



February 8, 2022

Ref: 42889.00

Mr. Brad Parsons
Director of Design and Permitting
Verogy
150 Trumbull Street, 4th Floor
Hartford, CT 06103

Re: Wetland and Watercourse Delineation Report
North Haven Solar One
Portion of Parcel ID No. 009
700 Middletown Avenue, North Haven, CT

Dear Mr. Parsons,

At your request, Vanasse Hangen Brustlin, Inc. (VHB) completed an on-site investigation to delineate the limits and extents of wetlands and watercourses for at the North Haven Solar One project property (Herein referred to as, 'Project Site' or 'Site'), located at 700 Middletown Avenue, North Haven, CT. The delineation was conducted pursuant to the Connecticut Inlands Wetlands and Watercourse Act as implemented under the Town of North Haven, Connecticut Inland Wetlands and Watercourse Regulations¹ (IWW Regulations). This report includes descriptions of site conditions, photographic documentation (Appendix A), and a Delineated Wetlands Map displaying the inland wetlands and watercourses identified within the Project Site.

BACKGROUND AND DUE DILIGENCE

Prior to visiting the Project Site, VHB performed a desktop review to evaluate existing conditions. Sources reviewed included: the U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey²; the CTECO Map Viewer³ to view the Connecticut Department of Energy and

¹ Town of North Haven, CT. Regulations for the Protection and Preservation of the Inland Wetlands and Watercourses. Amended 1997.

² United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey.

³ Connecticut Environmental Conditions Online (CTECO) Map Viewer.



Environmental Protection (CTDEEP) wetlands data sets; and the United States Fish and Wildlife Service’s (USFWS) National Wetlands Inventory (NWI) mapper⁴ to review the NWI wetland data set.

The 10-acre Project Site is located in the northeastern corner of a larger (124-acre) property located at 700 Middletown Avenue in the Town of North Haven, CT, Parcel ID No. 009 (Figure 1). The Project Site is a mix of active agricultural field and undeveloped woodland, which is bound to the north by residential properties, to the west by Mill Road, to the south by undeveloped woodland and to the east by an active agricultural field and the Muddy River.

Topography, Surface Waters and Soils

Topography onsite is split into two main sections: the majority of the Project Site generally slopes to the southeast from the north and west towards the Muddy River (Figure 2); while the northeast portion of the Site slopes to the west. Elevations range from 88 feet in the southern-central portion of the Site to 32 feet in the far southeastern corner of the Site. There is also a potential vernal pool located in the northwest side of the Site, adjacent to Mill Road.

As shown on Figure 3, the NRCS Web Soil Survey identified six different soil map units within the Project Site. A VHB soil scientist was able to generally confirm the presence of all six map units listed in Table 1, below.

TABLE 1: NRCS Soils Identified Onsite

Map Unit Symbol	NRCS Soil Map Unit	Landform	Drainage Class
5	Wilbraham silt loam, 0 to 3 percent slopes	Ground moraines, drumlins, hills, drainageways, depressions	Poorly drained
37C	Manchester gravelly sandy loam, 3 to 15 percent slopes	Terraces, outwash plains, kames, eskers	Excessively drained
69B	Yalesville fine sandy loam, 3 to 8 percent slopes	Ridges, hills	Well drained
77D	Cheshire-Holyoke complex, 15 to 35 percent slopes, very rocky	Till plains, hills	Well drained
78C	Holyoke-Rock outcrop complex, 3 to 15 percent slopes	Ridges, hills	Well drained
102	Pootatuck fine sandy loam	Flood plains (alluvium)	Moderately well drained

⁴ United States Fish and Wildlife Service’s (USFWS) National Wetlands Inventory (NWI) mapper.



Wetlands

The NWI mapper wetland dataset identifies freshwater palustrine forested wetlands located within the western and southern portions of the Project Site (Figure 4). The CTDEEP wetland dataset identifies hydric soils along the western portion of the Project Site and alluvial and floodplain soils at the southeastern corner.

FIELD DELINEATED WETLANDS AND WATERCOURSES

VHB delineated wetlands within the Project Site on December 23, 2021.

Wetlands subject to regulation under Section 404 of the Clean Water Act by the U.S. Army Corps of Engineers (USACE) are identified following criteria provided in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*. These criteria include dominance of hydrophytic vegetation, hydric soils, and evidence of wetland hydrology.

In contrast, the Connecticut Inland Wetlands and Watercourses Act (§22a-38 CGS) identifies wetlands as soils which are poorly or very poorly drained, or alluvial and/or floodplain soils. The Act also defines the term watercourses very broadly to mean rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private. Intermittent watercourses are identified by a defined permanent channel and bank and the occurrence of two or more of the following characteristics:

- Evidence of scour or deposits of recent alluvium or detritus;
- The presence of standing or flowing water for a duration longer than a particular storm incident; and,
- The presence of hydrophytic vegetation.

Wetlands Description

As shown on Figure 5, VHB delineated three on-site freshwater wetlands. There were no watercourses identified within the Project Site.

Wetland classifications used to identify the type of wetland(s) occurring on the project site are based on guidance from the USFWS (Cowardin et.al. 1979)⁵. These are further qualified with the Hydrogeomorphic Method of wetland classification (Brinson, 1993)⁶.

⁵ Cowardin, L.M., V. Carter, F.C. Golet and E.T. LaRoe, 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service. Washington, D.C. FWS/OBS-79/31.

⁶ Brinson, M.M. 1993. A Hydrogeomorphic Classification for Wetlands. Tech. Rpt.WRP-DE-4, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.



Please refer to Appendix B for USACE Wetland Delineation Data Forms which detail the evidence of hydrology, vegetation and soils present within each wetland.

Wetland 1

Wetland 1 consists of a freshwater palustrine forested slope wetland system (USFWS Class: PFO1E) and was delineated with an open loop of flags numbered WF1-099 to WF1-133 (see Photos 1 through 5 in Attachment A). This groundwater slope wetland is located along the northeastern side of the property, which is where the topography slopes to the west. The wetland is on a mild incline and drains into a ~12" corrugated metal culvert located in the far southwestern corner, which flows to the west under Mill Road. A stormwater drainage ditch is located at the southwestern corner of the wetland and appears to drain stormwater surface flow from the portion of the adjacent farm field located to the southeast. This wetland is fed by groundwater discharge and surface runoff from the farm field located to the east, the residential properties to the north and from Mill Road to the west. Soils within the wetland classified as Yalesville fine sandy loam well drained soil series. Dominate vegetation within this wetland community is outlined in Table 2, below.

Wetland 1 contains a Potential Cryptic Vernal Pool (PVP-1) located within a depression area in the southern portion of the wetland, as shown on the attached Figure 5. The extent of PVP-1 was delineated in the field with a closed loop of flags numbered PVP1-100 to PVP1-120 (see Photos 3 through 5 in Attachment A). The delineation was performed during the colder winter months, and therefore there was no evidence during the site visit of the ecological species required to be present in order to verify its potential status as a vernal pool. The cryptic nature is due to multiple pooling areas potentially supporting amphibian breeding within the limits of the overall PVP we have identified on the figure that is within the larger boundary of a freshwater wetland.

Vegetation

Table 2 below provides a list of dominant vegetation species found on site. Due to the winter conditions, vegetation identification was limited.

TABLE 2: Dominant Plant Species in Wetland 1

Trees and Saplings				
Scientific	Common	Indicator	Upland	Wetland
<i>Acer rubrum</i>	Red Maple	FAC	-	X
<i>Quercus bicolor</i>	Swamp White Oak	FACW	-	X
Shrubs / Herbaceous Plants				
Scientific	Common	Indicator	Upland	Wetland
<i>Lindera benzoin</i>	Northern Spicebush	FACW	-	X
<i>Cornus amomum</i>	Silky Dogwood	FACW	-	X
<i>Symplocarpus foetidus</i>	Skunk cabbage	OBL	-	X
<i>Onoclea sensibilis</i>	Sensitive fern	FACW	-	X



Despite the presence of well drained soils, soils plots taken in the field identified the soil as hydric under Federal criteria⁷ and wetland plant and hydrological indicators were present. As such, this wetland area is subject to the North Haven IWW Regulations and USACE jurisdiction under Section 404. Soils similar to the Yalesville series were observed in auger point samples taken within the wetland.

Wetland 2

Wetland 2 consists of a freshwater palustrine forested slope wetland system (USFWS Class: PFO1E) and was delineated with an open loop of flags numbered WF2-100 to WF12-106 (see Photos 6 and 7 in Attachment A). This groundwater slope wetland is located at the southeastern corner of the property, which is where the topography slopes to the south and east. The wetland is on a mild incline and drains to the south into the Muddy River located outside of the Project area. This wetland is fed by groundwater discharge and surface runoff from upland forested areas to the northwest and the farm field located to the north. Soils within the wetland classified as Pootatuck fine sandy moderately well drained soil series. Dominate vegetation within this wetland community is outlined in Table 3, below.

Vegetation

Table 3 below provides a list of dominant vegetation species found on site. Due to the winter conditions, vegetation identification was limited.

TABLE 3: Dominant Plant Species in Wetland 2

Trees and Saplings				
Scientific	Common	Indicator	Upland	Wetland
<i>Acer rubrum</i>	Red Maple	FAC	-	X
Shrubs / Herbaceous Plants				
Scientific	Common	Indicator	Upland	Wetland
<i>Lindera benzoin</i>	Northern Spicebush	FACW	-	X
<i>Cornus amomum</i>	Silky Dogwood	FACW	-	X
<i>Symplocarpus foetidus</i>	Skunk cabbage	OBL	-	X
<i>Onoclea sensibilis</i>	Sensitive fern	FACW	-	X

Soils plots taken in the field identified the soil as hydric under Federal criteria and wetland plant and hydrological indicators were present. Wetland 2 also consists of alluvial flood-plain soils and are considered wetlands under the IWW Regulatory definition. This wetland area is subject to the North Haven IWW Regulations and USACE jurisdiction under Section 404. Soils similar to the Pootatuck series

⁷ : United States Department of Agriculture, Natural Resources Conservation Service. 2018. Field Indicators of Hydric Soils in the United States, Version 8.2. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.



were observed in auger point samples and the edge of the alluvium was identified assisted by a change in slope at the outwash terrace contact.

Wetland 3

Wetland 3 consists of a freshwater palustrine forested slope wetland system (USFWS Class: PFO1E) and was delineated with an open loop of flags numbered WF3-100 to WF3-121 (see Photos 8 and 9 in Attachment A). This groundwater slope wetland is located along the northeastern side of the property, which is where the topography slopes to the south and east. The wetland is on a moderate incline and drains into the southeastern corner of the wetland where it discharges to a farm field and access road outside of the Project area. There is no evidence of a stream channel inside Wetland 3 but the discharge does appear to concentrate and form a stream immediately offsite to the southeast. The flow appears to continue to the southeast where it ultimately drains into the Muddy River. This wetland is fed by groundwater discharge and surface runoff from the farm field to the west and forested areas to the north. Soils within the wetland classified as Wilbraham silt loam poorly drained soil series. Dominate vegetation within this wetland community is outlined in Table 4, below.

Vegetation

Table 4 below provides a list of dominant vegetation species found on site. Due to the winter conditions, vegetation identification was limited.

TABLE 4: Dominant Plant Species in Wetland 3

Trees and Saplings				
Scientific	Common	Indicator	Upland	Wetland
<i>Acer rubrum</i>	Red Maple	FAC	-	X
<i>Quercus bicolor</i>	Swamp White Oak	FACW	-	X
Shrubs / Herbaceous Plants				
Scientific	Common	Indicator	Upland	Wetland
<i>Lindera benzoin</i>	Northern Spicebush	FACW	-	X
<i>Onoclea sensibilis</i>	Sensitive fern	FACW	-	X

Soil plots taken in the field identified the soil as hydric under Federal criteria and wetland plant and hydrological indicators were present. Wetland 3 also consists of poorly drained soils and are considered wetlands under the IWW Regulatory definition. This wetland area is subject to the North Haven IWW Regulations and USACE jurisdiction under Section 404. Soils similar to the Wilbraham series were observed in auger point samples taken within the wetland.

Uplands

Uplands are present across the majority of the site and largely consist of active farm fields. Forested uplands are also present in the southern-central, southwestern, northeastern, and northwestern portions of the site. A band of strongly sloping Holyoke-Rock outcrop complex bisects the majority of the Project



area from southwest to northeast, which is the high point of the site. The uplands transition to the southeast into Cheshire-Holyoke complex and then eventually into a Manchester gravelly sandy loam at the far southeastern portion of the site. In the northwest, a Yalesville fine sandy loam slopes to the southwest and offsite. The majority of the Holyoke-Rock outcrop and Manchester gravelly sand complexes onsite are being used as active farm fields. The majority of the Cheshire-Holyoke complex and Yalesville series consist of forested area.

Vegetation

The majority of vegetation within uplands in the Project site consists of farmed corn (*Zea mays*). The forested areas were inclusive of herbaceous cover but were largely dominated by mature canopy trees. Dominant upland species are outlined in Table 5 – Dominant Upland Vegetation for a summary of species identified.

TABLE 5: Dominant Upland Plant Species

Trees and Saplings				
Scientific	Common	Indicator	Upland	Wetland
<i>Zea mays</i>	Corn	-	-	-
<i>Quercus rubra</i>	Northern red oak	FACU	X	-
<i>Quercus alba</i>	White oak	FACU	X	-

SOIL MAP TYPES

A brief description of each of the six soil map units identified on the project site is presented below, including information from the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil descriptions⁸.

Upland Soils

Manchester gravelly sandy loam, 3 to 15 percent slopes (37C)

Manchester Soils

The Manchester series consists of very deep, excessively drained soils formed in sandy and gravelly glacial outwash and stratified drift. They are nearly level to steep soils on outwash plains, terraces, kames, deltas and eskers. Slope ranges from 0 to 45 percent. Saturated hydraulic conductivity is high or very high in the surface layer and subsoil, and very high in the substratum.

⁸ United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil descriptions. Internet site: <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/survey/>.



Yalesville fine sandy loam, 3 to 8 percent slopes (69B)

Yalesville Soils

The Yalesville series consists of moderately deep, well drained soils formed in a loamy till. They are nearly level to moderately steep soils on hills and ridges. Slope ranges from 0 to 50 percent. Saturated hydraulic conductivity is moderately high or high in the solum and high in the substratum. Depth to bedrock ranges from 51 to 102 cm.

Cheshire-Holyoke complex, 15 to 35 percent slopes, very rocky (77D)

Cheshire soils

The Cheshire series consists of very deep, well drained loamy soils formed in supraglacial till on uplands. They are nearly level through very steep soils on till plains and hills. Slope ranges from 0 through 60 percent. Saturated hydraulic conductivity is moderately high or high throughout.

Holyoke soils

The Holyoke series consists of shallow, well drained and somewhat excessively drained soils formed in a thin mantle of till derived mainly from basalt and red sandstone, conglomerate, and shale. They are nearly level to very steep soils on bedrock controlled ridges and hills. Slope ranges from 0 to 60 percent. Saturated hydraulic conductivity is moderately high to very high. Depth to hard bedrock ranges from 25 to 50 cm.

Holyoke-Rock outcrop complex, 3 to 15 percent slopes (78C)

The Holyoke series is described above.

Wetland Soils

Wilbraham silt loam, 0 to 3 percent slopes (5)

The Wilbraham series consists of poorly drained loamy soils formed in red lodgment till. These soils are very deep to bedrock and moderately deep to a densic contact. They are nearly level to gently sloping soils in drainageways and depressions of hills and drumlins. Slope ranges from 0 to 8 percent. Saturated hydraulic conductivity is moderately high in the surface layer and subsoil and low or moderately low in the dense substratum.

Pootatuck fine sandy loam (102)

The Pootatuck series consists of very deep, moderately well drained loamy soils formed in alluvial sediments. They are nearly level soils on floodplains subject to frequent to occasional flooding. Slope ranges from 0 to 3 percent. Saturated hydraulic conductivity is moderately high or high in the loamy upper layers and high or very high in the sandy substratum.



CONCLUSION

In summary, VHB delineated three wetlands and one potential cryptic vernal pool located within the 10-acre property, which are regulated by the Town of North Haven Inland Wetland Commission. The majority of the Project site is made up of uplands with regulated wetlands located in the northwest portion of the site, at the far southeast corner and along the majority of the western side.

If you have any questions or require additional assistance, please feel free to contact me at (860) 634-1878.

Sincerely,
Vanasse Hangen Brustlin, Inc.

A handwritten signature in black ink that reads "Eric A. Olson".

Eric A. Olson
Senior Wetland Scientist
eolson@vhb.com

A handwritten signature in black ink that reads "Jeffrey Shamas".

Jeffrey Shamas, CSS, SPWS, CE
Director, Environmental Services
jshamas@vhb.com

Figures:

- Figure 1 – USGS Site Location Map
- Figure 2 – Site Topography Map
- Figure 3 – NRCS Soils Map
- Figure 4 – NWI and State Wetland Map
- Figure 5 – Delineated Wetlands Map
- Figure 6 – FEMA Floodplain Map

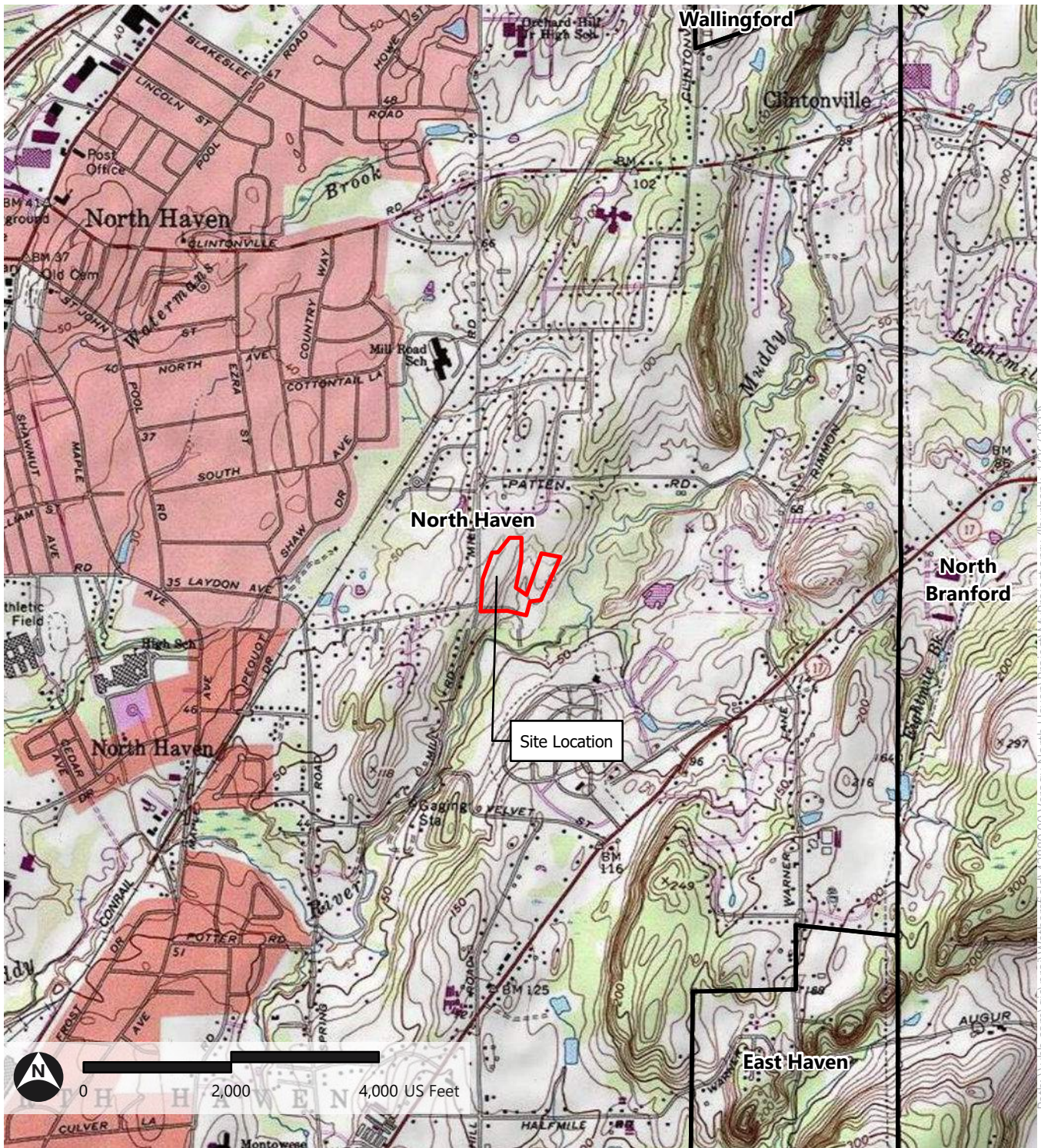
Appendices:

- Appendix A – Site Photograph Log
- Appendix B – Wetland Delineation Data Sheets

FIGURES

Figure 1: USGS Map

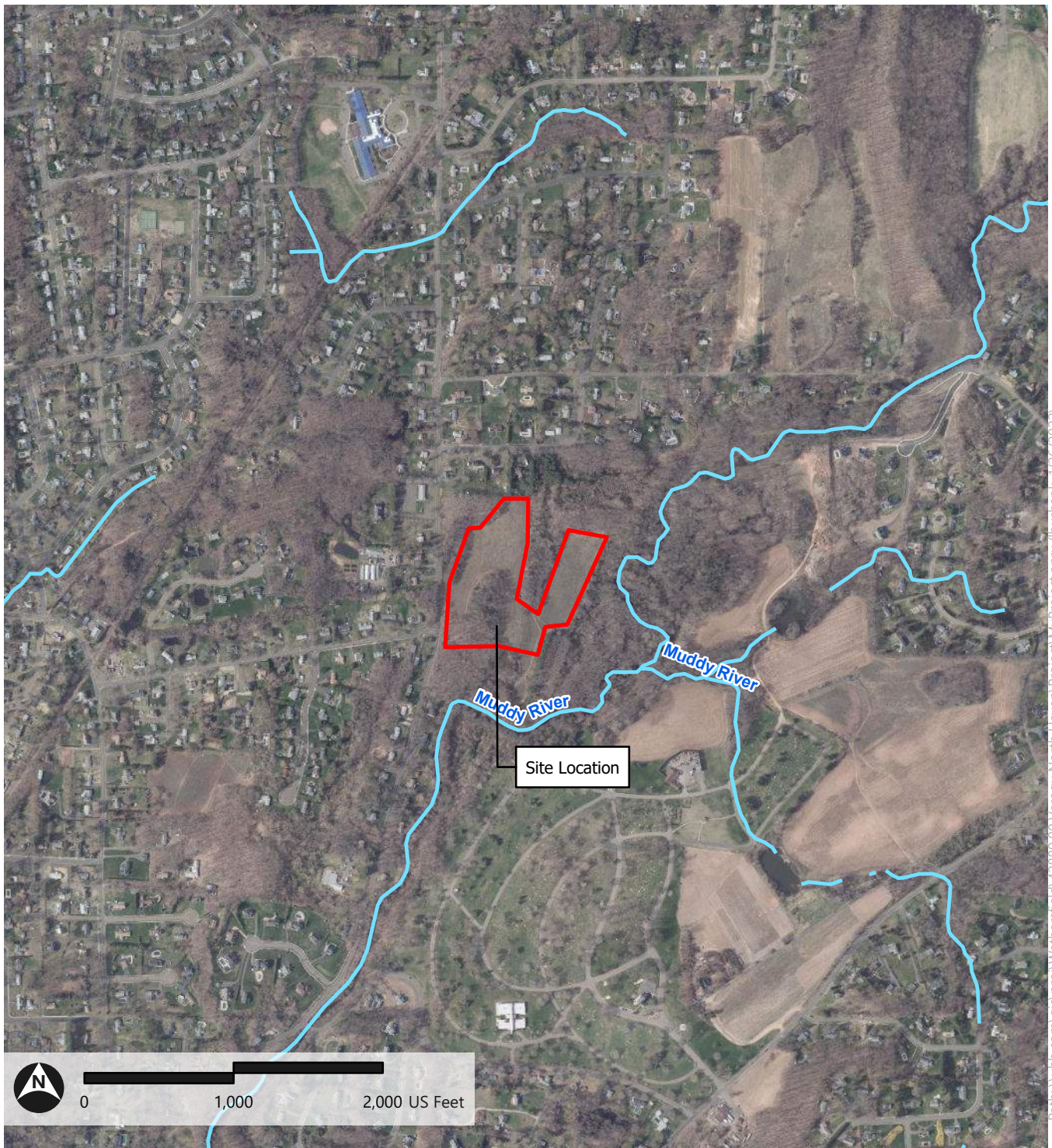
Verogy North Haven | North Haven, CT



Source: USGS

Figure 2: Aerial Map

Verogy North Haven | North Haven, CT



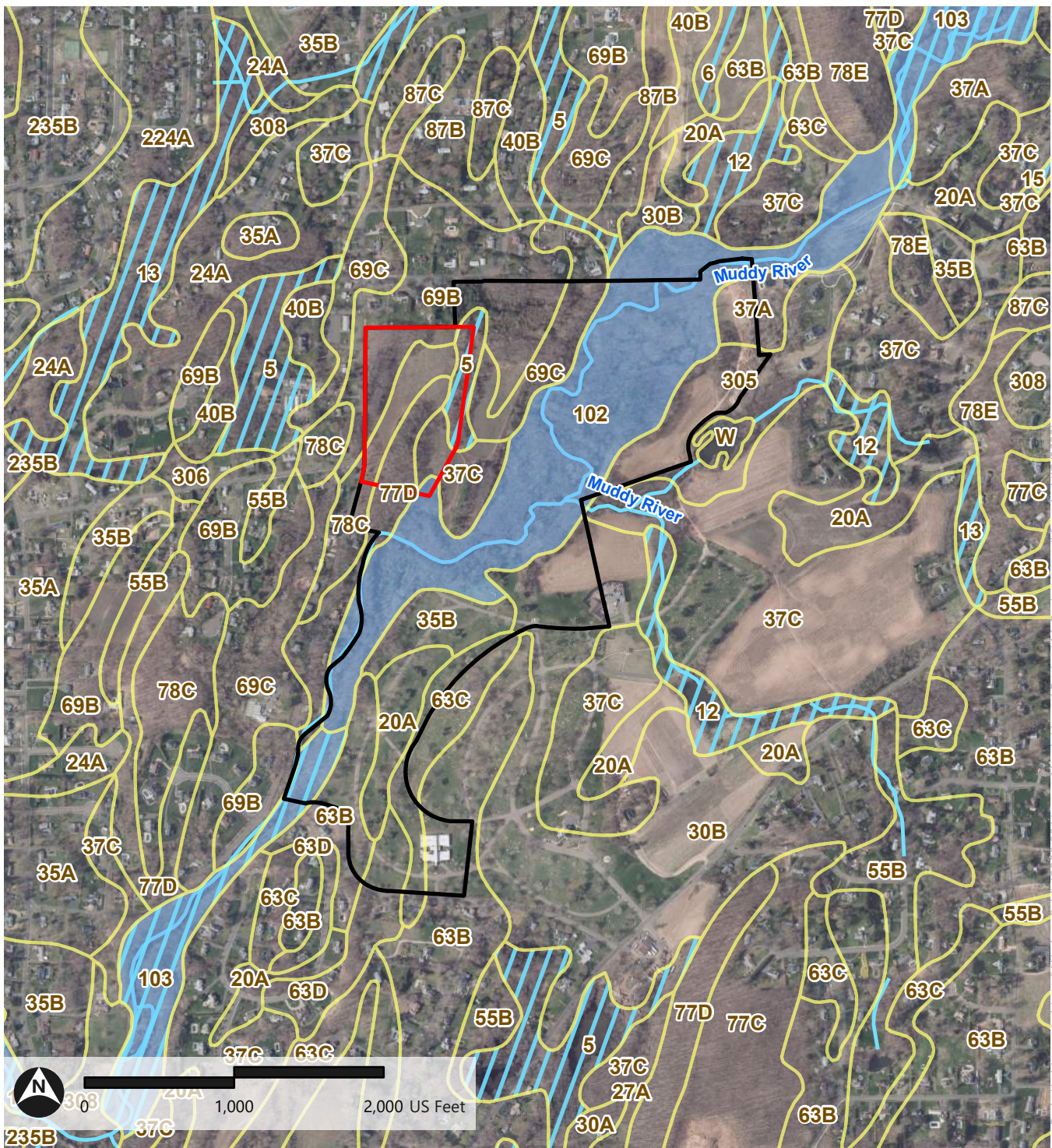
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- Site Location
- Watercourse (Non Delineated)

Source: USGS

Figure 3: NRCS Soils

Verogy North Haven | North Haven, CT



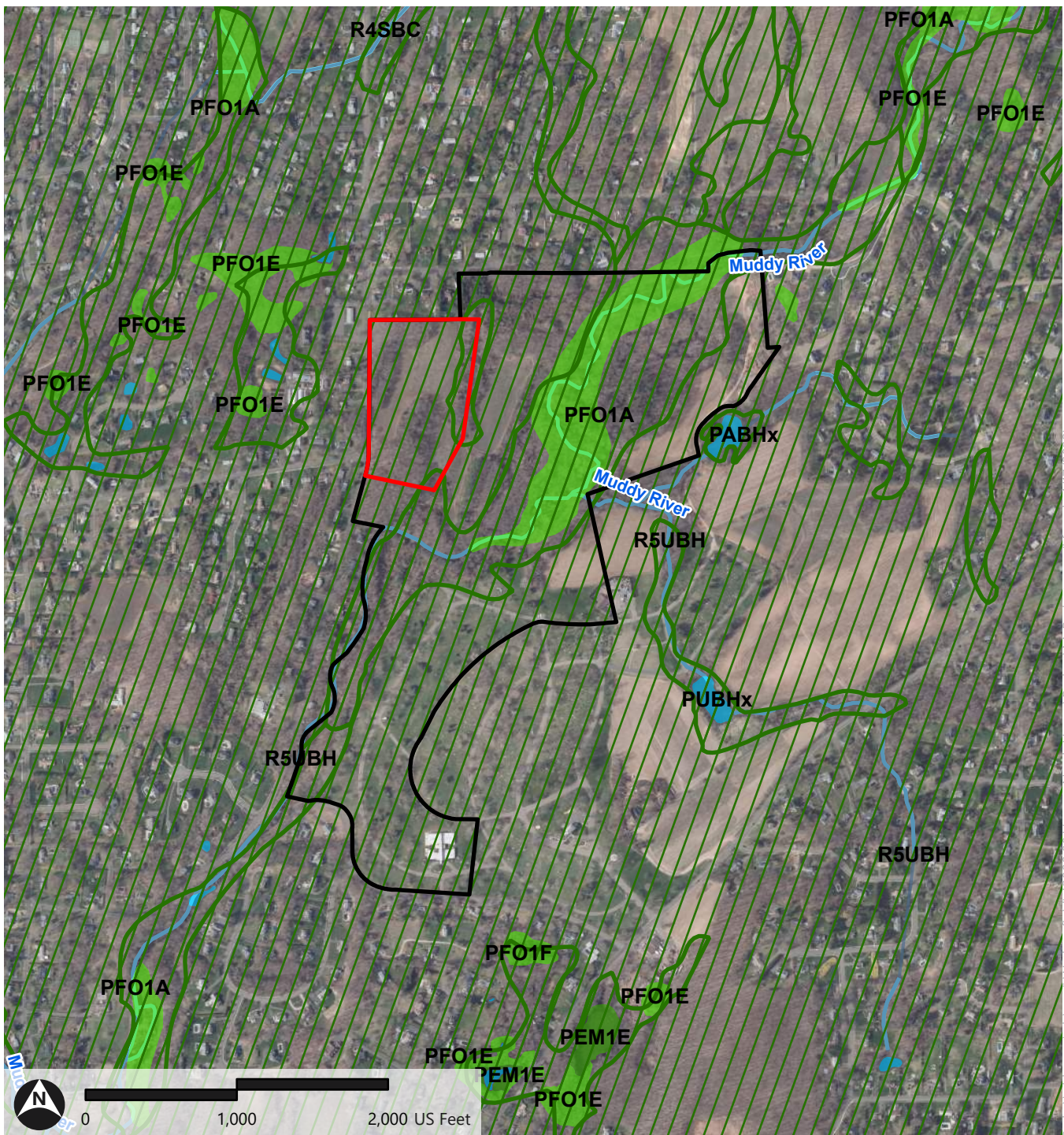
- Study Area
- Watercourse (Non Delineated)
- Hydric Soils
- Property Line
- NRCS Soils
- Alluvial Floodplain

Source: NRCS, ArcGIS Online

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Figure 4: NWI Wetlands

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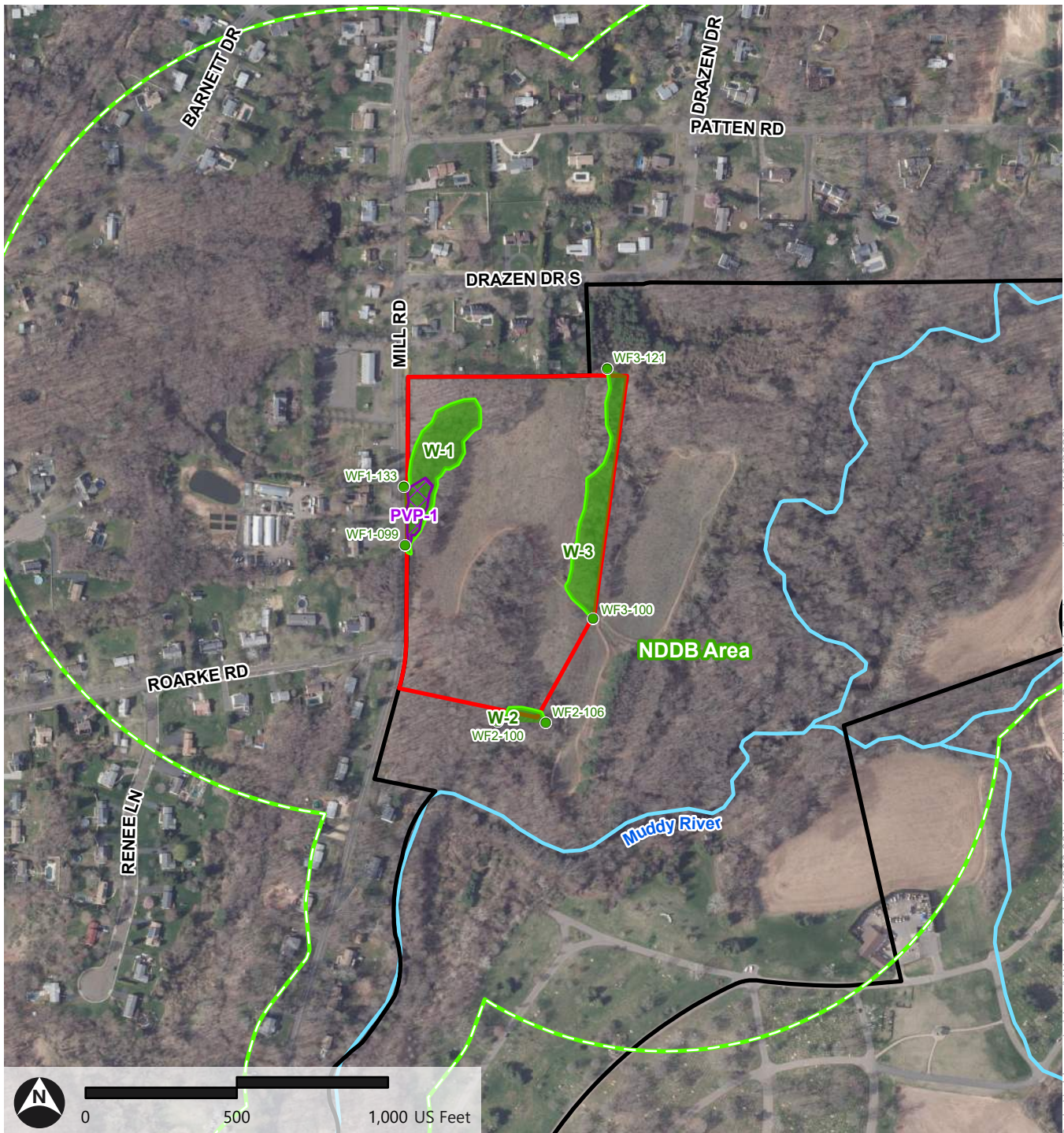
- ▬ Study Area
- Property Line
- ▬ Watercourse (Non Delineated)
- CTDEEP Wetlands
- NWI Freshwater Emergent Wetland
- NWI Freshwater Forested/Shrub Wetland
- NWI Freshwater Pond
- NWI Riverine

Source: CTDEEP, ArcGIS Online

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Figure 5: Delineated Wetlands

Verogy North Haven | North Haven, CT



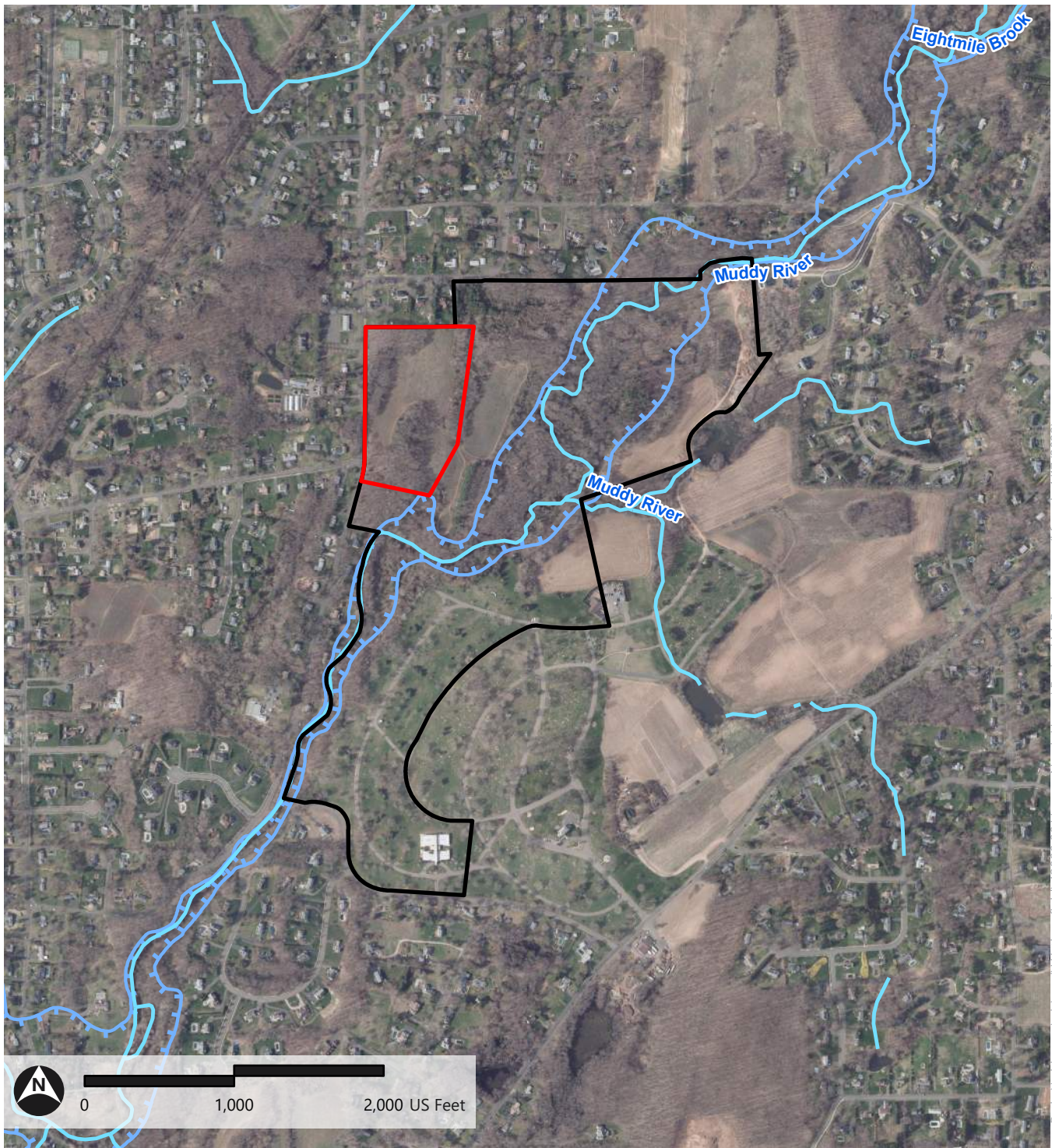
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- Study Area
- Property Line
- Watercourse (Non Delineated)
- Wetland Flag
- Delineated Wetland Edge
- Delineated Potential Vernal Pool
- Wetland Resource Area
- NDDB Rare Species Area (Dec 2021)

Source: VHB, ArcGIS Online

Figure 6: FEMA

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- Study Area
- Property Line
- Watercourse (Non Delineated)
- FEMA 100-Year Floodplain

Source: CTDEEP, ArcGIS Online



APPENDIX A: SITE PHOTOGRAPH LOG

Client Name:

Site Location: 700 Middletown Avenue, North Haven, CT

Project No: 42889.00

Photo No.: 1

Date: 12/23/21

Description:

View facing southwest from within Wetland 1.



Client Name: North Haven Solar One

Site Location: 700 Middletown Avenue, North Haven, CT

Project No: 42889.00

Photo No.: 2

Date: 12/23/21

Description:

View facing northeast from within Wetland 1.



Client Name: North Haven Solar One

Site Location: 700 Middletown Avenue, North Haven, CT

Project No.: 42889.00

Photo No.: 3

Date: 12/23/21

Description:

View facing southwest of PVP-1, located within Wetland 1 (Mill Road in background of photo).



Client Name: North Haven Solar One

Site Location: 700 Middletown Avenue, North Haven, CT

Project No.: 42889.00

Photo No.: 4

Date: 12/23/21

Description:

View facing northwest of PVP-1, located within Wetland 1 (Mill Road in background of photo).



Client Name: North Haven Solar One

Site Location: 700 Middletown Avenue, North Haven, CT

Project No.: 42889.00

Photo No.: 5

Date: 12/23/21

Description:

View facing southwest of a corrugated metal outlet culvert pipe located at the far southwestern corner of Wetland 1 and PVP-1, which flows under Mill Road to the west (in background of photo).

Note: the pipe appears to be perched above the current water level.



Client Name: North Haven Solar One

Site Location: 700 Middletown Avenue, North Haven, CT

Project No.: 42889.00

Photo No.: 6

Date: 12/23/21

Description:

View facing southwest from within Wetland 2.



Client Name: North Haven Solar One

Site Location: 700 Middletown Avenue, North Haven, CT

Project No.: 42889.00

Photo No.: 7

Date: 12/23/21

Description:

View facing southeast from within Wetland 2.



Client Name: North Haven Solar One

Site Location: 700 Middletown Avenue, North Haven, CT

Project No.: 42889.00

Photo No.: 8

Date: 12/23/21

Description:

View facing southeast from within Wetland 3.



Client Name: North Haven Solar One

Site Location: 700 Middletown Avenue, North Haven, CT

Project No.: 42889.00

Photo No.: 9 **Date:** 12/23/21

Description:

View facing northeast from within Wetland 3.



Client Name: North Haven Solar One

Site Location: 700 Middletown Avenue, North Haven, CT

Project No.: 42889.00

Photo No.: 10 **Date:** 12/23/21

Description:

View facing north from the upland farm field located in the central-western portion of the site.





APPENDIX B: USACE WETLAND DELINEATION DATA SHEETS

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: North Haven Solar One City/County: North Haven Sampling Date: 12/23/2021
 Applicant/Owner: Verogy State: CT Sampling Point: WPL
 Investigator(s): Eric Olson, VHB Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, none): _____ Slope %: 1
 Subregion (LRR or MLRA): LRR R, MLRA 145 Lat: 41.377709 Long: -72.838086 Datum: _____
 Soil Map Unit Name: Yalesville fine sandy loam, 3 to 8 percent slopes NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>Wetland 1 - Wet Plot</u>
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) <input checked="" 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)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" 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 checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>12</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>2</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: WPL

Tree Stratum (Plot size: <u>30</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Acer rubrum</u>	<u>80</u>	<u>Yes</u>	<u>FAC</u>
2.	<u>Quercus bicolor</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
		<u>100</u>	<u>=Total Cover</u>	
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1.	<u>Lindera benzoin</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
2.	<u>Cornus amomum</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
		<u>35</u>	<u>=Total Cover</u>	
Herb Stratum (Plot size: <u>5</u>)				
1.	<u>Symplocarpus foetidus</u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>
2.	<u>Onoclea sensibilis</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
8.	_____	_____	_____	_____
9.	_____	_____	_____	_____
10.	_____	_____	_____	_____
11.	_____	_____	_____	_____
12.	_____	_____	_____	_____
		<u>20</u>	<u>=Total Cover</u>	
Woody Vine Stratum (Plot size: <u>15</u>)				
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
		_____	<u>=Total Cover</u>	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>10</u>	x 1 = <u>10</u>
FACW species <u>65</u>	x 2 = <u>130</u>
FAC species <u>80</u>	x 3 = <u>240</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>155</u> (A)	<u>380</u> (B)
Prevalence Index = B/A = <u>2.45</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 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.

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 X No

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

SOIL

Sampling Point: WPL

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		
0-6	7.5YR 3/2						Loamy/Clayey	Fine sandy loam
6-16	7.5YR 2.5/1		10YR 5/6	10	C	M	Loamy/Clayey	Fine sandy loam

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"/> High Chroma Sands (S11) (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 Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Marl (F10) (LRR K, L)	<input type="checkbox"/> Very Shallow Dark Surface (F22)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Dark Surface (S7)			

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

Restrictive Layer (if observed):	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Type: _____ Depth (inches): _____	

Remarks:
 This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: North Haven Solar One City/County: North Haven Sampling Date: 12/23/2021
 Applicant/Owner: Verogy State: CT Sampling Point: UPL
 Investigator(s): Eric Olson, VHB Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, none): _____ Slope %: 5
 Subregion (LRR or MLRA): LRR R, MLRA 145 Lat: 41.377689 Long: -72.837254 Datum: _____
 Soil Map Unit Name: Holyoke-Rock outcrop complex, 3 to 15 percent slopes NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation X, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: <u>Wetland 1 - Upland Plot</u>
Remarks: (Explain alternative procedures here or in a separate report.) Upland plot located in an active farm field.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ 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)
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Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	---

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: UPL

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
_____ =Total Cover			
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
_____ =Total Cover			
<u>Herb Stratum</u> (Plot size: <u>5</u>)			
1. <u>Zea mays</u>	<u>70</u>	<u>Yes</u>	<u>UPL</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
_____ =Total Cover			
<u>Woody Vine Stratum</u> (Plot size: <u>15</u>)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
_____ =Total Cover			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>70</u>	x 5 = <u>350</u>
Column Totals: <u>70</u> (A)	<u>350</u> (B)
Prevalence Index = B/A = <u>5.00</u>	

- 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.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.)
 Plot is located in an active farm field. The corn stalks were cut at their base and not present at the time of the delineation.

SOIL

Sampling Point: UPL

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		
0-14	5YR 3/3						Loamy/Clayey	Fine sandy loam

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)

- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- 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)
- Marl (F10) (**LRR K, L**)

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**)
- 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 (F22)
- Other (Explain in Remarks)

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

<p>Restrictive Layer (if observed):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
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Remarks:
Soil plot located in an active, disturbed farm field.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: North Haven Solar One City/County: North Haven Sampling Date: 12/23/2021
 Applicant/Owner: Verogy State: CT Sampling Point: WPL
 Investigator(s): Eric Olson, VHB Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, none): _____ Slope %: 1
 Subregion (LRR or MLRA): LRR R, MLRA 145 Lat: 41.375346 Long: -72.836924 Datum: _____
 Soil Map Unit Name: Pootatuck fine sandy loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>Wetland 2 - Wet Plot</u>
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> ___ Surface Water (A1) <u>X</u> Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) <u>X</u> 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) <u>X</u> 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) <u>X</u> FAC-Neutral Test (D5)
--	---

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>14</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
--	---

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: WPL

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer rubrum</u>	<u>60</u>	<u>Yes</u>	<u>FAC</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
		<u>60</u> =Total Cover	
Sapling/Shrub Stratum (Plot size: <u>15</u>)			
1. <u>Lindera benzoin</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
2. <u>Cornus amomum</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
		<u>35</u> =Total Cover	
Herb Stratum (Plot size: <u>5</u>)			
1. <u>Symplocarpus foetidus</u>	<u>30</u>	<u>Yes</u>	<u>OBL</u>
2. <u>Onoclea sensibilis</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
		<u>40</u> =Total Cover	
Woody Vine Stratum (Plot size: <u>15</u>)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
		_____ =Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>30</u>	x 1 = <u>30</u>
FACW species <u>45</u>	x 2 = <u>90</u>
FAC species <u>60</u>	x 3 = <u>180</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>135</u> (A)	<u>300</u> (B)
Prevalence Index = B/A = <u>2.22</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹

 4 - Morphological Adaptations¹ (Provide support 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.

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 X No _____

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

SOIL

Sampling Point: WPL

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		
0-10	10YR 2/1						Loamy/Clayey	Fine sandy loam
10-16	2.5YR 3/2		10YR 6/8	5	C	M	Loamy/Clayey	Fine sandy loam

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)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- High Chroma Sands (S11) (LRR K, L)
- 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)
- Marl (F10) (LRR K, L)

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)
- 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 (F22)
- 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:
 Mapped Alluvial Soils

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: North Haven Solar One City/County: North Haven Sampling Date: 12/23/2021
 Applicant/Owner: Verogy State: CT Sampling Point: UPL
 Investigator(s): Eric Olson, VHB Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, none): _____ Slope %: 5
 Subregion (LRR or MLRA): LRR R, MLRA 145 Lat: 41.375851 Long: -72.836860 Datum: _____
 Soil Map Unit Name: Manchester gravelly sandy loam, 3 to 15 percent slopes NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation X, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: <u>Wetland 2 - Upland Plot</u>
Remarks: (Explain alternative procedures here or in a separate report.) Upland plot located in an active farm field.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ 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)
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Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: UPL

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
_____ =Total Cover			
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
_____ =Total Cover			
<u>Herb Stratum</u> (Plot size: <u>5</u>)			
1. <u>Zea mays</u>	<u>70</u>	<u>Yes</u>	<u>UPL</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
_____ =Total Cover			
<u>Woody Vine Stratum</u> (Plot size: <u>15</u>)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
_____ =Total Cover			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>70</u>	x 5 = <u>350</u>
Column Totals: <u>70</u> (A)	<u>350</u> (B)
Prevalence Index = B/A = <u>5.00</u>	

- 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.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.)
 Plot is located in an active farm field. The corn stalks were cut at their base and not present at the time of the delineation.

SOIL

Sampling Point: UPL

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		
0-16	7.5YR 3/3						Loamy/Clayey	Fine sandy loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

- | | | |
|--|---|--|
| <p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Dark Surface (S7)</p> | <p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> Marl (F10) (LRR K, L)</p> | <p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</p> <p><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</p> <p><input type="checkbox"/> Red Parent Material (F21)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (F22)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> |
|--|---|--|

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

<p>Restrictive Layer (if observed):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
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Remarks:
Soil plot located in an active, disturbed farm field.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: North Haven Solar One City/County: North Haven Sampling Date: 12/23/2021
 Applicant/Owner: Verogy State: CT Sampling Point: WPL
 Investigator(s): Eric Olson, VHB Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, none): _____ Slope %: 1
 Subregion (LRR or MLRA): LRR R, MLRA 145 Lat: 41.377140 Long: -72.836011 Datum: _____
 Soil Map Unit Name: Wilbraham silt loam, 0 to 3 percent slopes NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>Wetland 3 - Wet Plot</u>
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) <input checked="" 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 checked="" 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)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" 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 checked="" type="checkbox"/> FAC-Neutral Test (D5)
---	---

Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>2</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>4</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: WPL

Tree Stratum (Plot size: <u>30</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Acer rubrum</u>	<u>70</u>	<u>Yes</u>	<u>FAC</u>
2.	<u>Quercus bicolor</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
		<u>100</u> =Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1.	<u>Lindera benzoin</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
		<u>15</u> =Total Cover		
Herb Stratum (Plot size: <u>5</u>)				
1.	<u>Onoclea sensibilis</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
8.	_____	_____	_____	_____
9.	_____	_____	_____	_____
10.	_____	_____	_____	_____
11.	_____	_____	_____	_____
12.	_____	_____	_____	_____
		<u>20</u> =Total Cover		
Woody Vine Stratum (Plot size: <u>15</u>)				
1.	<u>Toxicodendron radicans</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
		<u>10</u> =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>65</u>	x 2 = <u>130</u>
FAC species <u>80</u>	x 3 = <u>240</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>145</u> (A)	<u>370</u> (B)
Prevalence Index = B/A = <u>2.55</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 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.

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 X No

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

SOIL

Sampling Point: WPL

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		
0-8	2.5YR 2.5/2						Loamy/Clayey	Fine sandy loam
8-14	10YR 2/1		2.5YR 4/4	40	C	M	Loamy/Clayey	Fine sandy loam

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"/> High Chroma Sands (S11) (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 Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Marl (F10) (LRR K, L)	<input type="checkbox"/> Very Shallow Dark Surface (F22)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Dark Surface (S7)			

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 <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
 This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: North Haven Solar One City/County: North Haven Sampling Date: 12/23/2021
 Applicant/Owner: Verogy State: CT Sampling Point: UPL
 Investigator(s): Eric Olson, VHB Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, none): _____ Slope %: 5
 Subregion (LRR or MLRA): LRR R, MLRA 145 Lat: 41.377186 Long: -72.836680 Datum: _____
 Soil Map Unit Name: Cheshire-Holyoke complex, 15 to 35 percent slopes, very rocky NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation X, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: <u>Wetland 3 - Upland Plot</u>
Remarks: (Explain alternative procedures here or in a separate report.) Upland plot located in an active farm field.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ 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)
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Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	---

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: UPL

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	_____ =Total Cover		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	_____ =Total Cover		
<u>Herb Stratum</u> (Plot size: <u>5</u>)			
1. <u>Zea mays</u>	<u>70</u>	<u>Yes</u>	<u>UPL</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	<u>70</u> =Total Cover		
<u>Woody Vine Stratum</u> (Plot size: <u>15</u>)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
	_____ =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>70</u>	x 5 = <u>350</u>
Column Totals: <u>70</u> (A)	<u>350</u> (B)
Prevalence Index = B/A = <u>5.00</u>	

- 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.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.)
 Plot is located in an active farm field. The corn stalks were cut at their base and not present at the time of the delineation.

SOIL

Sampling Point: UPL

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		
0-14	7.5YR 3/3						Loamy/Clayey	Fine sandy loam

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"/> High Chroma Sands (S11) (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 Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Marl (F10) (LRR K, L)	<input type="checkbox"/> Very Shallow Dark Surface (F22)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Dark Surface (S7)			

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 <u>X</u>
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Remarks:
Soil plot located in an active, disturbed farm field.