

SOIL SCIENCE AND ENVIRONMENTAL SERVICES, INC.

Wetland Delineations Ecological Studies Site Assessments Project Planning Soil Testing

May 1, 2015

ATTN: Jerome Shea
Town of Simsbury
933 Hopmeadow Street
Simsbury, CT 06070

**Re: Wetlands Delineation Report
Simsbury Meadows Project Area, Iron Horse Boulevard,
Simsbury, CT**

Dear Mr. Shea:

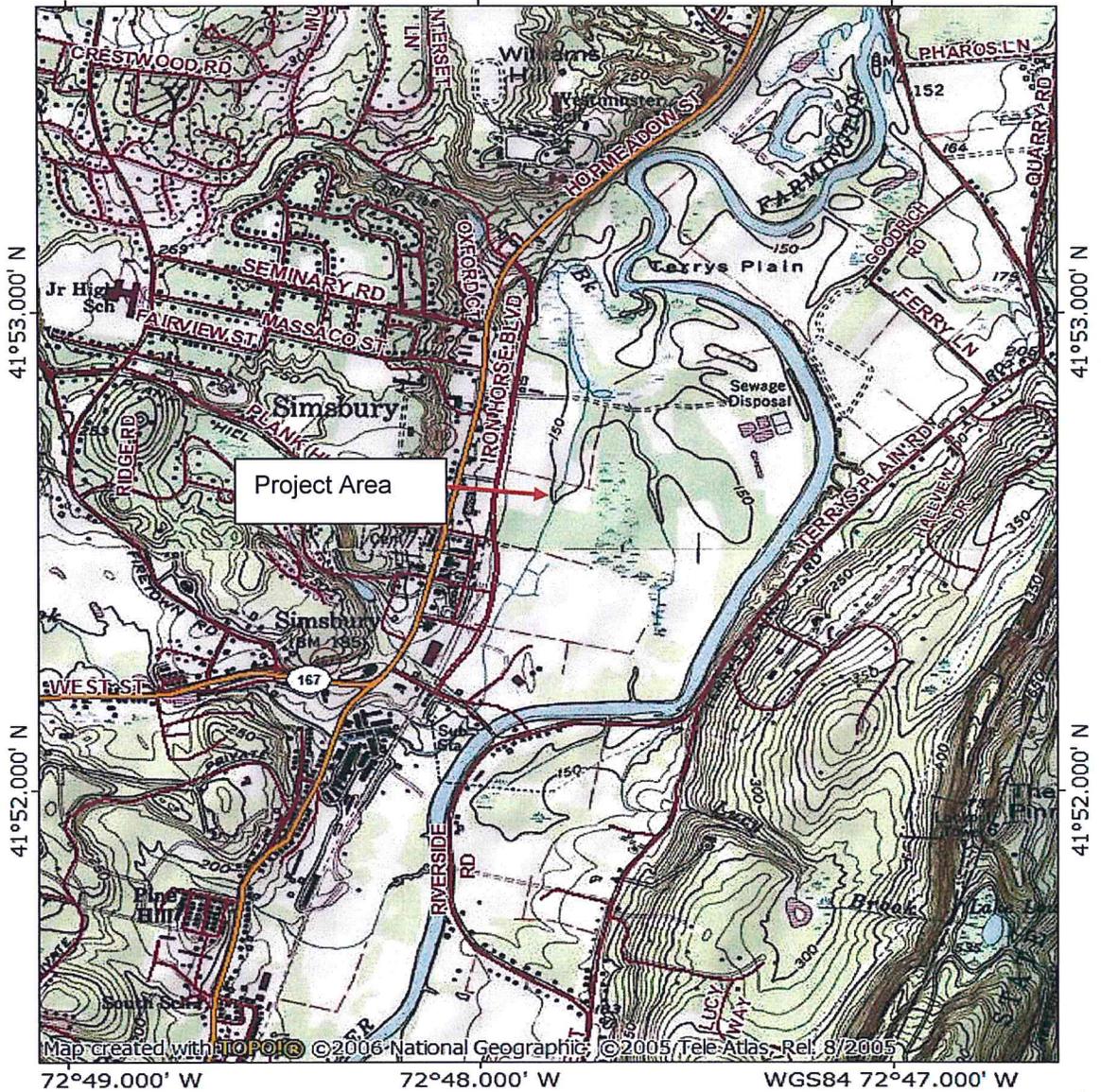
In accordance with your request, Scott D. Stevens, Soil Scientist and Jennifer L. Beno, Biologist/Wetland Scientist, with Soil Science And Environmental Services, Inc. (SSES) inspected the Simsbury Meadows project area for the Town of Simsbury on April 23, 27 and 28, 2015. The purpose of the inspections was to identify regulated wetlands within the project area specified by the Town.

The project area is located in the east central portion of the Town of Simsbury within a commercially developed area west of the Farmington River (Figure 1). The project area (Figure 2) as indicated by the Town of Simsbury consists of a gravel access road, gravel parking area, dog park, garage/shed, amphitheater and arts building, playground, and floodplain wetlands.

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

TOPO! map printed on 04/29/15 from "Untitled.tpo"

72°49.000' W 72°48.000' W WGS84 72°47.000' W



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14°
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SOIL SCIENCE and ENVIRONMENTAL SERVICES, INC.

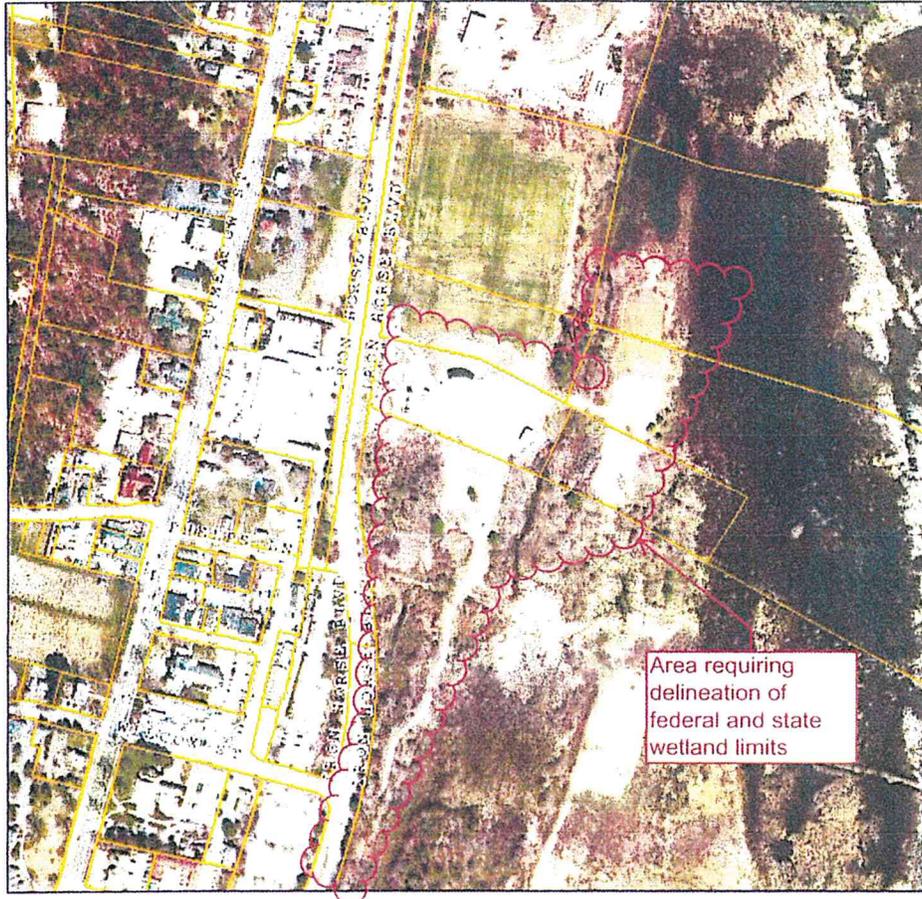
U.S.G.S. Topography Map
Simsbury Meadows
Iron Horse Boulevard,
Simsbury, CT

Date 4/29/15
Figure No. 1

Town of Simsbury
Geographic Information System (GIS)



Date Printed: 4/1/2015



MAP DISCLAIMER - NOTICE OF LIABILITY

This map is for assessment purposes only. It is not for legal description or conveyances. All information is subject to verification by any user. The Town of Simsbury and its mapping contractors assume no legal responsibility for the information contained herein.

Approximate Scale: 1 inch = 400 feet



http://simsbury.mapxpress.net/ags_map/printmap.asp?extentYmin... 4/1/2015

Figure 2 – Project Area Specified by Town of Simsbury

A spade and auger were used to dig test holes for soils identification during the investigation. The vegetation communities and any physical indicators of hydrology on the site were also examined. The limits of the CT Inland Wetlands and the Federal Wetlands were determined to differ within the limits of the project area. The CT Inland Wetland boundaries were delineated with consecutively numbered orange survey tapes, while Federal Wetland boundaries were delineated with consecutively numbered blue survey tapes. Sketch maps of the delineated wetland boundaries are included as Figures 3 - 6.

CONNECTICUT INLAND WETLANDS & SOIL TYPES

CT inland wetlands were delineated within the project area. See Figure 3-6. The wetland soils within the project area include:

Aq Aquents - This is a poorly to very poorly drained, disturbed soil where two or more feet of the original soil surface has been altered by filling, excavation and/or grading. Aquents are characterized by a seasonal to prolonged high groundwater table at or near the ground surface. Aquents are capable of supporting a prevalence of hydrophytic plants.

13 Walpole sandy loam (Aeric Endoaquepts)- This is a deep, poorly drained, friable, coarse-loamy textured soil that developed over sandy and gravelly, glacial outwash. Outwash soils occur in valleys, outwash plains and terraces.

102 Pootatuck fine sandy loam (Fluvaquentic Dystrudepts) – This is a deep, moderately well drained, friable, coarse-loamy textured soil that formed in alluvial sediments principally derived from schist, gneiss and granite. Pootatuck soils occur in nearly level floodplains and along rivers and streams which are subject to frequent flooding. The Pootatuck soil was formerly mapped in Connecticut as the Podunk fine sandy loam.

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

108 Saco silt loam (Fluvaquentic Humaquepts) – This is a deep, very poorly drained, friable, silty soil that formed in alluvial sediments derived from schist, gneiss and granite. Saco soils often possess a shallow mucky or mucky silt loam surface. Saco soils occur in nearly level floodplains and along rivers and streams which are subject to frequent flooding.

The non-wetland soils within the project area include:

21 Ninigret and Tisbury soils (Aquic Dystrudepts) – These are deep, moderately well drained, friable, coarse-loamy and loamy textured soils that developed over sandy and gravelly, glacial outwash derived from schist, gneiss and granite. Outwash soils occur in valleys, outwash plains and terraces.

29 Agawam fine sandy loam (Typic Dystrudepts) – This is a deep, well drained, friable, coarse-loamy textured soil that developed over sandy and gravelly, glacial outwash derived principally from schist, gneiss and granite. Outwash soils occur in valleys, outwash plains and terraces.

306 Udorthents-Urban land complex This map unit consists of extensive areas where soils have

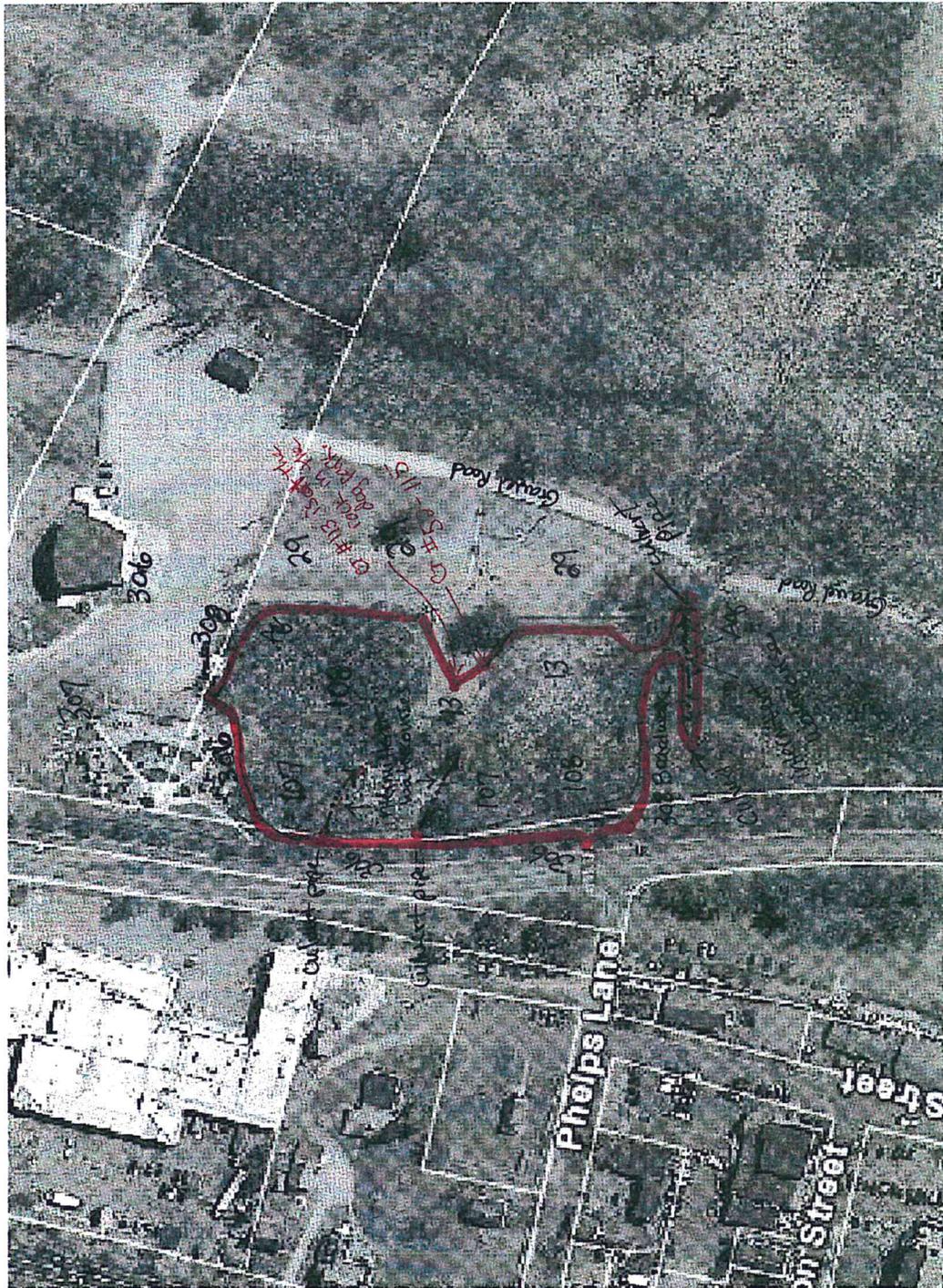


Figure 4 – CT Wetland Boundary Sketch Map

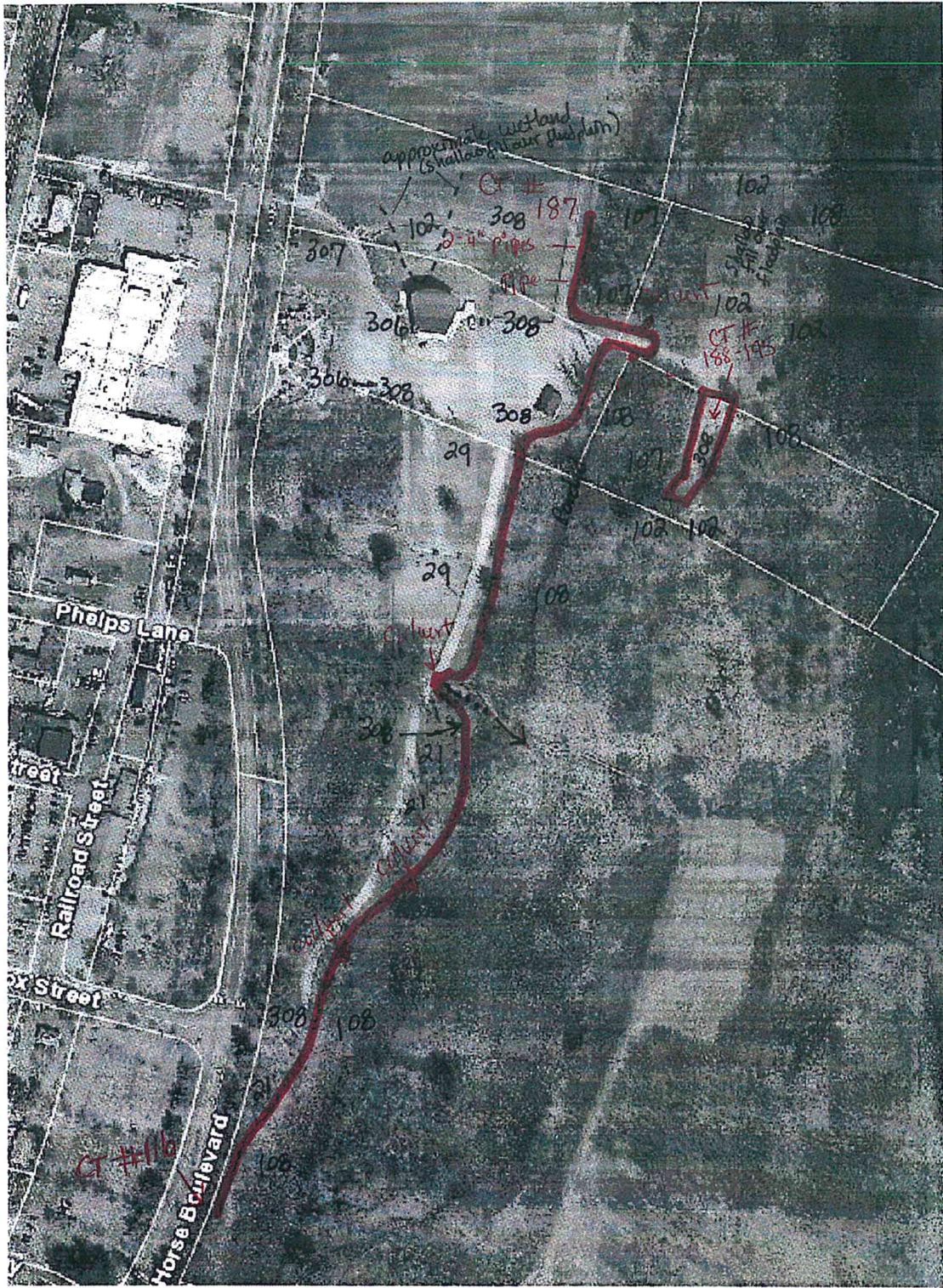


Figure 5 – CT Wetland Boundary Sketch Map



Figure 6 – CT Wetland Boundary Sketch Map

FEDERAL WETLANDS

Federal wetlands were delineated within the project area. The Federal wetland boundary differs from the CT wetland boundary. See Figures 7-9. The Federal wetlands consist of a complex of forested swamp, shrub swamp and shallow marsh communities. Two transects with two Federal Wetland Data Plots each were established. One transect is located within the wooded swamp/shrub swamp/shallow marsh complex north of the dog park (Data Plot 603-W and 603-U). The other transect with two Federal Wetland Data Plots was established within the wooded swamp/shrub swamp/shallow marsh complex east of the existing red garage building (Data Plot 672-

W and 672-U). The approximate location of the transects and data plots are shown in Figure 8 and 9. The information gathered from each data plot was recorded on Federal Wetland Data Sheets. These sheets are included with this report.



Figure 7 – Federal Wetland Boundary Sketch Map



Federal data transect 603-U and 603-W; north of dog park (4/28/15).



Federal data transect 672-U and 672-W; east of garage (4/28/15).

Respectfully submitted,

SOIL SCIENCE AND ENVIRONMENTAL SERVICES, INC.

Scott D. Stevens

Scott D. Stevens
Registered Professional Soil Scientist

Jennifer L. Beno

Jennifer L. Beno
Biologist/Wetland Scientist

APPENDIX I

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

I. State of Connecticut

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

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

Watercourses "means rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private which are contained within, flow through or border upon this state or any portion thereof, not regulated pursuant to sections 22a-28 to 22a-35, inclusive. Intermittent watercourses shall be delineated by a defined permanent channel and bank and the occurrence of two or more of the following characteristics: (A) Evidence of scour or deposits of alluvium or detritus, (B) the presence of standing or flowing water for a duration longer than a particular storm incident, and (C) the presence of hydrophytic vegetation" section 22a-38(16).

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

II. Federal Government

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

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

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

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

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Simsbury Meadows - Iron Horse Blvd City/County: Simsbury / Hartford Sampling Date: 4/28/15
 Applicant/Owner: Town of Simsbury State: CT Sampling Point: 603-U
 Investigator(s): Scott Stevens + Jerrn Beno - SSES Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Cladplain Local relief (concave, convex, none): concave Slope (%): 0-5
 Subregion (LRR or MLRA): LRR Lat: ±41°52'34.87" Long: ±-72°47'54.49" Datum: _____
 Soil Map Unit Name: Aquents NWI classification: N/A
 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.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p align="center" style="font-size: 1.2em;">Approximately 3 feet of fill exists above a buried flood plain soil.</p>	

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<p><u>Secondary Indicators (minimum of two required)</u></p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<p>Field Observations:</p> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>20</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>18</u> (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: 603-U

Tree Stratum (Plot size: <u>±30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>
2. <u>Pinus strobus</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40% (A/B)

Sapling/Shrub Stratum (Plot size: <u>±15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Alnus serrulata</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>
2. <u>Rosa multiflora</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>
3. <u>Pinus strobus</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
4. <u>Lonicera tatarica</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
5. <u>Spiraea tomentosa</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by:

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column Totals: _____ (A) _____ (B)

Prevalence Index = B/A = _____

Herb Stratum (Plot size: <u>±5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Malanthemum canadense</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>
2. <u>Solidago canadensis</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>
3. <u>Equisetum arvense</u>	<u>10</u>	<u>N</u>	<u>FAC</u>
4. <u>Oxoclea sensibilis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _____ No

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

SOIL

Sampling Point: 1003-U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
<u>0-26</u>	<u>10YR 3/2</u>						<u>Sandy loam</u>	<u>fill</u>
<u>26-36</u>	<u>10YR 3/4</u>						<u>loamy sand</u>	<u>fill</u>
<u>36-40</u>	<u>10YR 2/1</u>						<u>Silt loam</u>	<u>- buried A</u>

- ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.
- | | | |
|---|--|--|
| Hydric Soil Indicators: | | Indicators for Problematic Hydric Soils³: |
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input checked="" type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators 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 – Northcentral and Northeast Region

Project/Site: Simsbury Meadows - Iron Horse Blvd. City/County: Simsbury / Hartford Sampling Date: 4/28/15
 Applicant/Owner: Town of Simsbury State: CT Sampling Point: 603-W
 Investigator(s): Scott Stevens + John Beno - SSES Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 0-5
 Subregion (LRR or MLRA): LRR Lat: ±41°52'34.93" Long: -±72°47'54.62" Datum: _____
 Soil Map Unit Name: Limerick and Lim soils NWI classification: PFO1E; PSS1E; PEM1E
 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? No Yes ✓ Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No Yes ✓ (If needed, explain any answers in Remarks.)

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

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

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>2</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 	
Remarks: 	

VEGETATION – Use scientific names of plants.

Sampling Point: 603-W

Tree Stratum (Plot size: <u>±30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer rubrum</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. <u>Pinus strobus</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>35%</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>±15'</u>)				
1. <u>Alnus serrulata</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Cornus amomum</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
3. <u>Sambucus nigra</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>Rosa multiflora</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
5. <u>Lonicera tatarica</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
<u>75%</u> = Total Cover				
Herb Stratum (Plot size: <u>±5'</u>)				
1. <u>Symplocarpus foetidus</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Carex stricta</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Typha latifolia</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
4. <u>Equisetum arvense</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
5. <u>Solidago canadensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>45%</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>±30'</u>)				
1. _____	_____	_____	_____	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: (Include photo numbers here or on a separate sheet.)				

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Simsbury Meadows - Iron Horse Blvd City/County: Simsbury / Hartford Sampling Date: 4/28/15
 Applicant/Owner: Town of Simsbury State: CT Sampling Point: 1072-U
 Investigator(s): Scott Stearns + Jenn Bero - SSES Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 25
 Subregion (LRR or MLRA): LRR Lat: ±41°52'35.49" Long: ±72°47'50.16" Datum: _____
 Soil Map Unit Name: Udorthents NWI classification: N/A

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.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p align="center" style="font-size: 1.2em;">Approximately 3.5 feet of medium sand fill exists above a buried wetland.</p>	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim-Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>42</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>30</u> (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: 072-U

Tree Stratum (Plot size: <u>±30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer rubrum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>28%</u> (A/B)
2. <u>Populus deltoides</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>80%</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>±15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Lonicera tatarica</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Rosa multiflora</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Eheagnus umbellata</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
4. <u>Berberis thunbergii</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5. _____				
6. _____				
7. _____				
<u>55%</u> = Total Cover				
Herb Stratum (Plot size: <u>±5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Solidago canadensis</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Rosa multiflora</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
3. <u>Anoclea sensibilis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4. <u>Equisetum arvense</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>40%</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>±30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Celastrus orbiculatus</u>	<u>30</u>	<u>Y</u>	<u>UPL</u>	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft. (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.
2. _____				
3. _____				
4. _____				
<u>30%</u> = Total Cover				
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>				
Remarks: (Include photo numbers here or on a separate sheet.)				

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Simsbury Meadows - Iron Horse Blvd City/County: Simsbury / Hartford Sampling Date: 4/28/15

Applicant/Owner: Town of Simsbury State: CT Sampling Point: 1072-W

Investigator(s): Scott Stevens + Jenn Beno - SSES Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 25

Subregion (LRR or MLRA): LRR Lat: 41°52'35.45" Long: -72°47'50.02" Datum: _____

Soil Map Unit Name: Saco silt loam NWI classification: PFO1E; PSS1E; PEM2E

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? No Are "Normal Circumstances" present? Yes No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

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

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

HYDROLOGY

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

VEGETATION - Use scientific names of plants.

Sampling Point: 672-W

Tree Stratum (Plot size: <u>±30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer rubrum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>86%</u> (A/B)
2. <u>Populus deltoides</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>100%</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>±15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Alnus serrulata</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Cornus amomum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4. <u>Spiraea tomentosa</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5. <u>Rosa multiflora</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
<u>50%</u> = Total Cover				
Herb Stratum (Plot size: <u>±5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Carex stricta</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Osmunda sensibilis</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Symplocarpus foetidus</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
4. <u>Equisetum arvense</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>50%</u> = Total Cover				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Woody Vine Stratum (Plot size: <u>±30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Celastrus orbiculatus</u>	<u>10</u>	<u>Y</u>	<u>UPL</u>	
2. _____				
3. _____				
4. _____				
<u>10%</u> = Total Cover				Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: 672-W

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

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-24	10YR 3/1						Sandy loam	floodplain
24-36	10YR 4/1						Sandy loam	floodplain

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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:

