

# SOIL SCIENCE AND ENVIRONMENTAL SERVICES, INC.

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Wetland Delineations

Ecological Studies

Site Assessments

Project Planning

Soil Testing

January 20, 2021

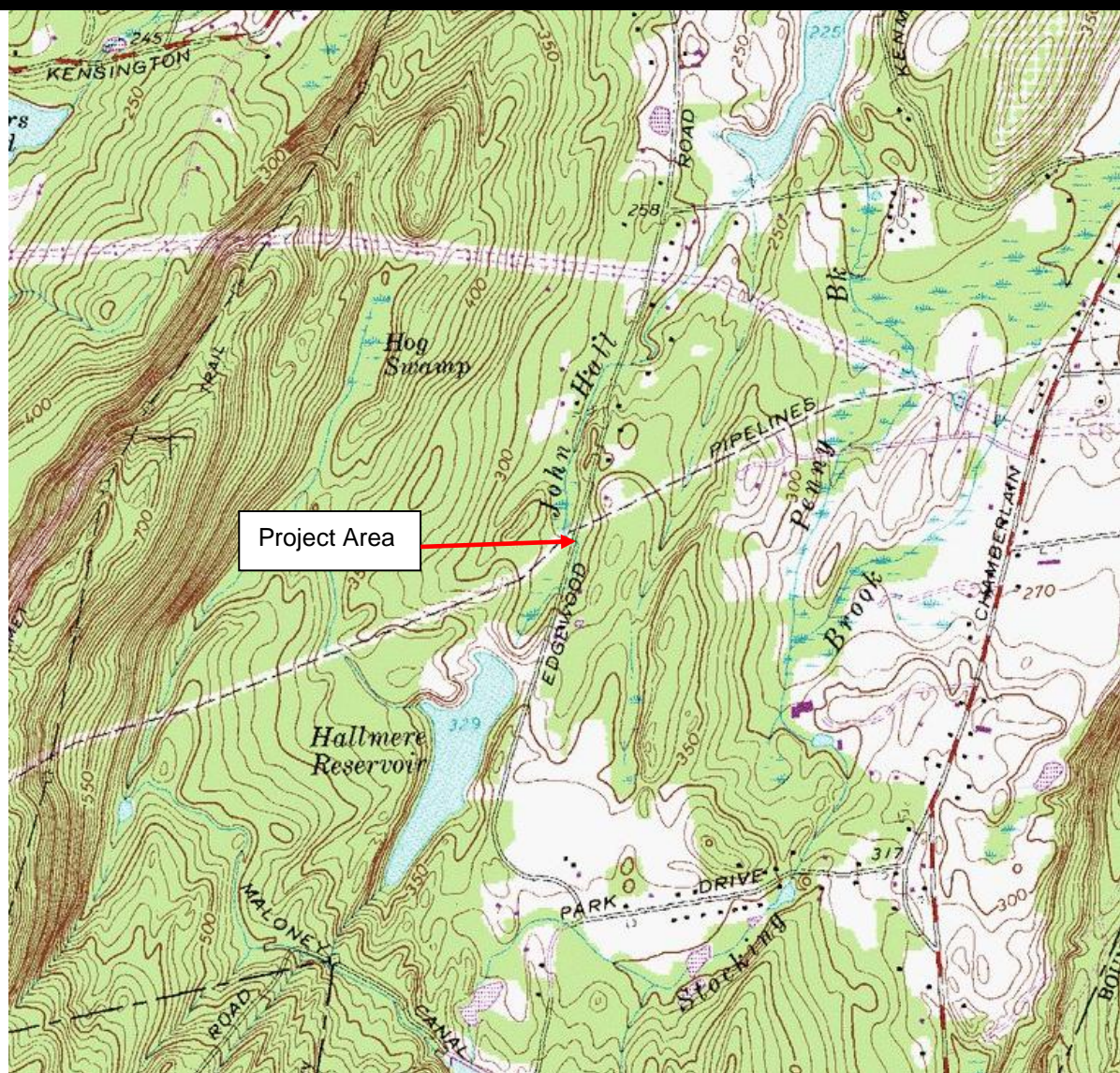
ATTN: Erik Jarboe, P.E.  
AI Engineers  
919 Middle Street  
Middletown, CT 06457

**Re: Wetlands Delineation Report  
Edgewood Road Over John Hall Brook, Berlin, CT**

Dear Mr. Jarboe:

In accordance with your request, Scott D. Stevens, Registered Professional Soil Scientist and Jennifer L. Beno, Biologist/Wetland Scientist, with Soil Science And Environmental Services, Inc. (SSES) inspected the project area on January 14, 2021. The purpose of the inspection was to identify regulated wetlands and watercourses within the designated project area under the existing conditions encountered during the date of the site inspection. The ordinary high water level along the John Hall Brook perennial watercourse channel also was identified within the project area during the inspection. The project site is situated in the southwestern portion of Berlin (Figure 1).

Regulated waters and wetlands present in and near the project area include John Hall Brook and associated CT inland wetlands and Federal wetlands. Definitions of waters and wetlands that are regulated by the State of Connecticut and Federal Government are presented in Appendix I. Rivers and streams are regulated by the State of CT as watercourses, according to the Inland Wetlands and Watercourses Act. Rivers and streams are regulated by the Federal Government as "Waters of the U.S." Wetlands are defined differently by the State of CT and the Federal Government. CT Inland Wetlands are defined by soil types that are either poorly drained, very poorly drained, floodplain or alluvial. Federal Wetlands consist of areas that are inundated or saturated by ground or surface water at a frequency and duration sufficient to support, and that under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.



**SOIL SCIENCE and  
ENVIRONMENTAL  
SERVICES, INC.**

USGS Map - Meriden Quad.  
Edgewood Road Over  
John Hall Brook  
Berlin, CT

Date 1/15/2021

Figure No. 1

A spade and auger were used to dig test holes for soils identification during the investigations. The vegetation communities and any physical indicators of hydrology in the project area were also examined. The limits of the CT inland wetlands and the Federal wetlands were determined to differ within the limits of the project area. The CT inland wetland boundaries were delineated with consecutively numbered pink survey tapes while Federal wetland boundaries were delineated with consecutively numbered blue survey tapes. Sketch maps of the delineated wetland boundaries are included as Figures 2 and 3.

## CONNECTICUT INLAND WETLANDS & SOIL TYPES

CT inland wetlands were delineated within and near the project area. The wetlands within and near the project area are dominated by palustrine forested (PFO) and palustrine emergent (PEM) wetland communities. See Figure 2.

The wetland soils within and near the project area include:

5 Wilbraham silt loam (Aquic Dystrudepts) – This is a deep, poorly drained, reddish-colored, loamy glacial till soil that developed in a friable solum overlying dense, basal till (hardpan). The till was derived from sandstone, shale and basalt. The hardpan is within 20 to 30 inches of the soil surface. Wilbraham soils occur on glaciated plains, hills and ridges.

107 Limerick and Lim soils (Aeric & Typic Fluvaquents) – These are deep, poorly drained, friable, silty and coarse-loamy soils that formed in alluvial sediments derived from schist, gneiss and granite. Limerick and Lim soils occur in nearly level floodplains and along rivers and streams which are subject to frequent flooding.

109 Fluvaquents-Udfluvents This soil map unit consists of well drained to very poorly drained, nearly level soils that formed in very recent alluvium deposited by rivers and streams. The soils are occasionally to frequently flooded, which often results in stream scouring, lateral erosion and shifting of soil from place to place. Soil characteristics, such as texture and stoniness, are usually highly variable within short distances.

The non-wetland soils within and near the project area include:

20 Ellington silt loam (Aquic Dystrudepts) – This is a deep, moderately well drained, friable, reddish-colored, loamy soil that developed over sandy and gravelly, glacial outwash derived from sandstone, shale and basalt. Outwash soils occur in valleys, outwash plains and terraces.

306 Udorthents-Urban land complex This map unit consists of extensive areas where soils have been disturbed from land development along with large areas of impervious surfaces associated with streets, parking lots, buildings and other structures.

308 Udorthents, smoothed This is a well drained to moderately well drained soil area that has had two or more feet of the original soil surface altered by filling, excavation or grading activities. Udorthents, smoothed soils commonly occur on leveled land and fill landforms.



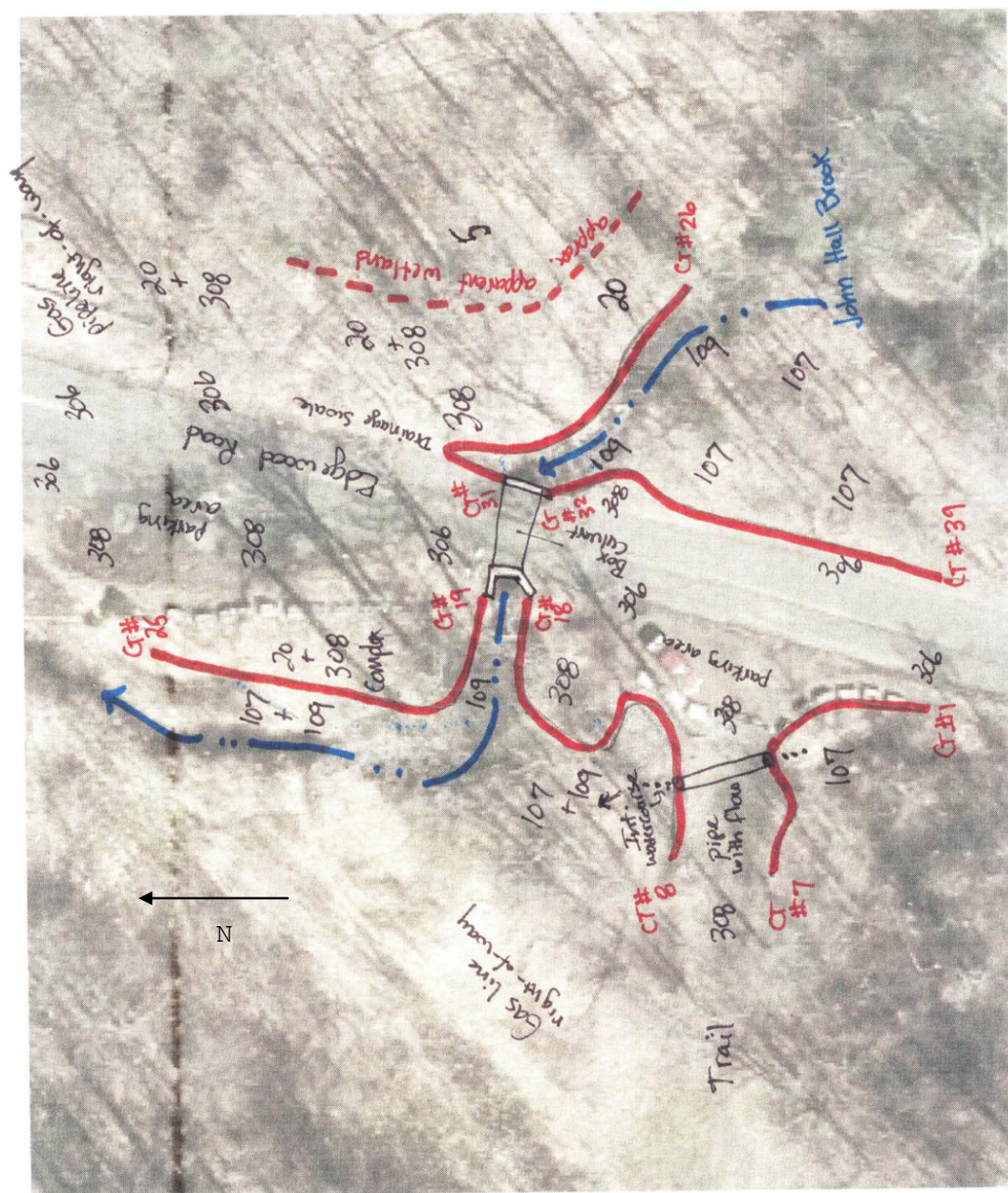


Figure No. 2 – Sketch of CT Wetland Boundaries (approx.)  
(aerial photo from CT ECO)

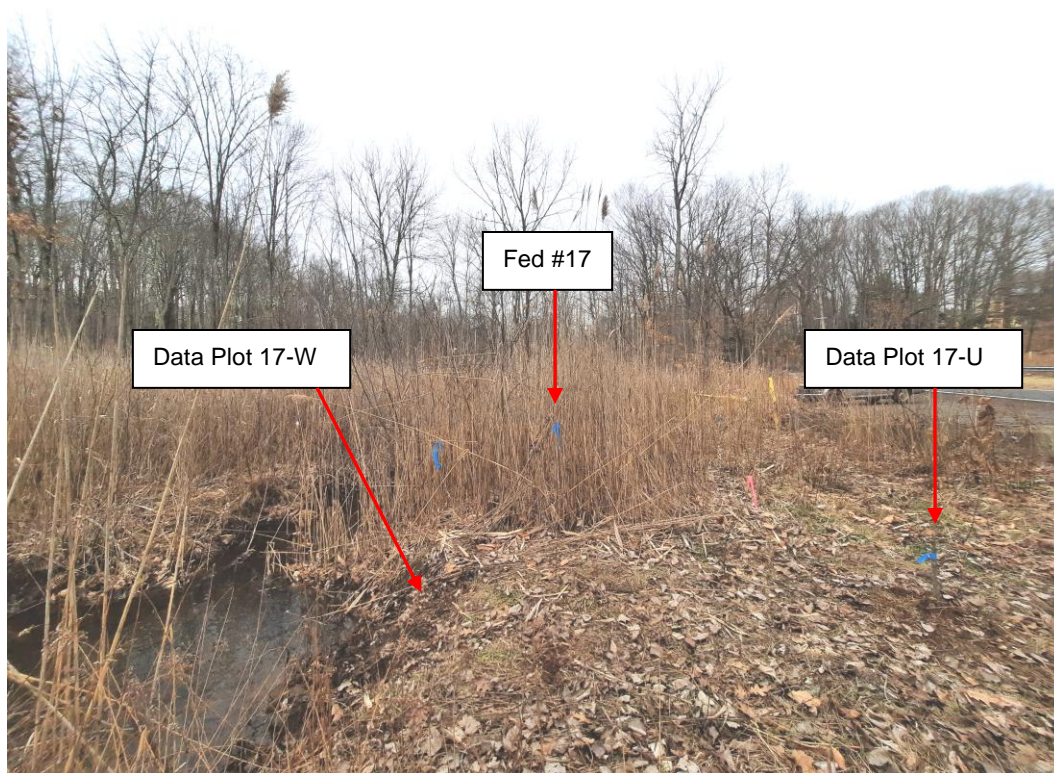


## FEDERAL WETLANDS

Federal wetlands were delineated within and near the project area. The Federal wetland boundaries differ from the CT wetland boundaries. See Figure 3. The Federal wetlands in and near the project area are dominated by palustrine forested and palustrine emergent wetland communities. Two data transects each with wetland and upland data plots were established. One data transect was established along the palustrine forested wetland boundary with data plots 12-W and 12-U. The other data transect was established along the palustrine emergent wetland boundary with data plots 17-W and 17-U. The approximate locations of the data plots within the transects are shown in Figure 3. The information gathered from each data plot was recorded on Federal Wetland Determination Data Forms. These forms are included at the end of this report.



Federal wetland boundary palustrine forested transect data plots 12-W and 12-U (1/14/2021).



Federal wetland boundary palustrine emergent transect data plots 17-W and 17-U (1/14/2021).



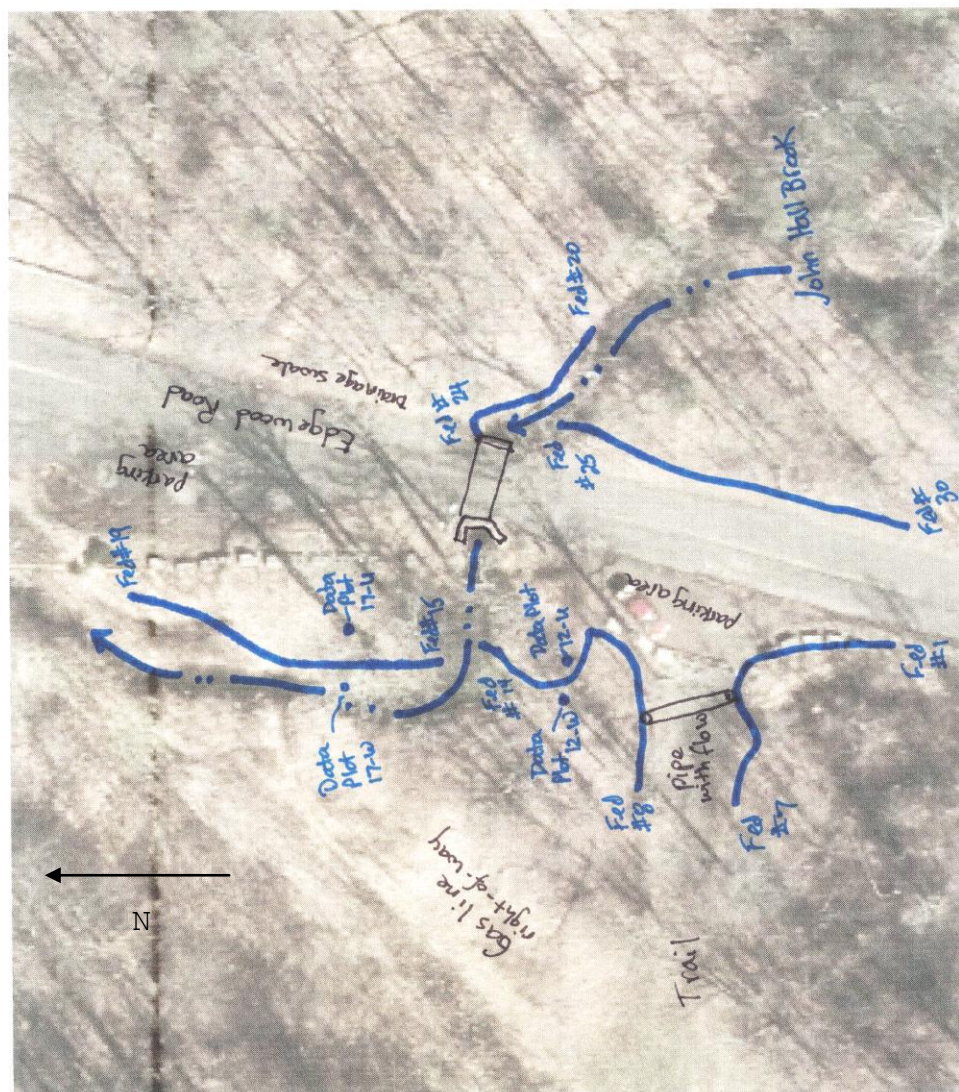


Figure No. 3 – Sketch of Federal Wetland Boundaries (approx.)  
(aerial photo from CT ECO)

## ORDINARY HIGH WATER MARK IDENTIFICATION

The lateral limits of U.S. Army Corps jurisdiction for non-tidal rivers, streams and water bodies extends to the ordinary high water mark (OHW), in the absence of adjacent wetlands. The Corps defines the term “ordinary high water mark” as the following: “means the line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.” 33 CFR 328.3(e). The Corps recommends that whenever possible the investigator should consider the former indicators along with a number of others, that include: wracking; vegetation matted down, bent or absent; sediment sorting; leaf litter disturbed or washed away; scour; deposition; multiple observed flow events; beds and banks; water staining; and change in plant community.

The above-listed indicators were utilized during the January 14, 2021 inspection to determine the estimated ordinary high water (OHW) along the John Hall Brook perennial watercourse channel within the project area based on existing conditions observed during the inspection. Blue survey tapes were tied onto plant material at eight locations within the project area to identify the OHW elevation. The knot of the tied survey tape marks the estimated OHW elevation. A sketch map showing the approximate locations of the OHW survey tapes is included in Figure 4.

Respectfully submitted,

SOIL SCIENCE AND ENVIRONMENTAL SERVICES, INC.

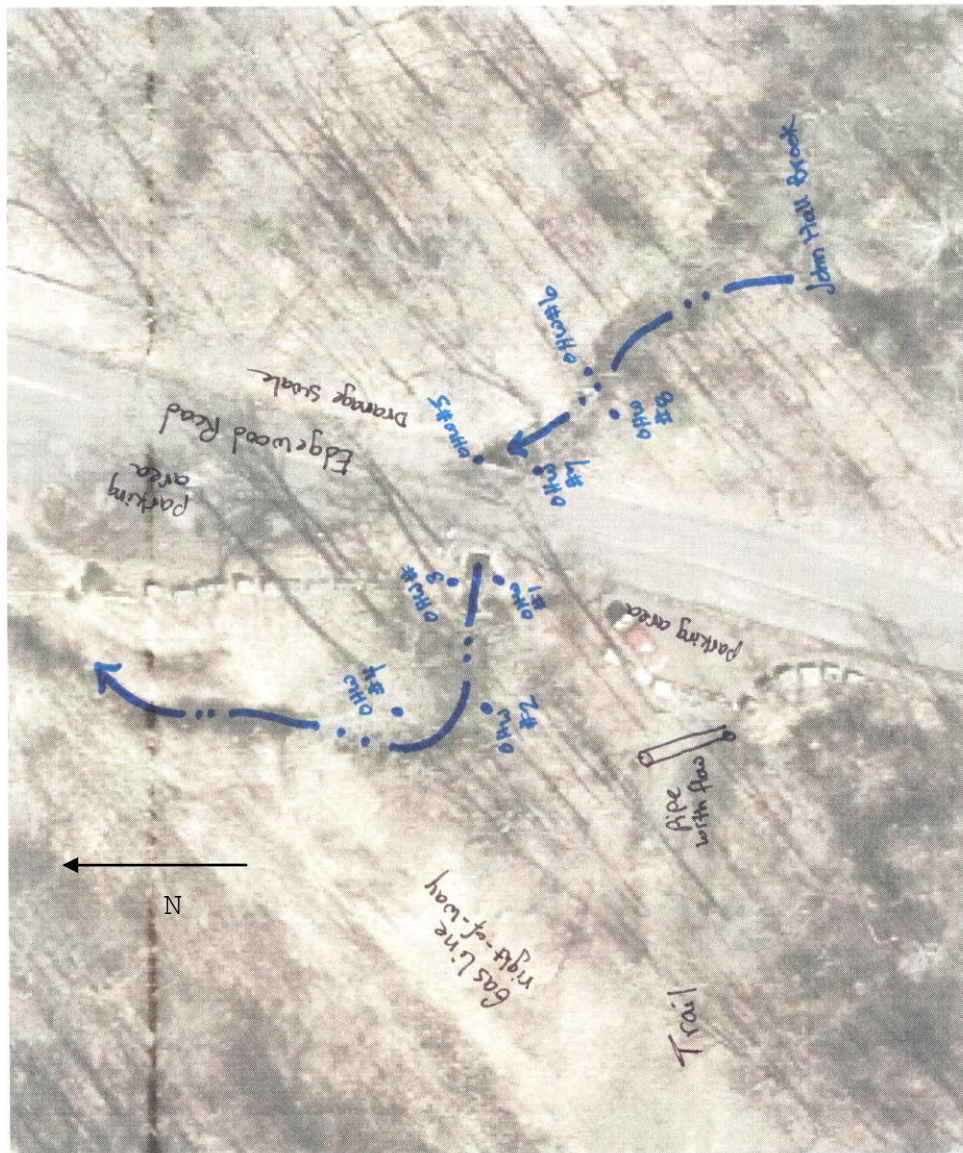


Scott D. Stevens  
Registered Professional Soil Scientist



Jennifer L. Beno  
Biologist/Wetland Scientist





**Figure No. 4 – Sketch of Ordinary High Water Flag Locations (approx.)  
(aerial photo from CT ECO)**

## APPENDIX I

### REGULATED WATERS AND WETLANDS BY THE STATE OF CT AND FEDERAL GOVERNMENT

#### I. State of Connecticut

Wetlands and watercourses are regulated in the State of Connecticut by the Connecticut General Statutes, Chapter 440, section 22a-28 to 22a-45. These Statutes are divided into the Inland Wetlands and Watercourses Act (sections 22a-36 to 22a-45) and the Tidal Wetlands Act (sections 22a-28 to 22a-35). Definitions of the resources are provided in the statutes.

Inland Wetlands, "means land, including submerged land, not regulated pursuant to sections 22a-28 to 22a-35, inclusive, which consist of any of the soil types designated as poorly drained, very poorly drained, alluvial, and floodplain by the National Cooperative Soils Survey, as may be amended from time to time, of the Natural Resources Conservation Service of the United States Department of Agriculture" section 22a-38(15).

Watercourses "means 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 this state or any portion thereof, not regulated pursuant to sections 22a-28 to 22a-35, inclusive. Intermittent watercourses shall be delineated by a defined permanent channel and bank and the occurrence of two or more of the following characteristics: (A) Evidence of scour or deposits of alluvium or detritus, (B) the presence of standing or flowing water for a duration longer than a particular storm incident, and (C) the presence of hydrophytic vegetation" section 22a-38(16).

Tidal Wetlands are defined as "those areas which border on or lie beneath tidal waters, such as, but not limited to banks, bogs, salt marsh, swamps, meadows, flats, or other low lands subject to tidal action, including those areas now or formerly connected to tidal waters, and whose surface is at or below an elevation of one foot above local extreme high water; and upon which may grow or be capable of growing some but not necessarily all, of the following:" (includes plant list) section 22a-29(2).

#### II. Federal Government

The Federal Government regulates waters and wetlands in accordance with the Code of Federal Regulations, Title 33, Parts 320 through 330 (33 CFR parts 320 to 330). Regulated areas include navigable waters; interstate waters; tributaries to navigable and interstate waters, including adjacent wetlands; and certain other waters and wetlands of the U.S. The United States Army Corps of Engineers has been authorized to regulate these waters and wetlands by Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. Definitions of wetlands and watercourses that are regulated by the Corps are found in Parts 328 and 329 of the Code.

Waters of the United States as defined in Part 328 means, " (1) all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (2) all interstate waters including interstate wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce; (4) all impoundments of waters otherwise defined as waters of the U.S. under the definition; (5) tributaries of waters identified in 1 thru 4; (6) territorial seas; and (7) wetlands adjacent to waters that were identified in 1 thru 6. Waters of the United States do not include prior converted cropland" (33 CFR Part 328.3 (a)).

Wetlands are a subset of waters of the United States and are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (33CFR Part 328.3(b)). The 1987 U.S. Corps of Engineers Delineation Manual and the Draft Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (dated July 2008) provide information and procedures for conducting Federal Wetland delineation. The methodology established by the Federal Government uses a three parameter approach utilizing hydrologic indicators, hydrophytic vegetation and hydric soils for identifying Federal Wetlands.

Navigable waters of the United States as defined in Part 329 mean "those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce" (33CFR Part 329.2).



## Federal Wetland Determination Data Forms

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Edgewood Rd over John Hall Brook City/County: Berlin / Hartford Sampling Date: Jan. 14, 2021  
 Applicant/Owner: AT Engineers / Town of Berlin State: CT Sampling Point: 12-W  
 Investigator(s): Scott Stevens + Jenn Bero - SSSES Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): MLRA 145 Lat: 41.58046°N Long: 72.81996°W Datum: \_\_\_\_\_  
 Soil Map Unit Name: Shallow fill over Limerick + Lim soils NWI classification: PFO1E  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: (Explain alternative procedures here or in a separate report.)		

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
<b>Primary Indicators (minimum of one is required; check all that apply)</b>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input checked="" type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____		
Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>±8</u>		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>±4</u>		
(includes capillary fringe)		Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

## VEGETATION – Use scientific names of plants.

Sampling Point: 12-W

Tree Stratum (Plot size: <u>±30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer rubrum</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>
2. <u>Fraxinus americana</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>
3. <u>Quercus rubra</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>
4. _____			
5. _____			
6. _____			
7. _____			

75% = Total Cover

Sapling/Shrub Stratum (Plot size: <u>±15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Lindera benzoin</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>
2. <u>Rosa multiflora</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			

30% = Total Cover

Herb Stratum (Plot size: <u>±5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Glyceria striata</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>
2. <u>Symplocarpus foetidus</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			

30% = Total Cover

Woody Vine Stratum (Plot size: <u>±30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			

0 = Total Cover

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

**Dominance Test worksheet:**Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)Total Number of Dominant Species Across All Strata: 6 (B)Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**☐ 1 - Rapid Test for Hydrophytic Vegetation☒ 2 - Dominance Test is >50%☐ 3 - Prevalence Index is ≤3.0<sup>1</sup>☐ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**Definitions of Vegetation Strata:****Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.**Woody vines** – All woody vines greater than 3.28 ft in height.**Hydrophytic Vegetation Present?**Yes ☒ No ☐



Sampling Point: 12-W

[illegible]<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Histosol (A1)                                | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)       |
| <input type="checkbox"/> Histic Epipedon (A2)                         | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)       | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)     |
| <input type="checkbox"/> Black Histic (A3)                            | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)             | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                        | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                        | <input type="checkbox"/> Dark Surface (S7) (LRR K, L)                |
| <input checked="" type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Depleted Matrix (F3)                            | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)     |
| <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)                         | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)           |
| <input type="checkbox"/> Thick Dark Surface (A12)                     | <input type="checkbox"/> Depleted Dark Surface (F7)                      | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                     | <input type="checkbox"/> Redox Depressions (F8)                          | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                     |  | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)   |
| <input type="checkbox"/> Sandy Redox (S5)                             |  | <input type="checkbox"/> Red Parent Material (F21)                   |
| <input type="checkbox"/> Stripped Matrix (S6)                         |  | <input type="checkbox"/> Very Shallow Dark Surface (TF12)            |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)         |  | <input type="checkbox"/> Other (Explain in Remarks)                  |

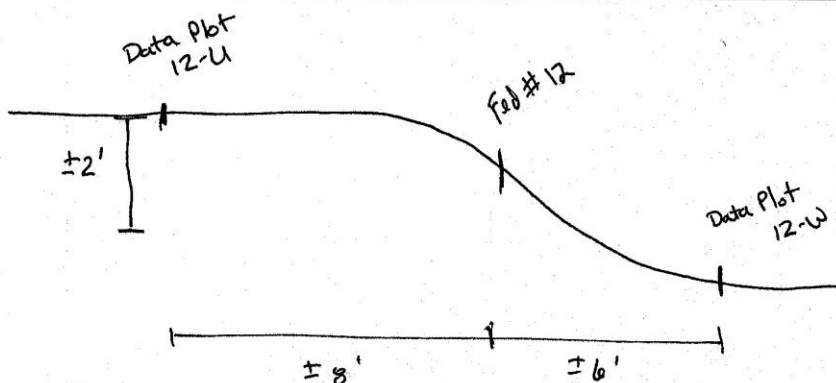
<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes X No     

Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Edgewood Rd over John Hall Brook City/County: Berlin / Hartford Sampling Date: Jan. 14, 2021  
 Applicant/Owner: AI Engineers / Town of Berlin State: CT Sampling Point: 12-U  
 Investigator(s): Scott Stevens + Jenn Bero - SSES Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): MLRA 145 Lat: ±41.58046°N Long: ±72.81995°W Datum: \_\_\_\_\_  
 Soil Map Unit Name: Udorthents, smoothed NWI classification: N1A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil X, or Hydrology \_\_\_\_\_ significantly disturbed? yes Are "Normal Circumstances" present? Yes \_\_\_\_\_ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? \_\_\_\_\_ (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
<b>Primary Indicators (minimum of one is required; check all that apply)</b>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
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<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <u>X</u>
Water Table Present? Yes _____ No <u>X</u>	Depth (inches): <u>±26</u>	
Saturation Present? (includes capillary fringe) Yes _____ No <u>X</u>	Depth (inches): <u>±24</u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



## VEGETATION – Use scientific names of plants.

Sampling Point: 12-4

Tree Stratum (Plot size: <u>±30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer rubrum</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>
2. <u>Fraxinus americana</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>
3. <u>Quercus rubra</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
<u>75%</u> = Total Cover			

Sapling/Shrub Stratum (Plot size: <u>±15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Lindera benzoin</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>
2. <u>Rosa multiflora</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
<u>25%</u> = Total Cover			

Herb Stratum (Plot size: <u>±5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Solidago canadensis</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>
2. <u>Equisetum hyemale</u>	<u>5</u>	<u>Y</u>	<u>UPL</u>
3. <u>Elyria divaricata</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
<u>20%</u> = Total Cover			

Woody Vine Stratum (Plot size: <u>±30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
<u>0</u> = Total Cover			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 37.5% (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

\_\_\_ 1 - Rapid Test for Hydrophytic Vegetation

\_\_\_ 2 - Dominance Test is >50%

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

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

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

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

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

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

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

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

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

Sampling Point: 12-4

[illegible]<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Histosol (A1)                        | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)       |
| <input type="checkbox"/> Histic Epipedon (A2)                 | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)       | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)     |
| <input type="checkbox"/> Black Histic (A3)                    | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)             | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                        | <input type="checkbox"/> Dark Surface (S7) (LRR K, L)                |
| <input type="checkbox"/> Stratified Layers (A5)               | <input type="checkbox"/> Depleted Matrix (F3)                            | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)     |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)    | <input type="checkbox"/> Redox Dark Surface (F6)                         | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)           |
| <input type="checkbox"/> Thick Dark Surface (A12)             | <input type="checkbox"/> Depleted Dark Surface (F7)                      | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)             | <input type="checkbox"/> Redox Depressions (F8)                          | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)             |  | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)   |
| <input type="checkbox"/> Sandy Redox (S5)                     |  | <input type="checkbox"/> Red Parent Material (F21)                   |
| <input type="checkbox"/> Stripped Matrix (S6)                 |  | <input type="checkbox"/> Very Shallow Dark Surface (TF12)            |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) |  | <input type="checkbox"/> Other (Explain in Remarks)                  |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No ☒

Remarks:

**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Edgewood Rd over John Hall Brook City/County: Berlin / Hartford Sampling Date: Jan. 14, 2021  
 Applicant/Owner: AI Engineers / Town of Berlin State: CT Sampling Point: 17-W  
 Investigator(s): Scott Stevens + Jenn Bern - SSES Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): MLRA 145 Lat: ±41.58065°N Long: ±72.82002°W Datum: \_\_\_\_\_  
 Soil Map Unit Name: shallow fill over Limerick and Lim Soils NWI classification: PEN2E  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____ If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators (minimum of one is required; check all that apply)</b> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) <u>X</u> High Water Table (A2) _____ Aquatic Fauna (B13) <u>X</u> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) <u>X</u> Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)		<b>Secondary Indicators (minimum of two required)</b> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>±12</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>±8</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



## VEGETATION – Use scientific names of plants.

Sampling Point: 17-W

Tree Stratum (Plot size: <u>±30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Populus deltoides</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
2.			
3.			
4.			
5.			
6.			
7.			

10% = Total Cover

Sapling/Shrub Stratum (Plot size: <u>±15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Alnus incana</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>
2. <u>Liriodendron tulipifera</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>
3.			
4.			
5.			
6.			
7.			

25% = Total Cover

Herb Stratum (Plot size: <u>±5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Phragmites australis</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>
2. <u>Lythrum salicaria</u>	<u>10</u>	<u>N</u>	<u>OBL</u>
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			

60% = Total Cover

Woody Vine Stratum (Plot size: <u>±30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Vitis labrusca</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>
2.			
3.			
4.			

5% = Total Cover

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

## Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)Total Number of Dominant Species Across All Strata: 5 (B)Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

## Prevalence Index worksheet:

Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

## Hydrophytic Vegetation Indicators:

\_\_\_ 1 - Rapid Test for Hydrophytic Vegetation

☒ 2 - Dominance Test is >50%\_\_\_ 3 - Prevalence Index is ≤3.0<sup>1</sup>\_\_\_ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

## Definitions of Vegetation Strata:

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.**Woody vines** – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?

Yes ☒ No \_\_\_\_\_

Sampling Point: 17-W

[illegible]<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                                 | <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R, MLRA 149B</b> ) | <input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR K, L, MLRA 149B</b> )       |
| <input type="checkbox"/> Histic Epipedon (A2)                          | <input type="checkbox"/> <b>MLRA 149B</b>   | <input type="checkbox"/> Coast Prairie Redox (A16) ( <b>LRR K, L, R</b> )     |
| <input type="checkbox"/> Black Histic (A3)                             | <input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B</b> )       | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) ( <b>LRR K, L, R</b> )  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                         | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L</b> )             | <input type="checkbox"/> Dark Surface (S7) ( <b>LRR K, L</b> )                |
| <input checked="" type="checkbox"/> Stratified Layers (A5)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                 | <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR K, L</b> )     |
| <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)  | <input type="checkbox"/> Depleted Matrix (F3)                                     | <input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR K, L</b> )           |
| <input type="checkbox"/> Thick Dark Surface (A12)                      | <input type="checkbox"/> Redox Dark Surface (F6)                                  | <input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR K, L, R</b> )   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                      | <input type="checkbox"/> Depleted Dark Surface (F7)                               | <input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 149B</b> ) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                      | <input type="checkbox"/> Redox Depressions (F8)                                   | <input type="checkbox"/> Mesic Spodic (TA6) ( <b>MLRA 144A, 145, 149B</b> )   |
| <input type="checkbox"/> Sandy Redox (S5)                              |   | <input type="checkbox"/> Red Parent Material (F21)                            |
| <input type="checkbox"/> Stripped Matrix (S6)                          |   | <input type="checkbox"/> Very Shallow Dark Surface (TF12)                     |
| <input type="checkbox"/> Dark Surface (S7) ( <b>LRR R, MLRA 149B</b> ) |   | <input type="checkbox"/> Other (Explain in Remarks)                           |

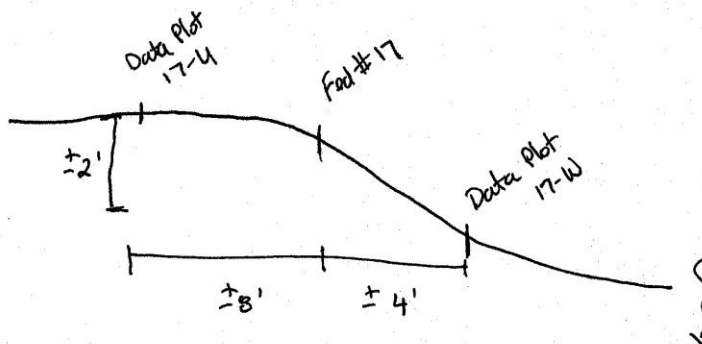
<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Edgewood Rd over John Hall Brook City/County: Berlin / Hartford Sampling Date: Jan. 14, 2021  
 Applicant/Owner: AE Engineers / Town of Berlin State: CT Sampling Point: 17-11  
 Investigator(s): Scott Stevens + Jenn Bero-SSES Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): MLRA 145 Lat: ±41.58065°N Long: ±72.81998°W Datum: \_\_\_\_\_  
 Soil Map Unit Name: Ellington silt loam + udorthents complex NWI classification: N1A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil X, or Hydrology \_\_\_\_\_ significantly disturbed? yes Are "Normal Circumstances" present? Yes \_\_\_\_\_ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

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



## VEGETATION – Use scientific names of plants.

Sampling Point: 17-U

Tree Stratum (Plot size: <u>±30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Populus deltoides</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
2. <u>Fraxinus americana</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

15% = Total Cover

Sapling/Shrub Stratum (Plot size: <u>±15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Alnus incana</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>
2. <u>Liriodendron tulipifera</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
3. <u>Quercus rubra</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

15% = Total Cover

Herb Stratum (Plot size: <u>±5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Solidago canadensis</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>
2. _____	_____	_____	_____
3. <u>mowed grasses</u>	<u>10</u>	<u>N</u>	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

60% = Total Cover

Woody Vine Stratum (Plot size: <u>±30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Vitis labrusca</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

5% = Total Cover

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

## Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)Total Number of Dominant Species Across All Strata: 7 (B)Percent of Dominant Species That Are OBL, FACW, or FAC: 28.6% (A/B)

## Prevalence Index worksheet:

Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

## Hydrophytic Vegetation Indicators:

\_\_\_ 1 - Rapid Test for Hydrophytic Vegetation

\_\_\_ 2 - Dominance Test is &gt;50%

\_\_\_ 3 - Prevalence Index is ≤3.0<sup>1</sup>\_\_\_ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

## Definitions of Vegetation Strata:

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.**Woody vines** – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?

Yes \_\_\_\_\_ No X

Sampling Point: 17-4

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

[illegible]

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- \_\_\_ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- \_\_\_ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- \_\_\_ Loamy Mucky Mineral (F1) (LRR K, L)
- \_\_\_ Loamy Gleyed Matrix (F2)
- \_\_\_ Depleted Matrix (F3)
- \_\_\_ Redox Dark Surface (F6)
- \_\_\_ Depleted Dark Surface (F7)
- \_\_\_ Redox Depressions (F8)

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

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

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

## Restrictive Layer (if observed):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No X

Remarks: