

# Wetland/Watercourse Delineation Report



Connecticut Federal-Local Bridge Program

Replacement of Bridge 05623 at Colony Road over Latimer Brook

State Project No. 0044-0161

East Lyme, Connecticut  
September 2024



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## 1. INTRODUCTION

FHI Studio was retained by Close, Jensen and Miller, PC (CJM) to identify and delineate wetlands and watercourses within, or adjacent to the Replacement of Bridge 05623 at Colony Road over Latimer Brook in East Lyme, Connecticut project site (see **Figure 1, Project Overview Map** in **Appendix A**). This work effort is to support State Project No. 0044-0161. FHI Studio conducted the wetland/watercourse boundary delineation in May 2024. The methods used and the results are detailed in this wetland/watercourse delineation report.

## 2. METHODOLOGY

Wetlands and watercourses were delineated in accordance with state and federal definitions and guidelines. The identification of Connecticut-regulated inland wetlands is determined by the limit of any of the soil types designated as poorly drained, very poorly drained, alluvial, or floodplain by the National Cooperative Soils Survey, of the Natural Resources Conservation Service (NRCS) of the United States Department of Agriculture (USDA) (§22a-38-15). NRCS soil surveys were consulted to compare observed soil types to those mapped in the project area. The *Field Indicators for Identifying Hydric Soils in New England Version 4* (NEHSTC, 2017) and *Field Indicators of Hydric Soils in the United States, Version 8.2* (2018) were used to identify hydric soils, which include poorly drained soils.

Federal wetlands, as defined in the United States Army Corp of Engineers (USACE) 1987 *Wetland Delineation Manual* and the USACE 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region – Version 2.0*, were also assessed. Federal wetland boundaries are determined by the presence of dominant hydrophytic vegetation, presence of hydric soils, and evidence of wetland hydrology.

Identification of watercourses, as regulated by Connecticut, was based upon the definitions contained in Section 22a-38 of Chapter 440 of the Connecticut General Statutes (CGS); including the following hydrological systems under the term “watercourse”: rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs, and all other bodies of water, natural or artificial, vernal or intermittent, public or private. Ordinary High Water (OHW) was marked at the bridge following the guidance in the USACE, National OHW Mark Field Delineation Manual for Rivers and Stream-Interim Version (November 2022).

The field work was conducted on May 29, 2024. Soil, vegetation, and hydrology data were collected at representative locations in the wetlands and adjacent uplands, and USACE Wetland Determination Forms were prepared (see **Appendix B**). Wetland functions and values were documented in accordance with the USACE *Highway Methodology Supplement* (1999) guidelines (see **Appendix C**). Photographs were taken at representative locations in the wetlands and along the watercourse as well as adjacent uplands and are included in **Appendix D**.

### 3. RESULTS

State- and federally-regulated wetlands were identified at three locations within the project area and the boundaries of one perennial watercourse, Latimer Brook, were delineated. The OHW Mark associated with Latimer Brook was demarcated in the field. These regulatory resources, delineated in the project area, are depicted on **Figure 2, Wetland and Watercourse Delineation Map** in **Appendix A**. The NRCS soils map classifications on, and in the vicinity of, the project area, are depicted by their soil number on **Figure 3, NRCS Soils Map** in **Appendix A**. FHI Studio's soil observations conducted during fieldwork support the NRCS mapped designation of Hinckley loamy sand, Pootatuck fine sandy loam, and Canton and Charlton fine sandy loam/soils in and adjacent to the Bridge 05623 project area. In the delineated wetlands, soil was observed to be Rippowam fine sandy loam, 0 to 3 percent slopes.

### 4. DETAILED RESOURCE DESCRIPTIONS

**Wetland 1:** Wetland 1 is a palustrine forested/emergent wetland (PFO1/PEM1) in the northwest portion of the project area, north of Colony Road. Vegetation in Wetland 1 includes Red Maple (*Acer rubrum*) trees; Multiflora Rose (*Rosa multiflora*) and Japanese Barberry (*Berberis thunbergii*) shrubs; Jewelweed (*Impatiens capensis*) and Skunk Cabbage (*Symplocarpus foetidus*) compose the herbaceous stratum. The soils in Wetland 1 are mapped as Hinckley loamy sand, but are better classified as Rippowam fine sandy loam, 0 to 3 percent slopes. Wetland 1 provides the following functions and values: fish and shellfish habitat and wildlife habitat. Wetland 1 is a state- and federally-regulated wetland.

**Wetland 2:** Wetland 2 is a palustrine forested/emergent wetland (PFO1/PEM1) located on the eastern side of Latimer Brook, south of Colony Road. Vegetation in Wetland 2 includes Red Maple trees, Multiflora Rose shrubs, Poison Ivy (*Toxicodendron radicans*) vines, and Skunk Cabbage in the herbaceous stratum. Wetland 2 receives water from Latimer Brook, which backflows into this wetland. The soils in this wetland were observed to be Rippowam fine sandy loam, 0 to 3 percent slopes. Numerous frogs and tadpoles were observed in Wetland 2; the water is ponded, diffuse, and interspersed with vegetation, providing a breeding habitat for amphibians. The principal functions provided by Wetland 2 are: fish and shellfish habitat and wildlife habitat. Wetland 2 is a state- and federally-regulated wetland.

**Wetland 3:** Wetland 3 is located on the eastern side of Latimer Brook, south of Colony Road and Wetland 2. Wetland 3 is classified as a palustrine forested/emergent wetland (PFO1/PEM1). Vegetation in Wetland 3 includes Red Maple and American Beech (*Fagus sylvatica*) trees; Japanese Barberry, Multiflora Rose, Spicebush (*Lindera benzoin*), and Silky Dogwood (*Cornus amomum*) shrubs; Skunk Cabbage and Sphagnum Moss (*Sphagnum spp.*) in the herbaceous stratum; along with Asiatic Bittersweet (*Celastrus orbiculatus*) and Poison

ivy vines. The soils in this wetland are mapped as Pootatuck fine sandy loam, but better classified as Rippowam fine sandy loam, 0 to 3 percent slopes. The principal functions provided by Wetland 3 are: fish and shellfish habitat and wildlife habitat.

**Latimer Brook:** Latimer Brook flows from north to south under Bridge 05623. The segment of Latimer Brook in the project area is best described as a Riverine Upper Perennial Unconsolidated Bottom Permanently Flooded (R3UBH) watercourse. According to the Connecticut Department of Energy and Environmental Protection (CT DEEP)/University of Connecticut online CT Environmental Conditions Online (CTECO), Latimer Brook is classified as a Class A water quality stream. The river is approximately 30-40 feet wide and greater than 4 feet deep near the bridge. The brook is confined to the channel except southeast of the bridge at Wetland 2 where a backwater condition was observed. The eastern and western banks are steep and several feet higher than the brook at the bridge. North and south of the bridge there are slow moving riffles, and stream depth decreases to 1 – 2 ft. The stream gradient drops as the stream continues south. The substrate consists of cobbles, gravel, and sand, with the substrate being finer downstream of the bridge. There is an open tree canopy at the structure, and full canopy cover upstream and downstream of the bridge. Banks of the brook are vegetated with Red Maple, American Beech, and White Pine (*Pinus strobus*) trees, and Multiflora Rose shrubs. A mowed lawn with an armored/reinforced bank was observed to the southeast of the bridge and south of Colony Road. Latimer Brook is stocked with trout to the north and south of the bridge. The primary function of Latimer Brook in the project area is providing fish habitat.

## 5. NRCS MAPPED SOILS

NRCS soils classifications on the project area are depicted in **Figure 3, NRCS Soils Map**. Only those soils found on the project area are described below.

**Hinckley gravelly sandy loam, 3 to 5 percent slopes (38C) & Hinckley loamy sand, 3 to 15 percent slopes (38C):** The Hinckley series consists of very deep, excessively drained soils formed in glaciofluvial materials. They are nearly level through very steep soils on outwash terraces, outwash plains, outwash deltas, kames, kame terraces, and eskers.

**Pootatuck fine sandy loam (102):** The Pootatuck series consists of very deep, moderately well drained loamy soils formed in alluvial floodplain material. They are nearly level soils on floodplains subject to frequent to occasional flooding. Slope ranges from 0 to 3 percent.

**Canton and Charlton soils, 15 to 25 percent slopes (60D) & Canton and Charlton fine sandy loams, 8 to 15 percent slopes (60C):**

The Canton series consists of very deep, well drained soils formed in a loamy mantle underlain by sandy till. They are on nearly level to very steep moraines, hills, and ridges. Slope ranges from 0 to 45 percent.

**Rippowam Fine Sandy Loam (103):** The Rippowam series consists of very deep, poorly drained loamy soils formed in alluvial sediments. They are nearly level soils on flood plains subject to frequent flooding. Slope ranges from 0 to 3 percent.

## 6. SUMMARY

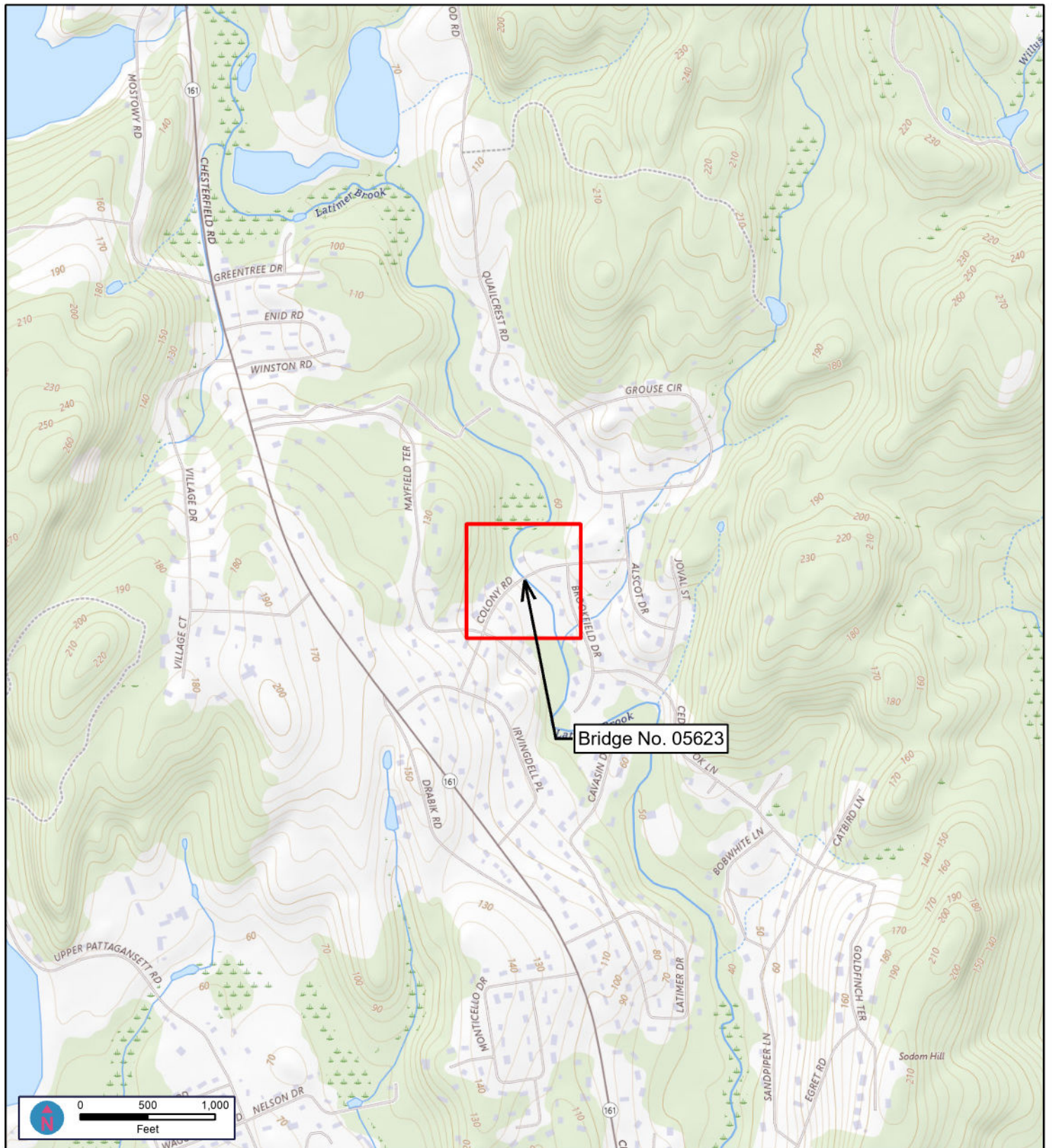
Three State- and federally-regulated wetlands were identified in the project area. The OHW Mark of one perennial watercourse, Latimer Brook, was delineated within the project area. The wetlands provide the following principal functions and values: fish and shellfish habitat and wildlife habitat. Latimer Brook provides fish habitat.

## 7. REFERENCES AND LITERATURE CITED

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- US Department of Agriculture. NRCS. 2018. *Field Indicators of Hydric Soils in the United States*, Version 8.2. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.) USDA, NRCS in cooperation with the National Technical Committee for Hydric Soils.

# APPENDIX A

## FIGURES



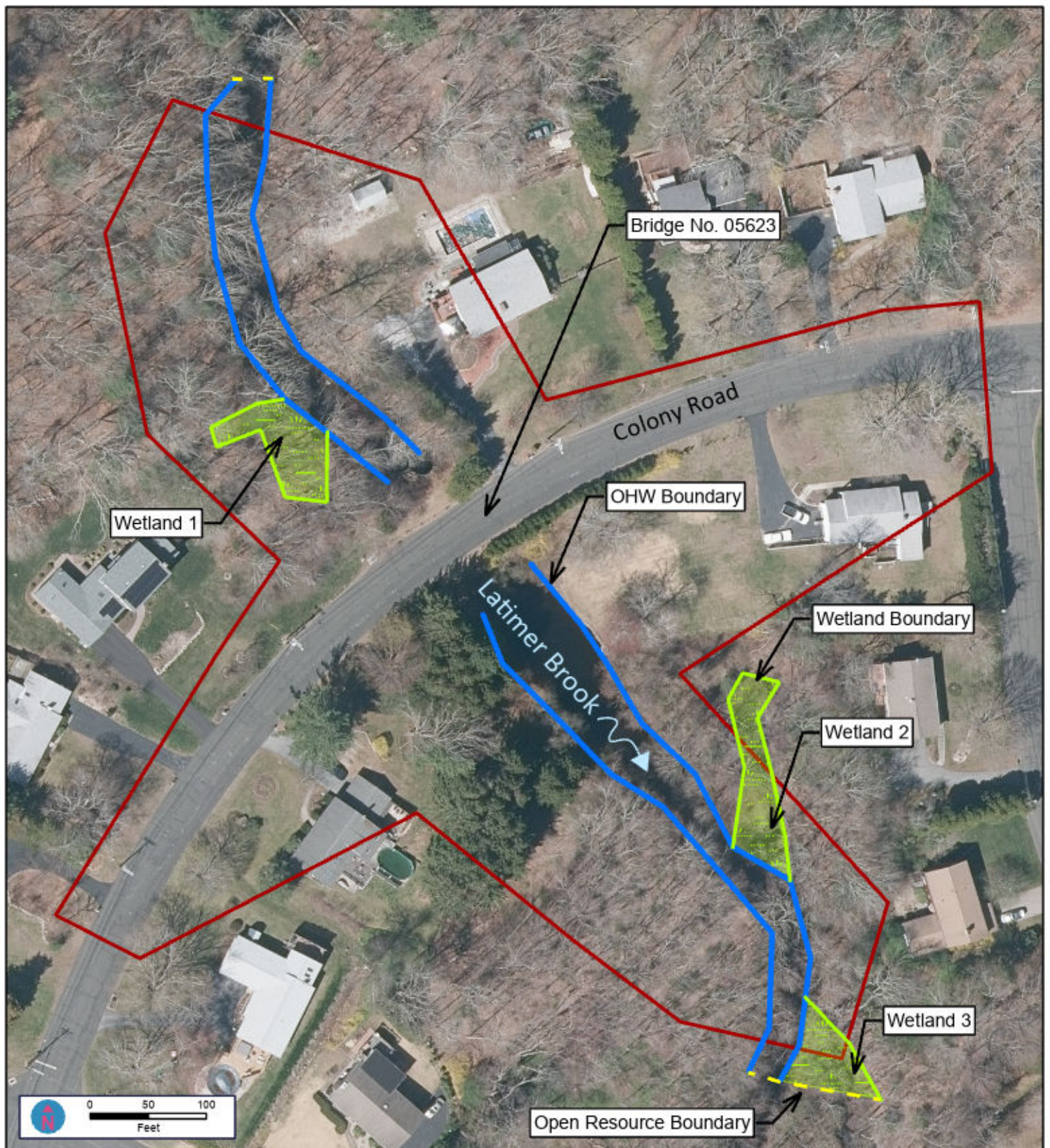
## Colony Road over Latimer Brook East Lyme, CT State Project No. 0044-0161

Figure 1  
Project Overview Map

Map Produced: 8/9/2024

Data Source: FHI Studio 2024, USGS The National Map, ESRI

For Planning Purposes Only



#### Legend

- Limits of Investigation
- Ordinary High Water (OHW) Mark
- State and Federal Inland Wetland Boundary
- State and Federal Wetland
- Open Resource Boundary

## Colony Road over Latimer Brook East Lyme, CT State Project No. 0044-0161

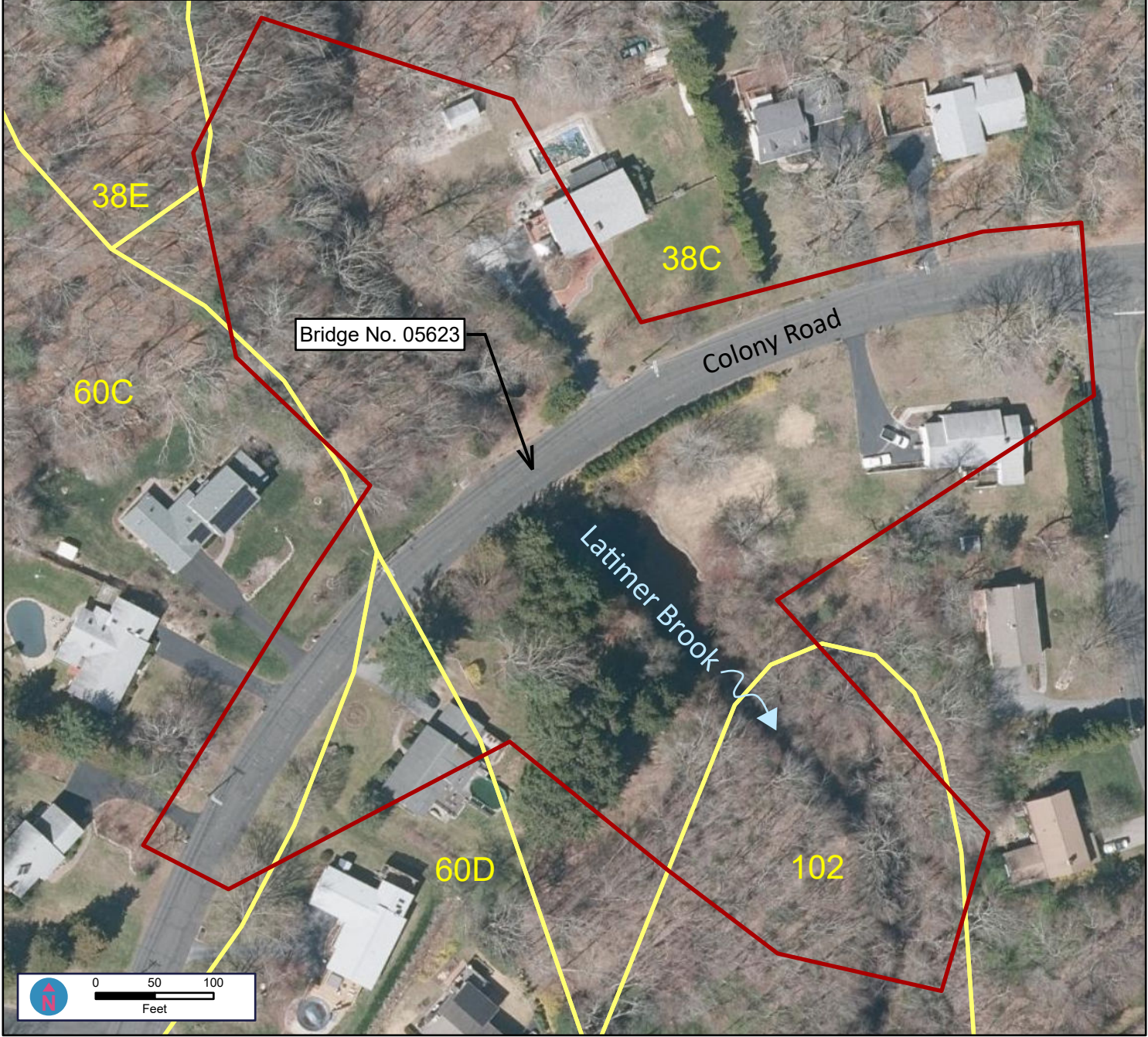
Figure 2  
Wetland & Watercourse Delineation Map

Map Produced: 9/11/2024

Data Source: FHI Studio 2024, CT ECO, USGS The National Map, ESRI

For Planning Purposes Only

| Mapunit Symbol | Mapunit Name                                                 | Drainage Class          |
|----------------|--------------------------------------------------------------|-------------------------|
| 102            | Pootatuck fine sandy loam                                    | Moderately well drained |
| 60D            | Canton and Charlton soils, 15 to 25 percent slopes           | Well drained            |
| 38E            | Hinckley loamy sand, 15 to 45 percent slopes                 | Excessively drained     |
| 60C            | Canton and Charlton fine sandy loams, 8 to 15 percent slopes | Well drained            |
| 38C            | Hinckley loamy sand, 3 to 15 percent slopes                  | Excessively drained     |



- Legend**
- Limits of Investigation
  - NRCS Mapped Soils Unit

**Colony Road over Latimer Brook  
East Lyme, CT  
State Project No. 0044-0161**

**Figure 3  
NRCS Soils Map**

# **APPENDIX B**

## **USACE WETLAND DETERMINATION FORMS**

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

Project/Site: Colony Road over Latimer Brook City/County: East Lyme Sampling Date: 5/29/24

Applicant/Owner: Town of East Lyme State: CT Sampling Point: Up-1

Investigator(s): SC/DW Section, Township, Range: \_\_\_\_\_

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): convex Slope %: \_\_\_\_\_

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.3838232°N Long: 72.2141482°W Datum: WGS84

Soil Map Unit Name: Pootatuck fine sandy loam NWI classification: N/A

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are “Normal Circumstances” present? Yes X No \_\_\_\_\_

Are Vegetation N, Soil N, or Hydrology N 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><br>Hydric Soil Present? Yes _____ No <u>X</u><br>Wetland Hydrology Present? Yes _____ No <u>X</u> | <b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u><br>If yes, optional Wetland Site ID: _____ |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|

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

**HYDROLOGY**

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

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

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

Remarks:

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

 Sampling Point: Up-1

| Tree Stratum (Plot size: <u>2827 ft2</u> )                | Absolute % Cover | Dominant Species? | Indicator Status |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
|-----------------------------------------------------------|------------------|-------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|----------------------|----------------|-----------------------|----------------|-----------------------|------------------|-------------------------|------------------|----------------------|-----------------|-------------------------------|----------------|--------------------------------------|--|
| 1. <u><i>Pinus strobus</i></u>                            | <u>5</u>         | <u>Yes</u>        | <u>FACU</u>      | <b>Dominance Test worksheet:</b><br><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>9</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>22.2%</u> (A/B)                                                                                                                                                                                                                                                                                                                                                                                                             |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 2. <u><i>Acer rubrum</i></u>                              | <u>10</u>        | <u>Yes</u>        | <u>FAC</u>       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 3. <u><i>Fagus sylvatica</i></u>                          | <u>5</u>         | <u>Yes</u>        | <u>UPL</u>       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 4. _____                                                  | _____            | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 5. _____                                                  | _____            | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 6. _____                                                  | _____            | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 7. _____                                                  | _____            | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
|                                                           |                  | <u>20</u>         | =Total Cover     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| <b>Sapling/Shrub Stratum (Plot size: <u>707 ft2</u> )</b> |                  |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 1. <u><i>Rosa multiflora</i></u>                          | <u>80</u>        | <u>Yes</u>        | <u>FACU</u>      | <b>Prevalence Index worksheet:</b><br><br><table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>50</u></td> <td>x 3 = <u>150</u></td> </tr> <tr> <td>FACU species <u>138</u></td> <td>x 4 = <u>552</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>193</u> (A)</td> <td><u>727</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.77</u></td> </tr> </table> | Total % Cover of: | Multiply by: | OBL species <u>0</u> | x 1 = <u>0</u> | FACW species <u>0</u> | x 2 = <u>0</u> | FAC species <u>50</u> | x 3 = <u>150</u> | FACU species <u>138</u> | x 4 = <u>552</u> | UPL species <u>5</u> | x 5 = <u>25</u> | Column Totals: <u>193</u> (A) | <u>727</u> (B) | Prevalence Index = B/A = <u>3.77</u> |  |
| Total % Cover of:                                         | Multiply by:     |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| OBL species <u>0</u>                                      | x 1 = <u>0</u>   |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| FACW species <u>0</u>                                     | x 2 = <u>0</u>   |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| FAC species <u>50</u>                                     | x 3 = <u>150</u> |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| FACU species <u>138</u>                                   | x 4 = <u>552</u> |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| UPL species <u>5</u>                                      | x 5 = <u>25</u>  |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| Column Totals: <u>193</u> (A)                             | <u>727</u> (B)   |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| Prevalence Index = B/A = <u>3.77</u>                      |                  |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 2. <u><i>Berberis thunbergii</i></u>                      | <u>20</u>        | <u>Yes</u>        | <u>FACU</u>      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 3. _____                                                  | _____            | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 4. _____                                                  | _____            | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 5. _____                                                  | _____            | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 6. _____                                                  | _____            | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 7. _____                                                  | _____            | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
|                                                           |                  | <u>100</u>        | =Total Cover     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| <b>Herb Stratum (Plot size: <u>78.5ft2</u> )</b>          |                  |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 1. <u><i>Toxicodendron radicans</i></u>                   | <u>10</u>        | <u>No</u>         | <u>FAC</u>       | <b>Hydrophytic Vegetation Indicators:</b><br><u>1</u> - Rapid Test for Hydrophytic Vegetation<br><u>2</u> - Dominance Test is >50%<br><u>3</u> - Prevalence Index is ≤3.0 <sup>1</sup><br><u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><br><u>      </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.                                                                                                                                                                      |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 2. <u><i>Alliaria petiolata</i></u>                       | <u>20</u>        | <u>Yes</u>        | <u>FACU</u>      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 3. <u><i>Smilax rotundifolia</i></u>                      | <u>30</u>        | <u>Yes</u>        | <u>FAC</u>       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 4. _____                                                  | _____            | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 5. _____                                                  | _____            | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 6. _____                                                  | _____            | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 7. _____                                                  | _____            | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 8. _____                                                  | _____            | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 9. _____                                                  | _____            | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 10. _____                                                 | _____            | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 11. _____                                                 | _____            | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 12. _____                                                 | _____            | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
|                                                           |                  | <u>60</u>         | =Total Cover     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| <b>Woody Vine Stratum (Plot size: <u>2827 ft2</u> )</b>   |                  |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 1. <u><i>Celastrus orbiculatus</i></u>                    | <u>5</u>         | <u>Yes</u>        | <u>FACU</u>      | <b>Definitions of Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.<br><br><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.<br><br><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.                                                                                                                                                                                                      |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 2. <u><i>Parthenocissus quinquefolia</i></u>              | <u>8</u>         | <u>Yes</u>        | <u>FACU</u>      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 3. _____                                                  | _____            | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
| 4. _____                                                  | _____            | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |
|                                                           |                  | <u>13</u>         | =Total Cover     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |              |                      |                |                       |                |                       |                  |                         |                  |                      |                 |                               |                |                                      |  |

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

## SOIL

|                |      |
|----------------|------|
| Sampling Point | Up-1 |
|----------------|------|

[illegible]

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

Project/Site: Colony Road over Latimer Brook City/County: East Lyme Sampling Date: 5/29/24  
Applicant/Owner: Town of East Lyme State: CT Sampling Point: Wet-1  
Investigator(s): SC/DW Section, Township, Range: \_\_\_\_\_  
Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope %: \_\_\_\_\_  
Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.3838232°N Long: 72.2141482°W Datum: WGS84  
Soil Map Unit Name: Rippowam Fine Sandy loam, 0 to 3 percent slopes NWI classification: PRB2/PFO1/PSS1/R3UB1  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are “Normal Circumstances” present? Yes X No \_\_\_\_\_  
Are Vegetation N, Soil N, or Hydrology N 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 _____<br>Hydric Soil Present? Yes <u>X</u> No _____<br>Wetland Hydrology Present? Yes <u>X</u> No _____ | <b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____<br>If yes, optional Wetland Site ID: _____ |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|

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

**HYDROLOGY**

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

|                                                                                                                                                                                                                                                                                 |                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| <b>Field Observations:</b><br>Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>2</u><br>Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u><br>Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>4</u><br>(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: Wet-1

| Tree Stratum (Plot size: <u>2827 ft2</u> )                   | Absolute % Cover   | Dominant Species? | Indicator Status |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
|--------------------------------------------------------------|--------------------|-------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|-----------------------|-----------------|------------------------|-----------------|-----------------------|-----------------|------------------------|------------------|----------------------|-----------------|---------------------------|--------------------|--------------------------------------|--|
| 1. <u><i>Pinus strobus</i></u>                               | <u>3</u>           | <u>No</u>         | <u>FACU</u>      | <b>Dominance Test worksheet:</b><br><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>7</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>57.1%</u> (A/B)                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 2. <u><i>Acer rubrum</i></u>                                 | <u>25</u>          | <u>Yes</u>        | <u>FAC</u>       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 3. <u><i>Fagus sylvatica</i></u>                             | <u>6</u>           | <u>No</u>         | <u>UPL</u>       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 4. _____                                                     | _____              | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 5. _____                                                     | _____              | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 6. _____                                                     | _____              | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 7. _____                                                     | _____              | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| <u>34</u>                                                    |                    | =Total Cover      |                  | <b>Prevalence Index worksheet:</b><br><br><table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>60</u></td> <td>x 1 = <u>60</u></td> </tr> <tr> <td>FACW species <u>17</u></td> <td>x 2 = <u>34</u></td> </tr> <tr> <td>FAC species <u>33</u></td> <td>x 3 = <u>99</u></td> </tr> <tr> <td>FACU species <u>48</u></td> <td>x 4 = <u>192</u></td> </tr> <tr> <td>UPL species <u>9</u></td> <td>x 5 = <u>45</u></td> </tr> <tr> <td>Column Totals: <u>167</u></td> <td>(A) <u>430</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.57</u></td> </tr> </table> | Total % Cover of: | Multiply by: | OBL species <u>60</u> | x 1 = <u>60</u> | FACW species <u>17</u> | x 2 = <u>34</u> | FAC species <u>33</u> | x 3 = <u>99</u> | FACU species <u>48</u> | x 4 = <u>192</u> | UPL species <u>9</u> | x 5 = <u>45</u> | Column Totals: <u>167</u> | (A) <u>430</u> (B) | Prevalence Index = B/A = <u>2.57</u> |  |
| Total % Cover of:                                            | Multiply by:       |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| OBL species <u>60</u>                                        | x 1 = <u>60</u>    |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| FACW species <u>17</u>                                       | x 2 = <u>34</u>    |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| FAC species <u>33</u>                                        | x 3 = <u>99</u>    |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| FACU species <u>48</u>                                       | x 4 = <u>192</u>   |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| UPL species <u>9</u>                                         | x 5 = <u>45</u>    |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| Column Totals: <u>167</u>                                    | (A) <u>430</u> (B) |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| Prevalence Index = B/A = <u>2.57</u>                         |                    |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| <b>Sapling/Shrub Stratum (Plot size: <u>707 ft2</u> )</b>    |                    |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 1. <u><i>Rosa multiflora</i></u>                             | <u>10</u>          | <u>No</u>         | <u>FACU</u>      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 2. <u><i>Berberis thunbergii</i></u>                         | <u>25</u>          | <u>Yes</u>        | <u>FACU</u>      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 3. <u><i>Lindera benzoin</i></u>                             | <u>12</u>          | <u>Yes</u>        | <u>FACW</u>      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 4. <u><i>Elaeagnus umbellata</i></u>                         | <u>3</u>           | <u>No</u>         | <u>UPL</u>       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 5. <u><i>Cornus amomum</i></u>                               | <u>5</u>           | <u>No</u>         | <u>FACW</u>      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 6. _____                                                     | _____              | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 7. _____                                                     | _____              | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| <u>55</u>                                                    |                    | =Total Cover      |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| <b>Herb Stratum (Plot size: <u>78.5ft2</u> )</b>             |                    |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 1. <u><i>Symplocarpus foetidus</i></u>                       | <u>60</u>          | <u>Yes</u>        | <u>OBL</u>       | <b>Hydrophytic Vegetation Indicators:</b><br><u>1</u> - Rapid Test for Hydrophytic Vegetation<br><u>X</u> 2 - Dominance Test is >50%<br><u>X</u> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><br><u>      </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.                                                                                                                                                                                                |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 2. <u><i>Sphagnum spp.</i></u>                               | <u>15</u>          | <u>Yes</u>        | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 3. _____                                                     | _____              | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 4. _____                                                     | _____              | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 5. _____                                                     | _____              | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 6. _____                                                     | _____              | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 7. _____                                                     | _____              | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 8. _____                                                     | _____              | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 9. _____                                                     | _____              | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 10. _____                                                    | _____              | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 11. _____                                                    | _____              | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 12. _____                                                    | _____              | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| <u>75</u>                                                    |                    | =Total Cover      |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| <b>Woody Vine Stratum (Plot size: <u>2827 ft2</u> )</b>      |                    |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 1. <u><i>Celastrus orbiculatus</i></u>                       | <u>10</u>          | <u>Yes</u>        | <u>FACU</u>      | <b>Definitions of Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.<br><br><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.<br><br><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.                                                                                                                                                                                                                                    |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 2. <u><i>Toxicodendron radicans</i></u>                      | <u>8</u>           | <u>Yes</u>        | <u>FAC</u>       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 3. _____                                                     | _____              | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| 4. _____                                                     | _____              | _____             | _____            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| <u>18</u>                                                    |                    | =Total Cover      |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |
| <b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____ |                    |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |              |                       |                 |                        |                 |                       |                 |                        |                  |                      |                 |                           |                    |                                      |  |

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

## SOIL

|                |       |
|----------------|-------|
| Sampling Point | Wet-1 |
|----------------|-------|

[illegible]

# **APPENDIX C**

## **USACE WETLAND FUNCTION AND VALUE FORMS**

# Wetland Function-Value Evaluation Form

Total area of wetland\_\_\_\_\_ Human made?\_\_\_\_\_ Is wetland part of a wildlife corridor?\_\_\_\_\_ or a "habitat island"?\_\_\_\_\_

Adjacent land use\_\_\_\_\_ Distance to nearest roadway or other development\_\_\_\_\_

Dominant wetland systems present\_\_\_\_\_ Contiguous undeveloped buffer zone present\_\_\_\_\_

Is the wetland a separate hydraulic system?\_\_\_\_\_ If not, where does the wetland lie in the drainage basin?\_\_\_\_\_

How many tributaries contribute to the wetland?\_\_\_\_\_ Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D.\_\_\_\_\_

Latitude\_\_\_\_\_ Longitude\_\_\_\_\_

Prepared by:\_\_\_\_\_ Date\_\_\_\_\_

Wetland Impact:  
Type\_\_\_\_\_ Area\_\_\_\_\_

Evaluation based on:  
Office\_\_\_\_\_ Field\_\_\_\_\_

Corps manual wetland delineation  
completed? Y\_\_\_\_\_ N\_\_\_\_\_

| Function/Value                                                                                                      | Suitability<br>Y N |  | Rationale<br>(Reference #)* | Principal<br>Function(s)/Value(s) | Comments |
|---------------------------------------------------------------------------------------------------------------------|--------------------|--|-----------------------------|-----------------------------------|----------|
|  Groundwater Recharge/Discharge    |                    |  |                             |                                   |          |
|  Floodflow Alteration              |                    |  |                             |                                   |          |
|  Fish and Shellfish Habitat        |                    |  |                             |                                   |          |
|  Sediment/Toxicant Retention       |                    |  |                             |                                   |          |
|  Nutrient Removal                  |                    |  |                             |                                   |          |
|  Production Export                 |                    |  |                             |                                   |          |
|  Sediment/Shoreline Stabilization |                    |  |                             |                                   |          |
|  Wildlife Habitat                |                    |  |                             |                                   |          |
|  Recreation                      |                    |  |                             |                                   |          |
|  Educational/Scientific Value    |                    |  |                             |                                   |          |
|  Uniqueness/Heritage             |                    |  |                             |                                   |          |
|  Visual Quality/Aesthetics       |                    |  |                             |                                   |          |
| <b>ES</b> Endangered Species Habitat                                                                                |                    |  |                             |                                   |          |
| Other                                                                                                               |                    |  |                             |                                   |          |

Notes:

\* Refer to backup list of numbered considerations.

# **APPENDIX D REPRESENTATIVE PHOTOGRAPHS**



Looking south (downstream) at bridge (May 2024)



Looking north (upstream) at the bridge (May 2024)



Looking south (downstream) at the bridge (May 2024)



Looking west at Wetland 1 (May 2024)



Looking north at Wetland 2 (May 2024)



Looking southeast at Wetland 3 (May 2024)