

# Exhibit Q.

## Five Sisters Site

### Wetlands Delineation

### Report



February 22, 2024

One Acadiana  
804 E. St. Mary Boulevard  
Lafayette, Louisiana 70503

Attention: Mr. Emile Lege

Subject: Letter of Findings  
Wetland Delineation  
Five Sisters Site  
St. Martin Parish, Louisiana  
File No. 25992-007-02

## Five Sisters Site Wetlands Delineation Report

### INTRODUCTION AND SCOPE OF SERVICES

The following presents a letter of findings with associated figures, collected data, and site photographs based off a routine wetland delineation performed by Steven David of GeoEngineers, Inc. (GeoEngineers) on the Five Sisters Site located in St. Martin Parish, Louisiana. Our understanding of the project is based on a Request for Proposal dated September 6, 2023, sent in by CSRS, Inc. (CSRS) on the behalf of One Acadiana. GeoEngineers was awarded the lump sum project for the Five Sisters Site on January 26, 2024, via a signed proposal agreement by Emile Lege with One Acadiana. GeoEngineers understands the project awarded consisted of a wetland delineation used to create a wetland delineation map and a brief memo for a ±19-acre tract of land to support the requirements to meet the Louisiana Economic Development (LED) site certification process.

### METHODS

GeoEngineers utilized readily available databases in conducting a desktop review of the project site prior to mobilizing to the field to conduct the wetland delineation. Databases utilized included the United States Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI) maps; United States Department of Agriculture (USDA), Natural Resources Conservation Service soils survey for St. Martin Parish, Louisiana; Light Imaging, Detection and Ranging (LiDAR) maps; and United States Geological Survey (USGS) quadrangle maps.

GeoEngineers conducted a wetland delineation on February 7, 2024, utilizing approved United States Army Corps of Engineers (USACE) guidelines and requirements such as the *Corps of Engineers Wetlands Delineation Manual* (Y-87-1, January 1987) and *The Regional Supplement to the Corps of Engineers Wetland Delineations Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)* (November 2010).



These manuals follow a three-parameter approach for conducting wetland determinations. This approach documents: 1) the presence of hydrophytic vegetation; 2) hydric soils; and 3) wetland hydrology, all of which are described in further detail below. Except for wetlands with special characteristics, the presence of all three criteria is required for a given area to be classified as a wetland under these two guidance documents.

Based on site observations relative to topography, hydrology, and vegetation, wetland boundaries were estimated for subsequent testing to compare upland and wetland characteristics within the depressional and adjacent areas. Soil pits were hand dug to approximately 16 inches below ground surface (bgs). Soil pits were advanced within, and outside a given wetland boundary to assess soil conditions in wetland and upland areas. Soils in each pit were evaluated for texture, matrix color, presence, or absence of redoximorphic features or gleying, and depth of saturation. This information was used to determine the presence/absence of hydric soils and to assist in the development of wetland boundaries.

Wetland hydrology indicators, including saturation, presence of surface water, oxidized rhizospheres, and vegetation community were also noted at sample plots surrounding soil pits (approximate 30-foot radius). Vegetation, soil, and hydrology information collected during the field study are presented on the standard 2010 Regional Supplemental to the Corps of Engineers Wetlands Delineation Manual: Atlantic and Gulf Coastal Plains Region, Version 2.0 wetland delineation data forms, which are included in Appendix B.

Wetland boundaries were delineated and mapped in the field, which are included in Figures 1 and 2. A photographic record of site conditions during our field study is provided in Appendix A, Site Photographs.

## SUMMARY OF FINDINGS

The project site primarily consists of an overgrown cattle pasture with iron pipe fencing throughout. There is also an old homesite located on the northern portion of the property. During the wetland delineation site visit, a total of five sample plots were recorded, which included hydrology, vegetation, and soils data. GeoEngineers staff identified one palustrine emergent (PEM) wetland (SP 1), approximately  $\pm 1.97$  acres on the Site. GeoEngineers also identified an intermittent stream that runs west to east, approximated  $\pm 478$  feet in length and  $\pm 40$  feet wide. GeoEngineers staff also recorded four other sample plots (SP 2 – SP 5) as upland plots. None of these sample plots exhibited the three required wetland criteria within the project Site.

In GeoEngineers' professional opinion, the one identified depressional PEM wetland did not present any characteristics of being connected to Waters of the United States (WOUS) outside the property boundaries, making it isolated. This is primarily due to the adjacent properties on the west and east sides that has been developed and now have a higher elevation.

As such, GeoEngineers concludes that  $\pm 1.97$  acres of the total  $\pm 19$ -acres project site consists of potential USACE jurisdictional wetlands along with one recorded intermittent stream approximately  $\pm 478$  feet in length that traverses west to east on the north portion of the Site. This delineation was prepared using current applicable guidance and methodology, and it represents the best professional judgement of GeoEngineers. As a professional opinion only, it does not represent final agency approval of the delineated features, and recommend submitting this information to the USACE for review and verification should the proposed diffuser project result in unavoidable impacts to WOUS.



## STAFF QUALIFICATIONS

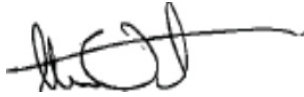
Steven David, with GeoEngineers performed the site visit and compiled the letter of findings based on all the data collected. Steven David is a Certified Professional Wetland Scientist through the Society of Wetland Scientists organization with 17 years' experience in Environmental/Natural Resources Consulting. His certification is attached for reference in Appendix C.

There are no intended third-party beneficiaries arising from the services described in this proposal and no party other than CSRS and/or One Acadiana shall have the right to legally rely on the product of our services without prior written permission of GeoEngineers. Furthermore, as mentioned above, GeoEngineers cannot guarantee approval, or the issuance of the jurisdictional determination identified in this scope from the regulatory agencies for the proposed project.

## CLOSING

We appreciate the opportunity to provide our services to you in support of the Five Sisters Site project. If you have any questions regarding the information provided in this proposal, please contact Steven David at 225.313.7817 or sdavid@geoengineers.com.

Sincerely,  
GeoEngineers, Inc.



Steven David  
Senior Environmental Scientist



Denise Radaich, P.E.  
Associate Engineer

SJD:PDR:nl

Attachments:

Figure 1. Vicinity Map

Figure 2. Site Plan

Appendix A. Site Photographs

Appendix B. Wetland Determination Data Forms

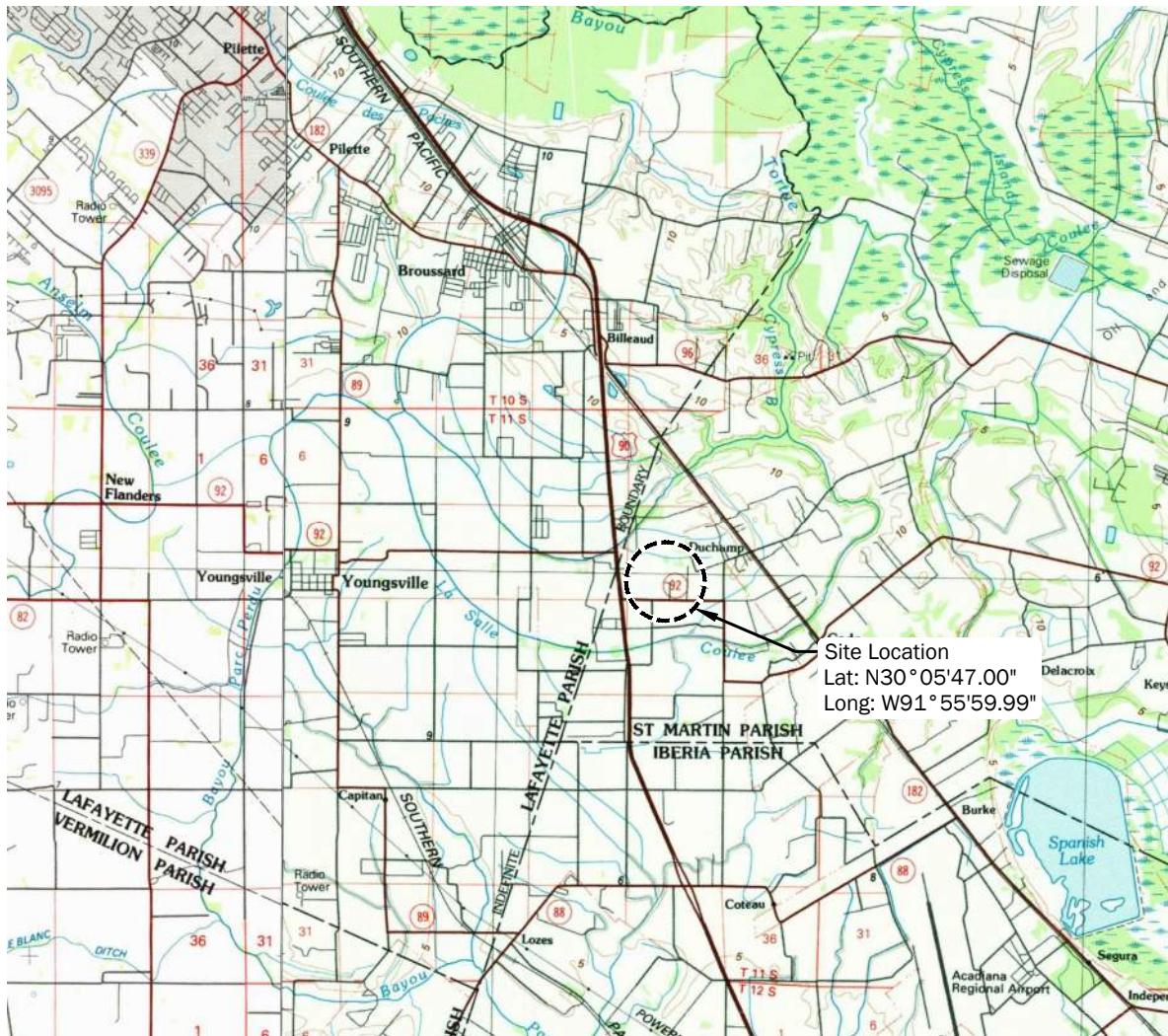
Appendix C. Steven David PWS Certification

One copy submitted electronically

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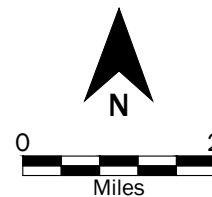


Site Location  
Lat: N30°05'47.00"  
Long: W91°55'59.99"

Source: Topographic Image was taken from USGS, Quads: Baton Rouge (1984) & Crowley (1985)

Projection: Louisiana State Plane, Southern Zone, NAD83, US Foot

**Disclaimer:** This figure was created for a specific purpose and project. Any use of this figure for any other project or purpose shall be at the user's sole risk and without liability to GeoEngineers. The locations of features shown may be approximate. GeoEngineers makes no warranty or representation as to the accuracy, completeness, or suitability of the figure, or data contained therein. The file containing this figure is a copy of a master document, the original of which is retained by GeoEngineers and is the official document of record.

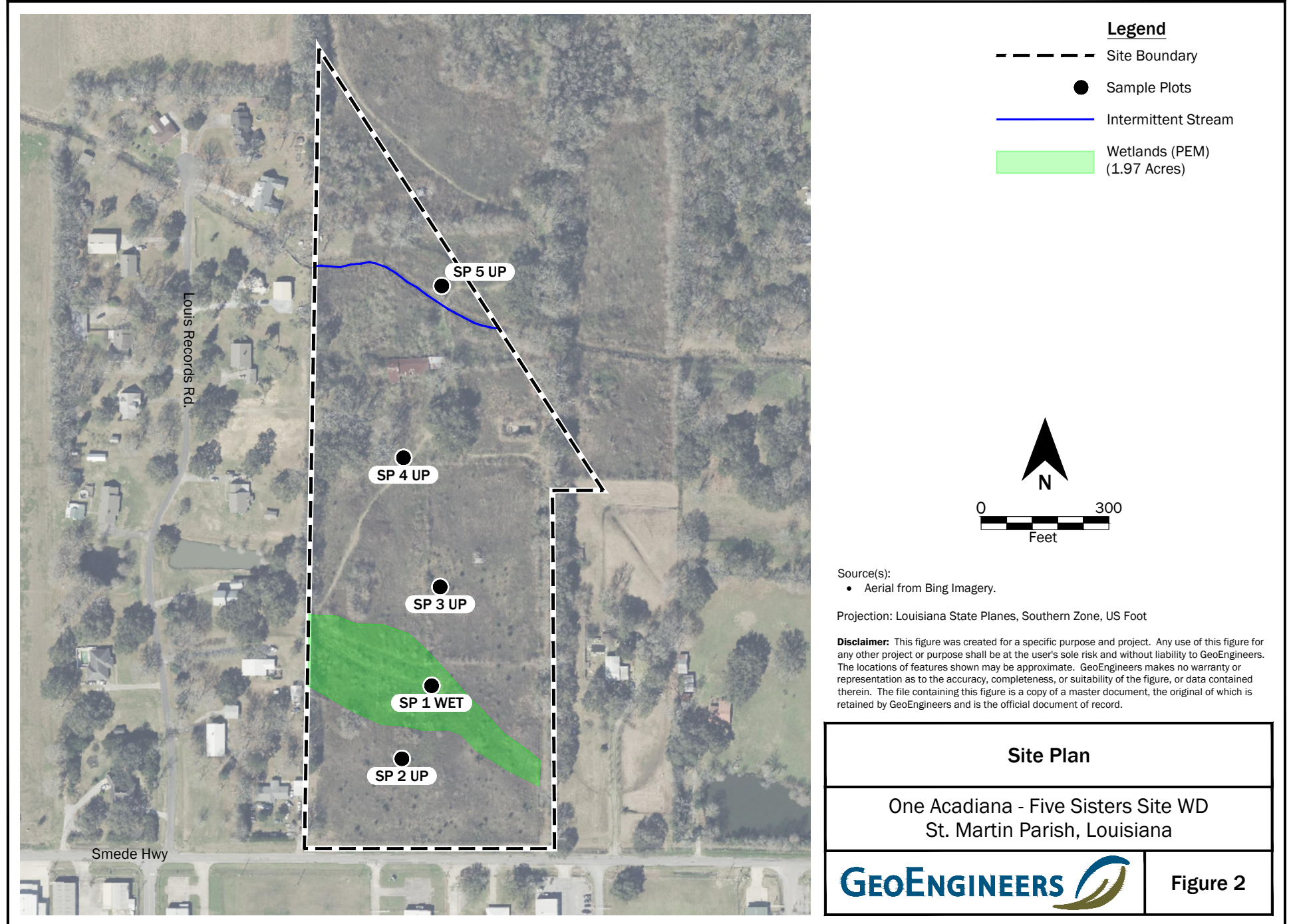


### Vicinity Map

One Acadiana - Five Sisters Site WD  
St. Martin Parish, Louisiana



Figure 1



## **APPENDIX A**

### **Site Photographs**



Photograph 1. SP 1 Soil Profile



Photograph 2. SP 1 Looking North.

## Site Photographs – February 7, 2024

Five Sisters Site  
St. Martin Parish, LA



Figure 1



Photograph 3. SP 1 Looking South.



Photograph 4. SP 1 Looking East.

## Site Photographs – February 7, 2024

Five Sisters Site  
St. Martin Parish, LA



Figure 2



Photograph 5. SP 1 Looking West.



Photograph 6. SP 2 Soil Profile.

# Site Photographs – February 7, 2024

Five Sisters Site  
St. Martin Parish, LA



Figure 3



Photograph 7. SP 2 Looking North.



Photograph 8. SP 2 Looking South.

# Site Photographs – February 7, 2024

Five Sisters Site  
St. Martin Parish, LA



Figure 4



Photograph 9. SP 2 Looking East.



Photograph 10. SP 2 Looking West.

Site Photographs – February 7, 2024

Five Sisters Site  
St. Martin Parish, LA



Figure 5



Photograph 11. SP 3 Soil Profile



Photograph 12. SP 3 Looking North.

## Site Photographs – February 7, 2024

Five Sisters Site  
St. Martin Parish, LA



Figure 6



Photograph 13. SP 3 Looking South.



Photograph 14. SP 3 Looking East.

Site Photographs – February 7, 2024

Five Sisters Site  
St. Martin Parish, LA



Figure 7



Photograph 15. SP 3 Looking West.



Photograph 16. SP 4 Soil Profile.

# Site Photographs – February 7, 2024

Five Sisters Site  
St. Martin Parish, LA



Figure 8



Photograph 17. SP 4 Looking North.



Photograph 18. SP 4 Looking South.

## Site Photographs – February 7, 2024

Five Sisters Site  
St. Martin Parish, LA



Figure 9



Photograph 19. SP 4 Looking East.



Photograph 20. SP 4 Looking West.

# Site Photographs – February 7, 2024

Five Sisters Site  
St. Martin Parish, LA



Figure 10



Photograph 21. SP 5 Soil Profile.



Photograph 22. SP 5 Looking North.

## Site Photographs – February 7, 2024

Five Sisters Site  
St. Martin Parish, LA



Figure 11



Photograph 23. SP 5 Looking South.



Photograph 24. SP 5 Looking East.

# Site Photographs – February 7, 2024

Five Sisters Site  
St. Martin Parish, LA



Figure 12



Photograph 25. SP 5 Looking West.



Photograph 26. Intermittent Stream Looking West.

# Site Photographs – February 7, 2024

Five Sisters Site  
St. Martin Parish, LA



Figure 13



Photograph 27. Intermittent Stream Looking East.



Photograph 28. Intermittent Stream Looking West.

# Site Photographs – February 7, 2024

Five Sisters Site  
St. Martin Parish, LA



Figure 14



Photograph 29. Intermittent Stream Looking East.

Site Photographs – February 7, 2024

Five Sisters Site  
St. Martin Parish, LA



Figure 15

**APPENDIX B**  
**Wetland Determination Data Forms**

Project/Site: \_\_\_\_\_ City/County: \_\_\_\_\_ Sampling Date: \_\_\_\_\_  
 Applicant/Owner: \_\_\_\_\_ State: \_\_\_\_\_ Sampling Point: \_\_\_\_\_  
 Investigator(s): \_\_\_\_\_ Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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

|                                 |                    |                                                  |                           |
|---------------------------------|--------------------|--------------------------------------------------|---------------------------|
| Hydrophytic Vegetation Present? | Yes _____ No _____ | <b>Is the Sampled Area<br/>within a Wetland?</b> | <b>Yes _____ No _____</b> |
| Hydric Soil Present?            | Yes _____ No _____ |                                                  |                           |
| Wetland Hydrology Present?      | Yes _____ No _____ |                                                  |                           |
| Remarks:                        |                    |                                                  |                           |

| Wetland Hydrology Indicators:                                                                              |                                                                                               | Secondary Indicators (minimum of two required)                                             |  |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--|
| Primary Indicators (minimum of one is required; check all that apply)                                      |                                                                                               |                                                                                            |  |
| <input type="checkbox"/> Surface Water (A1)                                                                | <input type="checkbox"/> Aquatic Fauna (B13)                                                  | <input type="checkbox"/> Surface Soil Cracks (B6)                                          |  |
| <input type="checkbox"/> High Water Table (A2)                                                             | <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>                                   | <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)                           |  |
| <input type="checkbox"/> Saturation (A3)                                                                   | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                                           | <input type="checkbox"/> Drainage Patterns (B10)                                           |  |
| <input type="checkbox"/> Water Marks (B1)                                                                  | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)                        | <input type="checkbox"/> Moss Trim Lines (B16)                                             |  |
| <input type="checkbox"/> Sediment Deposits (B2)                                                            | <input type="checkbox"/> Presence of Reduced Iron (C4)                                        | <input type="checkbox"/> Dry-Season Water Table (C2)                                       |  |
| <input type="checkbox"/> Drift Deposits (B3)                                                               | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)                           | <input type="checkbox"/> Crayfish Burrows (C8)                                             |  |
| <input type="checkbox"/> Algal Mat or Crust (B4)                                                           | <input type="checkbox"/> Thin Muck Surface (C7)                                               | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)                         |  |
| <input type="checkbox"/> Iron Deposits (B5)                                                                | <input type="checkbox"/> Other (Explain in Remarks)                                           | <input type="checkbox"/> Geomorphic Position (D2)                                          |  |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)                                         |                                                                                               | <input type="checkbox"/> Shallow Aquitard (D3)                                             |  |
| <input type="checkbox"/> Water-Stained Leaves (B9)                                                         |                                                                                               | <input type="checkbox"/> FAC-Neutral Test (D5)                                             |  |
|                                                                                                            |                                                                                               | <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>                              |  |
| <b>Field Observations:</b>                                                                                 |                                                                                               |                                                                                            |  |
| Surface Water Present?                                                                                     | Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <input type="text"/> | <b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input type="checkbox"/> |  |
| Water Table Present?                                                                                       | Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <input type="text"/> |                                                                                            |  |
| Saturation Present?<br>(includes capillary fringe)                                                         | Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <input type="text"/> |                                                                                            |  |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: |                                                                                               |                                                                                            |  |
| Remarks:                                                                                                   |                                                                                               |                                                                                            |  |

**VEGETATION (Five Strata) – Use scientific names of plants.**

Sampling Point: \_\_\_\_\_

| Tree Stratum (Plot size: _____)                               | Absolute<br>% Cover | Dominant<br>Species? | Indicator<br>Status |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------|---------------------|----------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. _____                                                      | _____               | _____                | _____               | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)<br><br>Total Number of Dominant Species Across All Strata: _____ (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: _____ (A) _____ (B)<br><br>Prevalence Index = B/A = _____                                                                                                                                                                                                                                                                                                                                                                                                     |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Sapling Stratum (Plot size: _____)                            |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     | <b>Hydrophytic Vegetation Indicators:</b><br>___ 1 - Rapid Test for Hydrophytic Vegetation<br>___ 2 - Dominance Test is >50%<br>___ 3 - Prevalence Index is ≤3.0 <sup>1</sup><br>___ 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.                                                                                                                                                                                                                                                                                                                                                                    |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Shrub Stratum (Plot size: _____)                              |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     | <b>Definitions of Five Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).<br><br><b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.<br><br><b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.<br><br><b>Woody vine</b> – All woody vines, regardless of height. |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Herb Stratum (Plot size: _____)                               |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 7. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 8. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 9. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 10. _____                                                     | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 11. _____                                                     | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     | <b>Hydrophytic Vegetation Present?</b> Yes _____ No _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Woody Vine Stratum (Plot size: _____)                         |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Remarks: (If observed, list morphological adaptations below). |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## SOIL

Sampling Point: \_\_\_\_\_

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

| Depth<br>(inches) | Matrix        |       | Redox Features |       |                   |                  | Texture | Remarks |
|-------------------|---------------|-------|----------------|-------|-------------------|------------------|---------|---------|
|                   | Color (moist) | %     | Color (moist)  | %     | Type <sup>1</sup> | Loc <sup>2</sup> |         |         |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5)  
☐ Organic Bodies (A6) **(LRR P, T, U)**  
☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**  
☐ Muck Presence (A8) **(LRR U)**  
☐ 1 cm Muck (A9) **(LRR P, T)**  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Coast Prairie Redox (A16) **(MLRA 150A)**  
☐ Sandy Mucky Mineral (S1) **(LRR O, S)**  
☐ Sandy Gleyed Matrix (S4)  
☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Dark Surface (S7) **(LRR P, S, T, U)**

☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**  
☐ Thin Dark Surface (S9) **(LRR S, T, U)**  
☐ Loamy Mucky Mineral (F1) **(LRR O)**  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Marl (F10) **(LRR U)**  
☐ Depleted Ochric (F11) **(MLRA 151)**  
☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**  
☐ Umbric Surface (F13) **(LRR P, T, U)**  
☐ Delta Ochric (F17) **(MLRA 151)**  
☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**  
☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**  
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

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

☐ 1 cm Muck (A9) **(LRR O)**  
☐ 2 cm Muck (A10) **(LRR S)**  
☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**  
☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**  
☐ Anomalous Bright Loamy Soils (F20)  
**(MLRA 153B)**  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

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

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

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

Remarks:

Project/Site: \_\_\_\_\_ City/County: \_\_\_\_\_ Sampling Date: \_\_\_\_\_  
Applicant/Owner: \_\_\_\_\_ State: \_\_\_\_\_ Sampling Point: \_\_\_\_\_  
Investigator(s): \_\_\_\_\_ Section, Township, Range: \_\_\_\_\_  
Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
Subregion (LRR or MLRA): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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

|                                 |                    |                                                  |                           |
|---------------------------------|--------------------|--------------------------------------------------|---------------------------|
| Hydrophytic Vegetation Present? | Yes _____ No _____ | <b>Is the Sampled Area<br/>within a Wetland?</b> | <b>Yes _____ No _____</b> |
| Hydric Soil Present?            | Yes _____ No _____ |                                                  |                           |
| Wetland Hydrology Present?      | Yes _____ No _____ |                                                  |                           |
| Remarks:                        |                    |                                                  |                           |

| Wetland Hydrology Indicators:                                                                                                     |                                                                                     | Secondary Indicators (minimum of two required)                     |  |
|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------|--|
| Primary Indicators (minimum of one is required; check all that apply)                                                             |                                                                                     |                                                                    |  |
| <input type="checkbox"/> Surface Water (A1)                                                                                       | <input type="checkbox"/> Aquatic Fauna (B13)                                        | <input type="checkbox"/> Surface Soil Cracks (B6)                  |  |
| <input type="checkbox"/> High Water Table (A2)                                                                                    | <input type="checkbox"/> Marl Deposits (B15) (LRR U)                                | <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |  |
| <input type="checkbox"/> Saturation (A3)                                                                                          | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                                 | <input type="checkbox"/> Drainage Patterns (B10)                   |  |
| <input type="checkbox"/> Water Marks (B1)                                                                                         | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)              | <input type="checkbox"/> Moss Trim Lines (B16)                     |  |
| <input type="checkbox"/> Sediment Deposits (B2)                                                                                   | <input type="checkbox"/> Presence of Reduced Iron (C4)                              | <input type="checkbox"/> Dry-Season Water Table (C2)               |  |
| <input type="checkbox"/> Drift Deposits (B3)                                                                                      | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |  |
| <input type="checkbox"/> Algal Mat or Crust (B4)                                                                                  | <input type="checkbox"/> Thin Muck Surface (C7)                                     | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |  |
| <input type="checkbox"/> Iron Deposits (B5)                                                                                       | <input type="checkbox"/> Other (Explain in Remarks)                                 | <input type="checkbox"/> Geomorphic Position (D2)                  |  |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)                                                                |                                                                                     | <input type="checkbox"/> Shallow Aquitard (D3)                     |  |
| <input type="checkbox"/> Water-Stained Leaves (B9)                                                                                |                                                                                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |  |
|                                                                                                                                   |                                                                                     | <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)             |  |
| Field Observations:                                                                                                               |                                                                                     |                                                                    |  |
| Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____                             | Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/> |                                                                    |  |
| Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____                               |                                                                                     |                                                                    |  |
| Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____<br>(includes capillary fringe) |                                                                                     |                                                                    |  |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:                        |                                                                                     |                                                                    |  |
| Remarks:                                                                                                                          |                                                                                     |                                                                    |  |

**VEGETATION (Five Strata) – Use scientific names of plants.**

Sampling Point: \_\_\_\_\_

| Tree Stratum (Plot size: _____)                               | Absolute<br>% Cover | Dominant<br>Species? | Indicator<br>Status |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------|---------------------|----------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. _____                                                      | _____               | _____                | _____               | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)<br><br>Total Number of Dominant Species Across All Strata: _____ (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: _____ (A) _____ (B)<br><br>Prevalence Index = B/A = _____                                                                                                                                                                                                                                                                                                                                                                                                     |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Sapling Stratum (Plot size: _____)                            |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     | <b>Hydrophytic Vegetation Indicators:</b><br>___ 1 - Rapid Test for Hydrophytic Vegetation<br>___ 2 - Dominance Test is >50%<br>___ 3 - Prevalence Index is ≤3.0 <sup>1</sup><br>___ 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.                                                                                                                                                                                                                                                                                                                                                                    |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Shrub Stratum (Plot size: _____)                              |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     | <b>Definitions of Five Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).<br><br><b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.<br><br><b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.<br><br><b>Woody vine</b> – All woody vines, regardless of height. |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Herb Stratum (Plot size: _____)                               |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 7. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 8. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 9. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 10. _____                                                     | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 11. _____                                                     | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     | <b>Hydrophytic Vegetation Present?</b> Yes _____ No _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Woody Vine Stratum (Plot size: _____)                         |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Remarks: (If observed, list morphological adaptations below). |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## SOIL

Sampling Point: \_\_\_\_\_

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

| Depth<br>(inches) | Matrix        |       | Redox Features |       |                   |                  | Texture | Remarks |
|-------------------|---------------|-------|----------------|-------|-------------------|------------------|---------|---------|
|                   | Color (moist) | %     | Color (moist)  | %     | Type <sup>1</sup> | Loc <sup>2</sup> |         |         |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5)  
☐ Organic Bodies (A6) **(LRR P, T, U)**  
☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**  
☐ Muck Presence (A8) **(LRR U)**  
☐ 1 cm Muck (A9) **(LRR P, T)**  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Coast Prairie Redox (A16) **(MLRA 150A)**  
☐ Sandy Mucky Mineral (S1) **(LRR O, S)**  
☐ Sandy Gleyed Matrix (S4)  
☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Dark Surface (S7) **(LRR P, S, T, U)**

☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**  
☐ Thin Dark Surface (S9) **(LRR S, T, U)**  
☐ Loamy Mucky Mineral (F1) **(LRR O)**  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Marl (F10) **(LRR U)**  
☐ Depleted Ochric (F11) **(MLRA 151)**  
☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**  
☐ Umbric Surface (F13) **(LRR P, T, U)**  
☐ Delta Ochric (F17) **(MLRA 151)**  
☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**  
☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**  
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

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

☐ 1 cm Muck (A9) **(LRR O)**  
☐ 2 cm Muck (A10) **(LRR S)**  
☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**  
☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**  
☐ Anomalous Bright Loamy Soils (F20)  
**(MLRA 153B)**  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

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

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

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

Remarks:

Project/Site: \_\_\_\_\_ City/County: \_\_\_\_\_ Sampling Date: \_\_\_\_\_  
 Applicant/Owner: \_\_\_\_\_ State: \_\_\_\_\_ Sampling Point: \_\_\_\_\_  
 Investigator(s): \_\_\_\_\_ Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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

|                                 |                    |                                                  |                           |
|---------------------------------|--------------------|--------------------------------------------------|---------------------------|
| Hydrophytic Vegetation Present? | Yes _____ No _____ | <b>Is the Sampled Area<br/>within a Wetland?</b> | <b>Yes _____ No _____</b> |
| Hydric Soil Present?            | Yes _____ No _____ |                                                  |                           |
| Wetland Hydrology Present?      | Yes _____ No _____ |                                                  |                           |
| Remarks:                        |                    |                                                  |                           |

| Wetland Hydrology Indicators:                                                                              |                                                                                               | Secondary Indicators (minimum of two required)                                             |  |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--|
| Primary Indicators (minimum of one is required; check all that apply)                                      |                                                                                               |                                                                                            |  |
| <input type="checkbox"/> Surface Water (A1)                                                                | <input type="checkbox"/> Aquatic Fauna (B13)                                                  | <input type="checkbox"/> Surface Soil Cracks (B6)                                          |  |
| <input type="checkbox"/> High Water Table (A2)                                                             | <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>                                   | <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)                           |  |
| <input type="checkbox"/> Saturation (A3)                                                                   | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                                           | <input type="checkbox"/> Drainage Patterns (B10)                                           |  |
| <input type="checkbox"/> Water Marks (B1)                                                                  | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)                        | <input type="checkbox"/> Moss Trim Lines (B16)                                             |  |
| <input type="checkbox"/> Sediment Deposits (B2)                                                            | <input type="checkbox"/> Presence of Reduced Iron (C4)                                        | <input type="checkbox"/> Dry-Season Water Table (C2)                                       |  |
| <input type="checkbox"/> Drift Deposits (B3)                                                               | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)                           | <input type="checkbox"/> Crayfish Burrows (C8)                                             |  |
| <input type="checkbox"/> Algal Mat or Crust (B4)                                                           | <input type="checkbox"/> Thin Muck Surface (C7)                                               | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)                         |  |
| <input type="checkbox"/> Iron Deposits (B5)                                                                | <input type="checkbox"/> Other (Explain in Remarks)                                           | <input type="checkbox"/> Geomorphic Position (D2)                                          |  |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)                                         |                                                                                               | <input type="checkbox"/> Shallow Aquitard (D3)                                             |  |
| <input type="checkbox"/> Water-Stained Leaves (B9)                                                         |                                                                                               | <input type="checkbox"/> FAC-Neutral Test (D5)                                             |  |
|                                                                                                            |                                                                                               | <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>                              |  |
| <b>Field Observations:</b>                                                                                 |                                                                                               |                                                                                            |  |
| Surface Water Present?                                                                                     | Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <input type="text"/> | <b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input type="checkbox"/> |  |
| Water Table Present?                                                                                       | Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <input type="text"/> |                                                                                            |  |
| Saturation Present?<br>(includes capillary fringe)                                                         | Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <input type="text"/> |                                                                                            |  |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: |                                                                                               |                                                                                            |  |
| Remarks:                                                                                                   |                                                                                               |                                                                                            |  |

**VEGETATION (Five Strata) – Use scientific names of plants.**

Sampling Point: \_\_\_\_\_

| Tree Stratum (Plot size: _____)                               | Absolute<br>% Cover | Dominant<br>Species? | Indicator<br>Status |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------|---------------------|----------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. _____                                                      | _____               | _____                | _____               | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)<br><br>Total Number of Dominant Species Across All Strata: _____ (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: _____ (A) _____ (B)<br><br>Prevalence Index = B/A = _____                                                                                                                                                                                                                                                                                                                                                                                                     |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Sapling Stratum (Plot size: _____)                            |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     | <b>Hydrophytic Vegetation Indicators:</b><br>___ 1 - Rapid Test for Hydrophytic Vegetation<br>___ 2 - Dominance Test is >50%<br>___ 3 - Prevalence Index is ≤3.0 <sup>1</sup><br>___ 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.                                                                                                                                                                                                                                                                                                                                                                    |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Shrub Stratum (Plot size: _____)                              |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     | <b>Definitions of Five Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).<br><br><b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.<br><br><b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.<br><br><b>Woody vine</b> – All woody vines, regardless of height. |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Herb Stratum (Plot size: _____)                               |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 7. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 8. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 9. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 10. _____                                                     | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 11. _____                                                     | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     | <b>Hydrophytic Vegetation Present?</b> Yes _____ No _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Woody Vine Stratum (Plot size: _____)                         |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Remarks: (If observed, list morphological adaptations below). |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## SOIL

Sampling Point: \_\_\_\_\_

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

| Depth<br>(inches) | Matrix        |       | Redox Features |       |                   |                  | Texture | Remarks |
|-------------------|---------------|-------|----------------|-------|-------------------|------------------|---------|---------|
|                   | Color (moist) | %     | Color (moist)  | %     | Type <sup>1</sup> | Loc <sup>2</sup> |         |         |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5)  
☐ Organic Bodies (A6) **(LRR P, T, U)**  
☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**  
☐ Muck Presence (A8) **(LRR U)**  
☐ 1 cm Muck (A9) **(LRR P, T)**  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Coast Prairie Redox (A16) **(MLRA 150A)**  
☐ Sandy Mucky Mineral (S1) **(LRR O, S)**  
☐ Sandy Gleyed Matrix (S4)  
☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Dark Surface (S7) **(LRR P, S, T, U)**

☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**  
☐ Thin Dark Surface (S9) **(LRR S, T, U)**  
☐ Loamy Mucky Mineral (F1) **(LRR O)**  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Marl (F10) **(LRR U)**  
☐ Depleted Ochric (F11) **(MLRA 151)**  
☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**  
☐ Umbric Surface (F13) **(LRR P, T, U)**  
☐ Delta Ochric (F17) **(MLRA 151)**  
☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**  
☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**  
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

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

☐ 1 cm Muck (A9) **(LRR O)**  
☐ 2 cm Muck (A10) **(LRR S)**  
☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**  
☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**  
☐ Anomalous Bright Loamy Soils (F20)  
**(MLRA 153B)**  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

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

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

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

Remarks:

Project/Site: \_\_\_\_\_ City/County: \_\_\_\_\_ Sampling Date: \_\_\_\_\_  
 Applicant/Owner: \_\_\_\_\_ State: \_\_\_\_\_ Sampling Point: \_\_\_\_\_  
 Investigator(s): \_\_\_\_\_ Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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

|                                 |                    |                                                  |                           |
|---------------------------------|--------------------|--------------------------------------------------|---------------------------|
| Hydrophytic Vegetation Present? | Yes _____ No _____ | <b>Is the Sampled Area<br/>within a Wetland?</b> | <b>Yes _____ No _____</b> |
| Hydric Soil Present?            | Yes _____ No _____ |                                                  |                           |
| Wetland Hydrology Present?      | Yes _____ No _____ |                                                  |                           |
| Remarks:                        |                    |                                                  |                           |

| Wetland Hydrology Indicators:                                                                              |                                                                                               | Secondary Indicators (minimum of two required)                                             |  |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--|
| Primary Indicators (minimum of one is required; check all that apply)                                      |                                                                                               |                                                                                            |  |
| <input type="checkbox"/> Surface Water (A1)                                                                | <input type="checkbox"/> Aquatic Fauna (B13)                                                  | <input type="checkbox"/> Surface Soil Cracks (B6)                                          |  |
| <input type="checkbox"/> High Water Table (A2)                                                             | <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>                                   | <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)                           |  |
| <input type="checkbox"/> Saturation (A3)                                                                   | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                                           | <input type="checkbox"/> Drainage Patterns (B10)                                           |  |
| <input type="checkbox"/> Water Marks (B1)                                                                  | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)                        | <input type="checkbox"/> Moss Trim Lines (B16)                                             |  |
| <input type="checkbox"/> Sediment Deposits (B2)                                                            | <input type="checkbox"/> Presence of Reduced Iron (C4)                                        | <input type="checkbox"/> Dry-Season Water Table (C2)                                       |  |
| <input type="checkbox"/> Drift Deposits (B3)                                                               | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)                           | <input type="checkbox"/> Crayfish Burrows (C8)                                             |  |
| <input type="checkbox"/> Algal Mat or Crust (B4)                                                           | <input type="checkbox"/> Thin Muck Surface (C7)                                               | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)                         |  |
| <input type="checkbox"/> Iron Deposits (B5)                                                                | <input type="checkbox"/> Other (Explain in Remarks)                                           | <input type="checkbox"/> Geomorphic Position (D2)                                          |  |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)                                         |                                                                                               | <input type="checkbox"/> Shallow Aquitard (D3)                                             |  |
| <input type="checkbox"/> Water-Stained Leaves (B9)                                                         |                                                                                               | <input type="checkbox"/> FAC-Neutral Test (D5)                                             |  |
|                                                                                                            |                                                                                               | <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>                              |  |
| <b>Field Observations:</b>                                                                                 |                                                                                               |                                                                                            |  |
| Surface Water Present?                                                                                     | Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <input type="text"/> | <b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input type="checkbox"/> |  |
| Water Table Present?                                                                                       | Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <input type="text"/> |                                                                                            |  |
| Saturation Present?<br>(includes capillary fringe)                                                         | Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <input type="text"/> |                                                                                            |  |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: |                                                                                               |                                                                                            |  |
| Remarks:                                                                                                   |                                                                                               |                                                                                            |  |

**VEGETATION (Five Strata) – Use scientific names of plants.**

Sampling Point: \_\_\_\_\_

| Tree Stratum (Plot size: _____)                               | Absolute<br>% Cover | Dominant<br>Species? | Indicator<br>Status |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------|---------------------|----------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. _____                                                      | _____               | _____                | _____               | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)<br><br>Total Number of Dominant Species Across All Strata: _____ (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: _____ (A) _____ (B)<br><br>Prevalence Index = B/A = _____                                                                                                                                                                                                                                                                                                                                                                                                     |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Sapling Stratum (Plot size: _____)                            |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     | <b>Hydrophytic Vegetation Indicators:</b><br>___ 1 - Rapid Test for Hydrophytic Vegetation<br>___ 2 - Dominance Test is >50%<br>___ 3 - Prevalence Index is ≤3.0 <sup>1</sup><br>___ 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.                                                                                                                                                                                                                                                                                                                                                                    |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Shrub Stratum (Plot size: _____)                              |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     | <b>Definitions of Five Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).<br><br><b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.<br><br><b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.<br><br><b>Woody vine</b> – All woody vines, regardless of height. |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Herb Stratum (Plot size: _____)                               |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 7. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 8. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 9. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 10. _____                                                     | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 11. _____                                                     | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     | <b>Hydrophytic Vegetation Present?</b> Yes _____ No _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Woody Vine Stratum (Plot size: _____)                         |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Remarks: (If observed, list morphological adaptations below). |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## SOIL

Sampling Point: \_\_\_\_\_

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

| Depth<br>(inches) | Matrix        |       | Redox Features |       |                   |                  | Texture | Remarks |
|-------------------|---------------|-------|----------------|-------|-------------------|------------------|---------|---------|
|                   | Color (moist) | %     | Color (moist)  | %     | Type <sup>1</sup> | Loc <sup>2</sup> |         |         |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5)  
☐ Organic Bodies (A6) **(LRR P, T, U)**  
☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**  
☐ Muck Presence (A8) **(LRR U)**  
☐ 1 cm Muck (A9) **(LRR P, T)**  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Coast Prairie Redox (A16) **(MLRA 150A)**  
☐ Sandy Mucky Mineral (S1) **(LRR O, S)**  
☐ Sandy Gleyed Matrix (S4)  
☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Dark Surface (S7) **(LRR P, S, T, U)**

☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**  
☐ Thin Dark Surface (S9) **(LRR S, T, U)**  
☐ Loamy Mucky Mineral (F1) **(LRR O)**  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Marl (F10) **(LRR U)**  
☐ Depleted Ochric (F11) **(MLRA 151)**  
☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**  
☐ Umbric Surface (F13) **(LRR P, T, U)**  
☐ Delta Ochric (F17) **(MLRA 151)**  
☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**  
☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**  
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

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

☐ 1 cm Muck (A9) **(LRR O)**  
☐ 2 cm Muck (A10) **(LRR S)**  
☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**  
☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**  
☐ Anomalous Bright Loamy Soils (F20)  
**(MLRA 153B)**  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

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

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

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: \_\_\_\_\_ City/County: \_\_\_\_\_ Sampling Date: \_\_\_\_\_  
Applicant/Owner: \_\_\_\_\_ State: \_\_\_\_\_ Sampling Point: \_\_\_\_\_  
Investigator(s): \_\_\_\_\_ Section, Township, Range: \_\_\_\_\_  
Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
Subregion (LRR or MLRA): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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

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

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

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

|                                                                                                                                                               |                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| <p>Hydrophytic Vegetation Present? Yes _____ No _____</p> <p>Hydric Soil Present? Yes _____ No _____</p> <p>Wetland Hydrology Present? Yes _____ No _____</p> | <p><b>Is the Sampled Area<br/>within a Wetland?</b> Yes _____ No _____</p> |
| <p>Remarks:</p>                                                                                                                                               |                                                                            |

### HYDROLOGY

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <div style="display: flex; flex-wrap: wrap;"><div style="width: 33%;"><p>___ Surface Water (A1)</p><p>___ High Water Table (A2)</p><p>___ Saturation (A3)</p><p>___ Water Marks (B1)</p><p>___ Sediment Deposits (B2)</p><p>___ Drift Deposits (B3)</p><p>___ Algal Mat or Crust (B4)</p><p>___ Iron Deposits (B5)</p><p>___ Inundation Visible on Aerial Imagery (B7)</p><p>___ Water-Stained Leaves (B9)</p></div><div style="width: 33%;"><p>___ Aquatic Fauna (B13)</p><p>___ Marl Deposits (B15) <b>(LRR U)</b></p><p>___ Hydrogen Sulfide Odor (C1)</p><p>___ Oxidized Rhizospheres along Living Roots (C3)</p><p>___ Presence of Reduced Iron (C4)</p><p>___ Recent Iron Reduction in Tilled Soils (C6)</p><p>___ Thin Muck Surface (C7)</p><p>___ Other (Explain in Remarks)</p></div></div> |  | <p><u>Secondary Indicators (minimum of two required)</u></p> <p>___ Surface Soil Cracks (B6)</p> <p>___ Sparsely Vegetated Concave Surface (B8)</p> <p>___ Drainage Patterns (B10)</p> <p>___ Moss Trim Lines (B16)</p> <p>___ Dry-Season Water Table (C2)</p> <p>___ Crayfish Burrows (C8)</p> <p>___ Saturation Visible on Aerial Imagery (C9)</p> <p>___ Geomorphic Position (D2)</p> <p>___ Shallow Aquitard (D3)</p> <p>___ FAC-Neutral Test (D5)</p> <p>___ Sphagnum moss (D8) <b>(LRR T, U)</b></p> |
| <p><b>Field Observations:</b></p> <div style="display: flex; flex-wrap: wrap;"><div style="width: 60%;"><p>Surface Water Present? Yes _____ No _____ Depth (inches): _____</p><p>Water Table Present? Yes _____ No _____ Depth (inches): _____</p><p>Saturation Present? Yes _____ No _____ Depth (inches): _____<br/>(includes capillary fringe)</p></div><div style="width: 40%; text-align: right;"><p><b>Wetland Hydrology Present?</b> Yes _____ No _____</p></div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:</p> <p>Remarks:</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

**VEGETATION (Five Strata) – Use scientific names of plants.**

Sampling Point: \_\_\_\_\_

| Tree Stratum (Plot size: _____)                               | Absolute<br>% Cover | Dominant<br>Species? | Indicator<br>Status |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------|---------------------|----------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. _____                                                      | _____               | _____                | _____               | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)<br><br>Total Number of Dominant Species Across All Strata: _____ (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: _____ (A) _____ (B)<br><br>Prevalence Index = B/A = _____                                                                                                                                                                                                                                                                                                                                                                                                     |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Sapling Stratum (Plot size: _____)                            |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     | <b>Hydrophytic Vegetation Indicators:</b><br>___ 1 - Rapid Test for Hydrophytic Vegetation<br>___ 2 - Dominance Test is >50%<br>___ 3 - Prevalence Index is ≤3.0 <sup>1</sup><br>___ 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.                                                                                                                                                                                                                                                                                                                                                                    |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Shrub Stratum (Plot size: _____)                              |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     | <b>Definitions of Five Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).<br><br><b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.<br><br><b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.<br><br><b>Woody vine</b> – All woody vines, regardless of height. |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Herb Stratum (Plot size: _____)                               |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 7. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 8. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 9. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 10. _____                                                     | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 11. _____                                                     | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     | <b>Hydrophytic Vegetation Present?</b> Yes _____ No _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Woody Vine Stratum (Plot size: _____)                         |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. _____                                                      | _____               | _____                | _____               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| _____ = Total Cover                                           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 50% of total cover: _____ 20% of total cover: _____           |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Remarks: (If observed, list morphological adaptations below). |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## SOIL

Sampling Point: \_\_\_\_\_

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

| Depth<br>(inches) | Matrix        |       | Redox Features |       |                   |                  | Texture | Remarks |
|-------------------|---------------|-------|----------------|-------|-------------------|------------------|---------|---------|
|                   | Color (moist) | %     | Color (moist)  | %     | Type <sup>1</sup> | Loc <sup>2</sup> |         |         |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |
| _____             | _____         | _____ | _____          | _____ | _____             | _____            | _____   | _____   |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5)  
☐ Organic Bodies (A6) **(LRR P, T, U)**  
☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**  
☐ Muck Presence (A8) **(LRR U)**  
☐ 1 cm Muck (A9) **(LRR P, T)**  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Coast Prairie Redox (A16) **(MLRA 150A)**  
☐ Sandy Mucky Mineral (S1) **(LRR O, S)**  
☐ Sandy Gleyed Matrix (S4)  
☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Dark Surface (S7) **(LRR P, S, T, U)**

☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**  
☐ Thin Dark Surface (S9) **(LRR S, T, U)**  
☐ Loamy Mucky Mineral (F1) **(LRR O)**  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Marl (F10) **(LRR U)**  
☐ Depleted Ochric (F11) **(MLRA 151)**  
☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**  
☐ Umbric Surface (F13) **(LRR P, T, U)**  
☐ Delta Ochric (F17) **(MLRA 151)**  
☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**  
☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**  
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

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

☐ 1 cm Muck (A9) **(LRR O)**  
☐ 2 cm Muck (A10) **(LRR S)**  
☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**  
☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**  
☐ Anomalous Bright Loamy Soils (F20)  
**(MLRA 153B)**  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

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

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

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

Remarks:

**APPENDIX C**  
**Steven David PWS Certification**



***Society of Wetland Scientists  
Professional Certification Program, Inc***

renews the designation

## **Professional Wetland Scientist**

For

**Steven J. David**

In recognition of all the professional requirements approved by the Society of Wetland Scientists Certification  
Renewal Program, and verified by the Society's Certification Renewal Review Panel.  
Professional Wetland Scientist Number 2849 issued on 7/25/2017 and recertified on 12/11/2021.  
Due to recertify again by 07/25/2027.



Gillian Davies, PWS  
President

Pat Frost, PWS  
Certification Renewal Chair