habitat, sediment/toxicant retention, nutrient removal/retention/transformation, and sediment/shoreline stabilization. The wetland's location immediately adjacent to the river allows it to discharge groundwater and functions as floodplain during storm events and high tides. Mussels were noted in portions of the wetland immediately adjacent to the river. Despite the fact that common reed is a highly invasive non-native species, the density of the vegetation aids in sediment and toxicant retention as well as nutrient attenuation and sediment and shoreline stabilization. Wetland 2 was assessed for vernal pool species and described in more detail in Section VII below.

According to published Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for New Haven County, Connecticut (09009C0437J), effective July 8, 2013, Wetland 2 is within a mapped FEMA 100-year floodplain.

Wetland Identification and Delineation Update Report New Haven and West Haven, CT -9-

### Wetland 3: USFWS Classification PEM5E

Wetland 3 is not identified on NWI mapping but is classified as a palustrine emergent *Phragmites australis* seasonally flooded/saturated (PEM5E) wetland. The wetland is located south of the railroad ROW and west of the I-95 overpass. Wetland 3 receives overland flows from the railroad ROW and highway as well as the hydrology from Wetland 1 to the east. Wetland 3 displayed one primary wetland hydrology indicator, presence of reduced iron, and one secondary indicator, geomorphic position. Wetland 3 is dominated by common reed (*Phragmites australis*), mugwort (*Artemisia vulgaris*) and ground nut (*Apios americana*) were also present. No tree, shrub, or woody vine strata were present; however, it should be noted that the area had recently been cleared.

The wetland soil series identified through available mapping is Udorthents-Urban land complex (306). Udorthents consist primarily of areas that have been cut for leveling or filled for development; evidence of manipulation is present in the form of riprap, and fill slopes. Wetland 3 exhibited the Depleted Matrix (F3) hydric soil indicator.

Wetland 3 provides the following functions and values: groundwater recharge and flood flow alteration. The wetland's concave and depressed nature allow it to store overland flows and precipitation and return water to the ground water table. The wetland's functionality is limited due to its small size and recent mowing/clearing.

According to published Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for New Haven County, Connecticut (09009C0437J), effective July 8, 2013, Wetland 3 is not within a mapped FEMA floodplain or floodway.

## Wetland 4: USFWS Classification E1UBL

NWI mapping groups Wetland 4 as part of West River and classifies it as an estuarine subtidal unconsolidated bottom subtidal (E1UBL) watercourse. The wetland was delineated during low tide, but does appear to largely fall below or follow the High Tide Line (HTL). The wetland is located north of the railroad ROW and east of West River. Wetland 3 displayed six primary wetland hydrology indicators including high water table (6" below soil surface), saturation (to soil surface), drift deposits, inundation visible on aerial imagery, sparsely vegetated concave surface, and hydrogen sulfide odor and two secondary indicators including saturation visible on aerial imagery and geomorphic position. Wetland 4 is largely devoid of vegetation due to the regular inundation, however high tide bush (*Iva frutescens*), common reed (*Phragmites australis*), and smooth cord grass (*Spartina patens*) were present in small numbers. Trees and vines were largely absent from this area.

Wetland Identification and Delineation Update Report New Haven and West Haven, CT -10The wetland soil series identified through available mapping is Udorthents-Urban land complex (306). Udorthents consist primarily of areas that have been cut for leveling or filled for development; evidence of manipulation is present in the form of berms, riprap, and fill slopes. Wetland 4 exhibited histosol (A1) and hydrogen sulfide (A4) hydric soil indicators.

Wetland 4 provides the following functions and values: groundwater discharge, flood flow alteration, and fish and shellfish habitat. The wetland's location immediately adjacent to the river allows it to discharge groundwater and function as floodplain during storm events and high tides. Mussels were noted in portions of the wetland immediately adjacent to the river. The lack of vegetation limits the wetland's functionality.

According to published Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for New Haven County, Connecticut (09009C0437J), effective July 8, 2013, Wetland 4 is within a mapped FEMA 100-year floodplain.

# Wetland Complex B

Wetland Complex B consists only of Pond 1 and does not appear to be connected hydrologically to any of the other resources delineated within the project limits based on available information.

## Pond 1: USFWS Classification PUBHx

Pond 1 is not identified on NWI mapping but is classified as a palustrine unconsolidated bottom permanently flooded excavated (PUBHx) pond. The pond receives overland flows from the surrounding uplands and from a pipe off-site to the north. The pond is located in a low point, that appears to have been excavated, at the base of the railroad embankment. Large boulder and rock formations form the eastern boundary of the pond, and steep slopes vegetated by Japanese knotweed (*Reynoutria japonica*) form the north and west boundaries.

The water throughout the pond is clear, ranging from a few inches to over 2 feet. A large amount of refuse including tires, buckets, and concrete was noted within the pond. A small area in the northern portion of the pond supports some herbaceous vegetation including common reed and sedge (*Carex sp.*) species. The pond was assessed for vernal pool species; additional information can be found in Section VII.

According to published Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for New Haven County, Connecticut (09009C0437J), effective July 8, 2013, Wetland 3 is not within a mapped FEMA floodplain or floodway.

# Wetland Complex C

Wetland Complex C consists of Cove River, Stream 1, Wetland 5, and Wetland 6.

## Cove River: USFWS Classification R5UBH

Cove River is classified as a riverine unknown perennial unconsolidated bottom permanently flooded (R5UBH) watercourse according to USFWS National Wetland Inventory (NWI) mapping. The watercourse flows north to south through the corridor, crossing under the railroad though a masonry arch culvert. Cove River flows southeast from the project corridor into Upper Lake Phipps, and then south for approximately 1.25 miles before flowing into Long Island Sound. The lower reaches of this river are tidally influenced, however the portion of the river within the corridor appears to be riverine in nature with little to no tidal influence evident.

The river is approximately 25 feet wide, with a substrate that consists of silt and sand. North of the railroad ROW, the banks are forested and relatively steep. Wetland 6, located on the west bank, contributes hydrology to the river. South of the ROW, Stream 1 and Wetland 5 contribute to the river's hydrology. The banks a relatively flat or gently sloping, allowing for floodplain storage. It should be noted that forested wetland was observed off-site to the south of the ROW flanking either side of Cove River.

According to published Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for New Haven County, Connecticut (09009C0439J), effective July 8, 2013, Cove River is a mapped FEMA floodway.

# Stream 1: USFWS Classification R4SBCh

Stream 1 is not identified on NWI mapping, but is classified as a riverine intermittent streambed seasonally flooded diked/impounded (R4SBCh) watercourse. Stream 1 is located south of the railroad ROW and west of Cove River. The stream receives hydrology from Phipps Lake to the west via a small dam; it then flows east, providing hydrology for Wetland 5, and eventually flows into the Cove River. The watercourse is approximately 8 feet wide with a cobble, gravel, and sand substrate. Riffles and deep pools were noted throughout, and water depth varied from approximately 4 inches to pools that were over 2 feet deep.

Wetland Identification and Delineation Update ReportNew Haven and West Haven, CT-12-

According to published Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for New Haven County, Connecticut (09009C0439J), effective July 8, 2013, Stream 1 is partially located within a mapped FEMA 100-year floodplain, and flows into the Cove River, which is a mapped FEMA floodway.

## Wetland 5: USFWS Classification PSS1Eh

Wetland 5 is not identified on NWI mapping but is classified as a palustrine scrub-shrub broad-leaved deciduous seasonally flooded/saturated diked/impounded (PSS1Eh) wetland. The wetland is located south of the railroad ROW, north of Stream 1, and west of Cove River. The wetland is separated into two small pockets of floodplain wetland shelf north of Stream 1. Wetland 5 receives overland flows from the railroad ROW as well as the hydrology from Stream 1, which flows from the impounded Phipps Lake to the west. Wetland 5 displayed two primary wetland hydrology indicators, high water table (4" below soil surface) and saturation (to soil surface), and one secondary indicator, geomorphic position. Wetland 5 is dominated by spicebush (Lindera benzoin), green ash (Fraxinus pennsylvanica) saplings, silky dogwood (Cornus amomum), and multiflora rose (Rosa multiflora). Japanese knotweed (Reynoutria japonica) dominated the herbaceous stratum. No tree or woody vine strata were present.

The wetland soil series identified through available mapping is Urban land complex (307). Urban land consists primarily of areas that have been cut for leveling or filled for development; evidence of manipulation is present in the form of riprap and fill slopes. Wetland 5 exhibited the Sandy Mucky Mineral (S1) hydric soil indicator.

Wetland 5 provides the following functions and values: groundwater discharge, flood flow alteration, and shoreline/streambank stabilization. The wetland's concave and flat topography at the base of a slope and adjacent to Stream 1 allow it to store overland flows and precipitation and return water to the ground water table. Woody stems along the edge of the stream aid in stabilizing the bank. The wetland's functionality is limited due to its small size.

According to published Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for New Haven County, Connecticut (09009C0439J), effective July 8, 2013, Wetland 5 is partially within a mapped FEMA 100-year floodplain.

## Wetland 6: USFWS Classification PFO1E

Wetland 6 is not identified on NWI mapping, but is classified as a palustrine forested broad-leaved deciduous seasonally flooded/saturated (PFO1E) wetland. The wetland is located north of the railroad ROW and west of Cove River. Wetland 6 is a hillside seep located in a depressed and sloped area at the base of the railroad embankment and contributes to the hydrology of the Cove River. Wetland 6 receives overland flows from the railroad ROW and surrounding uplands. Wetland 6 displayed six primary wetland hydrology indicators including surface water (1"), high water table (to soil surface), saturation (to soil surface) drift deposits, sparsely vegetated concave surface, and presence of reduced iron, and one secondary indicator, drainage patterns. Wetland 6 is dominated by red maple (Acer rubrum). Very little to no other vegetation was noted in the shrub, herbaceous, and woody vine strata.

The wetland soil series identified through available mapping is Urban land complex (307). Urban land consists primarily of areas that have been cut for leveling or filled for development; evidence of manipulation is present in the form of riprap and fill slopes. Wetland 5 exhibited the Sandy Mucky Mineral (S1) hydric soil indicator.

Functions and values of Wetland 6 are limited to groundwater discharge. The wetland is a hillside seep that contributes to the hydrology of Cove River. Given its location on a hillside several feet above the river channel, it cannot provide the normal functions, such as flood flow alteration, that are normally associated with wetlands adjacent to watercourses. Additionally, the lack of vegetation and its small size also reduces its functionality

According to published Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for New Haven County, Connecticut (09009C0439J), effective July 8, 2013, Wetland 6 is within a mapped FEMA 100-year and 500-year floodplain.

# Wetland Complex D

Wetland Complex D consists of Stream 3, Wetland 7, and Wetland 9.

## Stream 3: USFWS Classification R4UBCh

Stream 3 is not identified on NWI mapping, but is classified as a riverine intermittent unconsolidated bottom seasonally flooded diked/impounded (R4UBCh) watercourse. Stream 3 is located north of the railroad ROW, at the tow of the slope, and approximately 900 feet west of Cove River. The stream originates off-site to the north, receiving hydrology from off-site wetlands and uplands, as well as Wetlands 7 and 9. It flows from northeast to southwest, eventually flowing through a drainage pipe under the ROW. It is currently unclear where exactly the drainage pipe outlets, but it is believed to contribute to Phipps Lake to the south of the ROW.

The substrate consisted mainly of silt, muck, leaf litter, and detritus; pond scum was noted in deeper areas of the stream. The stream varies in width from approximately 2 feet to over 30 feet in an area where the water becomes ponded. Water depth also varied from approximately 1 inch to over 2 feet. The pooled area was assessed for vernal pool species; additional information can be found in Section VII.

According to published Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for New Haven County, Connecticut (09009C0438H), effective December 17, 2010, Stream 3 is not located within a mapped FEMA floodplain or floodway.

# Wetland 7: USFWS Classification PFO1E

Wetland 7 is not identified on NWI mapping, but is classified as a palustrine forested broad-leaved deciduous seasonally flooded/saturated (PFO1E) wetland. The wetland is located north of the railroad ROW, west of Cove River, and east of Stream 3. Wetland 7 is a concave depression in a forested area; the wetland continues off-site to the north and east where it receives hydrology from intermittent watercourses and seeps. Wetland 7 displayed four primary wetland hydrology indicators including surface water (3" deep), high water table (to soil surface), saturation (to soil surface) and sparsely vegetated concave surface, and one secondary indicator, geomorphic position. Wetland 7 is dominated by red maple (Acer rubrum). Very little to no other vegetation was noted in the shrub, herbaceous, and woody vine strata.

The wetland soil series identified through available mapping is Cheshire-Holyoke complex (77C). Cheshire soils consists very deep, well drained loamy soils formed in supraglacial till on uplands. They are nearly level through very steep soils on till plains and hills. The Holyoke series consists of shallow, well drained and somewhat excessively drained soils formed in a thin mantle of till derived mainly from basalt and red sandstone, conglomerate, and shale. They are nearly level to very steep soils on bedrock-controlled ridges and hills. Wetland 7 exhibited the Sandy Mucky Mineral (S1) hydric soil indicator.

Functions and values of Wetland 7 are limited to groundwater recharge and wildlife habitat. The concave nature of the wetland allows it to collect overland flows and slowly return them to the water table. Additionally, the forested habitat in an otherwise largely industrial area provides some habitat for smaller, disturbance tolerant wildlife. The lack of vegetation and its small size reduces the wetland's functionality.

According to published Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for New Haven County, Connecticut (09009C0438H), effective December 17, 2010, Wetland 7 is not located within a mapped FEMA floodplain or floodway.

# Wetland 9: USFWS Classification PSS1E

Wetland 9 is not identified on NWI mapping, but is classified as a palustrine scrub-shrub broad-leaved deciduous seasonally flooded/saturated (PSS1E) wetland. The wetland is located north of the railroad ROW, west of Cove River, and west of Stream 3. Wetland 9 is a linear depression at the base of the railroad embankment. It receives hydrology from overland flows and runoff from the railroad and contributes to the hydrology of Stream 3. Wetland 9 displayed two primary wetland hydrology indicators including high water table (8" below soil surface) and saturation (2" below soil surface), and two secondary indicators, drainage patterns and geomorphic position. Wetland 9 is dominated silky dogwood (*Cornus amomum*), multiflora rose (*Rosa multiflora*), and crack willow (*Salix x fragilis*). Ground nut (*Apios americana*) was dominant through the very sparse herbaceous stratum, and Asiatic bittersweet (*Celastrus orbiculatus*) dominated the woody vine stratum. No trees were present throughout the wetland.

The wetland soil series identified through available mapping is Cheshire-Holyoke complex (77C). Cheshire soils consists very deep, well drained loamy soils formed in supraglacial till on uplands. They are nearly level through very steep soils on till plains and hills. The Holyoke series consists of shallow, well drained and somewhat excessively drained soils formed in a thin mantle of till derived mainly from basalt and red sandstone, conglomerate, and shale. They are nearly level to very steep soils on bedrock controlled ridges and hills. Wetland 9 exhibited the Depleted Below Dark Surface (A11) and Depleted Matric (F3) hydric soil indicators.

Functions and values of Wetland 9 are limited to flood flow alteration, sediment/toxicant retention, and nutrient removal/retention/transformation. The wetland's location at the toe of slope and adjacent to an intermittent watercourse allows it to retain overland flows and flood flows. Although it is small and narrow, the wetland supports woody stems which aid in sediment and toxicant retention as well as nutrient removal, retention, and transformation.

According to published Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for New Haven County, Connecticut (09009C0438H), effective December 17, 2010, Wetland 9 is not located within a mapped FEMA floodplain or floodway.

# Wetland Complex E

Wetland Complex E consists of Streams 4/7, Stream 5, Stream 6, Stream 8, Stream 9, Wetland 8, and Connecticut Wetland 1.

## Stream 4 and 7: USFWS Classification R4UBC/R4SBC

Stream 4 and 7 are the same feature; flagging for this watercourse was labeled "Stream 4" north of the ROW and labeled "Stream 7" south of the ROW. Stream 4 is not identified on NWI mapping, but is classified as a riverine intermittent unconsolidated bottom seasonally flooded (R4UBC) watercourse. Stream 4 is located north of the railroad ROW, originating at a PVC pipe off-site to the north of the ROW. The substrate in the upper reaches consists of silt and leaf litter. The watercourse is approximately 6 feet wide. It flows south through Wetland 8, receives hydrology from Stream 5, and then flows into a concrete headwall pipe. Approximately 30 feet to the southeast of the headwall, the stream outfalls to a riprap channel, flowing for approximately 10 feet before entering another concrete headwall pipe and flowing under the railroad. South of the railroad, the watercourse is labeled Stream 7. Stream 7 originates from a concrete endwall pipe, and its classification changes to riverine intermittent streambed seasonally flooded (R5SBC) watercourse as the substrate transitions to cobble and gravel. The channel varies from approximately 6 to 10 feet, and deep pools are present within the channel. Stream 7 flows south, eventually joining with Stream 8 off-site and flowing through a culvert under Phipps Drive.

According to published Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for New Haven County, Connecticut (09009C0438H), effective December 17, 2010, Stream 4/7 is not located within a mapped FEMA floodplain or floodway.

## Wetland 8: USFWS Classification PSS1E

Wetland 8 is not identified on NWI mapping, but is classified as a palustrine scrub-shrub broad-leaved deciduous seasonally flooded/saturated (PSS1E) wetland. The wetland is located north of the railroad ROW and is a flat depression that flanks the east and west sides of Stream 4. It receives hydrology from overland flows and Stream 4. Wetland 8

Wetland Identification and Delineation Update ReportNew Haven and West Haven, CT-17-

displayed two primary wetland hydrology indicators including high water table (8" below soil surface) and saturation (4" below soil surface), and two secondary indicators, drainage patterns and geomorphic position. Wetland 8 is dominated by multiflora rose (Rosa multiflora) and silky dogwood (Cornus amomum). Common reed (Phragmites australis) and reed canary grass (Phalaris arundinacea) dominate the herbaceous stratum, and Asiatic bittersweet (Celastrus orbiculatus) and Japanese honeysuckle (Lonicera japonica) dominate the woody vine stratum. No trees were present throughout the wetland.

The wetland soil series identified through available mapping is Udorthents-Urban land complex (306). Udorthents consist primarily of areas that have been cut for leveling or filled for development; evidence of manipulation is present in the form of nearby development, berms, and fill slopes. Wetland 8 exhibited the Depleted Matric (F3) hydric soil indicators.

Functions and values of Wetland 8 include: groundwater discharge, flood flow alteration, sediment/toxicant retention, nutrient removal/retention/transformation, shoreline stabilization, and wildlife habitat. The wetland's location adjacent to Stream 4 and depressed topography allows it to discharge groundwater to the watercourse as well as retain flood flows and overland flows. Dense shrub and herbaceous cover aid in sediment/toxicant retention as well as nutrient attenuation and stabilize the banks of the stream that runs through the center of the wetland. Additionally, the wetland provides potential wildlife habitat in an otherwise highly developed and industrialized area. Several species of disturbance tolerant birds were observed in this area.

According to published Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for New Haven County, Connecticut (09009C0438H), effective December 17, 2010, Wetland 9 is not located within a mapped FEMA floodplain or floodway.

# Stream 5: USFWS Classification R4UBC

Stream 5 is not identified on NWI mapping, but is classified as a riverine intermittent unconsolidated bottom seasonally flooded (R4UBC) watercourse. Stream 5 is located north of the railroad ROW, originating from a drainage swale that parallels the railroad tracks. The substrate in the consists largely of silt and leaf litter and is interspersed with cobble and gravel. The watercourse varies in width from approximately 6 feet to over 15 feet. It flows from west to east, eventually flowing into Stream 4 before flowing under the railroad. Connecticut Wetland 1 is present to the west of the stream, contributing to its hydrology.

Wetland Identification and Delineation Update ReportNew Haven and West Haven, CT-18-

According to published Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for New Haven County, Connecticut (09009C0438H), effective December 17, 2010, Stream 5 is not located within a mapped FEMA floodplain or floodway.

# Connecticut Wetland 1

Connecticut Wetland 1 is located north of the railroad ROW, and adjacent to the west of Stream 5. The state-only wetland appears to have been recently disturbed by clearing and mulching activities, therefore little to no vegetation is currently present on-site. Mulch piles are present in portions of the wetland and in the nearby uplands. Aerial photographs available on Google Earth show that the clearing appears to have occurred sometime between April 2016 and September 2017; these photographs are available in **Appendix G**. These clearing activities appear to have affected the hydrology in the area, therefore it is unclear if this area was previously wetland, or if it has recently converted to wetland due to the recent activities.

The NRCS soil survey maps this area as Udorthents-Urban land complex (306). Udorthents consist primarily of areas that have been cut for leveling or filled for development; evidence of manipulation is present in the form of nearby development, berms, riprap, and fill slopes. While this soil series typically is considered well drained, field investigations found the soil to be poorly drained. Redoximorphic features and a depleted matrix were observed beginning 9 inches below the soil surface, indicating hydric soils.

According to published Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for New Haven County, Connecticut (09009C0438H), effective December 17, 2010, CT Wetland 1 is not located within a mapped FEMA floodplain or floodway.

# Stream 6: USFWS Classification R4UBC

Stream 6 is not identified on NWI mapping, but is classified as a riverine intermittent unconsolidated bottom seasonally flooded (R4UBC) watercourse. Stream 6 is located north of the railroad ROW, originating at a PVC pipe off-site to the north of the ROW. It appears that, under normal circumstances, Stream 6 flows into Stream 5. However, recent clearing and mulching activities appear to have formed a berm between the two watercourses, therefore Stream 6 remains stagnant and does not contribute to the hydrology of Stream 5. The substrate in the consists largely of silt and mulch. The watercourse is approximately 8 feet in width and approximately 4 to 6 inches deep.

According to published Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for New Haven County, Connecticut (09009C0438H), effective December 17, 2010, Stream 6 is not located within a mapped FEMA floodplain or floodway.

## Stream 8: USFWS Classification R4SBC

Stream 8 is not identified on NWI mapping, but is classified as a riverine intermittent streambed seasonally flooded (R4SBC) watercourse. Stream 8 is located south of the railroad ROW, originating from a concrete headwall, and receives hydrology from Stream 9 to the northwest. The watercourse is approximately 5 feet wide with a cobble and gravel substrate. Water depth appeared fairly consistent throughout the reach, at approximately 4 to 6 inches. Stream 8 continues to flow southeast, eventually joining with Stream 7 off-site and flowing through a culvert under Phipps Drive.

According to published Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for New Haven County, Connecticut (09009C0438H), effective December 17, 2010, Stream 8 is not located within a mapped FEMA floodplain or floodway.

## Stream 9: USFWS Classification R4SBC

Stream 9 is not identified on NWI mapping, but is classified as a riverine intermittent streambed seasonally flooded (R4SBC) watercourse. Stream 9 is located south of the railroad ROW, originating from a drainage swale that parallels the railroad tracks, and flowing into Stream 8. The watercourse is approximately 5 feet wide with a cobble, gravel, and leaf litter substrate. Water depth appeared fairly consistent throughout the reach, at approximately 1 to 2 inches.

According to published Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for New Haven County, Connecticut (09009C0438H), effective December 17, 2010, Stream 9 is not located within a mapped FEMA floodplain or floodway.

# VII. VERNAL POOL INVESTIGATION

Identification of vernal pools can only be verified during the spring as they are sensitive to seasonal water fluctuations and temperatures. In a typical season, amphibians will begin their migration to a pool in late winter/early spring as the temperatures begin to

Wetland Identification and Delineation Update ReportNew Haven and West Haven, CT-20-

rise and remain consistently above freezing and after a good amount of precipitation. Vernal pools are typically identified based on the presence of one or more obligate species which include: spotted salamander (*Ambystoma maculatum*), marbled salamander (*Ambystoma opacum*), Jefferson salamander (*Ambystoma jeffersonianum*), blue-spotted salamander (*Ambystoma laterale*), Jefferson/blue-spotted complex (*Ambystoma jeffersonianum/laterale*), wood frog (*Rana sylvatica*), and fairy shrimp (Anostraca). Evidence of amphibian breeding includes the presence of salamander spermatophores at the bottom of the pool, egg masses attached to overhanging vegetation, the presence of tadpoles or larvae, presence of adults within the pool or adjacent uplands, or calling adult wood frogs. Fairy shrimp are often observed through water sampling, but can sometimes be seen swimming in the pool if the water is clear enough.

The 2018 breeding season saw an extended winter, with several days where temperatures spiked into the 60's throughout February and into early March, with low temperatures and several storm events following soon after. Despite the few warm days in February and early March, evidence of amphibian movement throughout New England generally did not begin until late March and likely concluded by mid-April. Therefore, the investigations, which occurred in mid-April, should have encompassed any residual amphibian breeding and presence of obligate species.

A total of three delineated features showed signs of pooled or ponded water that could potentially support vernal pool species. These three features included Wetland 2, Pond 1, and Stream 3.

While the habitat in and surrounding Wetland 2 is not ideal for vernal pool species, the channel and inundated portions of Wetland 2 were assessed for breeding amphibians. Overhanging vegetation was present throughout the channel, although somewhat limited in the most inundated area in the westernmost portion of the wetland. The water was somewhat murky, but clear enough to visually assess. No spermatophores, egg masses, larvae, or adult frogs or salamanders were observed within the channel, and no calling was heard. Several water samples were also assessed, and no obligate species were found. Given the likely brackish water chemistry in the majority of the channel, coupled with the lack of appropriate upland habitat, Wetland 2 does not appear to support any vernal pool species.

Pond 1 was also assessed for vernal pool species. The water was very clear with levels varying from only a few inches to over 2 feet. Some overhanging vegetation was present within the pond for potential attachment sites. No spermatophores, egg masses, larvae, or adult frogs or salamanders were observed within the pond, and no calling was heard.

Wetland Identification and Delineation Update ReportNew Haven and West Haven, CT-21-

Several water samples were also assessed, and no obligate species were found. Several water samples were also assessed, and no obligate species were found. Furthermore, the surrounding upland habitat is limited to rock, steep dry hillslope, and riprap, and does not provide the required habitat for obligate species. Given the lack of evidence within the pool and lack of appropriate upland habitat immediately surrounding the pool, it does not appear that Pond 1 supports obligate vernal pool species.

Stream 3 was also assessed for vernal pool species. A portion of the stream becomes ponded, and pond scum was noted in this area. Visibility was high, and the stream could easily be assessed from the top of the water column to the substrate. Some overhanging vegetation was present along the perimeter of the stream. No spermatophores, egg masses, larvae, or adult frogs or salamanders were observed within the pond, and no calling was heard. Several water samples were also assessed, and no obligate species were found. Potential upland habitat is present to the north of the stream, however it is limited by the highly developed and industrialized nature of the area. No adult amphibians were observed in the upland to the north. As a result of the assessment of the stream and the associated upland, Stream 3 does not appear to support obligate vernal pool species.

In 2021, these areas were re-evaluated and determined to mimic the conditions observed in 2018, and it was determined these resources do not support obligate vernal pool species.

# VIII. SUMMARY

In 2018, BL Companies identified five wetland complexes including nine federally and state-regulated and jurisdictional wetlands, ten watercourses, one state-only regulated wetland, and multiple areas of state-regulated tidal wetlands. In 2021, BL conducted field reconnaissance and determined the features identified in 2018 were consistent with current conditions within the study area. One wetland (Wetland 1) was extended in the vicinity of a proposed access road near I-95; however, habitat conditions were consistent with the 2018 evaluation. The wetland complexes have been described in this report and coincide with data that will be provided under separate cover for a future USACE preliminary jurisdictional determination. Poorly drained soils, hydric soils, hydrophytic vegetation, and hydrology were all observed in the nine wetland locations satisfying the criteria of the State and Federal USACE methodology for wetland delineations. Poorly drained soils were observed with the state-only regulated wetland, and state-defined tidal vegetation was delineated and plotted with the CJL in order to identify state tidal wetland boundaries. One watercourse within the project corridor, the West River, and its associated wetlands are subject to tidal influences due to its location as a tributary to the

Wetland Identification and Delineation Update ReportNew Haven and West Haven, CT-22-

New Haven Harbor and subsequently to Long Island Sound. While this area does have intertidal mudflats that are potential habitat for one federally listed bird species, the Red Knot, mapping indicates that there are no known occurrences within the project corridor. Additionally, no evidence or breeding amphibians was observed throughout the corridor and no vernal pools were identified. In addition to the descriptions within the previous sections of this report, supporting wetland data forms and photographs are attached that document the findings of the on-site field investigations.

## IX. PREPARERS

## Rachael Hyland, WPIT, Certified Associate Ecologist (2018)

Ms. Hyland holds a bachelor's degree in Ecology and Evolutionary Biology and has 5 years of experience in environmental sciences. Her specialty lies in ecological assessments and animal identification, specifically Connecticut species of reptiles, amphibians, and mammals including notable experience with bats. She is a Certified Associate Ecologist with the Ecologist Society of America. Ms. Hyland is also trained in wetland and upland plant identification and has assisted in federal and state delineations throughout Connecticut, Ohio, Virginia, and Alabama. Ms. Hyland is a Wetland Professional in Training with the Society of Wetland Scientists and has completed Basic Wetland Delineator Training with the Institute for Wetland Education and Environmental Research. Ms. Hyland's responsibilities include assisting with wetland delineations, wetland permitting, performing environmental site assessments, vernal pool surveys, agency coordination, ecological assessments, and the preparation of client reports.

## Dan King, CPSS, PWS (2018)

Mr. King has 10 years of experience in the environmental consulting field. He is a Certified Professional Soil Scientist (CPSS) and a Professional Wetland Scientist (PWS). Throughout his career as a Biologist, Mr. King has developed expertise in conducting wetland delineations, compensatory mitigation planning, lake management, invasive species management, and various other facets of the discipline. In addition, Mr. King has authored Wetland and Watercourse Delineation Reports, Section 404 Nationwide Permit applications and Section 401 Water Quality Certification applications, and Mitigation Monitoring Reports. Throughout his career as a geologist and environmental scientist, Mr. King has developed expertise in conducting Pre-construction Assessments (soil and groundwater site characterizations of new build and re-build development projects), Phase I and Phase II Environmental Site Assessments, Bureau of Underground Storage Tank Regulations (BUSTR) corrective action processes, emergency response techniques and management, soil and groundwater sampling techniques and protocols, soil vapor extraction, remediation systems, well installation, and borehole logging, and various other facets of the discipline.

#### **Update Preparers**

#### Joseph Kempf (2021)

Mr. Kempf holds a bachelor's degree in Environmental Science and has 8 years of experience in the environmental science consulting field. Mr. Kempf has developed expertise in conducting wetland delineations, compensatory mitigation planning, stream restoration, invasive species management, and various other facets of the discipline. In addition, Mr. Kempf has authored Wetland and Watercourse Delineation Reports, Section 404 Nationwide Permit applications, Pennsylvania Chapter 105 General Permits and Joint 404/105 Permit Applications, and Mitigation Monitoring Reports. Throughout his career as an environmental scientist, Mr. Kempf has developed expertise in conducting Phase I and Phase II Environmental Site Assessments, Property Condition Assessments, soil and groundwater sampling techniques and protocols, soil vapor extraction, remediation systems, well installation, and borehole logging, and various other facets of the discipline.

#### Sagan Simko, CPSS, PWS (2021)

Mr. Simko has approximately 15 years of experience in performing an array of wetland delineations and site assessments, including vernal pool surveys. His wide array of experience encompasses soil morphological evaluations, infiltration and percolation testing, wetland mitigation design and monitoring, Bog Turtle habitat identification, as well as threatened and endangered species surveys. In addition, he has completed carbonate geology site evaluations, identification of asbestos-containing material, and underground storage tank removals and investigations. Mr. Simko's computer skills include ArcGIS 10 and GPS Pathfinder Office. As a Senior Project Scientist II at BL Companies, Mr. Simko's responsibilities include wetland investigations, vernal pool surveys, soil investigations, ground water investigations, Phase I site assessments, remediation related activities, remediation system monitoring and maintenance, engineering compliance inspection for natural gas pipeline projects, and construction field inspection duties for electric transmission line projects.

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APPENDIX: A Project Location Mapping



**APPENDIX B: Resource Mapping** 



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APPENDIX C: Inland Wetland Delineation Mapping



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APPENDIX D: Delineated Coastal Resources Mapping



APPENDIX E: Photographs



PHOTO 1: Upstream view of the West River, looking east from the northwestern bank.



PHOTO 2: View of Wetland 1, looking east from the tracks towards West River.



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PHOTO 3: View of inundated area within Wetland 2, looing northeast.



PHOTO 4: View of Wetland 3, looking southeast.



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PHOTO 5: View of Wetland 4 at the toe of the slope, looking east.



PHOTO 6: View of Pond 1, looking southeast towards the tracks.



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PHOTO 7: View of Stream 1, looking west from the toe of slope.



PHOTO 8: View of Wetland 5, a floodplain shelf, looking south towards Stream 1.



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PHOTO 9: Downstream view of Cove River, looking north at the culvert outfall.



PHOTO 10: Upstream view of Cove River, looking off-site to the north.



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PHOTO 11: View of Wetland 6, a hillside seep, looking west.



PHOTO 12: View of Wetland 7, a forested wetland, looking off-site to the north.



17S3304

West River to Allings Crossing MetroNorth Transmission Line United Illuminating New Haven and West Haven , CT



PHOTO 13: View of Stream 3, looking southwest.



PHOTO 14: View of Wetland 9, a linear scrub-shrub wetland, looking northwest from the top of the slope.

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PHOTO 15: View of Stream 4, looking southwest from Wetland 8 towards the tracks.



PHOTO 16: View of Wetland 8, a scrub-shrub wetland flanking Stream 4



17S3304

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PHOTO 17: View of Stream 5, looking north



PHOTO 18: View of CT Wetland 1, looking east towards Stream 5.



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PHOTO 19: View of Stream 6, looking south.



PHOTO 20: View of Stream 7 (downstream side of Stream 4), looking northeast towards the tracks.



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PHOTO 21: View of Stream 8, looking northwest towards the tracks.



PHOTO 20: View of Stream 9 looking southwest from the tracks towards Stream 8.



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PHOTO 23: View of tidal vegetation and intertidal flats in the northeast quadrant of the West River crossing, looking east.



PHOTO 24: View of intertidal flats and mussel beds in the northeast quadrant looking north.



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West River to Allings Crossing MetroNorth Transmission Line United Illuminating New Haven and West Haven , CT



PHOTO 25: View *Spartina*, *Iva*, and intertidal flats in the southeast quadrant of the river crossing, looking north towards the bridge.



PHOTO 26: View of *Iva* and intertidal flats in the southeast quadrant of the river crossing looking south.



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PHOTO 27: View *Spartina* with interspersed mussel beds in the southwest quadrant of the river crossing, looking west.



PHOTO 28: View of Spartina and intertidal flats in the northwest quadrant of the river crossing, looking north.



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**APPENDIX F: Wetland Data Sheets** 

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: MetroNort	h Railroad West River to	Allings Crossing Co	ounty:	New Haven	Sampling Date:	4/18/2018	
Applicant/Owner:	Unite	d Illuminating		State: 0	CT Sample Point	: SP-1	
Investigator(s):	D. King and	R. Hyland S	Section, Township	, Range:		N/A	
Landform (hillslope, terrace, e	etc.): Te	race I	Local relief (conca	ve. convex. none)	: None S	lope (%): 0-3	
Subregion (I RR or MI RA)	,. I F	RR	lat: 41.2	8705 Long	-72 94099	Datum: NAVD 88	
Soil Map   Init Name:		I Idorthents Smoothed (	308)	<u>.0100</u> Long	IWI Classification:		
Are climatic / hydrologic cond	itions on the site typical f	or this time of year?	(Vos / No)		f no oveloin in Romark		
Are Vegetation				TEO (I			
Are vegetation No		logy <u>No</u> signinca	anuy disturbed?	Are Normal Circ			
Are vegetation NO	,Soli <b>NO</b> , or Hydro	logy <b>NO</b> naturally	y problematic?	(If nee	ded, explain any answe	ers in Remarks.)	
SUMMARY OF FINDI	NGS - Attach site	map showing sa	ampling poir	t locations, t	ransects, impor	tant features, etc.	
Hydrophytic Vegetation Pres	ent? Yes X	No					
Hydric Soil Present?	Yes X	No	Is the Sample	ed Area			
Wetland Hydrology Present?	Yes X	No	within a Wet	and?	Yes X	No	
			If yes ont	onal Wetland Site	ID: Wetland 1		
Pomarke:			ii yes, opt				
Remarks:	This point was d	tormined to be within a v	wotland due to th	proconco of all 3	wotland critoria		
	Wetland 1 is an en	negent wetland located s	outh of the railroa	d ROW and west	of the West River.		
Wetland hydrology Indi	icators:				ocondary Indicators (	inimum of two required)	
	<i>.</i>			<u> </u>	econdary indicators (m		
Primary Indicators (minir	num of one is required; c	neck all that apply)			Surface Soil Crac	KS (B6)	
X Surface Water (A1	)	Water-Stained Lo	eaves (B9)		Drainage Patterns (B10)		
X High Water Table	(A2)	Aquatic Fauna (E	313)		Moss Trim Lines (B16)		
X Saturation (A3)		Marl Deposits (B	15)		Dry-Season Wate	r Table (C2)	
Water Marks (B1)		X Hydrogen Sulfide	fide Odor (C1) Crayfish Burrows (C8)				
Sediment Deposit	s (B2)	Oxidized Rhizosp	spheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)				
X Drift Deposits (B3)	)	Presence of Red	luced Iron (C4)	· · · <u> </u>	Stunted or Stress	ed Plants (D1)	
Algal Mat or Crust	(B4)	Recent Iron Red	uction in Tilled Sc	ils (C6)	X Geomorphic Posit	tion (D2)	
Iron Doposite (B5)		Thin Muck Surfac	co (C7)		Shallow Aquitard	(D2)	
				Shallow Aquitard (D3)			
	on Aerial Imagery (B7)	Other (Explain in	Remarks)	_	X Microtopographic	Relief (D4)	
Sparsely Vegetate	d Concave Surface (B8)			_	FAC-Neutral Test	(D5)	
Field Observations:							
Surface Water Present?	Yes X No	Depth (inches)	: <u>1"</u>				
Water Table Present?	Yes X No	Depth (inches)	: <b>0"</b>				
Saturation Present?	Yes X No	Depth (inches)	: <b>0"</b>	Wetland Hydro	logy Present? Yes	; X No	
(includes capillary fringe)							
Describe Recorded Data (st	ream gauge, monitoring v	vell, aerial photos, previo	ous inspections), i	f available:			
	····· 3···3·, ·····	····, ····· p·····, p·····	····,,				
Pomorko							
Remarks.							
A positive indication of w	etland hydrology was ob	served (primary and seco	ondary indicators	were present).			

## VEGETATION (Four Strata) - Use scientific names of plants.

Sampling Point: SP-1

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft )	% cover	Species?	Status	Number of Dominant Species
1 None observed	/0 00101	000000	Olaldo	
1. None observed				That Are OBL, FACW, or FAC: 1 (A)
2.				
3.				Total Number of Dominant
1				Species Across All Strata: 1 (B)
ч -				
5				
6				Percent of Dominant Species
7.				That Are OBL, FACW, or FAC: 100% (A/B)
		Total Covor		
	=			Prevalence Index Worksheet:
				Trevalence index worksheet.
Sapling/Shrub Stratum (Plot size: 15 ft.	_)			Total % Cover of: Multiply by:
1. None Observed				OBL species <b>0</b> x 1 = <b>0</b>
2	·			FACW species 100 x 2 - 200
2		·		$\frac{1}{100} \times 2 = \frac{1}{200}$
3		·		FAC species $\mathbf{U}$ $\mathbf{X} 3 = \mathbf{U}$
4				FACU species <b>0</b> x 4 = <b>0</b>
5.				UPL species <b>0</b> x 5 = <b>0</b>
6				Column Totals: 100 (A) 200 (B)
7				
l			. <u> </u>	
	=	I otal Cover		Prevalence Index = B/A = 2.00
Herb Stratum (Plot size: 5 ft )				Hydrophytic Vegetation Indicators:
1 Phrogramitos quatrolis	100	Vaa		1 Denid Test for Lludrenbutis Vegetation
1. Phragmites australis	100	res	FACW	
2		. <u></u>		X 2 - Dominance Test is >50%
3				<b>X</b> 3 - Prevalence Index is $\leq 3.0^1$
4.				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
				deta in Remarka ar an a concrete sheet)
5				
6		. <u></u>		Problematic Hydrophytic Vegetation (Explain)
7				
8.				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
0				he present unless disturbed or problematic
3				be present, unless disturbed of problematic.
10				Definitions of Five Vegetation Strata:
11				<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter
12.				at breast height (DBH) regardless of height.
	100 -	Total Cover		
				Sanling/Shrub - Woody plants less than 3 in DBH
Woody Vine Stratum (Plot size: 30 ft. )				and greater than or equal to 3.28 ft (1 m) tall.
1. None Observed				
2	·			Herb - All herbaceous (non-woody) plants, regardless
2		·		of size, and woody plants less than 3 28 ft tall
3				
4				
	0 =	Total Cover		Woody vine - All woody vines greater than 3.28 ft in height.
				Hydrophytic
				Hydrophydd
				vegetation
				Present? Yes X No
Remarks:				
. contantoi				
A positive indication of hvdro	phytic vegetat	tion was observe	ed (>50% of domi	inant species indexed as OBL, FACW, or FAC).
	. , .		,	
	141-0		Dhao an-it-	
	vvetland i	s dominated by	rnragmites austi	rans (mvasive).

SP-1

NA-4-in	needed to document the indicator	or confirm the absen	ce of indicators.)								
epth <u>Matrix</u>	Redox Features	1	_								
iches) Color (moist) %	Color (moist) % Type		Texture	Remarks							
0-16 10YR 2/1 100			Mucky Peat								
			<u> </u>								
			<u> </u>								
vne: C-Concentration D-Depletion RM-F	educed Matrix MS-Masked Sand G	rains <sup>2</sup> Location: Pl	-Pore Lining M-Matrix								
drie Soils Indicators:	educed Matrix, MO-Masked Sand Or			oblematic Hydric Soils <sup>3</sup>							
	Daharahar Dahara Orafaaa (f		O are Music								
L Histosol (A1)	Polyvalue Below Sufface (S	58) <b>(LRR R,</b>	2 cm Muck (	A10) (LRR K, L, MLRA 149B)							
Histic Epipedon (A2)	MLRA 149B)		Coast Prairie	e Redox (A16) <b>(LRR K, L, R)</b>							
Black Histic (A3)	Thin Dark Surface (S9) (LR	R R, MLRA 149B)	5 cm Mucky	Peat or Peat (S3) (LRR K, L, R							
K Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1)	(LRR K, L)	Dark Surfac	e (S7) <b>(LRR K, L)</b>							
Stratified Lavers (A5)	Loamy Gleved Matrix (F2)		Polyvalue B	elow Surface (S8) (LRR K, L)							
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)		Thin Dark S	urface (S9) (I RR K I)							
	Depicted Matrix (10)		Iron Mongor								
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	)	Piedmont FI	oodplain Soils (F19) (MLRA 14							
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)		Mesic Spodi	c (TA6) <b>(MLRA 144A, 145, 149</b>							
Sandy Redox (S5)			Red Parent	Material (F12)							
Stripped Matrix (S6)			Very Shallov	v Dark Surface (F22)							
Dark Surface (S7) (LRR R. MLRA 149B	)		Other (Expla	ain in Remarks)							
				/							
Depth (inches):		Hydric S	Soil Present? Yes	_X No							
emarks:											
	A positive indication of hydrogeneity of the second	dric soil was observed.									
Project/Site:	MetroNort	h Railroad We	est River t	to Allings C	Crossing	County:	New Have	en	Sampling Date:		4/18/2018
----------------------	---------------	------------------	-------------	----------------	----------------	--------------------	----------------------	---------------	---------------------	---------------	--------------
Applicant/Owner:			Uni	ited Illumin	ating		State:	СТ	Sample Point	t:	SP-2
nvestigator(s):	]	D. King	and	R.	Hyland	Section, To	ownship, Range:			N/A	
andform (hillslope	e, terrace, e	etc.):	Н	illslope		Local reliet	f (concave, conve	ex, none):	Convex S	Slope (%):	0-3
Subregion (LRR or	r MLRA):		L	_RR R		Lat:	41.28710	Long:	-72.94100	Datum:	NAVD 88
Soil Map Unit Nam	ie:			Udorthe	nts, Smoothed	d (308)		NWI	Classification:		N/A
Are climatic / hydro	ologic cond	litions on the s	ite typical	l for this tin	ne of year?	(Yes / No)	YES	(if no	, explain in Remarl	ks.)	
Are Vegetation	No	,Soil Yes	,or Hyd	Irology	No signifi	icantly distur	bed? Are "No	rmal Circum	stances" present?	Yes X	No
Are Vegetation	No	,Soil No	,or Hyd	Irology	No natura	ally problema	atic?	(If needed	, explain any answ	ers in Remar	·ks.)
SUMMARY O	F FIND	INGS - Att	ach sit	e map	showing	sampling	point locat	ions, tra	nsects, impo	rtant feat	ures, etc.
Hydrophytic Vege	etation Pres	sent? Ye	S	N	o <u>x</u>						
Hydric Soil Prese	nt?	Ye	IS	N	o <b>X</b>	Is the	Sampled Area				
Wetland Hydrolog	gy Present	? Ye	s	N	0 <b>X</b>	within	a Wetland?		Yes	No	Х
						lf v	ion optional Wot	and Site ID:			
Bomarka						пу					
			Upland	d point for '	Wetland 1 loc	ated on a fill	embankment, cc	overed in gra	vel.		
HYDROLOG	Y										
Wetland hyd	rology Ind	icators:						Seco	ndary Indicators (n	ninimum of tv	vo required)
Primary Indica	ators (minir	mum of one is	required;	check all	that apply)				Surface Soil Crac	cks (B6)	
Surface	e Water (A	1)		V	Vater-Stained	Leaves (B9	)		Drainage Pattern	s (B10)	
High W	/ater Table	(A2)		A	quatic Fauna	ı (B13)			Moss Trim Lines	(B16)	
Saturat	tion (A3)			N	Aarl Deposits	(B15)			Dry-Season Wate	er Table (C2)	
Water I	Marks (B1)			H	lydrogen Sulfi	ide Odor (C1	)		Crayfish Burrows	(C8)	
Sedime	ent Deposit	s (B2)		0	Dxidized Rhizo	ospheres on	Living Roots (C3)	)	Saturation Visible	on Aerial Im	agery (C9)
Drift De	eposits (B3	)		F	Presence of R	educed Iron	(C4)		Stunted or Stress	ed Plants (D	1)
Algal M	lat or Crust	t (B4)			Recent Iron Re	eduction in T	illed Soils (C6)		Geomorphic Posi	ition (D2)	
Iron De	posits (B5)	)		тт	hin Muck Sur	face (C7)			Shallow Aquitard	(D3)	
Inundat	tion Visible	on Aerial Ima	gery (B7)		Other (Explain	in Remarks	)		Microtopographic	Relief (D4)	
Sparse	ly Vegetate	ed Concave S	urface (B8	3)					FAC-Neutral Test	t (D5)	
Field Observatio											
Surface Water Pr	resent?	Yes	No	x	Denth (inche	ος)· Ν/Δ					
Water Table Pres	cont?	Voc	_ No	x	Depth (inche	(x): <b>x20</b>	-				
Soturation Proces	nt2	Voc	_ No	<u> </u>	Depth (inche	(35). 20			Procent? Vo	•	No Y
(includes capillar)	v fringe)	res	_ NO	<u> </u>	Depth (inche	es): <u>&gt;20</u>	vvetian	a nyarolog	y Present? Tes	s	
Describe Recorde	ed Data (st	ream gauge, r	nonitoring	j well, aeria	ai pnotos, pre	vious inspec	tions), if available	9:			
Remarks:											
No positive in	dication of	wetland hydro	logy was	observed.							

	A1 1.	<b>D</b> · ·		Dominance Test worksheet:
	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: <u>30 ft.</u> )	% cover	Species?	Status	Number of Dominant Species
1. None observed				That Are OBL, FACW, or FAC: (A)
2				
3				Total Number of Dominant
4.				Species Across All Strata: 3 (B)
5.				
6				Percent of Dominant Species
7				That Are OBL_EACW_ or EAC: 33% (A/B)
1		T		That Ale OBE, I ACW, OFFAC (A/B)
		= Total Cover		Brovalanco Indox Workshoot:
Sapling/Shrub Stratum (Plot size: 15 ft.	)			Total % Cover of: Multiply by:
1. Ailanthus altissima	2	Yes	UPL	OBL species <b>0</b> x 1 = <b>0</b>
2				FACW species <b>10</b> x 2 = <b>20</b>
3.				FAC species <b>0</b> x 3 = <b>0</b>
4.				FACU species <b>0</b> x 4 = <b>0</b>
5.				UPL species $12 \times 5 = 60$
6	·			Column Totals: 22 ( $\Delta$ ) 80 (B)
7	·			
1		Total Course		Drevelance Index
	2	= Total Cover		Prevalence Index = B/A = 3.64
Herb Stratum (Plot size: 5 ft. )				Hydrophytic Vegetation Indicators:
1. Phragmites australis	10	Yes	FACW	<ol> <li>Rapid Test for Hydrophytic Vegetation</li> </ol>
2.				2 - Dominance Test is >50%
3.				$3 - Prevalence Index is \leq 3.0^1$
4				4 - Morphological Adaptations1 (Provide supporting
4				
5	<u> </u>	·		data in Remarks or on a separate sneet)
6		·		Problematic Hydrophytic Vegetation (Explain)
7				
8				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
9.				be present, unless disturbed or problematic.
10				Definitions of Five Vegetation Strata:
11		·		Trop Woody plants 2 in (7.6 cm) or more in diameter
12				at breast height (DBH) regardless of height.
	10	= Total Cover		
				Sapling/Snrub - woody plants ises than 3 in. DBH
Woody Vine Stratum [Plot size: 30 ft. ]				and greater than or equal to 3.28 ft (1 m) tall.
1. Celastrus orbiculatus	10	Yes	UPL	
2.				Herb - All herbaceous (non-woody) plants, regardless
3	·			of size, and woody plants less than 3.28 ft tall.
3				
4		Tatal Causer		Woody vine - All woody vines greater than 3 28 ft in height
	10	= Total Cover		
				Hydrophytic
				Vegetation
				Present? Yes <u>No X</u>
Remarks:				
			1 ( = = = = = = = = = = = = = = = = = =	
No positive indication of	hydrophytic v	egetation was obs	served (≥50% of	dominant species indexed as FAC- or drier).
Veg	etation is limit	ed due to the hea	vy presence of g	ravel along the fill slope.
-			-	

SOI	L
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ches) Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-2 10YR 4/3	100	· · · · ·				Silt Loam	gravelly
ype: C=Concentration, D=De	epletion, RM=F	Reduced Matrix, N	1S=Maske	d Sand Grains.	<sup>2</sup> Location: PL:	=Pore Lining, M=N	Natrix.
dric Soils Indicators:						Indicators f	for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)		Polyval	ue Below \$	Surface (S8) <b>(LF</b>	RR R,	2 cm N	luck (A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)		М	LRA 149B	)		Coast I	Prairie Redox (A16) <b>(LRR K, L, R)</b>
Black Histic (A3)		Thin Da	ark Surface	e (S9) <b>(LRR R, I</b>	/ILRA 149B)	5 cm N	lucky Peat or Peat (S3) (LRR K, L, F
_ Hydrogen Sulfide (A4)		Loamy	Mucky Min	neral (F1) <b>(LRR</b>	K, L)	Dark S	urface (S7) (LRR K, L)
Stratified Layers (A5)		Loamy	Gleyed Ma	atrix (F2)		Polyva	lue Below Surface (S8) (LRR K, L)
Depleted Below Dark Surf	ace (A11)	Deplete	ed Matrix (F	F3)		Thin D	ark Surface (S9) (LRR K, L)
Thick Dark Surface (A12)		Redox	Dark Surfa	ace (F6)		Iron-Ma	anganese Masses (F12) <b>(LRR K, L,</b>
Sandy Mucky Mineral (S1)		Deplete	ed Dark Su	Irface (F7)		Piedmo	ont Floodplain Soils (F19) (MLRA 14
Sandy Gleyed Matrix (S4)		Redox	Depressio	ns (F8)		Mesic \$	Spodic (TA6) <b>(MLRA 144A, 145, 14</b> 9
Sandy Redox (S5)						Red Pa	arent Material (F12)
Stripped Matrix (S6)						Very S	hallow Dark Surface (F22)
						Othor (	(Evalain in Demorka)
Dark Surface (S7) (LRR R dicators of hydrophytic veget estrictive Layer (if observed Type: <u>Fill material</u> Depth (inches):	e, MLRA 1498) tation and wetla (): 2"	) and hydrology mu	ist be prese	ent, unless distu	rbed or problemat	ic. oil Present? Y	es NoX
Dark Surface (S7) (LRR R dicators of hydrophytic veget strictive Layer (if observed Type: <u>Fill material</u> Depth (inches):	ation and wetla	) and hydrology mu	ist be presi	ent, unless distu	rbed or problemat	oil Present? Y	esNoX
Dark Surface (S7) (LRR R dicators of hydrophytic veget estrictive Layer (if observed Type: <u>Fill material</u> Depth (inches): emarks:	eation and wetle	) and hydrology mu	ist be presi	ent, unless distu	rbed or problemat	oil Present? Y	es <u>No X</u>
Dark Surface (S7) (LRR R dicators of hydrophytic veget estrictive Layer (if observed Type: <u>Fill material</u> Depth (inches): emarks:	ation and wetla	) and hydrology mu	ist be prese	ent, unless distu	Hydric Solis was observed.	oil Present? Y	es <u> </u>
Dark Surface (S7) <b>(LRR R</b> dicators of hydrophytic vegel estrictive Layer (if observed Type: <u>Fill material</u> Depth (inches): emarks:	t, MLRA 1498	) and hydrology mu	ist be presention of the presenting of the presenting of the presenting of the prese	ent, unless distu ation of hydric so	Hydric Solits was observed.	oil Present? Yo	es <u>No X</u>
Dark Surface (S7) <b>(LRR R</b> dicators of hydrophytic vegel estrictive Layer (if observed Type: <u>Fill material</u> Depth (inches): emarks:	tation and wetla	) and hydrology mu	sitive indica	ent, unless distu ation of hydric so	Hydric Solits was observed.	oil Present? Yo	es <u>No X</u>
Dark Surface (S7) (LRR R dicators of hydrophytic vegel estrictive Layer (if observed Type: <u>Fill material</u> Depth (inches): emarks:	tation and wetla	) and hydrology mu	sitive indica	ent, unless distu ation of hydric so	Hydric Solits was observed.	oil Present? Yo	es <u>No X</u>
Dark Surface (S7) (LRR R dicators of hydrophytic vegel estrictive Layer (if observed Type: <u>Fill material</u> Depth (inches): emarks:	tation and wetla	) and hydrology mu 	sitive indica	ent, unless distu ation of hydric so	Hydric Solution of the fill	embankment.	es <u>No X</u>
Dark Surface (S7) (LRR R dicators of hydrophytic vegel estrictive Layer (if observed Type: <u>Fill material</u> Depth (inches): emarks:	tation and wetla	) and hydrology mu	sitive indica	ent, unless distu ation of hydric so	Hydric Solution of the fill	embankment.	es <u>No X</u>
Dark Surface (S7) (LRR R dicators of hydrophytic vegel estrictive Layer (if observed Type: <u>Fill material</u> Depth (inches): emarks:	e, MLRA 1498; tation and wetta (): 2" Res	) and hydrology mu	sitive indica	ent, unless distu ation of hydric so	vils was observed.	embankment.	es <u>No X</u>
Dark Surface (S7) (LRR R dicators of hydrophytic vegel estrictive Layer (if observed Type: <u>Fill material</u> Depth (inches): emarks:	e, MLRA 1498 tation and wetta (): 2" Res	) and hydrology mu	sitive indica	ent, unless distu ation of hydric so	vils was observed.	oil Present? Y	es <u>No X</u>
Dark Surface (S7) (LRR R dicators of hydrophytic veget strictive Layer (if observed Type: <u>Fill material</u> Depth (inches): marks:	t, MLRA 1498	) and hydrology mu	ist be prese	ent, unless distu ation of hydric so	Hydric Solution of the second	embankment.	es <u>No X</u>
Dark Surface (S7) (LRR R dicators of hydrophytic veget strictive Layer (if observed Type: <u>Fill material</u> Depth (inches): marks:	t, MLRA 1498	) and hydrology mu	sitive indica	ation of hydric so	vils was observed. throughout the fill	embankment.	es No X
Dark Surface (S7) (LRR R dicators of hydrophytic veget strictive Layer (if observed Type: <u>Fill material</u> Depth (inches): marks:	t, MLRA 1498	) and hydrology mu	sit be prese	ation of hydric so	irbed or problemat Hydric So oils was observed. throughout the fill	embankment.	es No X

Project/Site:	MetroNorth	Railroa	ad West	River to Alling	gs Crossing		County:	New Haver	n	Sampling Dat	e:	4/18/2018
Applicant/Owner:				United Illu	minating			State:	СТ	Sample Po	pint:	SP-3
Investigator(s):	D.	King		and	R. Hyland		Section, To	wnship, Range:			N/A	
Landform (hillslop	pe, terrace, et	ic.):		Terrace			Local relie	f (concave, conve	x, none):	Concave	Slope (%):	0-3
Subregion (LRR	or MLRA):			LRR R			Lat:	41.28727	Long:	-72.94141	Datum:	NAVD 88
Soil Map Unit Na	me:		ι	Jdorthents-U	rband Lland	(306)	, Dumps (3	02)	NWI	Classification:		E2EM5P
Are climatic / hyd	rologic condit	ions o	n the site	e typical for th	is time of ye	ar?	(Yes / No)	YES	(if no	, explain in Ren	narks.)	
Are Vegetation	<u>No</u> ,	Soil	No,	or Hydrology	No s	ignifi	cantly distu	bed? Are "Nori	mal Circum	istances" prese	nt?Yes	K No
Are Vegetation	No ,	Soil	No ,	or Hydrology	No n	natura	Illy problem	atic?	(If needed	l, explain any an	swers in Rem	arks.)
SUMMARY (	OF FINDIN	IGS	- Attac	ch site ma	No	ing	samplin	g point locat	tions, tr	ansects, in	nportant fe	eatures, etc.
Hydric Soil Pres	ent?		Yes	Х	No		Is the	Sampled Area				
Wetland Hydrole	ogy Present?		Yes	Х	No		within	a Wetland?		Yes X	No	
							lf y	es, optional Wetla	and Site ID:		Wetland 2	
Remarks:												
		Т	his poin	t was determi	ned to be wi	ithin a	a wetland du	ie to the presence	e of all 3 we	tland criteria.		
Wetland 2	is an emerger	nt wetl	and loca	ted north of th easter	ne railroad R n portion of	OW the w	and west of /etland, runi	West River; a tida ning parallel to the	ally influence ROW.	ed backwater c	hannel is pres	ent within the

HYDROLOGY					
Wetland hydrology Indicators:	Secondary Indicators (minimum of two required)				
Primary Indicators (minimum of one is required: check all that apply)	Surface Soil Cracks (B6)				
Surface Water (A1) Water-Stained Leaves (B9)	X Drainage Patterns (B10)				
High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)				
X Saturation (A3) Marl Deposits (B15)	Dry-Season Water Table (C2)				
Water Marks (B1) Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)				
Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3)	X Saturation Visible on Aerial Imagery (C9)				
Drift Deposits (B3) Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)				
Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6)	X Geomorphic Position (D2)				
Iron Deposits (B5) Thin Muck Surface (C7)	Shallow Aquitard (D3)				
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)	Microtopographic Relief (D4)				
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)				
Field Observations:					
Surface Water Present? Yes No X Depth (inches): N/A					
Water Table Present? Yes No X Depth (inches): >20					
Saturation Present?         Yes X         No         Depth (inches):         6"         Wetland	Hydrology Present? Yes X No				
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available	x:				
Remarks:					
	0				
A positive indication of wetland hydrology was observed (primary and secondary indicators were prese	ent).				

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size; 30 ft.)	% cover	Species?	Status	Number of Dominant Species
1. None observed				That Are OBL, FACW, or FAC: <b>1</b> (A)
2.				
3				Total Number of Dominant
4				Species Across All Strata: 2 (B)
5				
6				Percent of Dominant Species
7				That Are OBL, FACW, or FAC: 50% (A/B)
	0 =	Total Cover		
				Prevalence Index Worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.	_)			Total % Cover of: Multiply by:
1. None Observed	. <u> </u>			OBL species <b>0</b> x 1 = <b>0</b>
2				FACW species 90 x 2 = 180
3				FAC species 0 x 3 = 0
4	·			FACU species $0   x4 = 0$
5				$\begin{array}{c c} UPL \text{ species} & 10 & x  5 = 50 \\ \hline \hline \\ \hline $
6				Column Totals: 100 (A) 230 (B)
7	0 =	Total Cover		Prevalence Index = B/A = 2.30
Herb Stratum (Plot size: 5 ft. )				Hydrophytic Vegetation Indicators:
1. Phragmites australis	80	Yes	FACW	1 - Rapid Test for Hydrophytic Vegetation
2. Apios americana	10	No	FACW	2 - Dominance Test is >50%
3	<u> </u>			<b>X</b> 3 - Prevalence Index is $\leq 3.0^{\circ}$
4				4 - Morphological Adaptations' (Provide supporting
5				data in Remarks or on a separate sneet)
0	·			
/				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
o				he procent unless disturbed or problematic
9 10				Definitions of Five Vegetation Strata:
11	·			Tree - Woody plants 3 in (7.6 cm) or more in diameter
12				at breast height (DBH) regardless of height.
	90 = -	Total Cover		
				Sapling/Shrub - Woody plants Ises than 3 in. DBH
Woodv Vine Stratum 'Plot size: 30 ft. )				and greater than or equal to 3.28 ft (1 m) tall.
1. Celastrus orbiculatus	10	Yes	UPL	
2.				Herb - All herbaceous (non-woody) plants, regardless
3.				of size, and woody plants less than 3.28 ft tall.
4				
	10 = 1	Total Cover		Woody vine - All woody vines greater than 3.28 ft in height.
				Hydrophytic
				Vegetation
				Present? Yes X No
Remarks:				
A positive indication of hydror	hvtic vegetatio	on was observe	ed (>50% of dom	inant species indexed as OBL, FACW, or FAC).
				······································

SOIL

Sampling Point:

eptn Viau	0/	Color (maint)	0/	Turcal	1.002	Touture	Pomerica
Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Туре	LOC		Remarks
0-5 10YR 2/1	100	40) (D. 4/0				Loamy Sand	
5-20 10YR 4/2	95	10YR 4/6	5	<u> </u>	M	Loamy Sand	
·				·			
·	—			·			
·				·			
·	—			·			
·				·			
·	—			·			
	<u> </u>		10 14		21		
ype: C=Concentration, D=	Depletion, RI	M=Reduced Matrix, I	//S=Maske	ed Sand Grains	. Location: H	PL=Pore Lining, M=M	latrix. Ar Drahlamatia Hydria Saila <sup>3</sup> :
ydric Soils Indicators:						indicators to	or Problematic Hydric Solls":
Histosol (A1)		Polyval	ue Below S	Surface (S8) <b>(L</b>	RR R,	2 cm Mi	uck (A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)		M.	LRA 149B)	)		Coast P	rairie Redox (A16) (LRR K, L, R)
Black Histic (A3)		I hin Da	ark Surface	e (S9) (LRR R,	MLRA 149B)	5 cm Mi	ucky Peat or Peat (S3) (LRR K, L, I
Hydrogen Sulfide (A4)		Loamy	Mucky Min	ieral (F1) (LRR	K, L)	Dark Su	Irface (S7) (LRR K, L)
Stratified Layers (A5)		Loamy	Gleyed Ma	atrix (F2)		Polyvalu	le Below Surface (S8) (LRR K, L)
Depleted Below Dark St	face (A11)	Deplete	ed Matrix (F	F3)		Thin Da	irk Surface (S9) (LRR K, L)
Thick Dark Surface (A12	)	Redox	Dark Surfa	ice (F6)		Iron-Mai	nganese Masses (F12) (LRR K, L,
Sandy Mucky Mineral (S	)	Deplete	ed Dark Su	irface (F7)		Piedmo	nt Floodplain Soils (F19) <b>(MLRA 1</b>
Sandy Gleyed Matrix (S4	)	Redox	Depressio	ns (F8)		Mesic S	podic (TA6) <b>(MLRA 144A, 145, 14</b>
K Sandy Redox (S5)						Red Par	rent Material (F12)
Stripped Matrix (S6)						Very Sh	allow Dark Surface (F22)
						- · · · · · · · ·	
Dark Surface (S7) (LRR ndicators of hydrophytic veg estrictive Layer (if observ Type: Depth (inches):	R, MLRA 14 etation and v ed):	99B) vetland hydrology mi	ust be pres	sent, unless dis	turbed or proble	Other (E matic. Soil Present? Ye	s_X No
Dark Surface (S7) (LRR ndicators of hydrophytic veg estrictive Layer (if observ Type: Depth (inches): emarks:	R, MLRA 14 etation and v ed):	I9B) vetland hydrology mi	ust be pres	sent, unless dis	turbed or proble	Other (E matic. Soil Present? Ye	s_X No
Dark Surface (S7) (LRR ndicators of hydrophytic veg estrictive Layer (if observ Type: Depth (inches): emarks:	R, MLRA 14 etation and v ed):	I9B) vetland hydrology mi	ust be pres	sent, unless dis	turbed or proble	Other (E	s_X No
Dark Surface (S7) (LRR ndicators of hydrophytic veg estrictive Layer (if observ Type: Depth (inches): emarks:	R, MLRA 14 etation and v ed):	ISB) vetland hydrology mi	ust be pres	sent, unless dis	turbed or proble Hydric	Other (E matic. Soil Present? Ye	sNo
Dark Surface (S7) (LRR adicators of hydrophytic veg estrictive Layer (if observ Type: Depth (inches): emarks:	R, MLRA 14 etation and v ed):	ISB) vetland hydrology mi	ust be pres	sent, unless dis	turbed or proble Hydric	Other (E	-xplain in Remarks) s <u>X</u> No
Dark Surface (S7) (LRR ndicators of hydrophytic veg estrictive Layer (if observ Type: Depth (inches): emarks:	R, MLRA 14 etation and v ed):	ISB) vetland hydrology mi	ust be pres	sent, unless dis	turbed or proble	Other (E	xNo
Dark Surface (S7) (LRR ndicators of hydrophytic veg estrictive Layer (if observ Type: Depth (inches): emarks:	R, MLRA 14 etation and v ed):	ISB) vetland hydrology mi	ust be pres	tion of hydric s	turbed or proble	Other (E	s X No
Dark Surface (S7) (LRR ndicators of hydrophytic veg estrictive Layer (if observ Type: Depth (inches): emarks:	R, MLRA 14 etation and v ed):	ISB) vetland hydrology mi	ust be pres	tion of hydric s	turbed or proble	Other (E	sNo
Dark Surface (S7) (LRR ndicators of hydrophytic veg estrictive Layer (if observ Type: Depth (inches): emarks:	R, MLRA 14 etation and v ed):	ISB) vetland hydrology mi	ust be pres	tion of hydric s	turbed or proble	Other (E	sNo
Dark Surface (S7) (LRR adicators of hydrophytic veg estrictive Layer (if observ Type: Depth (inches): emarks:	R, MLRA 14 etation and v ed):	ISB) vetland hydrology mi	ust be pres	tion of hydric s	turbed or proble	Other (E	s <u>X</u> No
Dark Surface (S7) (LRR <u>ndicators of hydrophytic vec</u> estrictive Layer (if observ Type: Depth (inches): emarks:	R, MLRA 14 etation and v ed):	ISB) vetland hydrology mi	ust be pres	tion of hydric s	turbed or proble Hydric	Other (E	sXNo
Dark Surface (S7) (LRR adicators of hydrophytic veg estrictive Layer (if observ Type: Depth (inches): emarks:	R, MLRA 14	ISB) vetland hydrology mi	ust be pres	tion of hydric s	turbed or proble Hydric	Other (E	sXNo
Dark Surface (S7) (LRR ndicators of hydrophytic veg estrictive Layer (if observ Type: Depth (inches): emarks:	R, MLRA 14 etation and v ed):	ISB) vetland hydrology mi	ust be pres	tion of hydric s	turbed or proble Hydric	Other (E	sXNo
Dark Surface (S7) (LRR hdicators of hydrophytic veg estrictive Layer (if observ Type: Depth (inches): emarks:	R, MLRA 14 etation and v ed):	ISB) vetland hydrology mi	ust be pres	tion of hydric s	turbed or proble Hydric	Other (E	sXNo
Dark Surface (S7) (LRR <u>dicators of hydrophytic vec</u> estrictive Layer (if observ Type: Depth (inches): emarks:	R, MLRA 14	ISB) vetland hydrology mi	ust be pres	tion of hydric s	turbed or proble Hydric	Other (E	s

Project/Site: MetroNo	rth Railroad We	st River to A	lings Crossing	County:	New Haven		Sampling Date:		4/18/2018
Applicant/Owner:		United	Illuminating		State:	СТ	Sample Point	t:	SP-4
Investigator(s):	D. King	and	R. Hyland	Section, Tov	vnship, Range:		-	N/A	
Landform (hillslope, terrace,	etc.):	Hillslo	De	Local relief (	concave, convex, r	none):	none S	Slope (%):	0-3
Subregion (LRR or MLRA):		IRR	R	lat	41 28721	Long.	-72 94141	Datum:	NAVD 88
Soil Map Unit Name			orthents-Urban I	and (306)		NWI (	Classification:		N/A
Are climatic / hydrologic con	ditions on the s	ite typical for	this time of year?	(Yes / No)	VES	(if no	explain in Remar	ks)	
Are Vegetation No	Soil No	or Hydrolo	av <b>No</b> sia	nificantly disturbe	d2 Are "Norma	(II 110,	tances" present?	Vec Y	No
Are Vegetation No	_,001 No	,or Hydrolo	gy <u>No</u> sig	turally problemati		f poodod			NO
Are vegetation <b>NO</b>	_,3011 NO		gy <b>no</b> na	lurally problemati	C? (I	r neeueu,	explain any answ		.5.)
SUMMARY OF FIND	INGS - Atta	ach site r	nap showing	g sampling	point locatior	ns, tran	sects, impo	rtant featu	ires, etc.
Hydrophytic Vegetation Pre	sent? Ye	s <u>X</u>	NO						
Hydric Soil Present?	Ye	s	No <u>X</u>	Is the S	ampled Area				
Wetland Hydrology Presen	t? Ye	s	No <u>X</u>	within a	Wetland?	Y	'es	No	x
				If ye	s, optional Wetland	Site ID: _			
Remarks:									
	This point wa	as determine	d not to be within	a wetland due to	the lack of hydric s	soils and v	vetland hydrology		
		I	Jpland point for V	Wetland 2 located	l on a gravel fill slop	pe.			
					0				
Wetland hydrology Inc	dicators:					0			·
	. , .					Secon	idary indicators (n	hinimum of two	o required)
Primary Indicators (min	imum of one is	required; che	ck all that apply)		<u> </u>		Surface Soil Crac	:ks (B6)	
Surface Water (A	<b>1</b> )	-	Water-Stair	ned Leaves (B9)			Drainage Pattern	s (B10)	
High Water Table	e (A2)	-	Aquatic Fau	una (B13)			Moss Trim Lines	(B16)	
Saturation (A3)		-	Marl Depos	sits (B15)			Dry-Season Wate	er Table (C2)	
Water Marks (B1	)	_	Hydrogen S	Sulfide Odor (C1)			Crayfish Burrows	(C8)	
Sediment Depos	its (B2)	_	Oxidized Rh	hizospheres on Li	iving Roots (C3)		Saturation Visible	on Aerial Ima	agery (C9)
Drift Deposits (B	3)	_	Presence of	f Reduced Iron (C	24)		Stunted or Stress	ed Plants (D1	)
Algal Mat or Crus	st (B4)		Recent Iron	Reduction in Till	ed Soils (C6)		Geomorphic Posi	ition (D2)	
Iron Deposits (B5	5)		Thin Muck S	Surface (C7)			Shallow Aquitard	(D3)	
Inundation Visible	e on Aerial Ima	aerv (B7)	Other (Expl	ain in Remarks)			Microtopographic	Relief (D4)	
Sparsely Vegeta	ted Concave Si	urface (B8)					FAC-Neutral Tes	t (D5)	
<u> </u>								- ()	
Field Observations:									
Surface Water Present?	Yes	No X	Depth (in	ches): N/A					
Water Table Present?	Ves		Depth (in	ches): >20	•				
Soturation Dropont?	Yee		Depth (in	ches): >20	Wotland H	vdrology	Brocont? Vo	- •	
(includes capillary fringe)	res		Depth (in	ches): >20	wetiand H	iyarology	Present? res	s N	
				,.					
Describe Recorded Data (s	stream gauge, n	nonitoring we	II, aerial photos, p	previous inspection	ons), if available:				
Remarks:									
No positive indication o	f wetland hydro	logy was obs	erved.						

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft.)	% cover	Species?	Status	Number of Dominant Species
1. None observed				That Are OBL, FACW, or FAC: 3 (A)
2.				· · · · ·
3.				Total Number of Dominant
4.				Species Across All Strata: 4 (B)
5.				
6.				Percent of Dominant Species
7.				That Are OBL, FACW, or FAC: 75% (A/B)
	0 =	Total Cover		
				Prevalence Index Worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.	)			Total % Cover of: Multiply by:
1. Elaeagnus umbellata	15	Yes	NI	OBL species 0 x 1 = 0
2				FACW species 60 x 2 = 120
3		. <u></u>	. <u></u>	FAC species <b>25</b> x 3 = <b>75</b>
4				FACU species x 4 =
5		<u> </u>		UPL species 30 x 5 = 150
6				Column Totals: <u>115</u> (A) <u>345</u> (B)
7				
	15=	Total Cover		Prevalence Index = B/A = 3.00
Horb Stratum (Distaire) 5 ft )				Hydrophytic Vogotation Indicatory
<u>Held Stratum</u> (Flot size. <u>5 it.</u> )	20	Voc		1 Papid Test for Hydrophytic Vegetation
2 Panicum virgatum	25	Yes	FAC	X 2 - Dominance Test is >50%
3 Apios americana	20	Yes	FACW	<b>X</b> 3 - Prevalence Index is $\leq 3.0^{1}$
A Phragmites australis	10	<u></u> No	FACW	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
5 Solidago sp	5	No	NI	data in Remarks or on a separate sheet)
6.				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
7.				
8.				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
9.				be present, unless disturbed or problematic.
10.				Definitions of Five Vegetation Strata:
11.				Tree - Woody plants 3 in. (7.6 cm) or more in diameter
12.				at breast height (DBH) regardless of height.
	90 =	Total Cover		
				Sapling/Shrub - Woody plants Ises than 3 in. DBH
Woody Vine Stratum (Plot size: 30 ft. )				and greater than or equal to 3.28 ft (1 m) tall.
1. Celastrus orbiculatus	30	Yes	UPL	
2		<u> </u>		Herb - All herbaceous (non-woody) plants, regardless
3				of size, and woody plants less than 3.28 ft tall.
4				
	=	Total Cover		woody vine - All woody vines greater than 3.28 ft in height.
				Hydrophytic
				Vegetation
				Present? Yes X No
Remarks:				
A positive indication of hydro	phytic vegeta	tion was observe	ed (>50% of dom	inant species indexed as OBL, FACW, or FAC).
	-			

epth	Color (moiot)	0/	Color (moint)			1.0.02	Taxtura	Demerke
icnes) (		<u>%</u>	Color (moist)	%	Type	Loc	<u> </u>	Remarks
<u>0-16</u>	10YR 2/1	100					Loamy Sand	gravelly
16-20	10YR 4/3	100					Loamy Sand	gravelly
		<u> </u>				<u> </u>		
		<u> </u>				<u> </u>		
		<u> </u>				<u> </u>		
						<u> </u>		
						<u> </u>		
·						·		
						2		
ype: C=Conce	entration, D=Dep	letion, RM	=Reduced Matrix,	MS=Masked	d Sand Grains.	<sup>2</sup> Location:	PL=Pore Lining, M=M	latrix.
ydric Soils Inc	dicators:						Indicators for	or Problematic Hydric Soils":
Histosol (A	1)		Polyv	alue Below S	Surface (S8) (LF	RR,	2 cm M	uck (A10) (LRR K, L, MLRA 149B)
Histic Epipe	edon (A2)			ILRA 149B	)		Coast F	Prairie Redox (A16) <b>(LRR K, L, R)</b>
Black Histic	c (A3)		Thin I	Dark Surface	e (S9) <b>(LRR R, N</b>	/LRA 149B)	5 cm M	ucky Peat or Peat (S3) (LRR K, L, R
Hydrogen S	Sulfide (A4)		Loam	y Mucky Min	neral (F1) <b>(LRR</b> I	K, L)	Dark Su	urface (S7) <b>(LRR K, L)</b>
Stratified La	ayers (A5)		Loam	y Gleyed Ma	atrix (F2)		Polyval	ue Below Surface (S8) (LRR K, L)
Depleted B	elow Dark Surfa	ce (A11)	Deple	ted Matrix (F	=3)		Thin Da	ark Surface (S9) (LRR K, L)
Thick Dark	Surface (A12)		Redo	k Dark Surfa	ace (F6)		Iron-Ma	inganese Masses (F12) <b>(LRR K, L, F</b>
Sandy Muc	ky Mineral (S1)		Deple	ted Dark Su	irface (F7)		Piedmo	ont Floodplain Soils (F19) <b>(MLRA 14</b>
Sandy Gley	/ed Matrix (S4)		Redo	K Depression	ns (F8)		Mesic S	Spodic (TA6) <b>(MLRA 144A, 145, 149</b>
Sandy Red	ox (S5)						Red Pa	rent Material (F12)
Stripped Ma	atrix (S6)						Very Sh	nallow Dark Surface (F22)
Stripped Ma Dark Surface Dark Surface Dark Surface Dark Surface Depth (inchest	atrix (S6) ce (S7) <b>(LRR R,</b> drophytic vegeta er (if observed):	MLRA 149	DB) etland hydrology m	just be prese	ent, unless distu	rbed or probler	Very Sh Other (I natic. Soil Present? Ye	nallow Dark Surface (F22) Explain in Remarks)
Stripped Ma Dark Surface adicators of hydestrictive Laye Type: Depth (inchest	atrix (S6) ce (S7) <b>(LRR R,</b> drophytic vegeta er (if observed):	MLRA 149	PB) etland hydrology m	ust be prese	ent, unless distu	rbed or probler	Very Sh Other (I natic. Soil Present? Ye	nallow Dark Surface (F22) Explain in Remarks)
Stripped Ma Dark Surface Dark Surface Dark Surface Dark Surface Depth (inchese Depth (inchese Depth (inchese)	atrix (S6) ce (S7) (LRR R, drophytic vegeta er (if observed): s):	MLRA 149	PB) etland hydrology m	uust be prese	ent, unless distu	rbed or probler	Very Sł Other (ł natic. Soil Present? Ye	nallow Dark Surface (F22) Explain in Remarks) 25 NoX
Stripped Ma Dark Surface adicators of hy estrictive Laye Type: Depth (inche: emarks:	atrix (S6) ce (S7) <b>(LRR R,</b> drophytic vegeta er (if observed): s):	MLRA 149	PB) etland hydrology m	nust be prese	ent, unless distu	rbed or probler Hydric	Very Sh Other (f soil Present? Ye	nallow Dark Surface (F22) Explain in Remarks)
Stripped Ma Dark Surface adicators of hydestrictive Laye Type: Depth (inchest commarks:	atrix (S6) ce (S7) <b>(LRR R,</b> drophytic vegeta er (if observed): s):	MLRA 149	PB) etland hydrology m	oust be prese	ent, unless distu	rbed or probler Hydric	Very Sh Other (f c Soil Present? Ye	nallow Dark Surface (F22) Explain in Remarks)
Stripped Ma Dark Surface Dark Surface Dark Surface Deptrictive Layo Type: Depth (inchese Depth (inchese)	atrix (S6) ce (S7) <b>(LRR R,</b> drophytic vegeta er (if observed): s):	MLRA 149	PB) etland hydrology m	oust be prese	ent, unless distu	ils was observe	Very Sh Other (f c Soil Present? Ye	nallow Dark Surface (F22) Explain in Remarks)
Stripped Ma Dark Surface adicators of hydestrictive Layor Type: Depth (inchest cemarks:	atrix (S6) ce (S7) <b>(LRR R,</b> drophytic vegeta er (if observed): s):	MLRA 149	PB) etland hydrology m	oust be prese	ent, unless distu	ils was observe	Very Sh Other (f s Soil Present? Ye	nallow Dark Surface (F22) Explain in Remarks)
Stripped Ma Dark Surface addicators of hype estrictive Layo Type: Depth (inches emarks:	atrix (S6) ce (S7) <b>(LRR R,</b> drophytic vegeta er (if observed): s):	MLRA 149	PB) etland hydrology m	oust be prese	ent, unless distu	ils was observe	Very Sh Other (f c Soil Present? Ye	nallow Dark Surface (F22) Explain in Remarks)
Stripped Ma Dark Surface adjustors of hypestrictive Layor Type: Depth (inchest cemarks:	atrix (S6) ce (S7) <b>(LRR R,</b> drophytic vegeta er (if observed): s):	MLRA 149	PB) etland hydrology m	oust be prese	ent, unless distu	ils was observe	Very Sh Other (f c Soil Present? Ye	nallow Dark Surface (F22) Explain in Remarks)
Stripped Ma Dark Surface adjustors of hypestrictive Layor Type: Depth (inchest cemarks:	atrix (S6) ce (S7) <b>(LRR R,</b> drophytic vegeta er (if observed): s):	MLRA 149	PB) etland hydrology m	ositive indica	ent, unless distu	ils was observe	Very Sh Other (f c Soil Present? Ye	nallow Dark Surface (F22) Explain in Remarks)
Stripped Ma Dark Surface adicators of hyvestrictive Layo Type: Depth (inchest Depth Strictive Cayon Depth (inchest)	atrix (S6) ce (S7) <b>(LRR R,</b> drophytic vegeta er (if observed): s):	MLRA 149	PB) etland hydrology m	ositive indica	ent, unless distu	ils was observe	Very Sh Other (f c Soil Present? Ye	nallow Dark Surface (F22) Explain in Remarks)
Stripped Ma Dark Surface adicators of hy estrictive Laye Type: Depth (inche: emarks:	atrix (S6) ce (S7) <b>(LRR R,</b> drophytic vegeta er (if observed): s):	MLRA 149	PB) etland hydrology m	ositive indica	ent, unless distu	ils was observe	Very Sh Other (f c Soil Present? Ye	allow Dark Surface (F22) Explain in Remarks)
Stripped Ma Dark Surface adicators of hy estrictive Laye Type: Depth (inche: emarks:	atrix (S6) ce (S7) <b>(LRR R,</b> drophytic vegeta er (if observed): s):	MLRA 149	PB) etland hydrology m	ositive indica	ent, unless distu	ils was observe	Very Sh Other (f c Soil Present? Ye	allow Dark Surface (F22) Explain in Remarks)
Stripped Ma Dark Surface adicators of hy estrictive Laye Type: Depth (inche: emarks:	atrix (S6) ce (S7) <b>(LRR R,</b> drophytic vegeta er (if observed): s):	MLRA 149	PB) etland hydrology m	ositive indica	ation of hydric so	ils was observe	Very Sh Other (f c Soil Present? Ye	nallow Dark Surface (F22) Explain in Remarks)
Stripped Ma Dark Surface addicators of hy estrictive Laye Type: Depth (inchese emarks:	atrix (S6) ce (S7) <b>(LRR R,</b> drophytic vegeta er (if observed): s):	MLRA 149	PB) etland hydrology m	ositive indica	ent, unless distu	ils was observe	Very Sh Other (I c Soil Present? Ye	nallow Dark Surface (F22) Explain in Remarks)
Stripped Ma Dark Surface addicators of hy estrictive Laye Type: Depth (inchese emarks:	atrix (S6) ce (S7) <b>(LRR R,</b> drophytic vegeta er (if observed): s):	MLRA 149	PB) etland hydrology m	ositive indica	ent, unless distu	ils was observe	Very Sh Other (I c Soil Present? Ye	nallow Dark Surface (F22) Explain in Remarks)
Stripped Ma Dark Surface addicators of hy estrictive Laye Type: Depth (inchese emarks:	atrix (S6) ce (S7) <b>(LRR R,</b> drophytic vegeta er (if observed): s):	MLRA 149	PB) etland hydrology m 	ositive indica	ent, unless distu	ils was observe	Very Sh Other (I c Soil Present? Ye	nallow Dark Surface (F22) Explain in Remarks)
Stripped Ma Dark Surface addicators of hy estrictive Laye Type: Depth (inchese emarks:	atrix (S6) ce (S7) <b>(LRR R,</b> drophytic vegeta er (if observed): s):	MLRA 149	PB) etland hydrology m 	ositive indica	ent, unless distu	ils was observe	Very Sh Other (I c Soil Present? Ye	allow Dark Surface (F22) Explain in Remarks)  es No X
Stripped Ma Dark Surface ndicators of hy estrictive Laye Type: Depth (inchese emarks:	atrix (S6) ce (S7) <b>(LRR R,</b> drophytic vegeta er (if observed): s):	MLRA 149	PB) etland hydrology m  No pd	ositive indica	ent, unless distu	rbed or probler Hydric	Very Sh Other (f c Soil Present? Ye	allow Dark Surface (F22) Explain in Remarks)  es No X
Stripped Ma Dark Surfac adicators of hy estrictive Lay Type: Depth (inche: emarks:	atrix (S6) ce (S7) <b>(LRR R,</b> drophytic vegeta er (if observed): s):	MLRA 149	PB) etland hydrology m  No pd	ositive indica	ent, unless distu	rbed or probler Hydric	Very Sh Other (I e Soil Present? Ye	allow Dark Surface (F22) Explain in Remarks)  es No X
Stripped Ma Dark Surfac adicators of hy estrictive Lay Type: Depth (inche: emarks:	atrix (S6) ce (S7) <b>(LRR R,</b> drophytic vegeta er (if observed): s):	MLRA 149	PB) etland hydrology m  No pd	ositive indica	ent, unless distu	rbed or probler Hydric	Very Sh Other (f s Soil Present? Ye	allow Dark Surface (F22) Explain in Remarks)  es NoX
Stripped Ma Dark Surfac adicators of hy estrictive Lay Type: Depth (inche: emarks:	atrix (S6) ce (S7) <b>(LRR R,</b> drophytic vegeta er (if observed): s):	MLRA 149	PB) etland hydrology m 	ositive indica	ent, unless distu	rbed or probler Hydric	Very Sh Other (I e Soil Present? Ye	allow Dark Surface (F22) Explain in Remarks)  es NoX
Stripped Ma Dark Surface ndicators of hy estrictive Laye Type: Depth (inche: emarks:	atrix (S6) ce (S7) <b>(LRR R,</b> <u>drophytic vegeta</u> <b>er (if observed)</b> : s):	MLRA 149	PB) etland hydrology m  No pd	ositive indica	ent, unless distu	rbed or probler Hydric	Very Sh Other (I e Soil Present? Ye	allow Dark Surface (F22) Explain in Remarks)  es NoX
Stripped Ma Dark Surface adicators of hy estrictive Laye Type: Depth (inchese emarks:	atrix (S6) ce (S7) <b>(LRR R,</b> <u>drophytic vegeta</u> <b>er (if observed)</b> : s):	MLRA 149	PB) etland hydrology m  No pd	ositive indica	ent, unless distu	rbed or probler Hydric	Very Sh Other (I e Soil Present? Ye	allow Dark Surface (F22) Explain in Remarks)  es NoX
Stripped Ma Dark Surfac adicators of hy estrictive Lay Type: Depth (inche: emarks:	s):	MLRA 149	PB) etland hydrology m  No pd	ositive indica	ent, unless distu	rbed or probler Hydric	Very Sh Other (I e Soil Present? Ye	allow Dark Surface (F22) Explain in Remarks)  es NoX

Project/Site: Me	troNorth Rai	ilroad Wes	t River t	to Allings C	rossing	County:	New H	aven	Samplin	g Date:	4/18/2018
Applicant/Owner:			Uni	ted Illumin	ating		Sta	ate: C	T Samp	le Point:	SP-5
Investigator(s):	D. Kir	ng	and	R.	Hyland	Section,	Township, Rang	ge:		N/A	
Landform (hillslope, te	race, etc.):		Т	errace		Local re	lief (concave, co	nvex, none):	None	Slope (%):	0-3
Subregion (LRR or ML	RA):		L	RR R		- Lat:	41.28404	Long:	-72.94	573 Datum	NAVD 88
Soil Map Unit Name:	,			Udorthen	ts-Urban La	ind (306)		0	VI Classificat	ion:	N/A
Are climatic / hvdrolog	c conditions	on the site	e tvpical	for this tim	ne of vear?	(Yes / N	o) YE	S (if	no, explain in	Remarks.)	·
Are Vegetation	Yes .Soi	No	.or Hvd	roloav	No sign	ificantly dis	urbed? Are	Normal Circu	imstances" p	esent? Yes	X No
Are Vegetation	No Soi	No	or Hvd		No natu	rally proble	matic?	(If need	ed explain a	v answers in Rer	narks)
			,o , a						ou, orpiuni u		
SUMMARY OF	INDING	S - Atta	ch sit	e map s	showing	sampli	ng point loo	ations, tr	ansects,	important fe	atures, etc.
Lludrophytic Vereteti	n Dresent?	Vaa	v	N							
	on Present?	res	<u> </u>	IN	o						
Hydric Soll Present?		res	<u> </u>	N	0		e Sampled Are	а			
Wetland Hydrology P	resent?	Yes	X	N	0	with	in a Wetland?		Yes X	No	
							f yes, optional V	/etland Site II	D:	Wetland 3	
Remarks:											
		This poi	int was	determined	d to be within	n a wetland	due to the prese	ence of all 3 w	vetland criteri	a.	
Wetland 3 is an	emeraent w	etland loca	ated held	ow the I-95	overnass: if	t is hvdrauli	cally connected	to Wetland 1	hy a small sy	atch of land that	toes not qualify
Wolland O lo an	omorgonen	as v	vetland	due to a re	estrictive cor	ncrete layer	within several in	ches of the s	oil surface.		
					Recor	othy mowed	and cleared				
					Recei	itty moweu	and cleared.				
wetland hydrold	gy indicato	rs:						Se	condary Indic	ators (minimum o	f two required)
Primary Indicator	s (minimum	of one is re	equired;	check all t	hat apply)				Surface S	oil Cracks (B6)	
Surface W	ater (A1)			V	Vater-Staine	ed Leaves (	39)		Drainage	Patterns (B10)	
High Wate	Table (A2)			A	quatic Faun	na (B13)			Moss Trir	n Lines (B16)	
Saturation	(A3)			N	larl Deposits	s (B15)			Dry-Seas	on Water Table (0	22)
Water Mar	(B1)			H	lvdrogen Su	lfide Odor (	C1)		Cravfish I	Burrows (C8)	,
Sediment [	enosite (B2	1			)vidized Rhi	zoenhoroe (	o .) In Living Roots /	<u> </u>	Saturation	Visible on Aerial	Imageny (CQ)
Drift Denos		)		<u> </u>		Zospheres (			Stunted of	r Stropped Dignta	
				<u> </u>			лт (С4) 				(DT)
Algal Mat c	r Crust (B4)			R	ecent Iron F	Reduction in	Tilled Soils (Ce	) <u>x</u>	Geomorp	hic Position (D2)	
Iron Depos	ts (B5)			T	hin Muck Su	urface (C7)			Shallow A	quitard (D3)	
Inundation	Visible on A	erial Image	ery (B7)	C	ther (Explai)	in in Remar	ks)		Microtopo	graphic Relief (D	4)
Sparsely V	egetated Co	ncave Surf	face (B8	3)					FAC-Neu	tral Test (D5)	
Field Observations:											
Surface Water Prese	nt? Yes		No	х	Depth (inch	nes): N/	4				
Water Table Present	? Yes		No	Х	Depth (inch	nes): >2	0				
Saturation Present?	Yes		No	x	Depth (inch	nes): >2	0 Wet	land Hydrold	oav Present?	Yes X	No
(includes capillary frir	ae)			<u></u>	Boptii (iiioi	100).	<u> </u>	iana nyaron	gy i recont.	100	
Describe Descrided D								-hl-			
Describe Recorded L	ata (stream	gauge, mo	onitoring	y well, aeria	ai pnotos, pr	evious insp	ections), if availa	adie:			
1											
Remarks:											
A positive indicat	on of wetlan	d hydrolog	y was o	bserved (p	rimary and	secondary i	ndicators were p	resent).			
•		, ,			•						

				Dominance Test worksheet
	Absolute	Dominant	Indicator	Dominance Test worksheet.
Tree Stratum (Plot size: 30 ft. )	% cover	Species?	Status	Number of Dominant Species
1. None observed				That Are OBL, FACW, or FAC: 1 (A)
2				
3.				Total Number of Dominant
4.				Species Across All Strata: 2 (B)
5				
6				Porcent of Dominant Species
0				
<i>I</i>				That Ale OBL, FACW, OF FAC: $50\%$ (A/B)
	=	Total Cover		Drevelance Index Werkeheet:
				Prevalence index worksneet:
Sapling/Shrub Stratum (Plot size: 15 ft.	_)			Total % Cover of: Multiply by:
1. None Observed				OBL species <b>0</b> x 1 = <b>0</b>
2.				FACW species <b>35</b> x 2 = <b>70</b>
3.				FAC species <b>0</b> x 3 = <b>0</b>
4				FACU species $0$ x 4 = $0$
5				$\frac{1}{10} \times 5 = 50$
6		·		$\begin{array}{c} \text{Colump Tatala:} & \textbf{15} & (A) & \textbf{130} & (P) \end{array}$
6				$\begin{array}{c} \text{Column rotals.} \\ \underline{\textbf{45}} \\ (A) \\ \underline{\textbf{120}} \\ (B) \end{array}$
ſ		T	·	
	=	<ul> <li>Total Cover</li> </ul>		Prevalence Index = B/A = <b>2.67</b>
Herb Stratum (Plot size: 5 ft. )				Hydrophytic Vegetation Indicators:
1. Phragmites australis	30	Yes	FACW	1 - Rapid Test for Hydrophytic Vegetation
2. Artemisia vulgaris	10	Yes	UPL	2 - Dominance Test is >50%
3. Apios americana	5	No	FACW	<b>X</b> 3 - Prevalence Index is $\leq 3.0^1$
A				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
		·		deta in Demarka er en a concrete abaet)
5				Data in Remarks of on a separate sheet)
6				Problematic Hydrophytic Vegetation" (Explain)
7				
8				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10.				Definitions of Five Vegetation Strata:
11.				Tree - Woody plants 3 in. (7.6 cm) or more in diameter
12.				at breast height (DBH) regardless of height.
	45 -	Total Cover		······································
				Sapling/Shrub - Woody plants lses than 3 in. DBH
Weedy Vine Streture (Dist size) 00 (t)				and greater than or equal to 3.28 ft (1 m) tall
<u>woody vine Stratum</u> Plot size: <u>30 ft.</u> )				
1. None Observed				
2				Herb - All herbaceous (non-woody) plants, regardless
3				of size, and woody plants less than 3.28 ft tall.
4				
	0 =	<ul> <li>Total Cover</li> </ul>		Woody vine - All woody vines greater than 3.28 ft in height.
				Hydrophytic
				Vegetation
				Prosont? Yos Y No
Remarks:				
A positive indication of hydro	phytic vegeta	ation was observe	ed (>50% of dom	inant species indexed as OBL, FACW, or FAC).
	phylio vogole			
	A	on had recently h	oon mound and	cloared
	Ar	ea nau recently t	een mowed and	

SOIL

nches)		~ /	01 ( ) )			. ?	<b>-</b>	
	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type'	Loc	Texture	Remarks
0-3	10YR 4/2	100				<u> </u>	Sandy Loam	
3-11	10YR 4/2	96	10YR 5/8	4	<u> </u>	<u> </u>	Sandy Loam	
11-14	10YR 4/2	95	10YR 4/6	5	C	M	Sandy Loam	
					·		<u> </u>	
							<u> </u>	
							<u> </u>	
ype: C=C	oncentration, D=De	pletion, RM	=Reduced Matrix, N	IS=Masked	d Sand Grains.	<sup>2</sup> Location:	PL=Pore Lining, M=Matri	Х.
ydric Soil	s Indicators:						Indicators for I	Problematic Hydric Soils <sup>3</sup> :
Histoso	ol (A1)		Polyval	ue Below S	Surface (S8) (LR	RR,	2 cm Muck	(A10) (LRR K, L, MLRA 149B)
Histic E	Epipedon (A2)		Μ	LRA 149B)	)		Coast Prai	rie Redox (A16) <b>(LRR K, L, R)</b>
Black H	Histic (A3)		Thin Da	ark Surface	e (S9) (LRR R, N	/LRA 149B)	5 cm Muck	y Peat or Peat (S3) (LRR K, L, R
Hydrog	en Sulfide (A4)		Loamy	Mucky Min	eral (F1) <b>(LRR I</b>	K, L)	Dark Surfa	ce (S7) <b>(LRR K, L)</b>
Stratifie	ed Layers (A5)		Loamy	Gleyed Ma	trix (F2)		Polyvalue	Below Surface (S8) (LRR K, L)
Deplete	ed Below Dark Surfa	ice (A11)	X Deplete	ed Matrix (F	-3)		Thin Dark	Surface (S9) <b>(LRR K, L)</b>
Thick [	Dark Surface (A12)		Redox	Dark Surfa	ce (F6)		Iron-Manga	anese Masses (F12) <b>(LRR K, L, F</b>
Sandy	Mucky Mineral (S1)		Deplete	ed Dark Su	rface (F7)		Piedmont	Floodplain Soils (F19) (MLRA 149
Sandy	Gleved Matrix (S4)		Redox	Depressior	ns (F8)		Mesic Spo	dic (TA6) <b>(MLRA 144A, 145, 149</b>
Sandy	Redox (S5)						Red Paren	t Material (F12)
Strippe	d Matrix (S6)						Verv Shall	ow Dark Surface (F22)
Dark S	urface (S7) (LRR R.	MLRA 149	)B)				Other (Exc	lain in Remarks)
emarks:								
			A pos	itive indica	tion of hvdric so	il was observe	ed.	
			1		,			

Project/Site:	MetroNor	th Railroad We	est River to	Allings	Crossing	Cou	nty:	New Haven		Sampling Date	e:	4/18/2018
Applicant/Owner:			Unite	ed Illumir	nating	-	-	State:	СТ	Sample Po	oint:	SP-6
Investigator(s):		D. King	and	R	. Hyland	Se	ction, Towr	ship, Range:			N/A	
I andform (hillslope	terrace	etc.):	Te	rrace	1	- 10	cal relief (c	oncave convex	none).	None	Slope (%)	0-3
Subregion (I RR or	MIRA).		LR	RR			Lat <sup>.</sup>	41 28401	Long.	-72 94582	Datum:	NAVD 88
Soil Map Unit Name	a.			Udorthe	nts-Urban I a	nd (30	 )6)		NWI	Classification:		N/A
Are climatic / hydrol	logic conc	litions on the s	ite typical fo	or this ti	me of vear?	(Ye	es / No)	YES	(if no	explain in Rem	arks)	
Are Vegetation	No	Soil No	or Hydro		No sign	ificant	lv disturber	1? Are "Norm	nal Circum	stances" presen	t? Yes	X No
Vegetation	No	_,0011 <u>N0</u>	or Hydro		No nati	incum	vroblematic	2	(If needed		wors in Rom	arke)
The vegetation		,001 10	_,01 11yulu	logy	<u>no</u> nato	nany p	nobiematic	:	(II Needed			arks.)
SUMMARY OI	f find	INGS - Att	ach site	map	showing	san	npling p	oint locatio	ons, tra	nsects, imp	ortant fea	atures, etc.
Hydropnytic Veget	ation Pres	sent? Ye	s	- r		-						
Hydric Soil Presen	it?	Ye	S	- r	NO X	-	Is the Sai	npled Area				
Wetland Hydrology	y Present	? Ye	S	N	lo <u>X</u>	-	within a V	Vetland?		Yes	No	<u>X</u>
							lf yes,	optional Wetlar	nd Site ID:			
Remarks:												
		This po	oint was det	ermined	l not to be wi	thin a	wetland du	e to the lack of a	all three we	etland criteria.		
				Upland	point for We	etland	3; recently	mowed and clea	ared.			
	•											
Wetland hvdro	oloav Ind	licators:							Soco	ndary Indicators	(minimum of	two roquirod)
Drimon / Indiaci	toro (mini	mum of one io	roquirod: o	book oll	that apply)				3000	Surface Soil Cr		two required)
Primary Indica			required; c	neck all	that apply)					Surface Soli Ci		
Surface	vvater (A	1)			water-Staine	ed Lea	ves (B9)			Drainage Patte	rns (B10)	
High Wa	ater I able	e (A2)			Aquatic Faur	ia (B1	3)			Moss I rim Line	es (B16)	
Saturatio	on (A3)			I	Marl Deposit	s (B15	5)			Dry-Season Wa	ater Table (C2	2)
Water M	larks (B1)			I	Hydrogen Su	lfide C	Odor (C1)			Crayfish Burrov	ws (C8)	
Sedimer	nt Deposit	ts (B2)		(	Oxidized Rhi	zosph	eres on Livi	ing Roots (C3)		Saturation Visil	ble on Aerial I	magery (C9)
Drift Dep	oosits (B3	5)		I	Presence of	Reduc	ed Iron (C4	ł)		Stunted or Stre	essed Plants (	D1)
Algal Ma	at or Crus	t (B4)		I	Recent Iron F	Reduc	tion in Tille	d Soils (C6)		Geomorphic Po	osition (D2)	
Iron Dep	osits (B5	)			Thin Muck S	urface	(C7)			Shallow Aquita	rd (D3)	
Inundatio	on Visible	on Aerial Ima	aerv (B7)		Other (Explai	in in R	emarks)			Microtopograph	nic Relief (D4)	)
Sparsely	Vegetate	ed Concave Su	urface (B8)				,			FAC-Neutral Te	est (D5)	
	,										()	
Field Observation	ıs:											
Surface Water Pre	sent?	Ves	No	x	Depth (incl	nes).	N/A					
Water Table Proce		Yes	No	×	Dopth (incl	103).	>20					
Octuration Decoud	30L?	Yes	INO	<u>×</u>	Depth (incl Depth (incl	ies):	>20	Mada and			/	N- V
Saturation Present	t? fringe)	Yes	No	X	Depth (incl	nes):	>20	Wetland	Hydrolog	y Present?	/es	<u>No X</u>
(includes capillary	ininge)											
Describe Recorded	d Data (st	ream gauge, r	nonitoring v	well, aeri	ial photos, pr	evious	s inspectior	s), if available:				
Remarks:												
No positive ind	lication of	wetland hydro	logy was ol	bserved								

	Abooluto	Dominant	Indiantar	Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft )		Species?	Status	Number of Dominant Species
1 Populus grandidentata	25	<u>Species</u> Yes	FACU	That Are OBL_EACW_or EAC: 0 (A)
2				
3				Total Number of Dominant
4.			<u> </u>	Species Across All Strata: 4 (B)
5.			· · · · ·	()
6.			· · · · ·	Percent of Dominant Species
7.				That Are OBL, FACW, or FAC: 0 (A/B)
	25 =	Total Cover		
				Prevalence Index Worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.	)			Total % Cover of: Multiply by:
1. None Observed				OBL species 0 x 1 = 0
2				FACW species x 2 =
3			<u> </u>	FAC species <b>0</b> x 3 = <b>0</b>
4			<u> </u>	FACU species X 4 =
5				UPL species <u>35</u> x 5 = <u>175</u>
6			<u> </u>	Column Totals: <u>140</u> (A) <u>595</u> (B)
7		Tatal Osuan	. <u> </u>	Dravislance laster D/A
	=	Total Cover		Prevalence Index = B/A = 4.25
Llark Stratum (Distaire) 5 ft				Undranks die Verstetien Indiasteres
<u>Herb Stratum</u> (Plot size: <u>5 it.</u> )	75	Voc	EACU	1 Papid Test for Hydrophytic Vegetation
2 Artemisia vulgaris	25	<u> </u>		2 - Dominance Test is >50%
3 Rosa multiflora	5	<u> </u>	FACU	3 - Prevalence Index is $\leq 3.0^{1}$
4.			17100	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
5.				data in Remarks or on a separate sheet)
6.				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
7.				
8.				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
9.				be present, unless disturbed or problematic.
10				Definitions of Five Vegetation Strata:
11			. <u> </u>	Tree - Woody plants 3 in. (7.6 cm) or more in diameter
12				at breast height (DBH) regardless of height.
	105 =	Total Cover		
				saping/Shrub - woody plants ises than 3 lh. DBH
Woody Vine Stratum (Plot size: <u>30 ft.</u> )	10			and greater than or equal to 3.20 it (1 iii) tail.
1. Celastrus orbiculatus	10	Yes		Herb - All berbaceous (non-woody) plants, regardless
2				of size, and woody plants less than 3.28 ft tall.
3			<u> </u>	
т	10 =	Total Cover		Woody vine - All woody vines greater than 3.28 ft in height.
				Hydrophytic
				Vegetation
				Present? Yes No X
Remarks:				
No positive indication of h	ydrophytic veg	getation was obs	served (≥50% of	dominant species indexed as FAC- or drier).
		Recently mo	wed and cleared	d.

ches) Color	(moist)	% C	olor (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	6
0-6 10	YR 2/2	100					Sandy Loam	gravelly	1	
/pe: C=Concentrat	ion, D=Depleti	ion, RM=Re	duced Matrix, N	1S=Masked	Sand Grains.	<sup>2</sup> Locatio	n: PL=Pore Lining, M	=Matrix.		
dric Soils Indicate	ors:						Indicator	s for Probler	natic Hydri	c Soils <sup>3</sup> :
Histosol (A1)			Polyval	ue Below S	Surface (S8) <b>(LF</b>	RR,	2 cm	Muck (A10)	(LRR K, L,	MLRA 149B)
Histic Epipedon	(A2)		М	LRA 149B)	1		Coa	st Prairie Red	ox (A16) <b>(L</b>	RR K, L, R)
Black Histic (A3)			Thin Da	ark Surface	(S9) (LRR R, M	ILRA 149B	) 5 cm	Mucky Peat	or Peat (S3	) (LRR K, L, F
_ Hydrogen Sulfide	e (A4)		Loamy	Mucky Min	eral (F1) <b>(LRR</b> I	K, L)	Dark	Surface (S7)	) (LRR K, L	)
Stratified Layers	(A5)		Loamy	Gleyed Ma	trix (F2)		Poly	value Below S	Surface (S8	) (LRR K, L)
Depleted Below	Dark Surface (	(A11)	Deplete	ed Matrix (F	3)		Thin	Dark Surface	e (S9) <b>(LRR</b>	K, L)
Thick Dark Surfa	ace (A12)		Redox	Dark Surfa	ce (F6)		Iron-	Manganese N	Masses (F12	2) <b>(LRR K, L,</b>
Sandy Mucky Mi	neral (S1)		Deplete	ed Dark Su	rface (F7)		Pied	mont Floodpl	ain Soils (F	19) <b>(MLRA 14</b>
Sandy Gleyed M	atrix (S4)		Redox	Depressior	is (F8)		Mes	c Spodic (TA	6) <b>(MLRA 1</b>	44A, 145, 149
_ Sandy Redox (S	5)						Red	Parent Mater	ial (F12)	
_Stripped Matrix (	S6)						Very	Shallow Darl	k Surface (F	22)
Dark Surface (S	7) <b>(LRR R, ML</b>	.RA 149B)					Othe	r (Explain in	Remarks)	
Depth (inches):	Iterial	6"				Hy	dric Soil Present?	Yes	No	x
marks:										
			No pos	itive indica	tion of hydric so	ils was obs	erved.			
			Restrictiv	/e fill mater	ial present with	n the first 6	" of soil.			
			Restrictiv	/e fill mater	ial present with	n the first 6	" of soil.			
			Restrictiv	ve fill mater	ial present with	n the first 6	" of soil.			
			Restrictiv	<i>r</i> e fill mater	ial present with	n the first 6	" of soil.			
			Restrictiv	<i>i</i> e fill mater	ial present with	n the first 6	" of soil.			
			Restrictiv	<i>i</i> e fill mater	ial present with	n the first 6	" of soil.			
			Restrictiv	<i>i</i> e fill mater	ial present with	n the first 6	" of soil.			
			Restrictiv	/e fill mater	ial present with	n the first 6	" of soil.			

Project/Site: MetroNorth F	Railroad West	River to Allings	Crossing Co	unty:	New Haven	Sampling	Date:	4/18/2018
Applicant/Owner:		United Illum	inating		State:	CT Sampl	e Point:	SP-7
nvestigator(s): D.	King	and F	R. Hyland Se	ection, Townshi	o, Range:		N/A	
andform (hillslope terrace etc	).	Hillslope		ocal relief (conc	ave convex nor	e). Concave	Slope (%)	0-3
Subregion (LRR or MLRA):	.,.					ng: _72.930	Olopo (70):	
		Lidorth	nto Urbon Lond /	_ Lat	<u>10033</u> LC	NWI Clessificati	Datum.	
					N/50		лі. <u> </u>	IN/A
Are climatic / hydrologic conditio	ons on the site t	typical for this t	ime of year? (Y	res / No)	YES	(if no, explain in i	Remarks.)	
Are Vegetation <b>No</b> , S	30il <u>No</u> ,c	or Hydrology	<u>No</u> significar	ntly disturbed?	Are "Normal C	Circumstances" pre	sent? Yes 2	K No
Are Vegetation No	3oil <u>No</u> ,c	or Hydrology	No naturally	problematic?	(lf n	eeded, explain an	/ answers in Rema	arks.)
SUMMARY OF FINDIN	GS - Attac	h site map	showing sa	mpling poir	nt locations	, transects, i	mportant fea	tures, etc.
Hydrophytic Vegetation Preser	nt? Yes	x	No					
Hydric Soil Present?	Yes	X	No	Is the Sampl	ed Area			
Wetland Hydrology Present?	Yes	х	No	within a Wet	and?	Yes X	No	
, ,	_							
				If yes, opt	ional Wetland Si	ite ID:	Wetland 4	
Wetland 4 is an	This poin	t was determin and located nor	ed to be within a w th of the railroad F	retland due to th	e presence of all f the West River	3 wetland criteria; it appears to larg	ely fall below the F	ITL.
HYDROLOGY							-	
Wetland hydrology Indica	itors:					Secondary Indica	tors (minimum of	two required)
Primary Indicators (minimu	im of one is rea	uired: check al	I that apply)			Surface Sc	nil Cracks (B6)	
Triniary indicators (minima		uncu, encor a	Water Steined Le			Ouriace of		
	-		water-Stained Le	aves (D9)			ratients (BTU)	
X High Water Table (A	.2)		Aquatic Fauna (B	13)		Moss Trim	Lines (B16)	
X Saturation (A3)			Marl Deposits (B1	5)		Dry-Seaso	n Water Table (C2	2)
Water Marks (B1)		х	Hydrogen Sulfide	Odor (C1)		Crayfish B	urrows (C8)	
Sediment Deposits (	B2)		Oxidized Rhizospl	heres on Livina	Roots (C3)	X Saturation	Visible on Aerial Ir	magery (C9)
V Drift Doposite (B2)	/		Proconco of Podu	read from (C4)	()	Stunted or	Strossod Plants //	ייבי) (געניי) 1)
			Flesence of Redu			Stunted of		51)
Algal Mat or Crust (E	34)		Recent Iron Redu	ction in Tilled So	oils (C6)	X Geomorph	ic Position (D2)	
Iron Deposits (B5)			Thin Muck Surface	e (C7)		Shallow Ad	juitard (D3)	
X Inundation Visible or	Aerial Imager	y (B7)	Other (Explain in I	Remarks)		Microtopog	raphic Relief (D4)	
X Sparsely Vegetated	Concave Surfa	ce (B8)				FAC-Neutr	al Test (D5)	
Field Observations:								
Surface Water Breacht?			Dopth (inchas):	N/A				
Surface water Present?		NO <u>A</u>	Depth (inches):	<u>N/A</u>				
Water Table Present? Y	es X	No	Depth (inches):	6"				
Saturation Present? Y	es <u>X</u> 1	No	Depth (inches):	0"	Wetland Hyd	rology Present?	Yes X	No
(includes capillary fringe)								
Describe Recorded Data (strea	am gauge, mon	itoring well, ae	rial photos, previou	us inspections),	if available:			
Remarks:	_							
A positive indication of wet	land hydrology	was observed	(primary and seco	ndary indicators	were present)			
	and nyarology	nao obcorroa	(printially and boool	induity indicatoro	were precently.			

	Absoluto	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft )	% cover	Species?	Status	Number of Dominant Species
1 None observed	<u>78 cover</u>	Opecies:	018103	That Are OBL EACW or EAC: $3$ (A)
2			- <u></u> -	
2				Total Number of Dominant
3				Species Across All Strate: 3 (B)
4		·	·	Species Across All Strata: (B)
5		·	·	Descent of Descinant Gravita
6				That Are OBLE FACIAL are FACIAL (A/D)
1		T	·	That Are OBL, FACW, of FAC: 100% (A/B)
	=	Total Cover		Prevalence Index Worksheet:
	,			
Sapling/Shrub Stratum (Plot size: 15 ft.	)	N		I otal % Cover ot: Multiply by:
	10	res	FACW	OBL species 10 x 1 = 10
2				FACW species $20$ x 2 = $40$
3				FAC species $0 \times 3 = 0$
4				FACU species $0 \times 4 = 0$
5				$\begin{array}{c} \text{UPL species}  0  x  5 =  0 \\ \text{Older Species}  0  x  5 =  0 \\ \text{Older Species}  0 0$
6		<u> </u>		Column Totals: <u>30</u> (A) <u>50</u> (B)
/		T		
	=	I otal Cover		Prevalence Index = B/A = 1.67
Herb Stratum (Plot size: 5 ft. )				Hydrophytic Vegetation Indicators:
1. Phragmites australis	10	Yes	FACW	1 - Rapid Test for Hydrophytic Vegetation
2. Spartina alterniflora	10	Yes	OBL	X 2 - Dominance Test is >50%
3		·	. <u> </u>	X 3 - Prevalence Index is ≤ 3.0'
4		·	. <u> </u>	4 - Morphological Adaptations' (Provide supporting
5		<u> </u>		data in Remarks or on a separate sheet)
6			<u> </u>	Problematic Hydrophytic Vegetation' (Explain)
7			<u> </u>	
8				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
9			<u> </u>	be present, unless disturbed or problematic.
10			<u> </u>	Definitions of Five Vegetation Strata:
11		·	. <u> </u>	<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter
12			<u> </u>	at breast height (DBH) regardless of height.
	=	Total Cover		
				Sapling/Shrub - Woody plants ises than 3 in. DBH
Woody Vine Stratum (Plot size: 30 ft. )				and greater than or equal to 3.28 ft (1 m) tall.
1. None Observed			<u> </u>	
2		· <u> </u>		Herb - All herbaceous (non-woody) plants, regardless
3			<u> </u>	of size, and woody plants less than 3.28 ft tall.
4			<u> </u>	
	=	Total Cover		<b>Woody vine</b> - All woody vines greater than 3.28 ft in height.
				Hydrophytic
				Vegetation
				Present? Yes X No
Remarks:				
A positive indication of hydr	rophytic vegetat	tion was observe	ed (>50% of dom	inant species indexed as OBL, FACW, or FAC).
	Very lim	ted vegetation p	resent due to tid	al inundation.

pth Matrix	Redox Feature	S		
ches) Color (moist) %	Color (moist) % Tyr	$be^1$ $Loc^2$	Texture	Remarks
0-17 10VR 2/1 100	<u></u>	<u> </u>	Muck	
			Maak	
			Dens Lisian M. Matri	
ype: C=Concentration, D=Depletion, RIVI=R	reduced Matrix, MS=Masked Sand	Grains. Location: PL	=Pore Lining, M=Matrix	rohlomotio Uvdrio Coilo <sup>3</sup> :
dric Solis Indicators:			Indicators for P	roblematic Hydric Solls :
L Histosol (A1)	Polyvalue Below Surface	(S8) <b>(LRR R,</b>	2 cm Muck	(A10) <b>(LRR K, L, MLRA 149B)</b>
Histic Epipedon (A2)	MLRA 149B)		Coast Prair	e Redox (A16) <b>(LRR K, L, R)</b>
Black Histic (A3)	Thin Dark Surface (S9) (I	LRR R, MLRA 149B)	5 cm Mucky	Peat or Peat (S3) (LRR K, L, F
Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F	1) (LRR K, L)	Dark Surfac	e (S7) <b>(LRR K, L)</b>
Stratified Lavers (A5)	Loamy Gleved Matrix (F2	)	Polvvalue P	elow Surface (S8) (LRR K. L)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	,	Thin Dark S	Surface (S9) (LRR K I)
	Depieted Matrix (13)		Iron Mongo	
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F	-7)		loodplain Solis (F19) (MLRA 14
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)		Mesic Spod	ic (TA6) <b>(MLRA 144A, 145, 14</b> 9
Sandy Redox (S5)			Red Parent	Material (F12)
Stripped Matrix (S6)			Very Shallo	w Dark Surface (F22)
Dark Surface (S7) (LRR R, MLRA 149B)			Other (Expl	ain in Remarks)
dicators of hydrophytic vegetation and wetla strictive Layer (if observed): Type: Depth (inches):	and hydrology must be present, unl	ess disturbed or problemat	tic. ioil Present? Yes _	X No
dicators of hydrophytic vegetation and wetla strictive Layer (if observed): Type: Depth (inches): marks:	and hydrology must be present, unl	ess disturbed or problemat	ic. ioil Present? Yes _	XNo
dicators of hydrophytic vegetation and wetla strictive Layer (if observed): Type: Depth (inches): marks:	and hydrology must be present, unl	ess disturbed or problemat	tic. toil Present? Yes _	<u>X</u> No
dicators of hydrophytic vegetation and wetla strictive Layer (if observed): Type: Depth (inches): smarks:	A positive indication of I	hydric soil was observed.	ioil Present? Yes _	<u>X</u> No
dicators of hydrophytic vegetation and wetla strictive Layer (if observed): Type: Depth (inches): marks:	A positive indication of I	hydric soil was observed.	ic.	<u>X</u> No
dicators of hydrophytic vegetation and wetla strictive Layer (if observed): Type: Depth (inches): marks:	A positive indication of	hydric soil was observed.	ioil Present? Yes _	_X_No
dicators of hydrophytic vegetation and wetla strictive Layer (if observed): Type: Depth (inches): marks:	A positive indication of	hydric soil was observed.	ioil Present? Yes _	_XNo
dicators of hydrophytic vegetation and wetla strictive Layer (if observed): Type: Depth (inches): marks:	A positive indication of	hydric soil was observed.	ic.	_XNo
dicators of hydrophytic vegetation and wetla strictive Layer (if observed): Type: Depth (inches): marks:	A positive indication of I	hydric soil was observed.	ioil Present? Yes _	_XNo
dicators of hydrophytic vegetation and wetla strictive Layer (if observed): Type: Depth (inches): marks:	A positive indication of I	hydric soil was observed.	ioil Present? Yes _	<u>X</u> No
dicators of hydrophytic vegetation and wetla strictive Layer (if observed): Type: Depth (inches): marks:	A positive indication of I	hydric soil was observed.	ioil Present? Yes _	<u>X</u> No
dicators of hydrophytic vegetation and wetla strictive Layer (if observed): Type: Depth (inches): marks:	A positive indication of I	hydric soil was observed.	ioil Present? Yes _	<u>X</u> No
dicators of hydrophytic vegetation and wetla strictive Layer (if observed): Type: Depth (inches): marks:	A positive indication of I	hydric soil was observed.	ioil Present? Yes _	_XNo
dicators of hydrophytic vegetation and wetla strictive Layer (if observed): Type: Depth (inches): smarks:	A positive indication of I	hydric soil was observed.	ioil Present? Yes _	<u>X</u> No
dicators of hydrophytic vegetation and wetla strictive Layer (if observed): Type: Depth (inches): marks:	A positive indication of I	hydric soil was observed.	ioil Present? Yes _	_XNo

Project/Site: MetroNor	th Railroad We	est River to Al	lings Crossing	County:	New H	laven	Sampling Date	::	4/18/2018
Applicant/Owner:		United	Illuminating	_	Sta	ate: CT	Sample Poi	nt:	SP-8
nvestigator(s):	D. King	and	R. Hyland	Section,	Township, Rang	ge:		N/A	
_andform (hillslope, terrace,	etc.):	Terra	се	Local re	lief (concave, co	nvex. none):	None	Slope (%):	0-3
Subregion (LRR or MLRA):		LRR	R	Lat:	41.28838	Lona:	-72,93963	Datum:	NAVD 88
Soil Map Unit Name		Ud	orthents-Urban I	and (306)		NW	Classification:		N/A
Are climatic / hydrologic cond	ditions on the s	ite typical for	this time of year?	? (Yes/N	o) YE	S (if no	explain in Rema	arks )	
Are Vegetation No	.Soil No	.or Hydrolo	av <b>No</b> sid	nificantly dist	urbed? Are '	Normal Circum	stances" present	? Yes X	No
Are Vegetation No	Soil No	or Hydrolo	ny <u>No</u> na	turally proble	matic?	(If needed	t explain any ans	wers in Remar	<u>ks</u> )
		,01119010103	gy <u>110</u> 114	ituruity probio	induo.				10.)
SUMMARY OF FIND	INGS - Atta	ach site n	nap showin	g sampliı	ng point loc	ations, tra	nsects, imp	ortant feat	ures, etc.
Ludrophytic Vegetation Dro	aant? Va								
Hydrophylic Vegetation Pre	sent? re	s		-		_			
Hydric Soll Present?	re:	s			ie Sampled Are	a	N.		×
Wetland Hydrology Present	.? Ye	s	No <u>X</u>	with	in a Wetland?		Yes	No	X
					f yes, optional V	Vetland Site ID:			
Remarks:									
	This po	int was deterr	mined not to be v	within a wetla	nd due to the lac	ck of all three w	etland criteria.		
			Upland for Wetl	and 4 located	l at the top of a f	ill slope.			
Wetland hydrology Inc	licators								
	licators.					Seco	ondary Indicators	(minimum of tw	vo required)
Primary Indicators (mini	mum of one is	required; che	ck all that apply)				Surface Soil Cra	acks (B6)	
Surface Water (A	.1)	_	Water-Stair	ned Leaves (I	39)		Drainage Patter	ins (B10)	
High Water Table	∋ (A2)	_	Aquatic Fat	una (B13)			Moss Trim Line	s (B16)	
Saturation (A3)		_	Marl Depos	sits (B15)			Dry-Season Wa	ater Table (C2)	
Water Marks (B1	)	_	Hydrogen S	Sulfide Odor (	C1)		Crayfish Burrow	/s (C8)	
Sediment Deposi	ts (B2)		Oxidized R	hizospheres o	on Living Roots (	(C3)	Saturation Visib	le on Aerial Im	agery (C9)
Drift Deposits (B3	3)	_	Presence o	f Reduced Iro	on (C4)	· · ·	Stunted or Stres	ssed Plants (D <sup>.</sup>	1)
Algal Mat or Crus	, st (B4)	—	Recent Iron	Reduction in	Tilled Soils (C6	s)	Geomorphic Po	sition (D2)	,
Iron Deposits (B5	() ()		Thin Muck	Surface (C7)			Shallow Aquitar	rd (D3)	
Inundation Visible	/ on Aerial Ima		Other (Evol	ain in Remar	ke)		Microtopograph	ic Relief (D4)	
Intribution visible					K3)		EAC Noutral To		
	eu concave St	Inace (Bo)					FAC-neutiar re	st (D5)	
Field Observations									
	N/		Danth (in		•				
Surface Water Present?	Yes	NOX	Depth (in	cnes): <u>N/</u>	A				
Water Table Present?	Yes	NoX	Depth (in	ches): >2	0				
Saturation Present?	Yes	NoX	Depth (in	ches): >2	0 Wet	land Hydrolog	y Present? Y	es	No <u>X</u>
(includes capillary fringe)									
Describe Recorded Data (s	tream gauge, n	nonitoring we	II, aerial photos,	previous insp	ections), if availa	able:			
Remarks:									
No positive indication of	f wetland hydro	logy was obs	erved.						
·	-	0.							

Sampling Point:

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft.)	% cover	Species?	Status	Number of Dominant Species
1 Acer platanoides	10	Yes	UPI	That Are OBL_EACW_or_EAC' 1 (A)
2. Pobinia proudoacacia	5	Voc	EACU	
		163	1400	Total Number of Demission
3				
4			<u> </u>	Species Across All Strata: 6 (B)
5				
6			. <u> </u>	Percent of Dominant Species
7				That Are OBL, FACW, or FAC: 17% (A/B)
	<u>    15    </u> =	Total Cover		
				Prevalence Index Worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.	)			Total % Cover of: Multiply by:
1. Ailanthus altissima	25	Yes	UPL	OBL species <b>0</b> x 1 = <b>0</b>
2. Betula alleghaniensis	25	Yes	FAC	FACW species 0 x 2 = 0
3. Elaeagnus umbellata	10	No	NI	FAC species 25 x 3 = 75
4				FACU species $45$ $x 4 = 180$
5				11PL species 35 x 5 - 175
6				$\begin{array}{c} \text{Colump Totalo:}  105  (A)  120  (B) \end{array}$
6			·	Column Totals: $105$ (A) $430$ (B)
/		T		
	60 =	I otal Cover		Prevalence Index = B/A = 4.10
Herb Stratum (Plot size: 5 ft. )				Hydrophytic Vegetation Indicators:
1. Reynoutria japonica	30	Yes	FACU	<ol> <li>Rapid Test for Hydrophytic Vegetation</li> </ol>
2. Alliaria petiolata	10	Yes	FACU	2 - Dominance Test is >50%
3.				3 - Prevalence Index is $\leq 3.0^{1}$
4.				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
5.				data in Remarks or on a separate sheet)
6.				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
7				(
·				<sup>1</sup> Indicators of hydric coil and watland hydrology must
o	<u> </u>			ha present uplace disturbed or problematic
9		. <u> </u>	. <u> </u>	be present, unless disturbed or problematic.
10				Definitions of Five Vegetation Strata:
11				I ree - Woody plants 3 in. (7.6 cm) or more in diameter
12				at breast height (DBH) regardless of height.
	=	Total Cover		
				Sapling/Shrub - Woody plants Ises than 3 in. DBH
Woody Vine Stratum (Plot size: 30 ft. )				and greater than or equal to 3.28 ft (1 m) tall.
1. None Observed				
2.				Herb - All herbaceous (non-woody) plants, regardless
3				of size, and woody plants less than 3.28 ft tall.
۵				
4		Total Cover		Woody vine - All woody vines greater than 3 28 ft in height
	=	Total Cover		
				Hydrophytic
				Vegetation
				Present? Yes <u>No X</u>
h				
Remarks:				
No socialization of the				$\mathbf{f}_{\mathbf{r}}$
No positive indication of r	nyaropnytic ve	getation was obs	served (250% of e	dominant species indexed as FAC- or drier).

epth Matrix		Redox Features	2		
nches) Color (moist)	% Color (moist)	<u>%</u> Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-4 10YR 3/4 1	00			Loamy Sand	
			· <u> </u>	·	
				·	
			·		
ype: C=Concentration, D=Depletion	on, RM=Reduced Matrix,	MS=Masked Sand Grains.	<sup>2</sup> Location: P	L=Pore Lining, M=Mat	rix.
vdric Soils Indicators:	, , ,			Indicators for	Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)	Polyv	alue Below Surface (S8) <b>(I F</b>	RR	2 cm Muc	k (A10) (I RR K I MI RA 149B)
				2 chi Muc	
Histic Epipedon (A2)		WLRA 149B)		Coast Pla	
Black Histic (A3)	Thin I	Dark Surface (S9) (LRR R, I	/LRA 149B)	5 cm Muc	ky Peat or Peat (S3) (LRR K, L, F
Hydrogen Sulfide (A4)	Loam	y Mucky Mineral (F1) <b>(LRR</b>	K, L)	Dark Surfa	ace (S7) <b>(LRR K, L)</b>
Stratified Layers (A5)	Loam	y Gleyed Matrix (F2)		Polyvalue	Below Surface (S8) (LRR K, L)
Depleted Below Dark Surface (A	A11) Deple	eted Matrix (F3)		Thin Dark	Surface (S9) (LRR K, L)
Thick Dark Surface (A12)	Redo	x Dark Surface (F6)		Iron-Mano	anese Masses (F12) (LRR K, L,
Sandy Mucky Mineral (S1)	Deple	ted Dark Surface (F7)		 Piedmont	Floodplain Soils (F19) (MLRA 14
Sandy Macky Minoral (C1)	Bodo			Mosic Sp	dic (TA6) (MI BA 144A 145 146
		x Depressions (Po)			JUIC (TAO) (MIERA 144A, 145, 143
Sandy Redox (S5)				Red Parel	nt Material (F12)
Stripped Matrix (S6)				Very Shal	low Dark Surface (F22)
Dark Surface (S7) (LRR R, MLF	RA 149B)			Other (Ex	plain in Remarks)
ndicators of hydrophytic vegetation estrictive Layer (if observed): Type: <u>Fill material</u> Depth (inches):	and wetland hydrology m	nust be present, unless distu	rbed or problema	atic. Soil Present? Yes	No X
ndicators of hydrophytic vegetation estrictive Layer (if observed): Type: <u>Fill material</u> Depth (inches):	and wetland hydrology m	nust be present, unless distu	rbed or problem	atic. Soil Present? Yes	NoX
ndicators of hydrophytic vegetation estrictive Layer (if observed): Type: <u>Fill material</u> Depth (inches): emarks:	and wetland hydrology m 4"	nust be present, unless distu	rbed or problem.	atic. Soil Present? Yes	No
ndicators of hydrophytic vegetation estrictive Layer (if observed): Type: <u>Fill material</u> Depth (inches): emarks:	and wetland hydrology m 4"	nust be present, unless distu	rbed or problem. Hydric	atic. Soil Present? Yes	No X
ndicators of hydrophytic vegetation estrictive Layer (if observed): Type: <u>Fill material</u> Depth (inches): emarks:	and wetland hydrology m 4" No po Restrictive f	nust be present, unless distu	ils was observed	atic. Soil Present? Yes	No <u>X</u>
ndicators of hydrophytic vegetation estrictive Layer (if observed): Type: <u>Fill material</u> Depth (inches): emarks:	and wetland hydrology m 4" No po Restrictive f	nust be present, unless distu positive indication of hydric so	ils was observed	atic. Soil Present? Yes	No <u>X</u>
ndicators of hydrophytic vegetation estrictive Layer (if observed): Type: <u>Fill material</u> Depth (inches): emarks:	and wetland hydrology m 4* No po Restrictive f	nust be present, unless distu	ils was observed	atic. Soil Present? Yes	No <u>X</u>
ndicators of hydrophytic vegetation estrictive Layer (if observed): Type: <u>Fill material</u> Depth (inches): emarks:	and wetland hydrology m 4" No po Restrictive f	nust be present, unless distu	ils was observed	atic. Soil Present? Yes	No <u>X</u>
ndicators of hydrophytic vegetation estrictive Layer (if observed): Type: <u>Fill material</u> Depth (inches): emarks:	and wetland hydrology m 4" No po Restrictive f	nust be present, unless distu	ils was observed	atic. Soil Present? Yes	No <u>X</u>
ndicators of hydrophytic vegetation estrictive Layer (if observed): Type: <u>Fill material</u> Depth (inches): emarks:	and wetland hydrology m 4" No po Restrictive f	ositive indication of hydric so	ils was observed	atic. Soil Present? Yes	No <u>X</u>
Adicators of hydrophytic vegetation estrictive Layer (if observed): Type: <u>Fill material</u> Depth (inches): emarks:	and wetland hydrology m 4" No po Restrictive f	ositive indication of hydric so	ils was observed	atic. Soil Present? Yes	No <u>X</u>
ndicators of hydrophytic vegetation estrictive Layer (if observed): Type: <u>Fill material</u> Depth (inches): emarks:	and wetland hydrology m	bust be present, unless distu	ils was observed	atic. Soil Present? Yes	No <u>X</u>
ndicators of hydrophytic vegetation estrictive Layer (if observed): Type: <u>Fill material</u> Depth (inches): emarks:	and wetland hydrology m	positive indication of hydric so	ils was observed	atic. Soil Present? Yes	No <u>X</u>
ndicators of hydrophytic vegetation estrictive Layer (if observed): Type: <u>Fill material</u> Depth (inches): emarks:	and wetland hydrology m	ositive indication of hydric so	ils was observed e first few inches	atic. Soil Present? Yes	NoX
ndicators of hydrophytic vegetation estrictive Layer (if observed): Type: <u>Fill material</u> Depth (inches): emarks:	and wetland hydrology m	positive indication of hydric so	ils was observed e first few inches	atic. Soil Present? Yes d. : of soil.	<u>No X</u>
ndicators of hydrophytic vegetation estrictive Layer (if observed): Type: <u>Fill material</u> Depth (inches): emarks:	and wetland hydrology m	positive indication of hydric so	ils was observed e first few inches	atic. Soil Present? Yes	NoX
ndicators of hydrophytic vegetation estrictive Layer (if observed): Type: <u>Fill material</u> Depth (inches): emarks:	and wetland hydrology m	positive indication of hydric so	ils was observed e first few inches	atic. Soil Present? Yes	<u>No X</u>

Applicant/Owner:       United Illuminating       State:       CT       Sample Point:       SP-9         Landform (Illistops terrace, etc.):       Hillistops       Local relief (concave, convex, none):       N/A         Subregion (LRR or MLRA):       LRR (MLRA):       LLR (MLRA):       N/A         Via Classification:       N/A       N/A     <	Project/Site: MetroNo	rth Railroad V	Vest River to Allin	igs Crossing	County:	New Haven		Sampling Dat	e:	4/18/2018
Investigator(s):	Applicant/Owner:		United Illu	uminating		State:	СТ	Sample Po	pint:	SP-9
Landtorm (hillslope, turrace, etc.):       Hillslope       Local rulefic (concive, convex, none;       No       O-3         Subregion (LRR or MLRA):       LRR or MLRA):       LIR or MLRA):       No       No<	Investigator(s):	D. King	and	R. Hyland	Section, Tov	nship, Range:			N/A	
Subregion (LRR or MLRA):	andform (hillslope, terrace,	etc.):	Hillslop	е	Local relief (	concave, convex, n	ione):	None	Slope (%):	0-3
Soil Map Unit Name:       Utbain Land (307)       NWI Classification:       N/A         Via climatic / hydrologic conditions on the site typical for this time of year?       YES       (if no, desaffication):       N/A         Ne Vegetation       No       Soil Mo       or Hydrology       No       If iteration in the site typical for this time of year?       Yes       X       No         Ne Vegetation       No       Soil Mo       or Hydrology       No       If iteration in the site typical for this time of year?       Yes       X       No         SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.       Hydrophytic Vegetation Present?       Yes       X       No         Hydrophytic Vegetation Present?       Yes       X       No       If yes, optional Wetland Site ID:       Wetland 5         Remarks:       This point was determined to be within a wetland due to the presence of all 3 wetland criteria.       Wetland 5 is a srub-shrub floodplain wetland adjacent to a perennial watercourse.         HYDROLOGY       Water Table (A2)       Hydrogen Sufface Soil Cracks (B6)       Dranage Patterns (B10)         X       Hydrogen Midicators:       Secondary Indicators (minimum of two required).         Year Marks (B1)       Hydrogen Sufface Soil Cracks (B6)       Dranage Patterns (B10)         X       Sufface Soil Cracks (B1	Subregion (LRR or MLRA):	,	LRR R		Lat:	41.26934	Lona:	-72.96713	Datum:	NAVD 88
we elimatic / hydrologic conditions on the site typical for this time of year? (Yes / No)YES (If no, explain in Remarks.)NoNoNo	Soil Map Unit Name:			Urban Land (30	)7)		NWIC	lassification:		N/A
way expectation       No       Soil       No       or "Hydrology       No       significantly disturbed?       Are "Normal Circumstances" present? Yes       X       No         way expectation       No       Soil       No       or "Hydrology       No       in andumity problematic?       Wineeded, explain any answers in Remarks.)         SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.         Hydrophytic Vegetation Present?       Yes       X       No       is the Sampled Area         Wetland Hydrology Present?       Yes       X       No       is the Sampled Area         Wetland Hydrology Present?       Yes       X       No       if yes, optional Wetland Site ID:       Wetland 5         Remarks:       This point was determined to be within a wetland due to the presence of all 3 wetland criteria.       Wetland 5 is a srub-shrub floodplain wetland adjacent to a perennial watercourse.         MYDROLOGY       Wetland hydrology Indicators       Water State (A2)       Aquatic Fauna (B13)       Derivage Patiens (B10)       De	Are climatic / hydrologic con	ditions on the	site typical for th	is time of year?	(Yes / No)	YES	(if no e	explain in Rem	arks)	
we vegitation       No       Soil       No       or Hydrology       No       naturally problematic?       (If needed, explain any answers in Remarks.)         SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.         Hydrophytic Vegetation Present?       Yes       X       No       Is the Sampled Area         Wetland Hydrology Present?       Yes       X       No       If yes, optional Wetland Site ID:       Wetland 5         Remarks:       This point was determined to be within a wetland due to the presence of all 3 wetland criteria.       Wetland 5         Wetland Hydrology Indicators:       Surface Soil Crack (B6)       Surface Soil Crack (B6)       Surface Soil Crack (B6)         Surface Water (A1)       Waterspland Leaves (B9)       Surface Patterns (B10)       Gravitace Soil Crack (B6)         Surface Water (A1)       Waterspland Rizators (Innimum of two required)       Surface Soil Crack (B6)       Cravita Butrows (C3)         Surface Water (A1)       Water Spland Leaves (B9)       Divide Deposite (B1)       Moss Trim Lines (B16)         & Surface Soil Crack (B6)       Divide Deposite (B2)       Oxidized Rizopheres on Living Roots (C3)       Sutrace Norte (C2)         Wetland Hydrology Indicators (B1)       Hydrogetist (B2)       Oxidized Rizopheres on Living Roots (C3)       Sutrace Norte Steese Plantens (B10)         S	Are Vegetation No	Soil No	or Hydrology	<b>No</b> siani	ificantly disturbe	ed? Are "Normal	Circumst	ances" presen	t? Yes X	No
Year regional in the control of the	Are Vegetation No	Soil No	, or Hydrology	<u>No</u> natu	rally problemati	c? (If	f needed e	anlein anv an	swers in Remar	110
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.         Hydrophytic Vegetation Present?       Yes       X       No       Is the Sampled Area within a Wetland?       Yes       X       No       If yes, optional Wetland Site ID:       Yes       X       No       If yes, optional Wetland Site ID:       Wetland 5         Remarks:         This point was determined to be within a wetland due to the presence of all 3 wetland criteria.         Wetland hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required).         Surface Water (A1)       Quater-Stained Leaves (B9)       Drainage Patterns (B10)         X High Water Table (A2)       Quater Fauna (B13)       Drainage Patterns (B10)         X High Water Table (A2)       Quater Stained Leaves (B9)       Drainage Patterns (C2)       Carylish Burrows (C8)         Saturation (A3)       Mari Deposits (B15)       Dry-Season Water Table (C2)       Carylish Burrows (C8)       Saturation (Nishle on Aerial Imagery (C9)         Secondary Lodicators (B4)       Presence of Reduced tron (C4)       Saturation Presence Plants (D1)       Saturation (D2)       Saturation (D2)       Saturation Presence Plants (D1)       Saturation Presence Plants (D1)       Saturation Presence Plants (D1)       Saturation Presence Plants (D1)		,001 10	,or riyarology		rany problemati	C: (II	neeueu, e	shpiairi ariy ari	Sweis in Reina	K3.)
Hydrophytic Vegetation Present?       Yes       X       No	SUMMARY OF FIND	INGS - A	ttach site ma	ap showing	sampling	point location	ns, trans	sects, imp	ortant feat	ures, etc.
Remarks:       In poly option, reducted of b	Hydrophytic Vegetation Pre Hydric Soil Present? Wetland Hydrology Presen	esent?	/es_X /es_X /es_X	No No No	Is the S within a	ampled Area Wetland?	Ye Site ID:	es X	No	
This point was determined to be within a wetland due to the presence of all 3 wetland criteria.         Wetland 5 is a srub-shrub floodplain wetland adjacent to a perennial watercourse. <b>HYDROLOGY</b> Secondary Indicators (minimum of one is required; check all that apply)	Pomarke:				ii yo.				Wettand 5	
HYDROLOGY         Wetland hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)		This	point was detern	nined to be withir srub-shrub floodp	n a wetland due	to the presence of jacent to a perennia	all 3 wetla al waterco	nd criteria. urse.		
Wetland hydrology indicators:       Secondary Indicators:       Secondary Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         X       High Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)       Drainage Patterns (B10)         X       High Water Table (A2)       Aquatic Fauna (B13)       Moss Trin Lines (B16)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Suffide Odor (C1)       Crayfish Burrows (C8)       Saturation visible on Aerial Imagery (C9)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       X       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       Shallow Aquitard (D3)       Microtopographic Relief (D4)         Sparsely Vegetated Concave Surface (B8)       Depth (inches):       MA       Microtopographic Relief (D4)         Saturation Present?       Yes       X       No       Depth (inches):       Ma         Mater Table Present?       Yes       X       No       Depth (inches):       Ma         Saturation Present?       Yes       X       No       Depth (inches):       Ma<	HYDROLOGY									
Primary Indicators (minimum of one is required; check all that apply)       Surface Soil Cracks (B6)         Surface Water (A1)       Water-Stained Leaves (B9)       Drainage Patterns (B10)         X       High Water Table (A2)       Aquatic Fauna (B13)       Moss Trim Lines (B16)         X       Saturation (A3)       Mart Deposits (B15)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       X       Geomorphic Position (D2)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Microtoparphic Relief (D4)         Sparsely Vegetated Concave Surface (B8)       Depth (inches):       M/A         Water Table Present?       Yes       No       Depth (inches):       4"         Saturation Present?       Yes       No       Depth (inches):       4"         Saturation Present?       Yes       No       Depth (inches):       4"         Saturation Present?       Yes       No       Depth (inches):       10"	Wetland hydrology Inc	dicators:					Second	dary Indicators	(minimum of tv	vo required)
Surface Water (A1)       Water-Stained Leaves (B9)       Drainage Patterns (B10)         X       High Water Table (A2)       Aquatic Fauna (B13)       Moss Trim Lines (B16)         X       Saturation (A3)       Marl Deposits (B15)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       X       Geomorphic Position (D2)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Microtopographic Relief (D4)         Sparsely Vegetated Concave Surface (B8)       FAC-Neutral Test (D5)       Fac-Neutral Test (D5)         Field Observations:       Saturation Present?       Yes       X       No         Saturation Present?       Yes       X       No       Depth (inches):       Mic         Saturation Present?       Yes       X       No       Depth (inches):       Mic         Saturation Present?       Yes       X       No       Depth (inches):       Mic         Cincludes capillary fringe)       D	Primary Indicators (min	imum of one	is required; check	c all that apply)			5	Surface Soil C	racks (B6)	
X       High Water Table (A2)       Aquatic Fauna (B13)       Moss Trim Lines (B16)         X       Saturation (A3)       Marl Deposits (B15)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Adjal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       X       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       Shallow Aquitard (D3)       Microtopographic Relief (D4)         Sparsely Vegetated Concave Surface (B8)       Depth (inches):       M/A       Metand Hydrology Present?       Yes       X       No         Saturation Present?       Yes       X       No       Depth (inches)::       M/A       Metand Hydrology Present?       Yes       X       No       Depth (inches)::       M/A         Saturation Present?       Yes       X       No       Depth (inches)::       M/A       Metand Hydrology Present?       Yes       X       No       Depth (inches)::       Mo       Mo       Depth (inches):       Mo       Mo       Depth (inches):       Mo	Surface Water (A	<b>\1</b> )		Water-Staine	d Leaves (B9)		[	Drainage Patte	erns (B10)	
X       Saturation (A3)       Marl Deposits (B15)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       X       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       Shallow Aquitard (D3)       Microtopographic Relief (D4)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Microtopographic Relief (D4)         Sparsely Vegetated Concave Surface (B8)       Depth (inches): <u>M'A</u> Water Table Present?       Yes <u>X</u> No         Saturation Present?       Yes <u>X</u> No         Depth (inches): <u>0"</u> Wetland Hydrology Present?       Yes <u>X</u> No         Depth (inches): <u>0"</u> Wetland Hydrology Present?       Yes <u>X</u> No         Depth (inches): <u>0"</u> Wetland Hydrology Present?       Yes <u>X</u> No         Describe Recorded Data (stream gauge, monitoring well, aerial ph	X High Water Table	e (A2)		Aquatic Faun	a (B13)		N	Noss Trim Line	es (B16)	
Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       X       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       Shallow Aquitard (D3)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Microtopographic Relief (D4)         Sparsely Vegetated Concave Surface (B8)       FAC-Neutral Test (D5)         Field Observations:       X       Depth (inches):       M/A         Saturation Present?       Yes       X       No       Depth (inches):       M         Cincludes capillary fringe)       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No	X Saturation (A3)			Marl Deposits	s (B15)			Dry-Season W	ater Table (C2)	
Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Sturation Visible on Aerial Imagery (C9)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       X       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       Shallow Aquitard (D3)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Microtopographic Relief (D4)         Sparsely Vegetated Concave Surface (B8)       FAC-Neutral Test (D5)         Field Observations:       Surface Water Present?       Yes       X       No       Depth (inches): <u>M'a</u> Saturation Present?       Yes       X       No       Depth (inches): <u>0"</u> Wetland Hydrology Present?       Yes       X       No	Water Marks (B1	)		Hvdrogen Su	lfide Odor (C1)		(	Cravfish Burro	ws (C8)	
	Sediment Denos	, its (B2)		Ovidized Rhi	zospheres on Li	ving Roots (C3)		Saturation Visi	hle on Aerial Im	agery (C9)
	Detith Deposite (D			Dragonac of [			`			
Algal Mat or Crust (B4)       Recent fron Reduction in Tilled Soils (C6)       X       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       Shallow Aquitard (D3)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Microtopographic Relief (D4)         Sparsely Vegetated Concave Surface (B8)       The (inches):       N/A         Field Observations:       Surface Water Present?       Yes       X       Depth (inches):       4"         Saturation Present?       Yes       X       No       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No		3)		_ Presence of F	Reduced Iron (C	,4)	<sup>°</sup>	stunted of Stre	essed Plants (D	1)
Iron Deposits (B5)       Thin Muck Surface (C7)       Shallow Aquitard (D3)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Microtopographic Relief (D4)         Sparsely Vegetated Concave Surface (B8)       FAC-Neutral Test (D5)         Field Observations:       Surface Water Present?       Yes         Surface Water Present?       Yes       No       Depth (inches):         Attraction Present?       Yes       X       No       Depth (inches):         Or       Wetland Hydrology Present?       Yes       X       No         Depth (inches):       O"       Wetland Hydrology Present?       Yes       X       No         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:       A presitive indication of wetland hydrology was observed (primary and secondary indicators was present)	Algal Mat or Crus	st (B4)		Recent Iron F	Reduction in Till	ed Soils (C6)	<u> </u>	Geomorphic P	osition (D2)	
Inundation Visible on Aerial Imagery (B7)Other (Explain in Remarks)Microtopographic Relief (D4) Sparsely Vegetated Concave Surface (B8)FAC-Neutral Test (D5) Field Observations: Surface Water Present? YesNo Depth (inches):H" Water Table Present? YesNo Depth (inches):H" Wetland Hydrology Present? YesNo Depth (inches):" Wetland Hydrology Present? YesNo Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	Iron Deposits (B5	5)		Thin Muck Su	urface (C7)			Shallow Aquita	ırd (D3)	
Sparsely Vegetated Concave Surface (B8)FAC-Neutral Test (D5)          Field Observations:      No       X       Depth (inches):       N/A         Surface Water Present?       Yes       X       No       Depth (inches):       4"         Water Table Present?       Yes       X       No       Depth (inches):       4"         Saturation Present?       Yes       X       No       Depth (inches):       0"         Wetland Hydrology Present?       Yes       X       No	Inundation Visible	e on Aerial Im	agery (B7)	Other (Explai	n in Remarks)		N	/licrotopograp	hic Relief (D4)	
Field Observations:         Surface Water Present?       Yes       No       X       Depth (inches):       N/A         Water Table Present?       Yes       X       No       Depth (inches):       4"         Saturation Present?       Yes       X       No       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         Saturation Present?       Yes       X       No       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No	Sparsely Vegetat	ted Concave	Surface (B8)				F	AC-Neutral T	est (D5)	
Field Observations:         Surface Water Present?       Yes       No       X       Depth (inches):       N/A         Water Table Present?       Yes       X       No       Depth (inches):       4"         Saturation Present?       Yes       X       No       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         Saturation Present?       Yes       X       No       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         (includes capillary fringe)       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:										
Surface Water Present?       Yes       No       X       Depth (inches):       N/A         Water Table Present?       Yes       X       No       Depth (inches):       4"         Saturation Present?       Yes       X       No       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         Saturation Present?       Yes       X       No       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         Cincludes capillary fringe)       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:       Remarks:	Field Observations:									
Water Table Present?       Yes       X       No       Depth (inches):       4"         Saturation Present?       Yes       X       No       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         (includes capillary fringe)       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:	Surface Water Present?	Yes	NoX	Depth (inch	nes): <b>N/A</b>					
Saturation Present?       Yes       X       No       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Previous inspections), if available:       Previous inspections), if available:         Remarks:       A positive indication of wotland bydrology was observed (primary and secondary indicators were present).	Water Table Present?	Yes X	No	Depth (inch	nes): 4"					
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: A positive indication of wotland bydrology was observed (orimany and secondary indicators were present)	Saturation Present?	Yes X	No	Depth (inch	nes): <b>0"</b>	Wetland H	ydrology I	Present?	res <u>X</u>	No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:  A positive indication of wotland bydrology was observed (primary and secondary indicators were present)	(includes capillary fringe)									
Remarks:	Describe Recorded Data (s	tream gauge	, monitoring well,	aerial photos, pr	evious inspectio	ons), if available:				
A positive indication of workand bydrology was absorved (primary and eccordany indicators were present)	Remarks:									
A positive indication of wetland hydrology was absorved (primary and eccordany indicators were present)										
	A positive indication of	wetland bydr	logy was observe	ed (primary and s	secondary indic	ators were present)				

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft. )	% cover	Species?	Status	Number of Dominant Species
1 None observed				That Are OBL_EACW_or EAC: 3 (A)
0				
Ζ				
3				Total Number of Dominant
4				Species Across All Strata: 5 (B)
5.				
6				Percent of Dominant Species
0				
7				That Are OBL, FACW, or FAC: 60% (A/B)
	=	Total Cover		
				Prevalence Index Worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft	)			Total % Cover of: Multiply by:
1 Lindera benzoin		Ves	FACW	OBI species 0 x 1 - 0
			54014	
2. Fraxinus pennsylvanica	10	Yes	FACW	FACW species $40$ x 2 = $80$
3. Cornus amomum	10	Yes	FACW	FAC species 0 x 3 = 0
4. Rosa multiflora	10	Yes	FACU	FACU species 60 x 4 = 240
5.				UPL species 0 x 5 = 0
6				Column Totals: $100$ (A) $320$ (B)
o				
7				
	=	Total Cover		Prevalence Index = B/A = 3.20
Herb Stratum (Plot size: 5 ft.)				Hydrophytic Vegetation Indicators:
1 Pouroutrio iononico	50	Vee	EACU	1 Popid Test for Hydrophytic Vegetation
		165	TACO	
2	·			<u>X</u> 2 - Dominance Test is >50%
3				3 - Prevalence Index is ≤ 3.0 <sup>1</sup>
4.				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
5				data in Remarks or on a separate sheet)
6				Problematic Hydrophytic Vegetation <sup>1</sup> (Evaluation)
0	·			
7				
8				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
9.				be present, unless disturbed or problematic.
10				Definitions of Five Vegetation Strata:
11				Tree - Woody plants 3 in (7.6 cm) or more in diameter
···				
12	·			at breast height (DBH) regardless of height.
	=	Total Cover		
				Sapling/Shrub - Woody plants Ises than 3 in. DBH
Woody Vine Stratum (Plot size: 30 ft )				and greater than or equal to 3.28 ft (1 m) tall.
A Name Observed				
1. None Observed	·	<u> </u>		Harb All borbassous (non woody) planta, regardless
2				nerb - All herbaceous (non-woody) plants, regardless
3				of size, and woody plants less than 3.28 ft tall.
4.				
	0 =	Total Cover		Woody vine - All woody vines greater than 3.28 ft in height.
	=			
				Hydrophytic
				Vegetation
				Present? Yes X No
Pomorko:				
Remarks.				
A positive indication of hydro	phytic vegetat	tion was observe	ed (>50% of domi	inant species indexed as OBL, FACW, or FAC).
	prijao rogotal			

rofile Description: (Describe to the depth Matrix	needed to document the indicator or c Redox Features	onfirm the absence	of indicators.)	
eptin	Color (moist) % Typo <sup>1</sup>	L oc <sup>2</sup>	Toxturo	Pomarka
		LUC	Texture	Remains
<u>0-10 10YR 2/1 100</u>			Sand	Mucky
		<u> </u>		
vpe: C=Concentration, D=Depletion, RM=Re	educed Matrix, MS=Masked Sand Grains	. <sup>2</sup> Location: PL=	Pore Lining, M=N	latrix.
vdric Soils Indicators			Indicators f	or Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)	Polyvalue Below Surface (S8) (I	LRR R,	2 cm N	luck (A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)	MLRA 149B)		Coast I	Prairie Redox (A16) (LRR K, L, R)
Black Histic (A3)	Thin Dark Surface (S9) (LRR R.	MLRA 149B)	5 cm M	lucky Peat or Peat (S3) (LRR K. L. R
Ludrogon Sulfido (A4)		,, ,,	Dork S	
		· ι, μ		
Stratified Layers (A5)	Loamy Gleyed Matrix (F2)		Polyval	ue Below Surface (S8) (LRR K, L)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)		Thin Da	ark Surface (S9) <b>(LRR K, L)</b>
Thick Dark Surface (A12)	Bedox Dark Surface (E6)		Iron-Ma	anganese Masses (F12) (I RR K I
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)		Pleama	ont Floodplain Solis (F19) (MLRA 14
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)		Mesic S	Spodic (TA6) <b>(MLRA 144A, 145, 14</b> 9
Sandy Redox (S5)			Red Pa	arent Material (F12)
Stripped Matrix (S6)			Vory S	allow Dark Surface (E22)
Dark Surface (S7) (LRR R, MLRA 149B)			Other (	Explain in Remarks)
Depth (inches):		Hydric Sc	oil Present? Yo	es X No
emarks:	A positive indication of hydric :	soil was observed.		

Proiect/Site:	MetroNorth	h Railroad We	est River to	Allings Crossing	County:	1	New Haven		Sampling Date	:	4/20/2018
Applicant/Owner:			Unit	ed Illuminating			State:	СТ	Sample Poi	nt:	SP-10
Investigator(s):		). King	and	R. Hyland	Section	n, Township	, Range:			N/A	
Landform (hillslope	e, terrace, e	tc.):	Hil	Islope	Local r	elief (conca	ve, convex, no	one):	None	Slope (%):	3-6
Subregion (LRR o	or MLRA):		LI	RR R	Lat:	41.2	6938 l	_ong:	-72.96714	Datum:	NAVD 88
Soil Map Unit Nam	ne:			Urban Land	(307)			NW	Classification:		N/A
Are climatic / hydro	ologic condi	tions on the s	ite typical	for this time of yea	r? (Yes / N	No)	YES	(if no	, explain in Rema	arks.)	
Are Vegetation	No	,Soil No	or Hydr	ology <u>No</u> s	ignificantly dis	sturbed?	Are "Normal	Circum	stances" present	? Yes 🔰	K No
Are Vegetation	No	,Soil No	or Hydr	ology <u>No</u> r	aturally proble	ematic?	(If	needec	l, explain any ans	wers in Rema	arks.)
SUMMARY C		NGS - Att	ach site	man showi	na samnli	ina noin	t location	s tra	nsects imp	ortant fea	tures etc
		100 /			ig oumpi	ing poin	liooalion	o, au			
Hydrophytic Vege	etation Pres	ent? Ye	s	NoX							
Hydric Soil Prese	ent?	Ye	s	No X	ls t	the Sample	d Area				
Wetland Hydrolog	gy Present?	Ye	s	NoX	wit	thin a Wetla	and?		Yes	No	<u>X</u>
						If yes, option	onal Wetland	Site ID:			
Remarks:											
		This po	int was de	termined not to be	within a wetla	and due to	the lack of all	three w	etland criteria.		
				I Inland for Wetla	nd 5 located	on a gravel	fill embankme	nt			
				opiand for wetta	iu 5, iocaleu i	un a graver		51 IL.			
HYDROLOG	Y										
Wetland hyd	Irology Indi	cators:						Seco	ondary Indicators	(minimum of	two required)
Primary Indic	ators (minin	num of one is	required;	check all that apply	/)				Surface Soil Cra	acks (B6)	<b>·</b> ·
Surface	e Water (A1	)	•	Water-Sta	ined Leaves	(B9)			Drainage Patter	ns (B10)	
High W	Vater Table	(A2)		Aquatic F	auna (B13)	. ,			Moss Trim Line	s (B16)	
Saturat	tion (A3)	( )		Marl Depo	sits (B15)				Dry-Season Wa	ater Table (C2	<u>2)</u>
Water	Marks (B1)			Hydrogen	Sulfide Odor	(C1)			Crayfish Burrow	s (C8)	
Sedime	ent Deposits	s (B2)		Oxidized	Rhizospheres	on Living F	Roots (C3)		Saturation Visib	le on Aerial II	magery (C9)
Drift De	eposits (B3)			Presence	of Reduced I	ron (C4)			Stunted or Stree	ssed Plants (I	D1)
Algal M	Mat or Crust	(B4)		Recent Iro	n Reduction	in Tilled Soi	ils (C6)		Geomorphic Po	sition (D2)	,
Iron De	eposits (B5)	· /		Thin Mucl	Surface (C7	.)	( )		Shallow Aquitar	d (D3)	
Inunda	ation Visible	on Aerial Ima	gery (B7)	Other (Ex	olain in Rema	, arks)			Microtopograph	ic Relief (D4)	
Sparse	ely Vegetate	d Concave Si	urface (B8)	) ``		,			FAC-Neutral Te	st (D5)	
'	, ,									( )	
Field Observatio	ons:										
Surface Water P	resent?	Yes	No	X Depth (	nches): N	I/A					
Water Table Pres	sent?	Yes	No	X Depth (	nches): >	20					
Saturation Prese	ent?	Yes	No	X Depth (	nches): >	20	Wetland Hy	drolog	y Present? Y	es	No X
(includes capillar	ry fringe)				·			-	-		
Describe Record	led Data (str	eam gauge, r	nonitoring	well, aerial photos	, previous ins	pections), if	available:				
				•							
Remarks:											
No positive in	ndication of	wetland hydro	logy was o	observed.							

Sampling Point:

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft.)	% cover	Species?	Status	Number of Dominant Species
1. Robinia pseudoacacia	20	Yes	FACU	That Are OBL. FACW. or FAC: 0 (A)
2				
3				Total Number of Dominant
3				Species Agrees All Strate: 4 (P)
4	<u> </u>			Species Acioss Ali Strata (D)
5		·······		
6		<u> </u>		Percent of Dominant Species
7	<u> </u>			That Are OBL, FACW, or FAC: 0 (A/B)
	=	Total Cover		Describer on Index Workshoet
				Prevalence index worksneet:
Sapling/Shrub Stratum (Plot size: 15 ft.	_)			Total % Cover of: Multiply by:
1. Rosa multiflora	40	Yes	FACU	OBL species 0 x 1 = 0
2				FACW species <b>0</b> x 2 = <b>0</b>
3				FAC species <b>0</b> x 3 = <b>0</b>
4				FACU species 90 x 4 = 360
5				UPL species <b>15</b> x 5 = <b>75</b>
6				Column Totals: <b>105</b> (A) <b>435</b> (B)
7.				
	40 =	Total Cover		Prevalence Index = B/A = 4.14
Herb Stratum (Plot size: 5 ft )				Hydrophytic Vegetation Indicators:
1 Revnoutria japonica	30	Yes	FACU	1 - Rapid Test for Hydrophytic Vegetation
2		100		2 - Dominance Test is >50%
2				$3 - \text{Prevalence Index is } 3.0^1$
3			<u> </u>	4 Merchological Adaptations <sup>1</sup> (Provide supporting
4	<u> </u>			
5	<u> </u>			data in Remarks or on a separate sheet)
б	<u> </u>			
7	<u> </u>		·	
8				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10		<u> </u>		Definitions of Five Vegetation Strata:
11				<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter
12				at breast height (DBH) regardless of height.
	=	Total Cover		
				Sapling/Shrub - Woody plants Ises than 3 in. DBH
Woody Vine Stratum (Plot size: 30 ft. )				and greater than or equal to 3.28 ft (1 m) tall.
1. Celastrus orbiculatus	15	Yes	UPL	
2.				Herb - All herbaceous (non-woody) plants, regardless
3.				of size, and woody plants less than 3.28 ft tall.
4.				
	15 =	Total Cover		Woody vine - All woody vines greater than 3.28 ft in height.
				Hydrophytic
				Vegetation
				Present? Yes No X
Bomarke:				
Romano.				
No positive indication of h	ydrophytic veç	getation was ob	served (≥50% of	dominant species indexed as FAC- or drier).

eptn oches)	Color (moist)	0/_	Color (moist)	%		L oc <sup>2</sup>	Texture	Remarks
0-8	10VR 2/1	100		/0	Type		Sandy Loam	Kendika
8-16	10YR 4/4	98	10YR 5/8	2	C	м	Sandy Loam	
0.10							<u>- Odinaj Eddini</u>	
		_						
			. <u></u>					
			. <u> </u>					
			<u> </u>					
ype: C=Co	oncentration, D=Dep	letion, RM	Reduced Matrix, M	S=Masked	Sand Grains.	<sup>2</sup> Location: F	PL=Pore Lining, M=Ma	itrix.
ydric Soils	Indicators:						Indicators for	r Problematic Hydric Soils <sup>3</sup> :
Histosol	I (A1)		Polyval	ue Below S	Surface (S8) (LF	RR R,	2 cm Mu	ck (A10) (LRR K, L, MLRA 149B)
Histic E	pipedon (A2)			_RA 149B)			Coast Pr	airie Redox (A16) <b>(LRR K, L, R)</b>
Black H	istic (A3)		Thin Da	irk Surface	e (S9) (LRR R, I	MLRA 149B)	5 cm Mu	cky Peat or Peat (S3) (LRR K, L, F
Hydroge	en Sulfide (A4)		Loamy		eral (F1) (LRR	K, L)	Dark Sur	
Stratifie	d Layers (A5)	00 (111)	Loamy	d Motrix (E	itrix (F2)		Polyvalue	k Surface (S0) (LRR K, L)
Depiete	ark Surface (A12)	ce (ATT)	Depiete	o Matrix (F	-3) co (E6)		Iron-Man	K Sullace (S9) (LKK K, L)
Sandy A	Ark Sullace (A12)			d Dark Suila	rface (F7)		Non-Man	t Floodolain Soils (F19) (MI RA 14
Sandy (	Sleved Matrix (S4)		Depiete	Denression	nace (17)		Mesic Sr	odic (TA6) (MI RA 144A 145 149
Oundy C				Depression	13 (1 0)		Red Pare	
Sandy F	Redox (S5)							ent Material (F1Z)
Sandy F	Redox (S5) d Matrix (S6)						Verv Sha	allow Dark Surface (F22)
Sandy F Dark Su Dark Su Su Su Su Su Sandy F Su Sandy F Sandy F Sandy F Sandy F Sandy F Sandy F Sandy F Stripped Sandy F Stripped Sandy F Stripped Sandy F Sandy F 	<pre>{edox (S5) d Matrix (S6) urface (S7) (LRR R, f hydrophytic vegeta _ayer (if observed):</pre>	MLRA 149	<b>9B)</b> etland hydrology mu	st be prese	ent, unless distu	rbed or problem	Very Sha Other (E: Other (E: Soil Present? Yes	allow Dark Surface (F22) xplain in Remarks)
Sandy F Stripped Dark Su  estrictive L Type:  Depth (ind  emarks:	Redox (S5) d Matrix (S6) Irface (S7) <b>(LRR R,</b> f hydrophytic vegeta <b>_ayer (if observed)</b> : 	MLRA 149	9B) etland hydrology mu:	st be prese	ent, unless distu	rbed or problem	Very Sha Other (E)	allow Dark Surface (F22) xplain in Remarks)
Sandy F Dark Su Dark Su  estrictive L Type:  Depth (ind  emarks:	<pre>{edox (S5) d Matrix (S6) inface (S7) (LRR R, f hydrophytic vegeta _ayer (if observed):</pre>	MLRA 145	9B) etland hydrology mu	st be prese	ent, unless distu	rbed or problem	Very Sha	allow Dark Surface (F22) xplain in Remarks)
Sandy F Dark Su Dark Su  estrictive L Type:  Depth (ind  emarks:	<pre>{edox (S5) d Matrix (S6) inface (S7) (LRR R, f hydrophytic vegeta _ayer (if observed):</pre>	MLRA 145	PB) etland hydrology mu 	st be prese	ent, unless distu	irbed or problem Hydric	Very Sha Other (E: Other (E: Soil Present? Yes	allow Dark Surface (F22) xplain in Remarks)
Sandy F Stripped Dark Su adicators of estrictive L Type: Depth (ind emarks:	<pre>{edox (S5) d Matrix (S6) urface (S7) (LRR R, f hydrophytic vegeta _ayer (if observed):</pre>	MLRA 149	PB) etland hydrology mu 	st be prese	ent, unless distu	irbed or problem Hydric	Very Sha Other (E:  Soil Present? Yes	allow Dark Surface (F22) xplain in Remarks)
Sandy F Stripped Dark Su adicators of estrictive L Type: Depth (ind	<pre>4edox (S5) d Matrix (S6) inface (S7) (LRR R,</pre>	MLRA 145	PB) etland hydrology mu:	st be prese	ent, unless distu	irbed or problem Hydric	Very Sha Other (E: Other (E: Soil Present? Yes	allow Dark Surface (F22) xplain in Remarks)
Sandy F Strippec Dark Su ndicators of estrictive L Type: Depth (ind emarks:	<pre>{edox (S5) d Matrix (S6) urface (S7) (LRR R, f hydrophytic vegeta _ayer (if observed):</pre>	MLRA 145	PB) etland hydrology mu:	st be prese	ent, unless distu	irbed or problem	Very Sha Other (E: Other (E:	allow Dark Surface (F22) xplain in Remarks)
Sandy F Stripped Dark Su ndicators of estrictive L Type: Depth (ind emarks:	<pre>{edox (S5) d Matrix (S6) urface (S7) (LRR R, f hydrophytic vegeta _ayer (if observed):</pre>	MLRA 149	PB) etland hydrology mu 	st be prese	ent, unless distu	irbed or problem Hydric	Very Sha Other (E:  Soil Present? Yes	allow Dark Surface (F22) xplain in Remarks)
Sandy F Stripped Dark Su dicators of estrictive L Type: Depth (ind emarks:	<pre>{edox (S5) d Matrix (S6) urface (S7) (LRR R, f hydrophytic vegeta _ayer (if observed):</pre>	MLRA 149	PB) etland hydrology mu 	st be prese	ent, unless distu	irbed or problem Hydric	Very Sha Other (E:  Soil Present? Yes	allow Dark Surface (F22) xplain in Remarks)
Sandy F Stripped Dark Su adicators of estrictive L Type: Depth (ind emarks:	<pre>{edox (S5) d Matrix (S6) urface (S7) (LRR R, f hydrophytic vegeta _ayer (if observed):</pre>	MLRA 149	PB) etland hydrology mu  No pos	st be prese	tion of hydric so	irbed or problem Hydric	Very Sha Other (E: Soil Present? Yes d.	allow Dark Surface (F22) xplain in Remarks)
Sandy F Stripped Dark Su adicators of estrictive L Type: Depth (ind emarks:	<pre>{edox (S5) d Matrix (S6) urface (S7) (LRR R, f hydrophytic vegeta _ayer (if observed):</pre>	MLRA 149	PB) etland hydrology mu  No pos	st be prese	tion of hydric sc	irbed or problem Hydric	Very Sha Other (E) natic. Soil Present? Yes	allow Dark Surface (F22) xplain in Remarks)
Sandy F Stripped Dark Su adicators of estrictive L Type: Depth (ind emarks:	<pre>{edox (S5) d Matrix (S6) urface (S7) (LRR R,</pre>	MLRA 149	PB) etland hydrology mu:	st be prese	tion of hydric so	irbed or problem Hydric	Very Sha Other (E) natic. Soil Present? Yes	allow Dark Surface (F22) xplain in Remarks)
Sandy F Stripped Dark Su ndicators of estrictive L Type: Depth (ind emarks:	(edox (S5) d Matrix (S6) Irface (S7) <b>(LRR R,</b> <b>i</b> hydrophytic vegeta <b>_ayer (if observed):</b> 	MLRA 149	PB) etland hydrology mu:  No pos	st be prese	ent, unless distu	vibed or problem	Very Sha Other (E: soil Present? Yes	allow Dark Surface (F22) xplain in Remarks)
Sandy F Stripped Dark Su ndicators of estrictive L Type: Depth (ind emarks:	<pre>{edox (S5) d Matrix (S6) inface (S7) (LRR R,</pre>	MLRA 145	PB) etland hydrology mu No pos	st be prese	tion of hydric so	irbed or problem Hydric	Very Sha Other (E: soil Present? Yes	allow Dark Surface (F22) xplain in Remarks)
Sandy F Strippec Dark Su ndicators of estrictive L Type: Depth (ind emarks:	<pre>{edox (S5) d Matrix (S6) inface (S7) (LRR R,</pre>	MLRA 145	PB) etland hydrology mu No pos	st be prese	tion of hydric sc	irbed or problem Hydric	Very Sha Other (E) natic. Soil Present? Yes d.	allow Dark Surface (F22) xplain in Remarks)
Sandy F Strippec Dark Su ndicators of estrictive I Type: Depth (ind emarks:	<pre>{edox (S5) d Matrix (S6) inface (S7) (LRR R,</pre>	MLRA 145	PB) etland hydrology mu: 	itive indica	tion of hydric so	irbed or problem Hydric	Very Sha Other (E: soil Present? Yes d.	allow Dark Surface (F22) xplain in Remarks)
Sandy F Strippec Dark Su ndicators of estrictive L Type: Depth (ind emarks:	<pre>{edox (S5) d Matrix (S6) urface (S7) (LRR R, f hydrophytic vegeta _ayer (if observed): ches):</pre>	MLRA 145	PB) etland hydrology mu:	itive indica	tion of hydric so	irbed or problem Hydric	Very Sha Other (E: attic.	allow Dark Surface (F22) xplain in Remarks)
Sandy F Strippec Dark Su estrictive L Type: Depth (ind emarks:	<pre>{edox (S5) d Matrix (S6) urface (S7) (LRR R, f hydrophytic vegeta _ayer (if observed):</pre>	MLRA 149	PB) etland hydrology mu 	st be prese	tion of hydric sc	irbed or problem Hydric	Very Sha Other (E: anatic.	allow Dark Surface (F22) xplain in Remarks)
Sandy F Strippec Dark Su estrictive L Type: Depth (ind emarks:	<pre>{edox (S5) d Matrix (S6) urface (S7) (LRR R, f hydrophytic vegeta _ayer (if observed):</pre>	MLRA 149	PB) etland hydrology mu No pos	st be prese	tion of hydric sc	irbed or problem Hydric	Very Sha Other (E: 	allow Dark Surface (F22) xplain in Remarks)
Sandy F Strippec Dark Su estrictive L Type: Depth (ind emarks:	<pre>{edox (S5) d Matrix (S6) inface (S7) (LRR R,</pre>	MLRA 149	PB) etland hydrology mu:  No pos	itive indica	tion of hydric so	vils was observe	Very Sha Other (E: anatic.	allow Dark Surface (F22) xplain in Remarks)
Sandy F Strippec Dark Su estrictive L Type: Depth (ind emarks:	<pre>{edox (S5) d Matrix (S6) inface (S7) (LRR R,</pre>	MLRA 149	PB) etland hydrology mu:  No pos	itive indica	tion of hydric so	irbed or problem Hydric	Very Sha Other (E) natic. Soil Present? Yes d.	allow Dark Surface (F22) xplain in Remarks)
Sandy F Strippec Dark Su estrictive L Type: Depth (ind emarks:	<pre>{edox (S5) d Matrix (S6) inface (S7) (LRR R,</pre>	MLRA 149	PB) etland hydrology mu: 	itive indica	tion of hydric so	irbed or problem Hydric	Very Sha Other (E) natic. Soil Present? Yes d.	allow Dark Surface (F22) xplain in Remarks)

Applicat/Owner:       United Illuminating       State:       CT       Sample Point:       SP-11         Landorm (hillslope, terrace, etc.):       Hillslope       Local relief (concave, convex, none):       Concave       Slope (%):       0.3         Subregion (LRR or MLRA):       LRR R       Lat       12.289658       Dum:       NAVD         Are climatic /hydrologic conditions on the site typical for this time of year?       (Year, No)       YES       (If no, explain in Remarks.)         Are vegetation       No       Solit       No       model       Ane Nomatic/Clicumstances' present? Yes       No         Are Vegetation       No       Solit       No       model       No       model       No       model         SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.       within a Wetland?       Yes       No       model         Hydrophytic Vegetation Present?       Yes       X       No       within a Wetland?       Yes       X       No         Wetland Hydrology Present?       Yes       X       No       within a Wetland?       Yes       X       No       within a Wetland?       Yes       X       No       Surface Soil Cracks (Bi)       Surface Soil Cracks (Bi)       Surface Soil Cracks (Bi)       Surface Soil Cracks (Bi	Project/Site: MetroNor	rth Railroad W	est River to Allin	ngs Crossing	County:	New Haven	Sam	pling Date:	4/18/2018
modelgaar(s):       D. King       and R. Hyland       Section, Townshp, Ringe:       NA         androm (hildslop, terrace, etc.):       Hildslop       Lat:       4128986       Logal relief (concave, convex, non):       Concave_Slope (%):       0.3         Sidi Map Unit Name:       Urban Land (907)       NVI Classification:       NA         ve Vegetation       No_Soll_No_or Hydrology       No_significantly disturbed?       Are "Normal Circumstances" present? Yes       X_No_         SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.         Hydrophytic Vegetation Present?       Yes       X_No_       is the Sampled Area         Workics OF Present?       Yes       X_No_       if yes, optional Wetland Site ID:       Wetland 6         Remarks:       This point was determined to be within a wetland due to the presence of all 3 wetland criteria.       Wetland 6 is a hillside seep adjacent to the Cove River, north of the ROW.         PMODDLOGY       Wetland fydrology Indicators:       Surface Sol Cracks (80)       X_Dariage Patterns (10)         Mater State (22)       Optide Area within a Wetland Gold to the presence of all 3 wetland criteria.       Surface Sol Cracks (80)         Yets A       No       Surface Sol Cracks (80)       X_Draiage Patterns (10)         Mater State (24)       Aqauet Craus (15)       Surface Sol Cracks (80) <td>Applicant/Owner:</td> <td></td> <td>United III</td> <td>uminating</td> <td></td> <td>State:</td> <td>CT S</td> <td>ample Point:</td> <td>SP-11</td>	Applicant/Owner:		United III	uminating		State:	CT S	ample Point:	SP-11
andform (hillslope, terrace, etc.):       Hillslope       Local relief (concave, convex, mone):       Concave       Slope (%):       0.43         ubragion (LRR or MLRA):       LRR R       Lat:       4128989       Long:	vestigator(s):	D. King	and	R. Hyland	Section, Tov	vnship, Range:		N/A	
ubitegion (LRR or MLRA):       LRR R       LRR R       Lat:       41 26996       Long:       72.98653       Datum:       NAVD 8         oil Mep Lurin Name:       Urban Land (307)       NVI Clessification:       N/A         eveloation / Mo, Soil       No       orthydrology       Mo       significantly disturbed?       Are Normal Circumstances present? Yes       No         eveloation       No       Soil       No       orthydrology       No       no       no       no         SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.         Hydrophydic Vegetation Present?       Yes       X       No       if yes, optional Wetland?       Yes       X       No         Hydrophydic Vegetation Present?       Yes       X       No       if yes, optional Wetland Site ID:       Wetland 6         Remarks:       This point was determined to be within a wetland due to the presence of all 3 wetland ortiferia.       Wetland 6 is a hillside seep adjacent to the Cove River, north of the ROW.         VEDROLOGY       Wetland Hydrology Indicators:       Surface Soil Cracks (B6)       X       Driange Patterns (B10)         Multat Table (A2)       Aquate Fained Leaves (B9)       X       Driange Patterns (B10)       Mos Strim Incs (B16)       Driange Patterns (B10)         My Hatt	andform (hillslope, terrace.	etc.):	Hillslop	e	Local relief (	concave, convex, n	one): Con	cave Slope (	%): 0-3
Bidgubin Name:       Dutrity of the stress of	ubregion (I RR or MI RA):		IRRE		lat:	41 26996	Long: -7	2 96658 Da	tum: NAVD 88
of method       Ves       (if no. explain in Remarks.)         of method       No       ,Soil       No       ,or Hydrology       No       isignificantly disturbed?       Are "Normal Circumstances" present? Yes       X       No         re Vegetation       No       ,Soil       No       ,or Hydrology       No       isignificantly disturbed?       Are "Normal Circumstances" present? Yes       X       No         yet opplytic Vegetation Present?       Yes       X       No       is the Sampled Area       within a Wetland?       Yes       X       No         Hydrophytic Vegetation Present?       Yes       X       No       is the Sampled Area       within a Wetland?       Yes       X       No         Hydrophytic Vegetation Present?       Yes       X       No       is the Sampled Area       Wetland 6         Remarks:       This point was determined to be within a wetland due to the presence of all 3 wetland criteria.       Wetland 6 is a hillside seep adjacent to the Cove River, north of the ROW.         Primary Indicators:       Primary Indicators:       Surface Vater (Ai)       Water Stained Leaves (Bi)       X       Dariange Paterns (Bi (D)       X       Surface Vater (Ai)       Surface Vater (Ai)       Presence of Reduced for C(C)       Crayfish Burrows (Ca)       Surtanto (Ai)       Surface (Ai)       Surface (Ai)	ail Man Unit Nama:		ERRE	Urban Land (3)	Edt	41.20000	NW/I Classi	fication:	N/A
	va alimatia (hydralagia aan	ditiona an tha	nite turning for th	in time of year?	()/aa / Na)	VEC			IN/A
rev Vegetation       No       No <td>re climatic / hydrologic con</td> <td>aluons on the s</td> <td></td> <td>is time of year?</td> <td>(res/no)</td> <td></td> <td></td> <td>in in Remarks.)</td> <td><b>X</b> N</td>	re climatic / hydrologic con	aluons on the s		is time of year?	(res/no)			in in Remarks.)	<b>X</b> N
rev Vegetation       No       Sold No       or Hydrology       No	re vegetation No	_,Soil <u>No</u>	, or Hydrology	/ <u>No</u> sign	ificantly disturbe	ed? Are "Norma	I Circumstance	s present? Yes	<u>X</u> NO
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.         Hydrophytic Vegetation Present?       Yes       X       No	re Vegetation No	_,Soil <u>No</u>	or Hydrology	/ <u>No</u> natu	urally problemati	c? (If	f needed, expla	in any answers in	Remarks.)
Hydrophytic Vegetation Present?       Yes       X       No	SUMMARY OF FIND	INGS - Att	tach site m	ap showing	sampling	point location	ns, transec	ts, important	t features, etc.
Hydric Soil Present?       Yes       X       No       Is the Sampled Area within a Wetland?       Yes       X       No         If yes, optional Wetland Site ID:       Wetland 6         Remarks:       This point was determined to be within a wetland due to the presence of all 3 wetland criteria.       Wetland 6         Wetland 6 is a hillside seep adjacent to the Cove River, north of the ROW.       Wetland for a set of the ROW.         YDROLOGY       Wetland for a set of the ROW.       Surface Soil Cracks (B6)         X       Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         X       Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         X       Saturation (A3)       Mart Deposits (B15)       Drainage Patterns (B10)         X       Saturation (A3)       Mart Deposits (B15)       Dry-Season Water Table (C2)         Vetland Mart Ocust (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation (S10)       Saturation (S10)         X       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)       Secondary Indicator (C2)         X       Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Shallow Aquitard (D3)         X       No       Depth (inches):       1*       Microtopographic Relief (D4)       FAC-Neutral	Hydrophytic Vegetation Pre	esent? Y	es X	No					
Wetland Hydrology Present?       Yes       X       No       within a Wetland?       Yes       X       No         Remarks:       This point was determined to be within a wetland due to the presence of all 3 wetland criteria. Wetland 6 is a hillside seep adjacent to the Cove River, north of the ROW.       Wetland criteria.         Wetland hydrology Indicators:       Secondary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required)         X       Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         X       Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         X       Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         X       Surface Water (A1)       Water Stained Leaves (B9)       Surface Soil Cracks (B6)         X       Staruation (A3)       Matle Deposits (B15)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crartylish Burrows (C8)       Saturation Visible on Aerial Imagery (C9)         X       Drift Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         X       Irin Deposits (B5)       Thin Muck Surface (C7)       Shallow Aquitard (D3)       Microtopographic Relief (D4)         X       Sparsel	Hvdric Soil Present?	Y	es X	No	Is the S	ampled Area			
Number Vybology Process       Yes	Wetland Hydrology Present	t? Y		No		Wetland?	Yes	X No	
Wetland Site ID:Wetland 6         Remarks:         This point was determined to be within a wetland due to the presence of all 3 wetland criteria.         Wetland 6 is a hillside seep adjacent to the Cove River, north of the ROW.         Wetland hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Surface Soil Cracks (B6)         X       Surface Water (A1)       Water-Stained Leaves (B9)       X       Drainage Patterns (B10)         A High Water Table (A2)       Aquatic Fauna (B13)       Moss Trim Lines (B16)       Dry-Season Water Table (C2)         Wetland hydrologis (B15)       Dry-Season Water Table (C2)       Cravifab Burrows (C8)       Saturation (A3)       Moss Trim Lines (B16)       Cravifab Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)       Saturation Visible on Aerial Imagery (C9)       Saturation (C4)       Stured or Stressed Plants (D1)       Saturation (C4)       Stured or Stressed Plants (D1)       Saturation (D2)       Shallow Aquitard (D3)       Most Trim Lines (D4)       Saturation (C4)       Stured or Stressed Plants (D1)       Saturation Visible on Aerial Imagery (C9)       Microtopographic Relief (D4)       Saturation Visible on Aerial Imagery (C9)       Shallow Aquitard (D3)       Microtopographic Relief (D4)       FAc-Neutral Test (D5)	Welland Hydrology Fresen		<u> </u>		-	Wettand	103	<u></u> NO	
Remarks:       This point was determined to be within a wetland due to the presence of all 3 wetland criteria.         Wetland 6 is a hillside seep adjacent to the Cove River, north of the ROW.         YDROLOCY         Wetland hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Surface Soil Cracks (B6)         X       High Water Table (A2)       Aquatic Fauna (B13)       Moss Trim Lines (B16)         X       Sturface Water (A1)       Water-Stained Leaves (B9)       Craylish Burrows (C6)         X       High Water Table (A2)       Aquatic Fauna (B13)       Moss Trim Lines (B16)         X       Saturation (A3)       Mart Deposits (B15)       Drainage Patterns (B10)         X       Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         X       Drift Deposits (B3)       X       Presence of Reduced Ion (C4)       Sturted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Geomorphic Position (D2)       Shallow Aquitard (D3)         Microtopographic Relief (D4)       Sparsely Vegetated Concave Surface (B8)       FAC-Neutral Test (D5)         Field Observations:       Vestard Ruber Present?       Yes       X       No         Surfaco Water Present?       Yes       X<					If ye	s, optional Wetland	Site ID:	Wetlan	.d 6
This point was determined to be within a wetland due to the presence of all 3 wetland criteria.         Wetland 6 is a hillside seep adjacent to the Cove River, north of the ROW.         YDROLOCY         Wetland hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Surface Soil Cracks (B6)         X       Surface Water (A1)       Water-Stained Leaves (B9)       X         Y       Aquatic Fauna (B13)       Moss Trim Lines (B16)         X       Saturation (A3)       Marl Deposits (B15)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxid/2ed Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         X       Drift Deposits (B3)       X       Presence of Reduced Iron (C4)       Stuncted or Stressed Plants (D1)         Adgal Mat or Crust (B4)       Recent Iron Reduced Iron (C4)       Stuncted or Stressed Plants (D1)       Stuncted or Stressed Plants (D1)         Microtopographic Rosition (D2)       Thin Muck Surface (C7)       Shallow Aquitard (D3)       Microtopographic Retief (D4)         Yaffae Water Present?       Yes       X       No       Depth (inches): <u>0</u> *       Wetland Hydrology Present?       Yes _X_ No	Remarks:								
YDROLOGY         Wetland hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Surface Soil Cracks (B6)         X       Surface Water (A1)       Water-Stained Leaves (B9)       X       Drainage Patterns (B10)         X       High Water Table (A2)       Aquatic Fauna (B13)       Moss Trim Lines (B16)         X       Saturation (A3)       Marl Deposits (B5)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B3)       X       Presence of Reduced Iron (C4)       Sturation Visible on Aerial Imagery (C9)         X       Drift Deposits (B5)       Thin Muck Surface (C7)       Shallow Aquitard (D3)         Innundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Microtopographic Relief (D4)         X       Sparsely Vegetated Concave Surface (B8)       FAC-Neutral Test (D5)       FAC-Neutral Test (D5)         Table Present?       Yes       X       No       Depth (inches): <u>1"</u> Water Table Present?       Yes       X       No       Depth (inches): <u>0"</u> Water Table Present?       Yes       X       No       Depth (inches): <u>0"</u> Water Table Present?       Yes       X       No </th <th></th> <th></th> <th>Wetland 6 i</th> <th>s a hillside seep</th> <th>adjacent to the</th> <th>Cove River, north o</th> <th>of the ROW.</th> <th></th> <th></th>			Wetland 6 i	s a hillside seep	adjacent to the	Cove River, north o	of the ROW.		
Wetland hydrology indicators:       Secondary Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Surface Soil Cracks (B6)         X       Surface Water (A1)       Water-Stained Leaves (B9)       Drainage Patterns (B10)         X       High Water Table (A2)       Aquatic Fauna (B13)       Moss Trim Lines (B16)         X       Saturation (A3)       Marl Deposits (B15)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         X       Dift Deposits (B3)       X       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Geomorphic Position (D2)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Microtopographic Relief (D4)         Xeter Table Present?       Yes       X       No       Depth (inches):       1"         Vater Table Present?       Yes       X       No       Depth (inches):       0"         Water Table Present?       Yes       X       No       Depth (inches):       0"         Saturation Present?       Yes       X </td <td>YDROLOGY</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	YDROLOGY								
Primary Indicators (minimum of one is required; check all that apply)       Surface Water (A1)       Mart Patient (B1)       Mart Patient (B1)       Moss Trim Lines (B16)         X       Saturation (A3)       Mart Deposits (B15)       Dry-Season Water Table (C2)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         X       Drift Deposits (B3)       X       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Geomorphic Position (D2)       Shallow Aquitard (D3)         Innudation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Microtopographic Relief (D4)       FAC-Neutral Test (D5)         Tield Observations:       Surface Water Present?       Yes       X       No       Depth (inches):       0"         Sutratioud scaling registration (Present?       Yes       X       No       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         Surface Water Present?       Yes       X       No       Depth (inches):       0"       Wetland Hydrology Present?	Wetland hydrology Inc	licators:					Secondary I	ndicators (minimu	im of two required)
X       Surface Water (A1)       Water-Stained Leaves (B9)       X       Drainage Patterns (B10)         X       High Water Table (A2)       Aquatic Fauna (B13)       Moss Trim Lines (B16)         X       Saturation (A3)       Mal Deposits (B15)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         X       Drift Deposits (B3)       X       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Geomorphic Position (D2)         Innudation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Microtopographic Relief (D4)         X       Sparsely Vegetated Concave Surface (B8)       FAC-Neutral Test (D5)       FAC-Neutral Test (D5)         Wetland Hydrology Present? Yes X       No       Depth (inches): <u>0"</u> Wetland Hydrology Present? Yes X       No       Depth (inches): <u>0"</u> Wetland Hydrology Present? Yes X       No         Depth (inches): <u>0"</u> Wetland Hydrology Present? Yes X       No         Depth (inches): <u>0"</u> <td< td=""><td>Primary Indicators (min</td><td>imum of one is</td><td>required; chec</td><td>k all that apply)</td><td></td><td></td><td>Surfa</td><td>ce Soil Cracks (B</td><td>6)</td></td<>	Primary Indicators (min	imum of one is	required; chec	k all that apply)			Surfa	ce Soil Cracks (B	6)
X       High Water Table (A2)       Aquatic Fauna (B13)       Moss Trim Lines (B16)         X       Saturation (A3)       Marl Deposits (B15)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         X       Drift Deposits (B3)       X       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       Shallow Aquitard (D3)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Microtopographic Relief (D4)         FAC-Neutral Test (D5)       FAC-Neutral Test (D5)       FAC-Neutral Test (D5)         Water Table Present?       Yes       X       No       Depth (inches):       0"         Water Table Present?       Yes       X       No       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         Baturation Present?       Yes       X       No       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         Pa	X Surface Water (A	<b>\1</b> )		Water-Staine	ed Leaves (B9)		X Drain	age Patterns (B10	))
X       Saturation (A3)       Marl Deposits (B15)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         X       Drift Deposits (B3)       X       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       Shallow Aquitard (D3)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Microtopographic Relief (D4)         X       Sparsely Vegetated Concave Surface (B8)       FAC-Neutral Test (D5)         Teld Observations:       0       Depth (inches): <u>0</u> "       Wetland Hydrology Present? Yes X No       No         Includes capillary fringe)       Depth (inches): <u>0</u> "       Wetland Hydrology Present? Yes X No       No       Depth (inches): 1"         Vescribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Idvailable:       Idvailable:	X High Water Table	e (A2)		Aquatic Faur	na (B13)		Moss	Trim Lines (B16)	
Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         X       Drift Deposits (B3)       X       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       Shallow Aquitard (D3)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Microtopographic Relief (D4)         X       Sparsely Vegetated Concave Surface (B8)       FAC-Neutral Test (D5)         ield Observations:       Use X       No       Depth (inches): <u>0</u> "         Water Table Present?       Yes       X       No       Depth (inches): <u>0</u> "         Vater Table Present?       Yes       X       No       Depth (inches): <u>0</u> "         Vater Table Present?       Yes       X       No       Depth (inches): <u>0</u> "         Vater Table Present?       Yes       X       No       Depth (inches): <u>0</u> "         Vescribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Vescribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: <td>X Saturation (A3)</td> <td>. ,</td> <td></td> <td>Marl Deposit</td> <td>s (B15)</td> <td></td> <td>Drv-S</td> <td>eason Water Tab</td> <td>le (C2)</td>	X Saturation (A3)	. ,		Marl Deposit	s (B15)		Drv-S	eason Water Tab	le (C2)
Indication (b)       Indication (b)       Indication (b)       Indication (b)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         X       Drift Deposits (B3)       X       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       Shallow Aquitard (D3)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Microtopographic Relief (D4)         X       Sparsely Vegetated Concave Surface (B8)       Depth (inches):       1"         ield Observations:       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         water Table Present?       Yes       X       No       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         nocludes capillary fringe)       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No       Image: No <td< td=""><td>Water Marks (B1</td><td>)</td><td></td><td>Hydrogen Si</td><td>ulfide Odor (C1)</td><td></td><td> Cravf</td><td>ish Burrows (C8)</td><td></td></td<>	Water Marks (B1	)		Hydrogen Si	ulfide Odor (C1)		Cravf	ish Burrows (C8)	
X       Drift Deposits (B2)	Sodimont Donosi	) ito (P2)		Ovidized Phi		wing Boota (C2)	Crayr	ation Visible on A	orial Imagon (CO)
X       Drift Deposits (B3)       X       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       Shallow Aquitard (D3)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Microtopographic Relief (D4)         X       Sparsely Vegetated Concave Surface (B8)       FAC-Neutral Test (D5)         Tield Observations:       Depth (inches):       1"         Surface Water Present?       Yes       X       No         Vater Table Present?       Yes       X       No       Depth (inches):       0"         Vater Table Present?       Yes       X       No       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         Saturation Present?       Yes       X       No       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Presentes:       Presentes:       Presentes:		IIS (DZ)							
Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       Shallow Aquitard (D3)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Microtopographic Relief (D4)         X       Sparsely Vegetated Concave Surface (B8)       FAC-Neutral Test (D5)         Field Observations:       Depth (inches):       1"         Surface Water Present?       Yes       X       No         Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         Saturation Present?       Yes       X       No       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         Saturation Present?       Yes       X       No       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         Secribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       If available:       If available:	X Drift Deposits (Ba	3)	<u></u>	Presence of	Reduced Iron (C	(4)	Stunt	ed or Stressed Pla	ants (D1)
Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3)   Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)   X Sparsely Vegetated Concave Surface (B8) FAC-Neutral Test (D5)   Field Observations: Surface Water Present? Yes X No Depth (inches):   Mater Table Present? Yes X No Depth (inches):   Yes X No Depth (inches):   Output (inches):   Output (inches):   Wetland Hydrology Present? Yes X No   Depth (inches):   Output (inches):   Output (inches):   Output (inches):   Depth (inches):   Output (inches):   Depth (inches):	Algal Mat or Crus	st (B4)		Recent Iron I	Reduction in Till	ed Soils (C6)	Geon	norphic Position (E	02)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)   X Sparsely Vegetated Concave Surface (B8) FAC-Neutral Test (D5)   Field Observations: Surface Water Present? Yes X No Depth (inches):" Vater Table Present? Yes X No Depth (inches):" Depth (inches):" Depth (inches):" User Table Present? Yes X No Depth (inches):" Depth (inches):" Depth (inches):" Wetland Hydrology Present? Yes X No   Depth (inches):" Wetland Hydrology Present? Yes X No Depth (inches):" Remarks:	Iron Deposits (B5	<b>i</b> )		Thin Muck S	urface (C7)		Shalle	ow Aquitard (D3)	
X       Sparsely Vegetated Concave Surface (B8)      FAC-Neutral Test (D5)         Field Observations:	Inundation Visible	e on Aerial Ima	agery (B7)	Other (Expla	in in Remarks)		Micro	topographic Relie	f (D4)
Field Observations:         Surface Water Present?       Yes       X       No       Depth (inches):       1"         Water Table Present?       Yes       X       No       Depth (inches):       0"         Saturation Present?       Yes       X       No       Depth (inches):       0"         Saturation Present?       Yes       X       No       Depth (inches):       0"         Uncludes capillary fringe)       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:       Semarks:       Semarks:	X Sparsely Vegetat	ed Concave S	urface (B8)				FAC-	Neutral Test (D5)	
Sourface Water Present?       Yes       X       No       Depth (inches):       1"         Water Table Present?       Yes       X       No       Depth (inches):       0"         Saturation Present?       Yes       X       No       Depth (inches):       0"         Saturation Present?       Yes       X       No       Depth (inches):       0"         Understand       Yes       X       No       Depth (inches):       0"         Sectored capillary fringe)       Depth (inches):       0"       Wetland Hydrology Present?       Yes       X       No         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:       Remarks:       Remarks:	ield Observations:								
Water Table Present?       Yes       X       No       Depth (inches):       0"         Water Table Present?       Yes       X       No       Depth (inches):       0"         Saturation Present?       Yes       X       No       Depth (inches):       0"         Wetland Hydrology Present?       Yes       X       No	Surface Water Present?	Yes X	No	Depth (inc	hes): 1"				
Value Flase Flase Flase it ?       Flase _ X _ No Depth (inches): _ 0" Wetland Hydrology Present? Yes _ X _ No includes capillary fringe)         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:         Remarks:	Votor Toblo Drocont?	Vea X		Depth (incl	hes): <b>1</b>	•			
Aduration Present ? Yes X No Depth (inches): U" Wetland Hydrology Present ? Yes X No		res <u>x</u>		Depth (incl	nes): <u> </u>			10 X	<b>V N</b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	aturation Present?	Yes X	No	Depth (inc	hes): 0"	Wetland H	ydrology Pres	ent? Yes	<u>X</u> NO
emarks:	Describe Recorded Data (s	stream gauge,	monitoring well,	aerial photos, p	revious inspection	ons), if available:			
	Remarks:								
A positive indication of wetland hydrology was observed (primary and secondary indicators were present)	A positive indication of	wetland bydrol	ogy was observ	ed (primary and	secondary indic	ators were present)	1		

c	D	4	4	
J	г-	•		

	Absolute	Dominant	Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size: 30 ft. )	% cover	Species?	Status	Number of Dominant Species		
1. Acer rubrum	45	Yes	FAC	That Are OBL, FACW, or FAC:	1	(A)
2.						
3.				Total Number of Dominant		
4			. <u> </u>	Species Across All Strata	1	(B)
5					· ·	(0)
3			·			
6		<u> </u>	. <u> </u>	Percent of Dominant Species		<i></i>
7			·	That Are OBL, FACW, or FAC:	100%	(A/B)
	45 =	Total Cover				
				Prevalence Index Worksheet:		
Sapling/Shrub Stratum (Plot size: 15 ft.	)			Total % Cover of:	Multiply b	y:
1. None Observed				OBL species 0	x 1 = 0	
2.				FACW species 0	x 2 = <b>0</b>	
3			. <u> </u>	FAC species 45	x 3 = 135	5
4					×4 – 0	<u> </u>
··					×5- °	
J					x = 0	
٥				Column Lotals: 45 (A	(A) <u>135</u>	<b>)</b> (B)
7			<u> </u>			
	=	Total Cover		Prevalence Index = B/A =	3.00	
Herb Stratum (Plot size: 5 ft. )				Hydrophytic Vegetation Indicators:	:	
1. None Observed				1 - Rapid Test for Hydrophyt	tic Vegetation	
2.				X 2 - Dominance Test is >50%	, ວ	
3.				<b>X</b> 3 - Prevalence Index is $\leq 3.0$	) <sup>1</sup>	
4			·	4 - Morphological Adaptation	ns <sup>1</sup> (Provide sup	porting
5				data in Remarks or on a	senarate sheet)	3
5		<u> </u>			separate sheet)	<b>b</b> )
0	·		<u> </u>		getation (Explai	11)
7			·			
8				<sup>1</sup> Indicators of hydric soil and wetland	d hydrology mus	t
9				be present, unless disturbed or proble	ematic.	
10				Definitions of Five Vegetation Strat	ta:	
11.				Tree - Woody plants 3 in. (7.6 cm) or	r more in diamet	ter
12.				at breast height (DBH) regardless of	height.	
	0 =	Total Cover			0	
				Sapling/Shrub - Woody plants ises the	han 3 in. DBH	
Weedy Vine Stratum (Dist size) 00 (t)				and greater than or equal to 3.28 ft (1	(m) tall	
					· · · · <b>/</b> · · · · ·	
1. None Observed	·		·		lanta regendles.	
2	. <u> </u>		. <u> </u>	Herb - All herbaceous (non-woody) p	iants, regardless	5
3				of size, and woody plants less than 3.	.28 ft tall.	
4						
	=	Total Cover		Woody vine - All woody vines greate	r than 3.28 ft in I	height.
				Hydrophytic		
				Vegetation		
				Present? Yes X No	o	
Remarks:						
A positive indication of built		ion was share	d (> E00/ of d	vinant anapias indexed as OBL EACING	FAC)	
A positive indication of hydr	opriylic vegetat	lion was observe	20 (>50% 01 0011	inant species indexed as OBL, FACW, or	FAC).	
		с ·				
		Sparsely v	egetated surface			

epth Matrix		Redox Features			
ches) Color (moist) %	Color (moist)	% Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6 10YR 2/1 100				Loamy Sand	Mucky
<u></u>					
<u> </u>	<u> </u>				
	<u> </u>				
<u></u>					
ype: C=Concentration, D=Depletion, RM=	Reduced Matrix, MS=	Masked Sand Grains.	<sup>2</sup> Location: PL	=Pore Lining, M=N	fatrix.
dric Soils Indicators:	·			Indicators f	or Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)	Polvvalue	Below Surface (S8) (LF	RR.	2 cm M	luck (A10) (LRR K. L. MLRA 149B)
Histic Eninedon (A2)	MIR	Δ 149R)	,	Coast	Prairie Redox (A16) (I RR K I R)
Black Histic (A2)	Thin Dark			6 cm M	lucky Post or Post (\$3) (IPP K I
			(LKA 1430)	5 cm iv	
Hydrogen Sulfide (A4)	Loamy Mu	icky Mineral (F1) (LRR	Λ, L)	Dark S	
Stratified Layers (A5)	Loamy Gle	eyed Matrix (F2)		Polyva	ue Below Surface (S8) (LRR K, L)
Depleted Below Dark Surface (A11)	Depleted N	Vatrix (F3)		Thin Da	ark Surface (S9) <b>(LRR K, L)</b>
Thick Dark Surface (A12)	Redox Da	rk Surface (F6)		Iron-Ma	anganese Masses (F12) (LRR K, L,
Sandy Mucky Mineral (S1)	Depleted [	Dark Surface (F7)		Piedmo	ont Floodplain Soils (F19) (MLRA 14
Sandy Gleyed Matrix (S4)	Redox De	pressions (F8)		Mesic S	Spodic (TA6) <b>(MLRA 144A, 145, 14</b>
Sandy Redox (S5)				Red Pa	arent Material (F12)
Stripped Matrix (S6)				Verv S	hallow Dark Surface (F22)
Dark Surface (S7) (LRR R. MLRA 149)	B)			Other (	Explain in Remarks)
dicators of hydrophytic vegetation and we estrictive Layer (if observed): Type: Denth (inches):	tland hydrology must t	be present, unless distu	rbed or problema	tic.	es X No
dicators of hydrophytic vegetation and we estrictive Layer (if observed): Type: Depth (inches):	tland hydrology must t	be present, unless distu	rbed or problema	tic.	es <u>X</u> No
dicators of hydrophytic vegetation and we strictive Layer (if observed): Type: Depth (inches): marks:	tland hydrology must t	e indication of hydric sc	il was observed.	tic. toil Present? Yo	es <u>X</u> No
dicators of hydrophytic vegetation and we strictive Layer (if observed): Type: Depth (inches): marks:	tland hydrology must t	e indication of hydric sc	il was observed.	tic.	es <u>X</u> No
Idicators of hydrophytic vegetation and we Estrictive Layer (if observed): Type: Depth (inches): marks:	tland hydrology must b	be present, unless distu	il was observed.	ioil Present? Ye	es <u>X</u> No
dicators of hydrophytic vegetation and we estrictive Layer (if observed): Type: Depth (inches): marks:	tland hydrology must t	e indication of hydric so	il was observed.	ioil Present? Y	es <u>X</u> No
dicators of hydrophytic vegetation and we strictive Layer (if observed): Type: Depth (inches): marks:	tland hydrology must t	e indication of hydric so	il was observed.	tic.	es <u>X</u> No
dicators of hydrophytic vegetation and we strictive Layer (if observed): Type: Depth (inches): marks:	tland hydrology must t	e indication of hydric so	il was observed.	ioil Present? Ye	es <u>X</u> No
dicators of hydrophytic vegetation and we strictive Layer (if observed): Type: Depth (inches): marks:	A positiv	e indication of hydric so	il was observed.	ioil Present? Ye	es <u>X</u> No
dicators of hydrophytic vegetation and we estrictive Layer (if observed): Type: Depth (inches): marks:	A positiv	e indication of hydric so	il was observed.	ioil Present? Y	es <u>X</u> No
dicators of hydrophytic vegetation and we estrictive Layer (if observed): Type: Depth (inches): marks:	A positiv	e indication of hydric so	il was observed.	ioil Present? Y	es <u>X</u> No
dicators of hydrophytic vegetation and we strictive Layer (if observed): Type: Depth (inches): marks:	tland hydrology must t	e indication of hydric so	il was observed.	ioil Present? Yu	es X No
dicators of hydrophytic vegetation and we strictive Layer (if observed): Type: Depth (inches): marks:	tland hydrology must t	e indication of hydric sc	il was observed.	ioil Present? Yu	es X No

Project/Site:	MetroNor	th Railroad W	/est River	to Allings	Crossin	ng Co	unty:	New Haven		Sampling Date	e:	4/18/2018
Applicant/Owner:			Un	ited Illumi	nating	<u> </u>	·	State:	СТ	Sample Po	int:	SP-12
Investigator(s):		D. King	and	R	. Hylan	d S	ection, Tow	nship, Range:			N/A	
Landform (hillslope	e, terrace, /	etc.):	٦	Terrace		L	ocal relief (	concave, convex,	, none):	None	Slope (%):	0-3
Subregion (LRR or	r MLRA):			LRR R			Lat:	41.26995	Long:	-72.96659	Datum:	NAVD 88
Soil Map Unit Nam	1e:			U	rban La	nd (307)			NWI	Classification:		N/A
Are climatic / hydro	ologic cond	litions on the	site typica	I for this ti	me of y	ear? (ו	(es / No)	YES	(if no	, explain in Rem	arks.)	
Are Vegetation	No	,Soil No	or Hyc	drology	No	significar	ntly disturbe	d? Are "Norm	nal Circum	stances" presen	t? Yes 2	<b>K</b> No
Are Vegetation	No	,Soil No	or Hyc	drology	No	naturally	problematio	??	(If needed	, explain any ans	wers in Rema	arks.)
			tach sit	to man	show	vina sa	mnling r	oint locatio	one trai	nsocts imn	ortant foa	tures etc
				te map	31104	ang sa	inbinia i		/ii3, ti ai	nseets, imp		
Hydrophytic Vege	etation Pres	sent? Y	es		No	х						
Hydric Soil Prese	nt?	Y	es		No	Х	Is the Sa	mpled Area				
Wetland Hydrolog	gy Present	? Y	'es		No	х	within a	Wetland?		Yes	No	Х
							If yes	ontional Wetlar	nd Site ID:			
Remarks:							li yes		iu olie ib.			
Nemarks.		This r	oint was c	determine	d not to	be within a	a wetland du	ue to the lack of a	all three we	etland criteria.		
				Up	pland po	ont for Wet	land 6 locat	ted on a hillslope	-			
	<u></u>											
Wetland hvd	ı roloav Ind	icators:							Casa	ndon ( Indiantoro	(minimum of	two required)
Deire ere de die	-tongy ind				414				Seco	ndary Indicators	(minimum of	two required)
Primary Indica	ators (minii	mum of one I	s required	; cneck al	that ap					Surface Soli Cr	acks (Bb)	
	3 vvater (A	1)			vvater-	Stained Le	aves (B9)			Drainage Patte	ms (B10)	
High W	ater Table	(A2)			Aquatic	: Fauna (B	13)			Moss Irim Line	es (B16)	
Saturat	tion (A3)				Marl De	eposits (B1	5)			Dry-Season W	ater Table (C2	2)
Water I	Marks (B1)				Hydrog	en Sulfide	Odor (C1)			Crayfish Burrov	vs (C8)	
Sedime	ent Deposit	is (B2)			Oxidize	d Rhizosp	heres on Liv	ving Roots (C3)		Saturation Visil	ole on Aerial I	magery (C9)
Drift De	eposits (B3	)			Presen	ce of Redu	iced Iron (C	4)		Stunted or Stre	ssed Plants (I	D1)
Algal M	lat or Crust	t (B4)			Recent	Iron Redu	ction in Tille	ed Soils (C6)		Geomorphic Po	osition (D2)	
Iron De	posits (B5)	)			Thin Mu	uck Surfac	e (C7)			Shallow Aquita	rd (D3)	
Inundat	tion Visible	on Aerial Im	agery (B7)	)	Other (I	Explain in	Remarks)			Microtopograph	nic Relief (D4)	
Sparse	ly Vegetate	ed Concave S	Surface (B	8)						FAC-Neutral Te	est (D5)	
Field Observatio	ons:											
Surface Water Pr	resent?	Yes	No	Х	Depth	n (inches):	N/A					
Water Table Pres	sent?	Yes	No	Х	Depth	n (inches):	>20					
Saturation Preser	nt?	Yes	No	Х	Depth	n (inches):	>20	Wetland	Hydrology	y Present? Y	′es	No X
(includes capillary	y fringe)											
Describe Recorde	ed Data (st	ream gauge,	monitoring	g well, aei	rial phot	os, previo	us inspectio	ns), if available:				
Remarks:												
No positive in	dication of	wetland hydr	rology was	observed	ł.							
		•										
1												

Sampling Point:

	Absolute	Dominant	Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size: 30 ft.)	% cover	Species?	Status	Number of Dominant Species		
1. Acer rubrum	35	Yes	FAC	That Are OBL, FACW, or FAC:	1	(A)
2. Quercus rubra	20	Yes	FACU	-		
3.				Total Number of Dominant		
4.				Species Across All Strata:	4	(B)
5						(-)
6				Percent of Dominant Species		
7				That Are OBL_EACW/ or EAC	25%	(A/B)
/		Total Cover			2370	(7,10)
	=	Total Cover		Prevalence Index Worksheet:		
Sopling/Shrub Stratum (Dist size) 45 ft	`			Total % Cover of:	Multiply by	
<u>Saping/Sillub Stratum</u> (Plot size: <u>15 it.</u>	)	Vee	FACU			<u>.                                    </u>
	15	165	TACO			
2				FACVV species	x 2 = <u>0</u>	
3				FAC species 35	x 3 = <u>105</u>	
4				FACU species 45	x 4 = <u>180</u>	
5					$x_5 = 0$	(D)
6				Column Totals: 80	(A) <u>285</u>	(B)
7						
	=	Total Cover		Prevalence Index = B/A =	3.56	
Herb Stratum (Plot size: 5 ft )				Hydrophytic Vegetation Indicator	rs:	
1 None Observed				1 - Rapid Test for Hydron	hytic Vegetation	
2				2 - Dominance Test is >5(		
3				3 - Prevalence Index is <	3 0 <sup>1</sup>	
3					tions <sup>1</sup> (Provide supp	orting
4						oning
5				Droblemetic Hydrophytic )	a separate sneet)	<b>`</b>
8					regetation (Explain	)
<i>1</i>				1		
8				Indicators of hydric soil and wetla	and hydrology must	
9				be present, unless disturbed or pro	blematic.	
10				Definitions of Five Vegetation St	rata:	
11				I ree - woody plants 3 in. (7.6 cm)	) or more in diamete	er
12				at breast height (DBH) regardless	of height.	
	=	Total Cover		Contine (Church - ) Manchester land	a there is DDU	
				Sapling/Shrub - Woody plants ise	s than 3 in. DBH	
Woody Vine Stratum [Plot size: 30 ft. )				and greater than or equal to 3.28 It	. (1 m) tall.	
1. <u>Vitis aestivalis</u>	10	Yes	FACU		<b></b>	
2				Herb - All herbaceous (non-woody	) plants, regardless	
3				of size, and woody plants less than	1 3.28 ft tall.	
4	=	Total Cover		Woody vine - All woody vines grea	ater than 3.28 ft in h	eight.
				Hydrophytic		
				Vegetation		
				Present? Yes	No <u>X</u>	
Remarks:						
No positive indication of h	ydrophytic ve	getation was obs	served (≥50% of	dominant species indexed as FAC- or	drier).	

epth Matrix		Redox Features			
nches) Color (moist)	% Color (moist)	)%Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-9 10YR 2/1	100			Loamy Sand	
9-20 10YR 4/3	100			Loamy Sand	
<u> </u>					
				<u> </u>	
					<u> </u>
	on RM-Reduced Matri	iv MS-Masked Sand Grains	<sup>2</sup> Location: PL	-Pore Lining M-Matri	×
ype. C=Concentration, D=Depleti			LUCATION. FL		A. Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)	Poi	yvalue Below Surface (S8) (L	.RR R,	2 cm Muck	(A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)		MLRA 149B)		Coast Prair	rie Redox (A16) <b>(LRR K, L, R)</b>
Black Histic (A3)	Thi	n Dark Surface (S9) (LRR R,	MLRA 149B)	5 cm Muck	y Peat or Peat (S3) (LRR K, L, F
Hydrogen Sulfide (A4)	Loa	amy Mucky Mineral (F1) <b>(LRR</b>	K, L)	Dark Surfa	ce (S7) <b>(LRR K, L)</b>
Stratified Lavers (A5)	Loa	amy Gleved Matrix (F2)		Polvvalue I	Below Surface (S8) (LRR K. L)
Depleted Below Dark Surface (	(A11) Der	pleted Matrix (F3)		Thin Dark 9	Surface (S9) (LRR K I)
Thick Dark Surface (412)	De	dev Derk Surface (FC)		Iron Mongo	
Sandy Mucky Mineral (S1)	Dep	pleted Dark Surface (F7)		Piedmont H	-loodplain Soils (F19) (MLRA 14
Sandy Gleyed Matrix (S4)	Rec	dox Depressions (F8)		Mesic Spoo	dic (TA6) <b>(MLRA 144A, 145, 14</b> 9
Sandy Redox (S5)				Red Paren	t Material (F12)
				Very Shallo	ow Dark Surface (F22)
Stripped Matrix (S6)					
Stripped Matrix (S6) Dark Surface (S7) (LRR R, ML adicators of hydrophytic vegetation estrictive Layer (if observed): Type:  Depth (inches):	RA 149B)	v must be present, unless dist 	urbed or problema	Other (Exp	lain in Remarks)
Stripped Matrix (S6) Dark Surface (S7) (LRR R, ML ndicators of hydrophytic vegetation estrictive Layer (if observed): Type:  Depth (inches):	RA 149B) and wetland hydrology	/ must be present, unless dist 	urbed or problema	Other (Exp	lain in Remarks)
Stripped Matrix (S6) Dark Surface (S7) (LRR R, ML ndicators of hydrophytic vegetation estrictive Layer (if observed): Type:  Depth (inches): emarks:	RA 149B)	/ must be present, unless dist _ _	urbed or problema	Other (Exp atic. Soil Present? Yes _	lain in Remarks)
Stripped Matrix (S6) Dark Surface (S7) (LRR R, ML adicators of hydrophytic vegetation estrictive Layer (if observed): Type:  Depth (inches): emarks:	RA 149B)	/ must be present, unless dist 	urbed or problema	Other (Exp	lain in Remarks)
Stripped Matrix (S6) Dark Surface (S7) (LRR R, ML ndicators of hydrophytic vegetation estrictive Layer (if observed): Type: Depth (inches): emarks:	RA 149B) and wetland hydrology	y must be present, unless dist	Hydric S	Other (Exp atic. Soil Present? Yes	lain in Remarks)
Stripped Matrix (S6) Dark Surface (S7) (LRR R, ML adicators of hydrophytic vegetation estrictive Layer (if observed): Type:  Depth (inches): emarks:	RA 149B) and wetland hydrology	/ must be present, unless dist	urbed or problema	Other (Exp	lain in Remarks)
Stripped Matrix (S6) Dark Surface (S7) (LRR R, ML ndicators of hydrophytic vegetation estrictive Layer (if observed): Type: Depth (inches): emarks:	RA 149B) and wetland hydrology	y must be present, unless dist	Hydric S	Other (Exp	lain in Remarks)
Stripped Matrix (S6) Dark Surface (S7) (LRR R, ML adicators of hydrophytic vegetation estrictive Layer (if observed): Type:  Depth (inches): emarks:	RA 149B) and wetland hydrology	v must be present, unless dist	urbed or problema	Other (Exp	lain in Remarks)
Stripped Matrix (S6) Dark Surface (S7) (LRR R, ML adicators of hydrophytic vegetation estrictive Layer (if observed): Type:  Depth (inches):  emarks:	RA 149B) and wetland hydrology	y must be present, unless dist	urbed or problema	Other (Exp	lain in Remarks)
Stripped Matrix (S6) Dark Surface (S7) (LRR R, ML adicators of hydrophytic vegetation estrictive Layer (if observed): Type:  Depth (inches): emarks:	RA 149B) and wetland hydrology	v must be present, unless dist	urbed or problema	Cother (Exp	lain in Remarks)
Stripped Matrix (S6) Dark Surface (S7) (LRR R, ML adicators of hydrophytic vegetation estrictive Layer (if observed): Type:  Depth (inches): emarks:	RA 149B) and wetland hydrology	y must be present, unless dist	winded or problema	Other (Exp	lain in Remarks)
Stripped Matrix (S6) Dark Surface (S7) (LRR R, ML adicators of hydrophytic vegetation estrictive Layer (if observed): Type:  Depth (inches): emarks:	RA 149B)	v must be present, unless dist	urbed or problema	Other (Exp atic Soil Present? Yes	lain in Remarks)
Stripped Matrix (S6) Dark Surface (S7) (LRR R, ML adicators of hydrophytic vegetation estrictive Layer (if observed): Type:  Depth (inches):  emarks:	RA 149B) and wetland hydrology	v must be present, unless dist	winded or problema Hydric S soils was observed	Other (Exp	lain in Remarks)
Stripped Matrix (S6) Dark Surface (S7) (LRR R, ML adicators of hydrophytic vegetation estrictive Layer (if observed): Type:  Depth (inches): emarks:	RA 149B)	v must be present, unless dist	urbed or problema	Other (Exp	lain in Remarks)
Stripped Matrix (S6) Dark Surface (S7) (LRR R, ML ndicators of hydrophytic vegetation estrictive Layer (if observed): Type:  Depth (inches): emarks:	RA 149B)	v must be present, unless dist	winded or problema Hydric S soils was observed	Other (Exp	lain in Remarks)
Stripped Matrix (S6) Dark Surface (S7) (LRR R, ML ndicators of hydrophytic vegetation estrictive Layer (if observed): Type:  Depth (inches): emarks:	RA 149B)	v must be present, unless dist	urbed or problema	Other (Exp	lain in Remarks)
Stripped Matrix (S6) Dark Surface (S7) (LRR R, ML adicators of hydrophytic vegetation estrictive Layer (if observed): Type: Depth (inches): emarks:	RA 149B)	v must be present, unless dist	urbed or problema Hydric S	Other (Exp	lain in Remarks)
Stripped Matrix (S6) Dark Surface (S7) (LRR R, ML ndicators of hydrophytic vegetation estrictive Layer (if observed): Type:  Depth (inches): emarks:	RA 149B)	v must be present, unless dist	urbed or problema	Other (Exp	lain in Remarks)
Stripped Matrix (S6) Dark Surface (S7) (LRR R, ML adicators of hydrophytic vegetation estrictive Layer (if observed): Type: Depth (inches): emarks:	RA 149B)	v must be present, unless dist	urbed or problema Hydric S	Other (Exp	lain in Remarks)

Project/Site: Me	roNorth Ra	ailroad We	st River to A	llings Crossing	County:	New Haven		Sampling Da	te:	4/18/2018	
Applicant/Owner:			United	Illuminating		State:	СТ	Sample P	oint:	Wet 7	
Investigator(s):	D. Ki	ng	and	R. Hyland	Section, Tow	nship, Range:			N/A		
Landform (hillslope, te	race. etc.):	0	Depres	ssion	Local relief (	concave. convex. r	none):	Concave	Slope (%):	0-3	
Subregion (I RR or MI	RA) <sup>.</sup>		LRR	R	lat	41 26904	Long.	-72 96916	Datum:	NAVD 88	
Soil Man Unit Name	pil Map Unit Name: Chesh			shire-Holvoke Corr	nlex (77C)		NWI C	lassification:		N/A	
Are climatic / hydrologi	c condition	s on the s	ite typical for	this time of year?		VES	(if noe	volain in Por	marke)	10/7	
Are Vegetation	No So	il No	or Hydrold	av <b>No</b> siar	(1637 NO)	d2 Are "Norma	(II 110, e	ances" prese	nt? Ves	Y No	
	<u>No</u> ,30	11 <u>110</u>		iyy <u>ivo</u> siyi				ances prese	nt: 165 <u>7</u>		
	,30			iyy <b>no</b> nau	analiy problematic	, (I	ii needed, e	explain any al	ISWEIS III KEIIIa	1KS.)	
SUMMARY OF I	INDING	S - Atta	ach site i	map showing	ı sampling p	point location	ns, trans	sects, im	portant fea	tures, etc.	
	-	,									
Hydrophytic Vegetatio	n Present?	Ye Ye	s <u>X</u>	No	-						
Hydric Soil Present?		Ye	s <u>X</u>	No	Is the Sa	mpled Area					
Wetland Hydrology P	esent?	Ye	s <u>X</u>	No	within a	Wetland?	Ye	es <u>X</u>	No		
					If yes	, optional Wetland	d Site ID:		Wetland 7		
Remarks:						, I					
		This p	oint was dete	ermined to be withi	n a wetland due	to the presence of	f all 3 wetla	nd criteria.			
Wetland 7	is a foreste	ed wetland	located nor	th of the railroad R	OWand extends	off-site to the nort	h: it is adia	cent to an int	ermittent water	course.	
							,				
HYDROLOGY											
Wetland hydrolo	gy Indicato	ors:					Second	dary Indicator	s (minimum of	two required)	
Primary Indicators	(minimum	of one is	required: che	eck all that apply)			5	Surface Soil C	Cracks (B6)	<b>i</b>	
X Surface Wa	ter (A1)			Water-Staine	ed Leaves (B9)		r	Drainage Patterns (B10)			
X High Water	Table (A2)		-	Agustic Found (B13)				Moss Trim Lines (B16)			
X Saturation	1 abic (712)		-	Aqualic Faulia (B15)				Dry-Season Water Table (C2)			
	A3)		-								
	S (B1)	_,	-	Hydrogen Sulfide Odor (C1)				ClayIISH Durlows (Co)			
Sediment L	eposits (B2	2)	_	Oxidized Rhizospheres on Living Roots (C3)				Saturation Visible on Aerial Imagery (C9)			
Drift Depos	ts (B3)		_	Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1)						D1)	
Algal Mat o	r Crust (B4)	)	_	Recent Iron Reduction in Tilled Soils (C6) X Geomorphic Position (D2)							
Iron Depos	ts (B5)		_	Thin Muck Surface (C7)				Shallow Aquitard (D3)			
Inundation	√isible on A	Aerial Imag	gery (B7)	Other (Explain in Remarks)			Microtopographic Relief (D4)				
X Sparsely V	egetated Co	oncave Su	Irface (B8)				FAC-Neutral Test (D5)				
Field Observations:											
Surface Water Prese	nt? Yes	s X	No	Depth (inc	hes): <b>3</b> "						
Water Table Present	Yes	x	 No	Depth (incl	hes): 0"						
Saturation Present?	Yes	<u> </u>	 No	Depth (incl	hes): 0"	Wetland H	lydrology F	Present?	Yes X	No	
(includes capillary frin	ae)	<u> </u>		Deptil (inc	nes). <b>U</b>	Wettand I	iyarology i	resenti			
	<u>90)</u>		., .		,.						
Describe Recorded D	ata (stream	n gauge, n	nonitoring we	ell, aerial photos, pi	revious inspectio	ns), if available:					
Remarks:											
A positive indicati	on of wetlar	nd hydrolo	ogy was obse	erved (primary and	secondary indica	tors were present	).				
Standing water no	ted in a sm	nall pooled	l area. Recei	ves hvdrology from	n off-site seeps a	nd watercourse.					
g											

Sampling Point: Wet 7

	Abaalista	Deminant	la di seten	Dominance Test worksheet:
	Absolute	Dominant	Indicator	
<u>I ree Stratum</u> (Plot size: <u>30 ft.</u> )	% cover	Species?	Status	Number of Dominant Species
1. Acer rubrum	40	Yes	FAC	That Are OBL, FACW, or FAC: (A)
2				
3				Total Number of Dominant
4.				Species Across All Strata: 1 (B)
5.				
6				Percent of Dominant Species
7			·	That Are OBL EACW or EAC: 100% (A/B)
1			<u> </u>	$\begin{array}{c} \text{Inal Ale OBL, FACW, OF FAC.} \\ \hline \begin{array}{c} \text{IOU} \\ \end{array} \end{array} (A'B) \end{array}$
	40 =	= I otal Cover		Drevelence Index Werkeheet
				Flevalence index worksheet.
Sapling/Shrub Stratum (Plot size: 15 ft.	)			Total % Cover of: Multiply by:
1. None Observed				OBL species <b>0</b> x 1 = <b>0</b>
2				FACW species <b>0</b> x 2 = <b>0</b>
3.				FAC species <b>40</b> x 3 = <b>120</b>
4.				FACU species $0$ x 4 = $0$
5				LIPL species $0 \times 5 = 0$
ő			·	$\begin{array}{c} \text{Colump Totals:}  40  (A)  130  (B) \end{array}$
u				Column rotais. <u>40</u> (A) <u>120</u> (B)
ſ		Total Cours		Dravalance Index D/A 200
		= rotar Cover		Prevalence index = B/A = 3.00
Horb Stratum (Distaira: 5 4)				Hydrophytic Vagatation Indicators
$\frac{11}{100} \frac{1}{5} \frac{1}{100} \frac{1}{$				
				1 - Kapid Lest for Hydrophytic Vegetation
2				X 2 - Dominance Test is >50%
3				<b>X</b> 3 - Prevalence Index is $\leq 3.0^{\circ}$
4				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
5				data in Remarks or on a separate sheet)
6.				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
7.				
8				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
9				he present unless disturbed or problematic
9				Definitions of Five Vegetation Strate:
10			<u> </u>	Trace Weather lasts 0 is (7.0 cm) as more in diameter
···	<u> </u>		·	Thee - woody plants 5 in. (7.6 cm) of more in diameter
12			<u> </u>	at breast height (DBH) regardless of height.
		= Total Cover		<b>Continue (Church</b> , Manada and Jacobian Chin, DDI)
				Sapling/Shrub - Woody plants ises than 3 in. DBH
Woody Vine Stratum (Plot size: 30 ft. )				and greater than or equal to 3.28 ft (1 m) tall.
1. None Observed				
2				Herb - All herbaceous (non-woody) plants, regardless
3.				of size, and woody plants less than 3.28 ft tall.
4.				
	0 =	= Total Cover		Woody vine - All woody vines greater than 3.28 ft in height.
				Hydrophytic
				Vegetation
				Present? Ves X No
Remarks:				
Kondiko.				
A positive indication of hydro	opnytic vegeta	ation was observe	ea (>50% of dom	inant species indexed as UBL, FACW, or FAC).
		<b>.</b> .		
		Sparsely vegeta	ated concave sur	tace.

Wet 7

Matrix	th needed to document the indicator or confirm the ab	sence of indicators.)							
epth Octor (maint)	$\frac{1}{2} \frac{1}{2} \frac{1}$	- Tautura Damada							
<u>0-7 10YR 2/1 100</u>		Loamy Sand Mucky							
<u>7-20 10YR 3/8 100</u>		Silt Loam							
Type: C=Concentration, D=Depletion, RM=	Reduced Matrix, MS=Masked Sand Grains. Location	n: PL=Pore Lining, M=Matrix.							
lydric Soils Indicators:		Indicators for Problematic Hydric Solis":							
Histosol (A1)	Polyvalue Below Surface (S8) (LRR R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)							
Histic Epipedon (A2)	MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)							
Black Histic (A3)	Thin Dark Surface (S9) (LRR R, MLRA 149B)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)							
Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1) (LRR K. L)	Dark Surface (S7) (LRR K. L)							
Stratified Lavers (A5)	Loamy Gleved Matrix (F2)	Polyvalue Below Surface (S8) (I RR K L)							
Depleted Below Dark Surface (A11)		Thin Dark Surface (S0) (I DD K I)							
Depleted Delow Dark Surface (A11)									
Inick Dark Sufface (A12)	Redox Dark Sufface (F6)	Iron-Manganese Masses (F12) (LRR K, L, R							
X Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	Piedmont Floodplain Soils (F19) (MLRA 149							
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	Mesic Spodic (TA6) (MLRA 144A, 145, 1498							
Sandy Redox (S5)		Red Parent Material (F12)							
Stripped Matrix (S6)		Very Shallow Dark Surface (F22)							
Dark Surface (S7) (LRR R. MLRA 149	B)	Other (Explain in Remarks)							
Type: Depth (inches):		Hydric Soil Present? Yes X No							
emarks:	A positive indication of hydric soil was obser	ved.							
Project/Site:	MetroNorth Railro	ad West River to Alling	s Crossing 0	County:	New Haven		Sampling Date:		4/18/2018
------------------------	----------------------	-------------------------------------	---------------------	-------------------	-------------------	--------------	--------------------	-----------------------	--------------
Applicant/Owner:		United Illun	ninating		State:	СТ	Sample Point		SP-14
Investigator(s):	D. King	and	R. Hyland	Section, Townsh	nip, Range:			N/A	
Landform (hillslope	e. terrace. etc.):	Terrace		Local relief (con	cave. convex.	none):	None S	lope (%):	0-3
Subregion (LRR or	r MLRA):	LRR R		Lat: 41	.26901	Long:	-72,96920	Datum:	NAVD 88
Soil Map Unit Nam	ne:	Cheshire	-Holvoke Comple	ex (77C)		NWI C	Classification:		N/A
Are climatic / hvdro	ologic conditions or	the site typical for this	time of year?	(Yes / No)	YES	(if no	explain in Remark	(S)	
Are Vegetation	No .Soil	No .or Hydrology	No signific	antly disturbed?	Are "Norma	al Circums	tances" present?	Yes X	No
Are Vegetation	No Soil	No .or Hydrology	No natural	llv problematic?	(	If needed.	explain any answ	ers in Remar	
	,	,					-	-	
SUMMARY O	OF FINDINGS	<ul> <li>Attach site map</li> </ul>	o showing s	ampling po	int locatio	ns, tran	sects, impo	rtant feat	ures, etc.
Hydrophytic Vog	otation Procont?	Voc	No Y						
Hydria Sail Brook	etalion Fresent?	Yee		la tha Samu	alad Araa				
Notional Ludrala	sill?	Yee		is the Salin		v	'aa	Na	v
	gy Present?	res		within a we	ettano ?	ſ	es	NO	<u>^</u>
				lf yes, o	ptional Wetland	d Site ID: _			
Remarks:									
	Т	his point was determine	ed not to be within	n a wetland due	to the lack of al	Il three wet	land criteria.		
		Lipland point for	Watland 7 loost	ad in forestad or	a north of the	roilrood D			
		Upland point for	welland 7, local	ed in lorested an	ea north of the	railfoad Ru	Jvv.		
HYDROLOG	Y								
Wetland hyd	Irology Indicators:					Secon	dary Indicators (m	ninimum of ty	vo required)
Primary Indic	estors (minimum of	one is required: check a	all that apply)			Decon	Surface Soil Crac	ks (B6)	vo required)
<u>1 minary indica</u>	o Water (A1)	one is required, check a	Water Stained I				Drainage Battern	(B10)	
Suilace	lotor Toblo (A2)		Aquetia Equipa /	(P12)			Mooo Trim Linco	(D10)	
	tion (A2)		Aqualic Faulta (	(D13) D15)			Dry Seesen Wate	(D10) w Tabla (C2)	
	tion (A3)		Mari Deposits (i	B15)			Dry-Season wate	er Table (CZ)	
Water	Marks (B1)		Hydrogen Sulfic	de Odor (C1)			Crayfish Burrows	(C8)	(
Sedime	ent Deposits (B2)		Oxidized Rhizos	spheres on Living	g Roots (C3)		Saturation Visible	on Aerial Im	agery (C9)
Drift De	eposits (B3)		Presence of Re	duced Iron (C4)			Stunted or Stress	ed Plants (D	1)
Algal M	/lat or Crust (B4)		Recent Iron Rec	duction in Tilled	Soils (C6)		Geomorphic Posi	tion (D2)	
Iron De	eposits (B5)		Thin Muck Surfa	ace (C7)			Shallow Aquitard	(D3)	
Inundat	tion Visible on Aeri	al Imagery (B7)	Other (Explain i	n Remarks)			Microtopographic	Relief (D4)	
Sparse	ely Vegetated Conc	ave Surface (B8)					FAC-Neutral Test	: (D5)	
Field Observation	ons:								
Surface Water Pr	resent? Yes	No X	Depth (inches	s): <u>N/A</u>					
Water Table Pres	sent? Yes	No X	Depth (inches	s): <b>&gt;20</b>					
Saturation Preser	nt? Yes	No X	Depth (inches	s): >20	Wetland H	lydrology	Present? Yes	6	No X
(includes capillar	y fringe)								
Describe Recorde	ed Data (stream ga	uge, monitoring well, a	erial photos, prev	ious inspections)	, if available:				
				• •					
Remarks:									
No positive in	ndication of wetland	hydrology was observe	ed.						

Sampling Point:

	Absolute	Dominant	Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size: 30 ft. )	% cover	Species?	Status	Number of Dominant Species	
1. Quercus alba	20	Yes	FACU	That Are OBL, FACW, or FAC: 2 (A)	
2. Acer rubrum	15	Yes	FAC		
3. Prunus serotina	5	No	FACU	Total Number of Dominant	
4				Species Across All Strata: 4 (B)	
5.					
6.				Percent of Dominant Species	
7.				That Are OBL, FACW, or FAC: 50% (A/B)	
	40 =	Total Cover			
				Prevalence Index Worksheet:	
Sapling/Shrub Stratum (Plot size: 15 ft.	)			Total % Cover of: Multiply by:	
1. Rosa multiflora		Yes	FACU	OBL species <b>0</b> x 1 = <b>0</b>	
2.				FACW species <b>0</b> x 2 = <b>0</b>	
3.				FAC species <b>30</b> x 3 = <b>90</b>	
4.				FACU species <b>45</b> x 4 = <b>180</b>	
5.				UPL species $0$ x 5 = $0$	
6.				Column Totals: <b>75</b> (A) <b>270</b> (B	.)
7					'
··	20 -	Total Cover	<u> </u>	Prevalence Index = B/A = 3.60	
	=				
Herb Stratum (Plot size: 5 ft.)				Hydrophytic Vegetation Indicators:	
1. None Observed				1 - Rapid Test for Hydrophytic Vegetation	
2.				2 - Dominance Test is >50%	
3.			·	3 - Prevalence Index is $\leq 3.0^{1}$	
4.			·	4 - Morphological Adaptations <sup>1</sup> (Provide supporting	
5				data in Remarks or on a separate sheet)	
6			·	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
7			·		
8			·	<sup>1</sup> Indicators of hydric soil and wotland hydrology must	
8:			·	he present unless disturbed or problematic	
9				Definitions of Five Vegetation Strata:	
10			·	Trop Woody plants 2 in (7.6 cm) or more in diameter	
12			·	at breast beight (DDII) regardless of beight	
12		Total Cover		at breast height (DBH) legardless of height.	
	=	Total Cover		Sapling/Shrub - Woody plants lses than 3 in DBH	
				and greater than or equal to 3.28 ft (1 m) tall	
<u>woody vine Stratum</u> Piot size: <u>30 ft.</u> )	45	X	54.0		
	15	<u>Yes</u>	FAC	Herb - All berbaceous (non-woody) plants, regardless	
2	·		·	of size, and woody plants less than 3 28 ft tall	
3			<u> </u>	or size, and woody plants less than 5.20 it tall.	
4	15 =	Total Cover		Woody vine - All woody vines greater than 3.28 ft in height.	
				Hydrophytic	
				Vegetation	
				Procent? Yes No Y	
Demorke					
Remarks:					
No positive indication of h	nydrophytic ve	getation was obs	served (≥50% of	dominant species indexed as FAC- or drier).	

epth <u>Matrix</u>			Redox Features	2		
nches) Color (moist)	<u>%</u> C	Color (moist)	<u>%</u> Type'	Loc <sup>2</sup>	Texture	Remarks
0-2 10YR 2/2	100		<u> </u>	<u> </u>	Silt Loam	
2-20 10YR 4/3	100			<u> </u>	Silt Loam	
			<u> </u>	<u> </u>		
				·		
				·		
vpe: C=Concentration. D=Depl	letion. RM=Re	duced Matrix. M	IS=Masked Sand Grains.	<sup>2</sup> Location: PL=	Pore Lining. M=Mat	rix.
vdric Soils Indicators:		,			Indicators for	Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)		Polyval	ue Below Surface (S8) (L	RR R.	2 cm Muc	k (A10) (LRR K. L. MLRA 149B)
Histic Eninedon (A2)		NI	RA 1498)		Coast Pra	$\frac{1}{100} = \frac{1}{100} (100 \times 100 \times 1000 \times 100 \times 1000 \times 100 \times 100$
Plack Histic (A2)		Thin Dr	ork Surface (SO) /I PP P	MI DA 140B)	0000001110	ky Post or Post (S3) (IPP K I
Diack Tristic (AS)			Musiku Minorol (E1) (I BB		Dork Surf	
Hydrogen Suilide (A4)		Loaniy		ι <b>κ</b> , <b>μ</b> )	Dark Sur	Deleve Surface (SQ) (LDD K L)
Stratified Layers (A5)	(	Loamy	Gleyed Matrix (F2)		Polyvalue	
Depleted Below Dark Surfac	e (A11)		ed Matrix (F3)			
Thick Dark Surface (A12)		Redox I	Dark Surface (F6)		Iron-Mang	janese Masses (F12) (LRR K, L,
Sandy Mucky Mineral (S1)		Deplete	ed Dark Surface (F7)		Piedmont	Floodplain Soils (F19) (MLRA 14
Sandy Gleyed Matrix (S4)		Redox I	Depressions (F8)		Mesic Spo	odic (TA6) <b>(MLRA 144A, 145, 149</b>
Sandy Redox (S5)					Red Pare	nt Material (F12)
Stripped Matrix (S6)					Very Shal	low Dark Surface (F22)
Dark Surface (S7) (LRR R, I	MLRA 149B)				Other (Ex	plain in Remarks)
estrictive Layer (if observed): Type: Depth (inches):	ion and wetlar	nd hydrology mu	st be present, unless dist	Hydric Sc	c. bil Present? Yes	NoX
emarks:		nd hydrology mu	st be present, unless dist	Hydric Sc	c. bil Present? Yes	No X
estrictive Layer (if observed): Type: Depth (inches):	ion and wettar	id hydrology mu	st be present, unless dist	Hydric Sc	c. bil Present? Yes	No
estrictive Layer (if observed): Type: Depth (inches): emarks:		No pos	st be present, unless dist	Hydric Sc	c. bil Present? Yes	No
estrictive Layer (if observed): Type: Depth (inches): emarks:		No pos	st be present, unless dist	Hydric Sc	c. bil Present? Yes	No
estrictive Layer (if observed): Type: Depth (inches): emarks:		No pos	st be present, unless dist	Hydric Sc	c. bil Present? Yes	No <u>X</u>
estrictive Layer (if observed): Type: Depth (inches): emarks:		No pos	st be present, unless dist	Hydric Sc	c. bil Present? Yes	No
estrictive Layer (if observed): Type: Depth (inches): emarks:		No pos	st be present, unless dist	Hydric So	c. bil Present? Yes	NoX
estrictive Layer (if observed): Type: Depth (inches): emarks:		No pos	st be present, unless dist	Hydric So	c. bil Present? Yes	NoX
estrictive Layer (if observed): Type: Depth (inches): emarks:		No pos	st be present, unless dist	Hydric Sc	c. bil Present? Yes	NoX
estrictive Layer (if observed): Type: Depth (inches): emarks:		No pos	itive indication of hydric s	Hydric Sc	c. bil Present? Yes	NoX
estrictive Layer (if observed): Type: Depth (inches): emarks:		No pos	st be present, unless dist	Hydric Sc	c. bil Present? Yes	NoX
estrictive Layer (if observed): Type: Depth (inches): emarks:		No pos	st be present, unless dist	Hydric So	c. bil Present? Yes	NoX
estrictive Layer (if observed): Type: Depth (inches): emarks:		No pos	st be present, unless dist	Hydric Sc	c. bil Present? Yes	NoX
estrictive Layer (if observed): Type: Depth (inches): emarks:		No pos	itive indication of hydric s	Hydric Sc	c. bil Present? Yes	NoX

Project/Site: MetroNorth	Railroad West River to Allings	Crossing County:	New Haven	Sampling Date	÷: 4/20/2018
Applicant/Owner:	United Illum	inating	State:	CT Sample Poi	int: SP-15
nvestigator(s): D.	King and F	. Hyland Section, T	ownship, Range:		N/A
andform (hillslope, terrace, etc	c.): Depression	Local relie	ef (concave, convex, nor	ne): Concave	Slope (%): 0-3
ubregion (LRR or MLRA):	LRR R	Lat:	41.26669 Lo	ong: -72.97349	Datum: NAVD 88
Soil Map Unit Name:	Udorthe	ents-Urban Land (306)		NWI Classification:	N/A
re climatic / hydrologic conditio	ons on the site typical for this t	ime of vear? (Yes / No)	YES	(if no. explain in Rema	arks.)
re Vegetation No	Soil No .or Hydrology	No significantly distur	rbed? Are "Normal (	Circumstances" present	r? Yes X No
re Vegetation No	Soil No or Hydrology	No naturally problem	atic? (If r	peeded explain any ans	swers in Remarks )
	Join in the second seco	<u>No</u> naturally provident	alle: (	leeueu, explain any and	
SUMMARY OF FINDIN	IGS - Attach site map	showing sampling	y point locations	s, transects, imp	ortant features, etc.
Hydrophytic Vegetation Preser Hydric Soil Present? Wetland Hydrology Present? Remarks:	nt? Yes X Yes X Yes X This point was determin	No Is the No Within If y ed to be within a wetland d	Sampled Area a Wetland? yes, optional Wetland S ue to the presence of al	Yes X	No Wetland 8
	tland 8 is a scrub-shrub wetlan	d located adjacent to an in	termittent watercourse.	The area appears distu	ırbed.
Wetland hydrology India:	-1-70.				
Wetlanu nyurology maio	ators			Secondary Indicators	(minimum of two required)
Primary Indicators (minimu	um of one is required; check al	I that apply)		Surface Soil Cra	acks (B6)
Surface Water (A1)		Water-Stained Leaves (B9	))	X Drainage Patter	rns (B10)
X High Water Table (A	42)	Aquatic Fauna (B13)		Moss Trim Line	.s (B16)
X Saturation (A3)		Marl Deposits (B15)		Dry-Season Wa	ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide Odor (C	1)	Crayfish Burrow	vs (C8)
Sediment Deposits (	(B2)	Oxidized Rhizospheres on	Living Roots (C3)	Saturation Visib	ole on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of Reduced Iron	(C4)	Stunted or Stree	essed Plants (D1)
Algal Mat or Crust (F	D 4)	Percent Iron Reduction in 7	Filled Soile (C.6)	Y Geomorphic Pc	$\frac{1}{(D2)}$
Iron Denosite (B5)	<u> </u>	This Muck Surface (C7)			
	(P7)			Sildiiuw Aquitai	
Inundation Visible of	n Aerial Imagery (B7)	Other (Explain in Remarks	i)	Microtopograph	ic Reliet (D4)
Sparsely vegetated	Concave Surface (B8)			FAC-Neutral Te	∍st (D5)
Field Observations:					
Surface Water Present? Y	/es NoX	Depth (inches): N/A	_		
Water Table Present? Y	res X No	Depth (inches): 8"	_		
Saturation Present? Y	res X No	Depth (inches): 4"	Wetland Hyd	drology Present? Y	′es <u>X</u> No
(includes capillary fringe)		· · ·	-		
Describe Recorded Data (strea	am gauge, monitoring well, ae	rial photos, previous inspec	tions), if available:		
Remarks:					
A positive indication of wet	tland hydrology was observed	(primary and secondary inc	dicators were present).		
·					

Sampling Point:

	Absolute	Dominant	Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size: <u>30 ft.</u> )	% cover	Species?	Status	Number of Dominant Species	
1. None observed				That Are OBL, FACW, or FAC: 3 (A)	
2.					
3.				Total Number of Dominant	
4				Species Across All Strata: 5 (B)	
5					
6				Percent of Dominant Species	
7	·	·	· <u> </u>	The function $D$ of D of $D$ of D of $D$ of $D$ of $D$ of $D$ of D of $D$ of $D$ of D of $D$ of $D$ of $D$ of D of $D$ of $D$ of D of $D$ of D of $D$ of $D$ of D	
7		Total Causer			
	=	Total Cover		Prevalence Index Worksheet:	
	,				
Sapling/Shrub Stratum (Plot size: 15 ft.	_)		54.011	l otal % Cover of: Multiply by:	
1. Rosa multiflora	20	Yes	FACU	$OBL species \qquad 10 \qquad x \ 1 = \qquad 10$	
2. Cornus amomum	15	Yes	FACW	FACW species <b>100</b> x 2 = <b>200</b>	
3				FAC species <u>5</u> x 3 = <u>15</u>	
4				FACU species <b>25</b> x 4 = <b>100</b>	
5				UPL species <b>5</b> x 5 = <b>25</b>	
6				Column Totals: 145 (A) 350 (E	3)
7					
	35 =	Total Cover		Prevalence Index = B/A = 2.41	
Herb Stratum (Plot size: 5 ft.)				Hydrophytic Vegetation Indicators:	
1. Phragmites australis	55	Yes	FACW	1 - Rapid Test for Hydrophytic Vegetation	
2. Phalaris arundinacea	25	Yes	FACW	X 2 - Dominance Test is >50%	
3. Typha latifolia	10	No	OBL	<b>X</b> 3 - Prevalence Index is $\leq 3.0^{1}$	
4. Euthamia graminifolia	5	No	FAC	4 - Morphological Adaptations <sup>1</sup> (Provide supporting	
5. <u>Onoclea sensibilis</u>	5	No	FACW	data in Remarks or on a separate sheet)	
6				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
7.					
8.				<sup>1</sup> Indicators of hydric soil and wetland hydrology must	
9.				be present, unless disturbed or problematic.	
10.				Definitions of Five Vegetation Strata:	
11				Tree - Woody plants 3 in. (7.6 cm) or more in diameter	
12				at breast height (DBH) regardless of height	
12.	100 -	Total Cover		at breast height (bbr) regardless of height.	
	100 =	Total Cover		Sapling/Shrub - Woody plants lses than 3 in DBH	
				and greater than or equal to 3.28 ft (1 m) tall	
	_				
1. Celastrus orbiculatus	5	Yes		Harb All borbaccours (non woody) plants, regardless	
2. Lonicera japonica	5	Yes	FACU	of size, and weady plants loss than 2.29 ft tall	
3				of size, and woody plants less than 3.28 it tail.	
4			. <u></u>	We advantage Allowed during a prostor theory 0.00 ft is beinted	
	=	Total Cover		<b>Woody vine</b> - All woody vines greater than 3.28 ft in height.	
				Hydrophytic	
				Vegetation	
				Present? Yes X No	
Remarks:					
A positive indication of hydro	phytic vegetat	tion was observe	ed (>50% of domi	inant species indexed as OBL, FACW, or FAC).	
· · · · · · · · · · · · · · · · · · ·				. , , -,	

epth Matrix		Redox Features			
nches) Color (moist) %	Color (moist)	<u>%</u> Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-3 10YR 2/2 100				Silt Loam	
3-16 10YR 4/2 96	10YR 5/6	<u>4</u> C	M	Silt Loam	
				. <u></u>	
				. <u></u>	
ype: C=Concentration, D=Depletion, RM	=Reduced Matrix, MS	-Masked Sand Grains.	<sup>2</sup> Location: PL	=Pore Lining, M=Matr	х.
ydric Soils Indicators:	, , ,			Indicators for I	Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)	Polyvalu	e Below Surface (S8) (LI	RR R,	2 cm Muck	(A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)	, 	RA 149B)		Coast Prai	rie Redox (A16) (LRR K. L. R)
Black Histic (A3)	Thin Dar	k Surface (S9) (LRR R. I	/LRA 149B)	5 cm Muck	v Peat or Peat (S3) (LRR K. L. I
Hydrogen Sulfide (A4)		lucky Mineral (E1) <b>(I RR</b>	K I)	Dark Surfa	ce (S7) (I RR K I )
Stratified Layors (A5)	Loamy G	loved Matrix (E2)	., _/	Dain Guile	Below Surface (S8) (I PP K I)
Depleted Below Dark Surface (A11)		Matrix (F3)		Thin Dark	
Thick Dark Surface (A12)	<u> </u>	ark Surface (EG)		Iron Mana	
Thick Dark Sufface (A12)				Riodmont	Electricity Soile (E10) (MI DA 1
Sandy Mucky Mineral (ST)	Depieted			Pieumoni	
Sandy Gleyed Matrix (S4)		epressions (F8)		iviesic Spo	dic (1A6) (MIRA 144A, 145, 14
Sandy Redox (S5)				Red Parer	
Stripped Matrix (S6)	-			Very Shall	DW Dark Surface (F22)
Dark Surface (S7) (LRR R, MLRA 149	в)			Other (Exp	lain in Remarks)
emarks:					
emarks:					
emarks:	A posit	ve indication of hydric so	il was observed.		
emarks:	A posit	ve indication of hydric so	il was observed.		
emarks:	A posit	ve indication of hydric so	il was observed.		
emarks:	A posit	ve indication of hydric so	il was observed.		
emarks:	A posit	ve indication of hydric so	il was observed.		
emarks:	A posit	ve indication of hydric so	il was observed.		
emarks:	A posit	ve indication of hydric so	il was observed.		
emarks:	A posit	ve indication of hydric so	il was observed.		
emarks:	A posit	ve indication of hydric so	il was observed.		
emarks:	A posit	ve indication of hydric so	il was observed.		
emarks:	A posit	ve indication of hydric so	il was observed.		
emarks:	A posit	ve indication of hydric so	il was observed.		
emarks:	A posit	ve indication of hydric so	il was observed.		
emarks:	A posit	ve indication of hydric so	il was observed.		
emarks:	A posit	ve indication of hydric so	il was observed.		

Project/Site: MetroNo	orth Railroad W	lest River to Allin	igs Crossing	County:	New Haven	I <u> </u>	Sampling Date:		4/20/2018
Applicant/Owner:		United Illu	uminating		State:	СТ	Sample Poir	nt:	SP-16
nvestigator(s):	D. King	and	R. Hyland	Section, To	ownship, Range:			N/A	
_andform (hillslope, terrace	, etc.):	Terrace	ə	Local relief	f (concave, convex	, none):	None	Slope (%):	0-3
Subreaion (LRR or MLRA):		LRR R		Lat:	41.26657	Long:	-72.97354	Datum:	NAVD 88
Soil Map Unit Name:		Udo	orthents-Urban la	and (306)		NWI	Classification:		N/A
Are climatic / hydrologic cor	nditions on the	site typical for thi	is time of year?	(Yes / No)	YES	(if no,	explain in Rema	rks.)	
Are Vegetation No	,Soil No	,or Hydrology	/ No sigr	nificantly distur	bed? Are "Norn	nal Circums	stances" present?	Yes X	K No
Are Vegetation No	.Soil No	.or Hydrology	/ <b>No</b> nat	urally problema	atic?	(If needed,	explain any ansv	wers in Rema	irks.)
		,,	<u> </u>	•••••••		(			
SUMMARY OF FINI	JINGS - At	tach site ma	ap showing	g sampling	point locatio	ons, tran	isects, impo	ortant feat	tures, etc.
Hydrophytic Vegetation Pr	rocont? Y	100							
Undria Cail Dresent?	V	/os		- Is the	Compled Area				
Matland Hydrology Prese	~+2 V	/co		- within	- Wetland?	,	1-0	No	v
Wetianu Hydrology Freser	1t? i	es		WILLIN	a wettanu r		/es		<u> </u>
				lf y	es, optional Wetlar	nd Site ID: _			
Remarks:									
	This p	oint was determine	ned not to be w	ithin a wetland	due to the lack of a	all three we	tland criteria.		
		Lipland poi	int for Wetland {	° in a disturber	d area adjacent to :	o porking lo	.+		
		Upland poil		5, III a distuibet		a parking io	ι.		
HYDROLOGY									
Wetland hydrology In	ndicators:					Secor	ndarv Indicators (	minimum of t	wo required)
Primary Indicators (mir	nimum of one i	s required; check	all that apply)				Surface Soil Cra	icks (B6)	10.0quile_,
Surface Water (	(A1)	<u> </u>	Water-Stain	ed Leaves (B9)	<u> </u>	·	Drainage Pattern	ne (R10)	
High Water Tab	Δ1) ΔΔ (Δ2)		Aquatic Fau	(R13)	/		Mose Trim Lines	(R16)	
Saturation (A3)			Marl Denosi	Ha (B10)				tor Table (C2	1
Odulation (7.6)	• • •			IS (010)			Dry-Season man		)
	1)				)		Crayfish Durrows	s (Co)	(20)
Sediment Depus	sits (B2)		_ Oxidized Kni	izospheres on	Living Roots (U3)		Saturation VISIDI	e on Aeriai III	nagery (C9)
Drift Deposits (E	33)		Presence or	Reduced Iron	(C4)		Stunted or Stres	sed Plants (L	01)
Algal Mat or Cru	ıst (B4)		Recent Iron	Reduction in T	illed Soils (C6)		Geomorphic Pos	sition (D2)	
Iron Deposits (B	5)		Thin Muck S	Surface (C7)			Shallow Aquitare	1 (D3)	
Inundation Visib	le on Aerial Im	agery (B7)	Other (Expla	ain in Remarks)	)		Microtopographi	c Relief (D4)	
Sparsely Vegeta	ated Concave S	Surface (B8)					FAC-Neutral Tes	st (D5)	
Field Observations:									
Surface Water Present?	Yes	No X	Depth (inc	ches): <u>N/A</u>					
Water Table Present?	Yes	No X	Depth (inc	ches): >20	-				
Saturation Present?	Yes	No X	Depth (inc	ches): >20	Wetland	Hvdrology	Present? Ye	es	No X
(includes capillary fringe)						1.94.2.3,			<u> </u>
Describe Recorded Data (	stream dauge.	monitoring well.	aerial photos, p	vious inspec	tions) if available:				
,	billoan. g g ,		uonai p , ,	1011022	101.0,,				
Remarks:			-						
Nema No.									
No positive indication	of wetland hydr	rology was obser	here						
	JI wettand nya.	00099 1000 000000	veu.						
ı									

Sampling Point:

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft.)	% cover	Species?	Status	Number of Dominant Species
1 None observed				That Are OBL_EACW_or EAC: 2 (A)
0				
2				
3	. <u></u>		<u> </u>	I otal Number of Dominant
4	<u> </u>			Species Across All Strata: 5 (B)
5	. <u></u>			
6				Percent of Dominant Species
7.				That Are OBL, FACW, or FAC: 40% (A/B)
	0 =	Total Cover		· · · · ·
	=			Prevalence Index Worksheet:
				Total 0/ Onum of Multiplubur
Sapling/Shrub Stratum (Plot size: 15 ft.	_)			I otal % Cover of: Multiply by:
1. Salix x fragilis	25	Yes	FAC	OBL species 0 x 1 = 0
2. Cornus amomum	20	Yes	FACW	FACW species 20 x 2 = 40
3. Alnus frangula	15	Yes	NI	FAC species 25 x 3 = 75
4.				FACU species <b>45</b> x 4 = <b>180</b>
5.				UPL species 10 x 5 = 50
6.				Column Totals: <b>100</b> (A) <b>345</b> (B)
7			·	
/·	60	Total Cover		Drovolonoo Index D/A 2.45
	=	Total Cover		Prevalence index = $B/A = 3.45$
Herb Stratum (Plot size: 5 ft.)				Hydrophytic Vegetation Indicators:
1 Alliaria petiolata	25	Yes	FACU	1 - Rapid Test for Hydrophytic Vegetation
2 Vorbassum thansus	10	Vos		2 Deminance Test is > 50%
	10	165	UFL	$\frac{2}{2} = \frac{2}{2} = \frac{1}{2} = \frac{1}{2}$
3	. <u></u>		<u> </u>	
4				4 - Morphological Adaptations' (Provide supporting
5				data in Remarks or on a separate sheet)
6				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
7.				
8				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
0			<u> </u>	ha prosent, unless disturbed or problematic
9				
10	. <u></u>		<u> </u>	Definitions of Five vegetation Strata:
11				<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter
12			<u> </u>	at breast height (DBH) regardless of height.
	35 =	Total Cover		
				Sapling/Shrub - Woody plants Ises than 3 in. DBH
Woody Vine Stratum 'Plot size: 30 ft. )				and greater than or equal to 3.28 ft (1 m) tall.
1 Lonicera japonica	20	Yes	FACU	
2		100		Herb - All herbaceous (non-woody) plants, regardless
2				of size, and woody plants less than 3 28 ft tall
3	·	<u> </u>		or size, and woody plants less than 5.20 it tail.
4			<u> </u>	We advantage Allower during a march of the O OO this bailet
	=	Total Cover		woody vine - All woody vines greater than 3.28 ft in height.
				Hydrophytic
				Vegetation
				Present? res <u>NO X</u>
Remarks:				
No positive indication of h	vdrophytic ve	netation was ob	served (≥50% of (	dominant species indexed as FAC- or drier)
···	.,	<b>J</b>		<i>-</i>

Matrix			Redox F	eatures			
epth Oalar (maint)					12	<b>T</b>	Damarka
	<u>%</u>	COOF (MOIST)	%	Type	LOC		Remarks
0-7 10YR 4/3	100					Silt Loam	
7-20 10YR 4/3	97	7.5YR 4/8	3	C	M	Silt Loam	
				·		·	
						·	
				·		·	
ype: C=Concentration, D=De	pletion, RM=	Reduced Matrix, M	S=Masked	Sand Grains.	<sup>2</sup> Location: PL	_=Pore Lining, M=Mat	rix.
vdric Soils Indicators:	•	,				Indicators for	Problematic Hydric Soils <sup>3</sup> :
Historol (A1)		Polyada	IA BALOW S	Surface (S8) /I		2 cm Muc	(A10) (IPPK   MIPA 140B)
					XIX IX,	2 cm was	
Histic Epipedon (A2)		ML	.RA 149B)			Coast Pra	airie Redox (A16) <b>(LRR K, L, R)</b>
Black Histic (A3)		Thin Da	rk Surface	(S9) (LRR R, I	MLRA 149B)	5 cm Muc	ky Peat or Peat (S3) <b>(LRR K, L, F</b>
Hydrogen Sulfide (A4)		Loamy	Mucky Mine	eral (F1) <b>(LRR</b>	K, L)	Dark Surf	ace (S7) <b>(LRR K, L)</b>
Stratified Layers (A5)		Loamy	Gleyed Mat	trix (F2)		Polyvalue	Below Surface (S8) (LRR K, L)
Depleted Below Dark Surf	ace (A11)	 Deplete	d Matrix (F	3)		 Thin Dark	Surface (S9) (LRR K. L)
Thick Dark Surface (A12)		Pedox (	Jark Surfac	-, ce (E6)		Iron-Man	nanese Masses (F12) (I RR K I
						Nor Many	Electricity Seile (F10) (ML DA 14
Sandy Mucky Mineral (S1)		Depiete	d Dark Sur	Tace (F7)		Pleamont	Floodplain Solis (F19) (MERA 14
Sandy Gleyed Matrix (S4)		Redox I	Depression	is (F8)		Mesic Sp	odic (TA6) <b>(MLRA 144A, 145, 14</b> 9
Sandy Redox (S5)						Red Pare	nt Material (F12)
Stripped Matrix (S6)						Very Shal	llow Dark Surface (F22)
Dark Surface (S7) /I PP P	MLRA 149	3)				Other (Ex	plain in Remarks)
ndicators of hydrophytic veget estrictive Layer (if observed Type: Depth (inches):	ation and we	tland hydrology mu:	st be prese	ent, unless distu	urbed or problema	atic. Soil Present? Yes	NoX
ndicators of hydrophytic veget estrictive Layer (if observed Type: Depth (inches):	ation and we	tland hydrology mu:	st be prese	ent, unless distu	urbed or problema	atic. Soil Present? Yes	No X
mdicators of hydrophytic veget estrictive Layer (if observed Type: Depth (inches): emarks:	ation and we	tland hydrology mu:	st be prese	ent, unless distu	urbed or problema	atic. Soil Present? Yes	No
Dark Sunace (37) (LKK k ndicators of hydrophytic veget estrictive Layer (if observed Type:  Depth (inches): emarks:	ation and we	tland hydrology mu:	st be prese	ent, unless distu	Hydric S	itic. Soil Present? Yes	No <u>X</u>
Dark Sunace (37) (LKK K estrictive Layer (if observed Type: Depth (inches): emarks:	ation and we	tland hydrology mu:	st be prese	ent, unless distu	urbed or problema Hydric S	atic. Soil Present? Yes	No X
Dark Sunace (37) (LKK k ndicators of hydrophytic veget estrictive Layer (if observed Type: Depth (inches): emarks:	ation and we	tland hydrology mu:	st be prese	nt, unless distu	urbed or problema	atic. Soil Present? Yes	No <u>X</u>
Dark Sunace (37) (LKK k ndicators of hydrophytic veget estrictive Layer (if observed Type: Depth (inches): emarks:	ation and we	tland hydrology mu:	st be prese	tion of hydric so	urbed or problema	atic. Soil Present? Yes	No <u>X</u>
Dark Sunde (37) (LKK k adicators of hydrophytic veget estrictive Layer (if observed Type: Depth (inches): emarks:	ation and we	tland hydrology mu:	st be prese	tion of hydric so	urbed or problema	atic. Soil Present? Yes	No X
Dark Sunde (37) (LKK k adicators of hydrophytic veget estrictive Layer (if observed Type: Depth (inches): emarks:	ation and we	tland hydrology mu	itive indicat	tion of hydric so	urbed or problema	atic. Soil Present? Yes	No <u>X</u>
Dark Sunde (37) (LKK k adicators of hydrophytic veget estrictive Layer (if observed Type: Depth (inches): emarks:	ation and we	tland hydrology mu:	itive indicat	tion of hydric so	urbed or problema	atic. Soil Present? Yes	No <u>X</u>
Dark Sunde (37) (LKK k adicators of hydrophytic veget estrictive Layer (if observed Type: Depth (inches): emarks:	ation and we	tland hydrology mu:	itive indicat	tion of hydric so	urbed or problema Hydric S	atic. Soil Present? Yes	No <u>X</u>
Dark Sunde (37) (LKK k adicators of hydrophytic veget estrictive Layer (if observed Type: Depth (inches): emarks:	ation and we	tland hydrology mu No pos	itive indicat	tion of hydric so	urbed or problema Hydric S	atic. Soil Present? Yes	NoX
Dark Sunde (37) (LKK k adicators of hydrophytic veget estrictive Layer (if observed Type: Depth (inches): emarks:	ation and we	tland hydrology mu:	itive indicat	tion of hydric so	urbed or problema Hydric S	atic. Soil Present? Yes	NoX
Dark Sunde (37) (LKK k ndicators of hydrophytic veget estrictive Layer (if observed Type: Depth (inches): emarks:	ation and we	tland hydrology mu:	itive indicat	tion of hydric so	urbed or problema Hydric S	atic. Soil Present? Yes	NoX
Dark Sunde (37) (LKK K ndicators of hydrophytic veget estrictive Layer (if observed Type: Depth (inches): emarks:	ation and we	tland hydrology mu No pos	itive indicat	tion of hydric so	urbed or problema Hydric S	atic. Soil Present? Yes	NoX
Dark Sunde (37) (LKK K ndicators of hydrophytic veget estrictive Layer (if observed Type: Depth (inches): emarks:	ation and we	tland hydrology mu No pos	itive indicat	tion of hydric so	urbed or problema Hydric S	atic. Soil Present? Yes	NoX

Project/Site: MetroN	lorth Railroad W	est River to Alling	s Crossing	County:	New Haven		Sampling Da	te:	4/20/2018
pplicant/Owner:		United Illur	ninating		State:	СТ	Sample P	oint:	SP-17
nvestigator(s):	D. King	and	R. Hyland	Section, Tov	vnship, Range:			N/A	
andform (hillslope, terrace	e, etc.):	Depressio	n	Local relief	concave, convex,	, none):	Concave	Slope (%):	0-3
Subregion (LRR or MLRA)		LRR R		Lat:	41.26820	Long:	-72.97060	Datum:	NAVD 88
Soil Map Unit Name:		Cheshir	e-Holyoke Com	plex (77C)		NWI	Classification:		N/A
re climatic / hydrologic co	onditions on the	site typical for this	time of year?	(Yes / No)	YES	(if no	explain in Rer	narks.)	
Are Vegetation No	,Soil No	or Hydrology	No signi	ficantly disturb	ed? Are "Norm	nal Circum	stances" prese	nt?Yes )	(No
vre Vegetation No	.Soil No	.or Hydrology	No natu	rally problemat	ic?	(If needed	. explain anv ar	nswers in Rema	arks.)
	,	,,				(			
SUMMARY OF FIN	DINGS - At	tach site ma	p showing	sampling	point locatio	ons, trai	nsects, im	portant fea	tures, etc.
Hydrophytic Vegetation P Hydric Soil Present? Wetland Hydrology Prese Remarks:	resent? Y Y ent? Y	res X res X res X	No No No	Is the S within a If ye	ampled Area Wetland? s, optional Wetlar	nd Site ID:	Yes X	No Wetland 9	
	This	point was determi	ned to be withir	a wetland due	to the presence of	of all 3 wet	land criteria.		
	Wetland 9 is	linear/ditch scrub-s	shrub wetland le	eading to an int	ermittent waterco	ourse north	of the railroad	ROW.	
IYDROLOGY									
Wetland hydrology I	ndicators:					Seco	ndary Indicator	s (minimum of t	wo required)
Primary Indicators (m	inimum of one i	s required; check	all that apply)				Surface Soil C	Cracks (B6)	
Surface Water	(A1)		Water-Staine	d Leaves (B9)		X	Drainage Patt	erns (B10)	
X High Water Tal	ole (A2)		Aquatic Faun	a (B13)			Moss Trim Lir	nes (B16)	
X Saturation (A3)	)		Marl Deposits	s (B15)			Dry-Season V	Vater Table (C2	<u>(</u> )
Water Marks (E	31)		Hydrogen Sul	fide Odor (C1)			Crayfish Burro	ows (C8)	
Sediment Depo	osits (B2)		Oxidized Rhiz	cospheres on L	iving Roots (C3)		Saturation Vis	sible on Aerial Ir	nagery (C9)
Drift Deposits (	B3)		Presence of F	Reduced Iron ((	C4)		Stunted or St	ressed Plants ([	D1)
Algal Mat or Cr	ust (B4)		Recent Iron R	Reduction in Til	ed Soils (C6)	x	Geomorphic F	Position (D2)	,
Iron Deposits (I	B5)		Thin Muck Su	urface (C7)			Shallow Aquit	ard (D3)	
Inundation Visil	blo on Aorial Im		Othor (Evolution	n in Pomarke)			Microtopogra	alu (D3)	
				II III Remarks)					
Sparsely veger	aleu Concave c	Sunace (Bo)					FAC-meuliai	rest (D5)	
Field Observations:									
Surface Water Present?	Yes	No X	Depth (inch	es): N/A					
Nater Table Present?	Yes X	No	Depth (inch	es): nput Dep	- -				
Saturation Present?	Yes X	No	Depth (inch	es): nput Dep	Wetland	Hydrology	/ Present?	Yes X	No
includes capillary fringe)						i i yai ologj	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	100 <u>x</u>	<u> </u>
Describe Recorded Data	(stream cauge	monitoring well a	erial photos pre	evious inspecti	ons) if available:				
Describe Recorded Data	(Stream gauge,	monitoring weil, a	enai priotos, pre	evious inspecti					
Remarks:									
A positive indication of	of wetland bydrc	loav was observed	d (primary and s	econdary indic	ators were preser	nt)			
	/ wettand riyaro	logy was observed	a (printary and c		ators were preser	nı).			

Sampling Point:

	Absolute	Dominant	Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size: 30 ft.)	% cover	Species?	Status	Number of Dominant Species		
1. None observed				That Are OBL, FACW, or FAC:	3	(A)
2		·			-	
2	·	·		Total Number of Dominant		
3	. <u></u>				F	(P)
4	······	<u> </u>		Species Across All Strata.	5	(В)
5	<u> </u>	·				
6	. <u></u>			Percent of Dominant Species		
7	·	·		That Are OBL, FACW, or FAC:	60%	(A/B)
	=	Total Cover				
				Prevalence Index Worksheet:		
Sapling/Shrub Stratum (Plot size: 15 ft.	_)			Total % Cover of:	Multiply by	<u></u>
1. Cornus amomum	25	Yes	FACW	OBL species 0	x 1 = <b>0</b>	
2. Rosa multiflora	15	Yes	FACU	FACW species 35	x 2 = <b>70</b>	
3. Salix x fragilis	10	Yes	FAC	FAC species 10	x 3 = <b>30</b>	
4				FACU species 15	x 4 = <b>60</b>	
5.				UPL species 10	x 5 = <b>50</b>	
6.				Column Totals: 70	(A) <b>210</b>	(B)
7.						
	50 =	Total Cover		Prevalence Index = B/A	= 3.00	
Horb Stratum (Diat size: 5 ft )				Hydrophytic Vegetation Indiant	ore	
$\frac{\Pi \Theta D S \Pi U \Pi \Pi}{1 - 4\pi^2 \Theta \Theta} $	10	V.				
1. Apios americana	10	Yes	FACW	1 - Rapid Test for Hydro	phytic Vegetation	
2	. <u></u>			X 2 - Dominance Test is >	50%	
3	<u> </u>			X 3 - Prevalence Index is s	≤ 3.0°	
4	. <u> </u>			4 - Morphological Adapta	ations' (Provide supp	orting
5	. <u> </u>			data in Remarks or o	on a separate sheet)	
6				Problematic Hydrophytic	Vegetation <sup>1</sup> (Explain	1)
7						
8				<sup>1</sup> Indicators of hydric soil and we	tland hydrology must	
9				be present, unless disturbed or p	roblematic.	
10				Definitions of Five Vegetation S	Strata:	
11				Tree - Woody plants 3 in. (7.6 cr	n) or more in diamete	er
12				at breast height (DBH) regardles	s of height.	
	10 =	Total Cover				
				Sapling/Shrub - Woody plants Is	es than 3 in. DBH	
Woody Vine Stratum (Plot size: 30 ft.)				and greater than or equal to 3.28	ft (1 m) tall.	
1 Celastrus orbiculatus	10	Yes	UPI			
2				Herb - All herbaceous (non-wood	ly) plants, regardless	
3				of size, and woody plants less that	an 3.28 ft tall.	
3	·					
4	10 =	Total Cover		Woody vine - All woody vines gre	eater than 3.28 ft in h	eight.
				Hydrophytic		
				Vegetation		
				Prosent? Vos V	No	
Remarks:				- 1		
itemano.						
A positive indication of hydro	ophytic vegetat	ion was observe	ed (>50% of dom	inant species indexed as OBL, FACW	/, or FAC).	

iches)				Reduxi	ealures	2		
	Color (moist)	%	Color (moist)	%	Type'	Loc <sup>2</sup>	Texture	Remarks
0-6	10YR 2/1	100					Mucky Peat	
6-16	10YR 4/1	96	10YR 4/6	4	C	M	Clay Loam	
							<u> </u>	
							·	
	centration D-Der	letion RM	-Reduced Matrix M	S-Maskor	Sand Grains	<sup>2</sup> Location: P	-Pore Lining M-Matr	iv.
dric Soils I	ndicators:					Location. 1	Indicators for I	Problematic Hydric Soils <sup>3</sup> :
Histocol (	(A 1)		Polyvali	a Balow 9	Surface (S8) <b>/I</b> I		2 cm Muck	
	(AI) inadan (AQ)		Polyvaid			<b>ΛΝ Ν</b> ,		
	ipedon (A2)			.RA 149B)				The Redox (AT6) (LRR R, L, R)
Black His	stic (A3)			rk Surrace	(59) (LRR R,	WLRA 149B)		(JPeat of Peat (S3) (LRR K, L, I
Hydrogen	Sulfide (A4)		Loamy I	VIUCKY Min	erai (F1) (LRR	к, L)	Dark Surfa	ICE (57) (LKK K, L)
Stratified	Layers (A5)		Loamy (	Jeyed Ma	trix (F2)		Polyvalue	Below Surface (S8) (LRR K, L)
C Depleted	Below Dark Surfa	ce (A11)	X Deplete	d Matrix (F	-3)		Thin Dark	Surface (S9) (LRR K, L)
Thick Da	rk Surface (A12)		Redox [	Dark Surfa	ce (F6)		Iron-Manga	anese Masses (F12) (LRR K, L,
Sandy Mu	ucky Mineral (S1)		Deplete	d Dark Su	rface (F7)		Piedmont	Floodplain Soils (F19) <b>(MLRA 1</b> 4
Sandy Gl	eyed Matrix (S4)		Redox [	Depressior	ns (F8)		Mesic Spo	dic (TA6) <b>(MLRA 144A, 145, 14</b>
Sandy Re	edox (S5)						Red Paren	t Material (F12)
Stripped	Matrix (S6)						Very Shall	ow Dark Surface (F22)
Dark Surf	face (S7) (LRR R,	<b>MLRA 149</b>	9B)				Other (Exp	olain in Remarks)
emarks:								
			A posi	tive indica	tion of hydric so	oil was observed.		

Project/Site:	MetroNort	h Railroad W	est River to	Allings C	Crossing	Coun	ity:	New Haven		Sampling Date	:	4/20/2018
Applicant/Owner:			Unit	ed Illumin	ating	-	-	State:	СТ	Sample Poi	nt:	SP-18
Investigator(s):	[	D. King	and	R.	Hyland	Sec	tion, Townsh	ip, Range:			N/A	
Landform (hillslope	e. terrace. e	etc.):	Hi	Islope		- Loc	al relief (cond	ave. convex.	none):	None	Slope (%):	3-6
Subregion (LRR or	MLRA):		L	RR R		-	at: 41	26817	Lona:	-72,97060	Datum:	NAVD 88
Soil Map Unit Nam	e.		 C	heshire-F	lolvoke Com	nlex (7	7C)	20011	NWI	Classification:		N/A
Are climatic / hvdro	logic cond	itions on the s	site typical	for this tin	ne of vear?	(Ye	s / No)	YES	(if no	explain in Rema	arks)	
Are Vegetation	No	Soil No	or Hydr		No sign	ificantly	/ disturbed?	Are "Norm	al Circums	stances" present	? Yes :	X No
Are Vegetation	No	Soil No	or Hydr		No natu	irally or	oblematic?			explain any ans	wers in Rem	arks )
Alle Vegetation		,001 110	,01 11yui	010gy	<u>nata</u> nata	nany pi	obicinatio		(ii necucu,	explain any ans		anto.)
SUMMARY O	F FIND	NGS - At	tach site	e map :	showing	sam	pling poi	nt locatio	ons, trar	nsects, impo	ortant fea	itures, etc.
						1						
Hydrophytic Vege	etation Pres	sent? Ye	es	N	lo <u>X</u>	-						
Hydric Soil Prese	nt?	Ye	es	N	lo <u>X</u>	-	Is the Samp	led Area				
Wetland Hydrolog	gy Present?	? Ye	es	N	lo X	-	within a We	tland?	•	Yes	No	X
							lf yes, op	tional Wetlan	d Site ID:			
Remarks:												
		This p	oint was de	termined	not to be wit	thin a v	vetland due to	the lack of a	all three we	tland criteria.		
		U	pland point	for Wetla	and 9, locate	d along	g a gravel fill	slope north of	f the railroa	d ROW.		
HIDROLOG	r 											
wetland hydr	rology ind	icators:							Seco	ndary Indicators	(minimum of	two required)
Primary Indica	ators (minir	num of one is	required;	check all	that apply)					Surface Soil Cra	acks (B6)	
Surface	e Water (A	1)		V	Vater-Staine	ed Leav	es (B9)			Drainage Patter	ns (B10)	
High W	ater Table	(A2)		A	Aquatic Faun	na (B13	)			Moss Trim Line	s (B16)	
Saturat	ion (A3)			Ν	Aarl Deposits	s (B15)				Dry-Season Wa	ater Table (C2	2)
Water M	Marks (B1)			F	- - - - - - - - - - - - - - - - - - -	lfide O	dor (C1)			Crayfish Burrow	/s (C8)	
Sedime	ent Deposit	s (B2)			Dxidized Rhiz	zosphe	res on Living	Roots (C3)		Saturation Visib	le on Aerial I	magery (C9)
Drift De	nosits (R3)	( <i></i> )		`	Presence of I	Reduce	ed Iron (C4)			Stunted or Stree	sed Plants (	D1)
		(D4)		'			on in Tilled C	aila (CC)				01)
		(D4)		r		Reducti				Geomorphic Po	SILION (DZ)	
Iron De	posits (B5)		(= -)	'		urrace (	(07)			Shallow Aquitar	a (D3)	
Inundat	tion Visible	on Aerial Ima	agery (B7)	(	Other (Explai	in in Re	emarks)			Microtopograph	ic Relief (D4)	
Sparsel	ly Vegetate	ed Concave S	urface (B8	)						FAC-Neutral Te	est (D5)	
Field Observatio	ns:											
Surface Water Pr	esent?	Yes	No	Х	Depth (inch	nes):	N/A					
Water Table Pres	sent?	Yes	No	Х	Depth (inch	nes):	>20					
Saturation Preser	nt?	Yes	No	х	Depth (inch	nes):	>20	Wetland	Hydrology	Present? Y	es	No X
(includes capillary	/ fringe)											
Describe Recorde	ed Data (st	ream daude.	monitorina	well, aeri	al photos, pr	evious	inspections).	if available:				
				,	F, F-							
Remarks:												
Noma No.												
No positivo in	dication of	wotland bydr		bearvad								
No positive in	uication of	wettand hydro	Jiogy was t	Juserveu.								

Sampling Point: SP-18

				Deminence Test medichests
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft. )	% cover	Species?	Status	Number of Dominant Species
1. None observed				That Are OBL, FACW, or FAC: 1 (A)
2				
3				Total Number of Dominant
4				Species Across All Strata: 3 (B)
5				
6				Percent of Dominant Species
7				That Are OBL, FACW, or FAC: 33% (A/B)
	0 :	= Total Cover		
				Prevalence Index Worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.	)			Total % Cover of: Multiply by:
1. Salix x fragilis		Yes	FAC	OBL species <b>0</b> x 1 = <b>0</b>
2. Rosa multiflora	10	Yes	FACU	FACW species $0$ x 2 = $0$
3				FAC species $15$ $x_3 = 45$
4				FACU species 10 $x 4 = 40$
5				$\frac{1}{100} \text{ species} \qquad \frac{15}{15} \qquad x_5 = -75$
6				$\frac{1}{10}  10  10  10  10  10  10  10 $
7				
1	25	= Total Cover		Prevalence Index = B/A = <b>4.00</b>
Llork Strature (Distaire) 5 (t)				Undrankutia Vagatatian Indiastara
<u>Herb Stratum</u> (Flot size. <u>5 it.</u> )				A Depid Test for Lludrenbytic Vegetation
				1 - Rapid Test for Hydrophylic Vegetation
2				2 - Dominance Test is >50%
3				<u>5 - Prevalence index is <math>\leq 5.0</math></u>
4				
5				data in Remarks or on a separate sneet)
б				Problematic Hydrophytic Vegetation (Explain)
7			<u> </u>	
8				'Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10				Definitions of Five Vegetation Strata:
11				<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter
12				at breast height (DBH) regardless of height.
	0 :	= Total Cover		
				Sapling/Shrub - Woody plants lses than 3 in. DBH
Woody Vine Stratum [Plot size: 30 ft. )				and greater than or equal to 3.28 ft (1 m) tall.
1. Celastrus orbiculatus	15	Yes	UPL	
2				Herb - All herbaceous (non-woody) plants, regardless
3				of size, and woody plants less than 3.28 ft tall.
4		= Total Cover		Woody vine - All woody vines greater than 3.28 ft in height.
				Hydrophytic
				Vegetation
				Present? Yes <u>No X</u>
Remarks:				
No positive indication of h	ydrophytic v	egetation was obs	served (≥50% of o	dominant species indexed as FAC- or drier).

Moteria	Doday Cost			
epth Matrix	Redox Features	1 • 2	<b>-</b>	<b>D</b> .
nches) Color (moist) %	Color (moist) % Type		Texture	Remarks
0-10 10YR 4/3 100			Silt Loam	
10-20 10YR 5/4 100			Silt Loam	
			Dara Lining M. Matri	
ype: C=Concentration, D=Depletion, RM=	Reduced Matrix, MS=Masked Sand G	Frains. Location: PL	_=Pore Lining, M=Matri	X. Problematic Hydric Sails <sup>3</sup> :
yaric sons indicators:		(00) <b>(1 BB B</b>		
Histosol (A1)	Polyvalue Below Surface (	S8) (LRR R,	2 cm Muck	(A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)	MLRA 149B)		Coast Prair	rie Redox (A16) <b>(LRR K, L, R)</b>
Black Histic (A3)	Thin Dark Surface (S9) (LI	RR R, MLRA 149B)	5 cm Muck	y Peat or Peat (S3) <b>(LRR K, L, F</b>
Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1)	) (LRR K, L)	Dark Surfa	ce (S7) <b>(LRR K, L)</b>
Stratified Layers (A5)	Loamy Gleyed Matrix (F2)		Polyvalue E	Below Surface (S8) (LRR K, L)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)		Thin Dark S	Surface (S9) (LRR K, L)
Thick Dark Surface (A12)	Redox Dark Surface (F6)		Iron-Manga	anese Masses (F12) (LRR K, L,
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7	7)	Piedmont F	Floodplain Soils (F19) (MLRA 14
Sandy Gleved Matrix (S4)	Redox Depressions (F8)	/	Mesic Spor	dic (TA6) (MLRA 144A, 145, 149
Sandy Redox (S5)			Red Parent	t Material (E12)
Stripped Metrix (S6)			Nerv Shells	w Dork Surface (E22)
Stripped Matrix (SO)			Very Shallo	
ndicators of hydrophytic vegetation and wet estrictive Layer (if observed): Type:	land hydrology must be present, unles	ss disturbed or problema	atic.	
ndicators of hydrophytic vegetation and wet estrictive Layer (if observed): Type: Depth (inches):	land hydrology must be present, unles	ss disturbed or problema	atic. Soil Present? Yes _	No X
adicators of hydrophytic vegetation and wet estrictive Layer (if observed): Type: Depth (inches): emarks:	land hydrology must be present, unles	SS disturbed or problema	atic. Soil Present? Yes _	No
adicators of hydrophytic vegetation and wet estrictive Layer (if observed): Type: Depth (inches): emarks:	land hydrology must be present, unles	ss disturbed or problema Hydric S ydric soils was observed.	atic. Soil Present? Yes _	No <u>X</u>
Indicators of hydrophytic vegetation and wet estrictive Layer (if observed): Type: Depth (inches): #marks:	land hydrology must be present, unles	ss disturbed or problema	atic. Soil Present? Yes _	No <u>X</u>
adicators of hydrophytic vegetation and wet estrictive Layer (if observed): Type: Depth (inches): emarks:	land hydrology must be present, unles	ss disturbed or problema	atic. Soil Present? Yes _	No <u>X</u>
Adicators of hydrophytic vegetation and wet estrictive Layer (if observed): Type: Depth (inches): emarks:	land hydrology must be present, unles	ss disturbed or problema	atic. Soil Present? Yes _	No <u>X</u>
adicators of hydrophytic vegetation and wet estrictive Layer (if observed): Type: Depth (inches): emarks:	land hydrology must be present, unles	ss disturbed or problema	atic. Soil Present? Yes _	No <u>X</u>
adicators of hydrophytic vegetation and wet estrictive Layer (if observed): Type: Depth (inches): emarks:	land hydrology must be present, unles	ss disturbed or problema	atic. Soil Present? Yes _	No <u>X</u>
adicators of hydrophytic vegetation and wet estrictive Layer (if observed): Type: Depth (inches): emarks:	No positive indication of h	ss disturbed or problema	atic. Soil Present? Yes _	<u>No X</u>
Adicators of hydrophytic vegetation and wet astrictive Layer (if observed): Type: Depth (inches): emarks:	No positive indication of h	ss disturbed or problema	atic. Soil Present? Yes _	No
Indicators of hydrophytic vegetation and wet estrictive Layer (if observed): Type: Depth (inches): emarks:	land hydrology must be present, unles	ss disturbed or problema	atic. Soil Present? Yes _	No
Indicators of hydrophytic vegetation and wet estrictive Layer (if observed): Type: Depth (inches): emarks:	land hydrology must be present, unles	ss disturbed or problema Hydric S ydric soils was observed.	atic. Soil Present? Yes _	No
ndicators of hydrophytic vegetation and wet estrictive Layer (if observed): Type: Depth (inches): emarks:	land hydrology must be present, unles	ss disturbed or problema Hydric S ydric soils was observed.	atic. Soil Present? Yes _	NoX
Adicators of hydrophytic vegetation and wet astrictive Layer (if observed): Type: Depth (inches): emarks:	land hydrology must be present, unles	ss disturbed or problema Hydric S ydric soils was observed.	atic. Soil Present? Yes _	NoX

**APPENDIX G: CT Wetland 1 Aerials** 







APPENDIX H: Topographic LiDAR Exhibit



Aug

	Property Line			
	Easement Line (Class—D)		Handhole	
	Monumented Four Track Centerline		Electric Meter	
CP-1		•	Utility Pole	
rill Hole 65982.85' 48121.10'	Project Control Point and Benchmark	¢⇒¤	Utility Pole w/ Light	
=40.34'		$\longrightarrow$	Guy Wire	
· · · · ·	Edge of Water	$\equiv$	Guy Pole	
	Limit of Wetlands	*	Light Pole	
-2	Wetland Flag 1—2	¤− <b>□</b> −¤	Double Light Standard	
VA	Wetland Flag Iva	þ¤	Light on Parapet	
P	Wetland Flag Spartina	OGV	Gas Valve	
TF	Wetland Flag Intertidal Flats	$\Box CB$	Catch Basin	
	Stone Wall	[] <i>CB (R)</i>	Catch Basin Plotted per Record Mapping	
^	Retaining Wall		Double Type I Catch Basin	
<u> </u>	Guide Rail		Double Type II Catch Basin	
X	Fence	⊖ MH	Manhole	
·	Overhead Wires	⊖ MH(R)	Manhole Plotted per Record Mapping	
——————————————————————————————————————	Underground Electric Line	-0-	Fire Hydrant	
G	Gas Line	OWV	Water Valve	
C C	<b>C</b>	OWM	Water Meter	
	San	o <sup>UV</sup>	Valve– Utility Type Unknown	
	Stm	<u> </u>	Sign	
CTV	Underground Cable Television Line	•	Rollard	
<i>T</i>	Underground Telecommunications Line			
W	Water Line	(W)	Monitoring Well	

GENERAL NOTES
1. A) THIS MAP HAS BEEN PREPARED IN ACCORDANCE WITH THE REGULATIONS OF CONNECTICUT STATE AGENCIES, SECTIONS 20–300b–1 THROUGH 20–300b–20 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE
STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996. B) THIS PLAN CONFORMS TO HORIZONTAL ACCURACY CLASS A-2 WITH
RESPECT TO THE TRAVERSE BASELINE AND THE RAILROAD RIGHT OF WAY, AND HORIZONTAL CLASS "D" WITH RESPECT TO ADJOINER PROPERTY LINES PER MAP REFERENCE A.
THIS PLAN CONFORMS TO A TOPOGRAPHIC ACCURACY CLASS T-2 WITH RESPECT TO FIELD SURVEYED ELEVATIONS AND PROJECT LIDAR DATA PROVIDED TO THE SURVEYOR FOR CONTOUR DEVELOPMENT.
C) BOUNDARY DETERMINATION IS BASED UPON A RESURVEY OF MAP REFERENCE "A".
D) THE TYPE OF SURVEY PERFORMED IS A TOPOGRAPHIC SURVEY AND IS INTENDED TO DEPICT THE TOPOGRAPHIC CONTOURS DEVELOPED FROM CLIENT PROVIDED PROJECT LIDAR DATA IN JULY 2021 WITH RESPECT TO ORIGINAL PROJECT HORIZONTAL AND VERTICAL CONTROL, TOP OF FRAME ELEVATIONS, STRUCTURES, COASTAL JURISDICTION AND MEAN HIGH WATER (MHW) LINES, FIELD DELINEATED WETLAND LINES AND OTHER FEATURES ESTABLISHED IN 2018 AS PART OF THE RAILROAD RIGHT OF WAY SURVEY OF MAP REFERENCE "A" SITUATED BETWEEN THE I-95 OVERPASS IN WEST HAVEN AND EXTENDING EASTERLY TO THE WEST RIVER AND CITY OF NEW HAVEN.
<ol> <li>NORTH ARROW AND BEARINGS REFER TO THE CONNECTICUT STATE PLANE COORDINATE SYSTEM (CT NAD 83 – 2011 EPOCH) AND ARE BASED ON GPS OBSERVATIONS PERFORMED BY BL COMPANIES DURING JANUARY 2018 REFERENCED TO THE C.O.R.S. NETWORK BASE STATION "CTGU" LOCATED IN GUILFORD, CT HOLDING THE FOLLOWING PUBLISHED VALUES: SURVEY UNITS: U.S. SURVEY FEET STATION: CTGU (DH5833) COORDINATES (FT): N:666173.44, E:1022562.44</li> </ol>
ELLIPSOIDAL HEIGHT (FT): -59.406 ORTHOMETRIC HEIGHT (FT): 39.269
3. ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) DATUM AS DETERMINED BY USING (GEOID 12B) AND ARE BASED ON GPS OBSERVATIONS PERFORMED BY BL COMPANIES IN JANUARY 2018 AND REFERENCED TO THE C.O.R.S. NETWORK BASE STATION "CTGU" LOCATED IN GUILFORD, CT HAVING THE PUBLISHED COORDINATE AND ELEVATION VALUES AS DESCRIBED IN NOTE 2 ABOVE. CONTOURS DEPICTED HEREON ARE BASED UPON LIDAR DATA PROVIDED BY WESTWOOD'S SURVEYING AND ENGINEERING PC IN JULY 2021.
4. RAILROAD RIGHT OF WAY IS LOCATED PARTIALLY WITHIN FLOOD HAZARD AREA "ZONE-X", (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AND "ZONE-AE", (BASE FLOOD ELEVATION DETERMINED) AS DEPICTED ON F.I.R.M. COMMUNITY PANEL NO. 090092 0437 J REVISED: JULY 08, 2013 AND F.I.R.M. COMMUNITY PANEL NO. 090092 0439 J REVISED: JULY 08, 2013.
5. THE UNDERGROUND UTILITIES DEPICTED HAVE BEEN PLOTTED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES DEPICTED ARE IN THE EXACT LOCATION INDICATED THOUGH THEY ARE PLOTTED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY EXPOSED THE UNDERGROUND UTILITIES. PER CONNECTICUT STATE LAW THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF EXCAVATION. CALL BEFORE YOU DIG 1-800-922-4455.
<ol> <li>MEAN HIGH WATER OR "M.H.W." (LONG ISLAND SOUND-WEST CENTRAL) ELEVATION = 2.8 FEET (NAVD 1988) - FIELD SURVEY LOCATIONS OF THE MEAN HIGH WATER ALONG THE BANKS OF THE WEST RIVER PERFORMED DURING JANUARY 2018. REFERENCE IS MADE TO THE N.O.A.A. TIDE STATION DESIGNATED "NEW HAVEN PRIMARY 8465705" AND UTILIZING THE TIDAL EPOCH "83-01" FOR THE DETERMINATION OF M.H.W.</li> </ol>
7. COASTAL JURISDICTION LINE = ELEVATION 4.6 FEET (NAVD 1988). REFERENCE IS MADE TO THE N.O.A.A. TIDE STATION DESIGNATED "NEW HAVEN PRIMARY 8465705" AND UTILIZING THE TIDAL EPOCH "83-01" FOR THE DETERMINATION
8. WETLANDS DEPICTED HEREON WERE DELINEATED BY A BL COMPANIES CERTIFIED PROFESSIONAL SOIL SCIENTIST AND FIELD LOCATED BY BL COMPANIES DURING APRIL 2018
9. TIDAL WETLAND LIMITS DEPICTED HEREON WERE DELINEATED BY A BL COMPANIES CERTIFIED PROFESSIONAL SOIL SCIENTIST AND FIELD LOCATED BY BL COMPANIES DURING AUGUST 2021.
MAP REFERENCE
A. "RIGHT OF WAY SURVEY PREPARED FOR THE UNITED ILLUMINATING COMPANY, ELM-WEST SUBSTATION - WEST RIVER SUBSTATION, LOCATED IN THE CITIES OF WEST HAVEN AND NEW HAVEN, COUNTY OF NEW HAVEN, CONNECTICUT", SCALE 1"=50 FT, DATE APRIL 27, 2018, PREPARED BY BL COMPANIES.
TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.
DONALD A. SMITH L.S. #70206
NO CERTIFICATION IS EXPRESSED OR IMPLIED UNLESS THIS MAP BEARS THE ORIGINAL SIGNATURE AND EMBOSS SEAL OF THE ABOVE NAMED LAND SURVEYOR.



=8'24'33





# <u>LEGEND</u>

~30° 20°

Aug 06, 2021 11:43a Layout: EX-2 SHT 2

	Property Line		
	Easement Line (Class—D)		Handhole
	Monumented Four Track Centerline		Electric Meter
CP-1		•	Utility Pole
△ Drill Hole N: 665982.85' F: 948121 10'	Project Control Point and Benchmark	¢-¤	Utility Pole w/ Light
EL=40.34'		$\longrightarrow$	Guy Wire
	Edge of Water	$\equiv$	Guy Pole
	Limit of Wetlands	*	Light Pole
WF 1-2	Wetland Flag 1–2	X-D-X	Double Light Standard
WF IVA	Wetland Flag Iva	þ–¤	Light on Parapet
WF SP	Wetland Flag Spartina	OGV	Gas Valve
WF ITF	Wetland Flag Intertidal Flats		Catch Basin
	Stone Wall	[]] <i>CB (R)</i>	Catch Basin Plotted per Record Mapping
	Retaining Wall		Double Type I Catch Basin
<u> </u>	Guide Rail		Double Type II Catch Basin
XX	Fence	$\bigcirc$ MH	Manhole
· · ·	Overhead Wires	$\bigcirc$ MH(R)	Manhole Plotted per Record Mapping
— <i>Е</i> —Е	Underground Electric Line	-\$-	Fire Hydrant
GG	Gas Line	O WV	Water Valve
		$\bigcirc^{WM}$	Water Meter
SS	San	o <sup>UV</sup>	Valve– Utility Type Unknown
	Stm	<u>-o</u> -	Sign
	Underground Cable Television Line	•	Bollard
T	Underground Telecommunications Line	Ŵ	Monitoring Well
W	Water Line		womening won
-UNK	Underground Utility — Type Unknown		
——— <i>MHW</i> ————	Mean High Water El=2.80' NAVD88		
CJL	Coastal Jurisdiction Line El=4.60' NAVD88		
· · ·	Flood Hazard Area		

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GRAPHIC SCALE 50 25 0 50 SCALE IN FEET









# LEGEND

ър

Aug 06, 2021 12:46p Layout: EX-2 SHT 3

	Property Line		
	Easement Line (Class—D)		Handhole
	Monumented Four Track Centerline		Electric Meter
CP-1		•	Utility Pole
Drill         Hole           N: 665982.85'         5: 048121.10'	Project Control Point and Benchmark	¢-¤	Utility Pole w/ Light
E: 946121.10 EL=40.34'		$\longrightarrow$	Guy Wire
············	Edge of Water		Guy Pole
	Limit of Wetlands	${\star}$	Light Pole
WF 1-2	Wetland Flag 1–2	¤—∎—¤	Double Light Standard
WF IVA	Wetland Flag Iva	þ-x	Light on Parapet
WF SP	Wetland Flag Spartina	OGV	Gas Valve
WF ITF	Wetland Flag Intertidal Flats		Catch Basin
- 0000000000000	Stone Wall	[]] <i>CB (R)</i>	Catch Basin Plotted per Record Mapping
^	Retaining Wall		Double Type I Catch Basin
0 0 0	Guide Rail		Double Type II Catch Basin
XX	Fence	⊖ MH	Manhole
· · ·	Overhead Wires	⊖ <i>MH(R)</i>	Manhole Plotted per Record Mapping
EE	Underground Electric Line	-0-	Fire Hydrant
G	Gas Line	⊖ WV	Water Valve
	-	OWM	Water Meter
SS	San	o <sup>UV</sup>	Valve- Utility Type Unknown
	Stm	<u> </u>	Sign
CTV CTV	Underground Cable Television Line	•	Bollard
<i>T</i>	Underground Telecommunications Line	Ŵ	Monitoring Well
	Water Line	W	Montoning wen
UNKUNK	Underground Utility — Type Unknown		
<i>MHW</i>	Mean High Water El=2.80' NAVD88		
CJL	Coastal Jurisdiction Line El=4.60' NAVD88		
· · · · · · · · · · · · · · · · · · ·	Flood Hazard Area		

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GRAPHIC SCALE 50 25 0 50 SCALE IN FEET

