

Appendix G: USACE Wetland Determination Forms

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Riggs Street City/County: Oxford/New Haven County Sampling Date: 2023-09-15
 Applicant/Owner: Solli Engineering, LLC State: Connecticut Sampling Point: 1U
 Investigator(s): Alexander Wojtkowiak, Jackson Smith Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Upland, Hillslope Local relief (concave, convex, none): Convex Slope (%): 5
 Subregion (LRR or MLRA): R 144A Lat: 41.44149106 Long: -73.11651751 Datum: WGS 84
 Soil Map Unit Name: 47C NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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.)	

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 <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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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: 1U

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Fagus grandifolia</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</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>14.29</u> (A/B)														
2. <u>Betula lenta</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. <u>Acer rubrum</u>	<u>10</u>		<u>FAC</u>															
4. <u>Quercus rubra</u>	<u>10</u>		<u>FACU</u>															
5. _____	_____		_____															
6. _____	_____		_____															
7. _____	_____		_____															
	<u>75</u>	= Total Cover																
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																		
1. <u>Liriodendron tulipifera</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right">Total % Cover of:</td> <td style="width:50%; text-align:right">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>120</u></td> <td>x 4 = <u>480</u></td> </tr> <tr> <td>UPL species <u>25</u></td> <td>x 5 = <u>125</u></td> </tr> <tr> <td>Column Totals: <u>160</u> (A)</td> <td><u>650</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.06</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>120</u>	x 4 = <u>480</u>	UPL species <u>25</u>	x 5 = <u>125</u>	Column Totals: <u>160</u> (A)	<u>650</u> (B)
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>15</u>	x 3 = <u>45</u>																	
FACU species <u>120</u>	x 4 = <u>480</u>																	
UPL species <u>25</u>	x 5 = <u>125</u>																	
Column Totals: <u>160</u> (A)	<u>650</u> (B)																	
2. <u>Viburnum acerifolium</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>UPL</u>															
3. <u>Rosa multiflora</u>	<u>10</u>		<u>FACU</u>															
4. _____	_____		_____															
5. _____	_____		_____															
6. _____	_____		_____															
7. _____	_____		_____															
	<u>60</u>	= Total Cover																
Herb Stratum (Plot size: <u>5 ft r</u>)																		
1. <u>Dennstaedtia punctilobula</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>UPL</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)														
2. <u>Maianthemum canadense</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. <u>Eurybia divaricata</u>	<u>5</u>	<input checked="" type="checkbox"/>	_____															
4. _____	_____		_____															
5. _____	_____		_____															
6. _____	_____		_____															
7. _____	_____		_____															
8. _____	_____		_____															
9. _____	_____		_____															
10. _____	_____		_____															
11. _____	_____		_____															
12. _____	_____		_____															
	<u>25</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Smilax rotundifolia</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</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>5</u>	= Total Cover																
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: 1U

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 - 4	10YR 2/1	100					Sandy Loam	A
4 - 6	10YR 3/4	100					Sandy Loam	Bw1
6 - 16	10YR 4/6	100					Sandy Loam	Bw2
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Riggs Street City/County: Oxford/New Haven County Sampling Date: 2023-09-15
 Applicant/Owner: Solli Engineering, LLC State: Connecticut Sampling Point: 1W
 Investigator(s): Alexander Wojtkowiak, Jackson Smith Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Slope Wetland System Local relief (concave, convex, none): Linear Slope (%): 3
 Subregion (LRR or MLRA): R 144A Lat: 41.4419836 Long: -73.11690998 Datum: WGS 84
 Soil Map Unit Name: 3 NWI classification: R5UBH

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

Transect Point taken approximately between wf-168 & wf-271 as shown on the survey titled "Perimeter Survey Prepared For The William L. Ives Revocable Trust Riggs Street Oxford, Connecticut" prepared by J. Edwards & Associates, LLC dated January 7, 2014. The limit of wetland soils were delineated by Soil Science and Environmental Services, Inc.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) _____ Water-Stained Leaves (B9) <input checked="" type="checkbox"/> 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)	_____ 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): <u>0</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>12</u> Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> 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: 1W

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Acer rubrum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75.00</u> (A/B)														
2. <u>Betula alleghaniensis</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	<u>40</u>	= Total Cover		Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>75</u></td> <td>x 1 = <u>75</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>40</u></td> <td>x 3 = <u>120</u></td> </tr> <tr> <td>FACU species <u>50</u></td> <td>x 4 = <u>200</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>185</u> (A)</td> <td><u>435</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.35</u>	Total % Cover of:	Multiply by:	OBL species <u>75</u>	x 1 = <u>75</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>40</u>	x 3 = <u>120</u>	FACU species <u>50</u>	x 4 = <u>200</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>185</u> (A)	<u>435</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>75</u>	x 1 = <u>75</u>																	
FACW species <u>20</u>	x 2 = <u>40</u>																	
FAC species <u>40</u>	x 3 = <u>120</u>																	
FACU species <u>50</u>	x 4 = <u>200</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>185</u> (A)	<u>435</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																		
1. <u>Rosa multiflora</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
2. <u>Salix spp.</u>	<u>15</u>	<input checked="" type="checkbox"/>																
3. <u>Liriodendron tulipifera</u>	<u>10</u>		<u>FACU</u>															
4. <u>Berberis thunbergii</u>	<u>5</u>		<u>FACU</u>															
5. <u>Fagus grandifolia</u>	<u>5</u>		<u>FACU</u>															
6. <u>Hamamelis virginiana</u>	<u>5</u>		<u>FACU</u>															
7. <u>Lindera benzoin</u>	<u>5</u>		<u>FACW</u>															
	<u>70</u>	= Total Cover																
Herb Stratum (Plot size: <u>5 ft r</u>)																		
1. <u>Symplocarpus foetidus</u>	<u>75</u>	<input checked="" type="checkbox"/>	<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>Phragmites australis</u>	<u>10</u>		<u>FACW</u>															
3. <u>Osmundastrum cinnamomeum</u>	<u>5</u>		<u>FACW</u>															
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
	<u>90</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30 ft r</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.)																		

SOIL

Sampling Point: 1W

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 - 12	10YR 2/1	100					Sandy Loam	A
12 - 26	10YR 3/2	90	10YR 4/6	10	MS	M	Loamy Sand	Bg
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Riggs Street City/County: Oxford/New Haven County Sampling Date: 2023-09-15
 Applicant/Owner: Solli Engineering, LLC State: Connecticut Sampling Point: 2U
 Investigator(s): Alexander Wojtkowiak, Jackson Smith Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Upland, Hillslope Local relief (concave, convex, none): _____ Slope (%): 7
 Subregion (LRR or MLRA): R 144A Lat: 41.4426892 Long: -73.1171911 Datum: WGS 84
 Soil Map Unit Name: 3 NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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.)	

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 <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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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: 2U

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Fagus grandifolia</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.33</u> (A/B)														
2. <u>Acer rubrum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. <u>Betula lenta</u>	<u>10</u>		<u>FACU</u>															
4. <u>Fraxinus americana</u>	<u>10</u>		<u>FACU</u>															
5. <u>Carpinus caroliniana</u>	<u>5</u>		<u>FAC</u>															
6. _____																		
7. _____																		
	<u>75</u>	= Total Cover																
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																		
1. <u>Hamamelis virginiana</u>	<u>13</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right">Total % Cover of:</td> <td style="width:50%; text-align:left">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>80</u></td> <td>x 4 = <u>320</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>105</u> (A)</td> <td><u>395</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.76</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>80</u>	x 4 = <u>320</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>105</u> (A)	<u>395</u> (B)
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>25</u>	x 3 = <u>75</u>																	
FACU species <u>80</u>	x 4 = <u>320</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>105</u> (A)	<u>395</u> (B)																	
2. <u>Rosa multiflora</u>	<u>2</u>		<u>FACU</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	<u>15</u>	= Total Cover																
Herb Stratum (Plot size: <u>5 ft r</u>)																		
1. <u>Eurybia divaricata</u>	<u>60</u>	<input checked="" type="checkbox"/>		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)														
2. <u>Maianthemum canadense</u>	<u>10</u>		<u>FACU</u>															
3. <u>Polystichum acrostichoides</u>	<u>5</u>		<u>FACU</u>															
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
	<u>75</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30 ft r</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 _____ No <input checked="" type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: 2U

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	10YR 4/3	100					Sandy Loam	Bw
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Riggs Street City/County: Oxford/New Haven County Sampling Date: 2023-09-15
 Applicant/Owner: Solli Engineering, LLC State: Connecticut Sampling Point: 2W
 Investigator(s): Alexander Wojtkowiak, Jackson Smith Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Brook Local relief (concave, convex, none): Linear Slope (%): 5
 Subregion (LRR or MLRA): R 144A Lat: 41.44237101 Long: -73.11734854 Datum: WGS 84
 Soil Map Unit Name: 3 NWI classification: R5UBH

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 <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.)

Transect Point taken approximately between wf-280 & wf-129 as shown on the survey titled "Perimeter Survey Prepared For The William L. Ives Revocable Trust Riggs Street Oxford, Connecticut" prepared by J. Edwards & Associates, LLC dated January 7, 2014. The limit of wetland soils were delineated by Soil Science and Environmental Services, Inc.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) 	Secondary Indicators (minimum of two required) <ul style="list-style-type: none"> <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 checked="" type="checkbox"/> FAC-Neutral Test (D5)
--	---

Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> 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: 2W

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Fagus grandifolia</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FACU</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>9</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.67</u> (A/B)														
2. <u>Acer saccharinum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
3. <u>Acer rubrum</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>60</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>5</u></td> <td>x 1 = <u>5</u></td> </tr> <tr> <td>FACW species <u>33</u></td> <td>x 2 = <u>66</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>37</u></td> <td>x 4 = <u>148</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>90</u> (A)</td> <td><u>264</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.93</u>	Total % Cover of:	Multiply by:	OBL species <u>5</u>	x 1 = <u>5</u>	FACW species <u>33</u>	x 2 = <u>66</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>37</u>	x 4 = <u>148</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>90</u> (A)	<u>264</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>5</u>	x 1 = <u>5</u>																	
FACW species <u>33</u>	x 2 = <u>66</u>																	
FAC species <u>15</u>	x 3 = <u>45</u>																	
FACU species <u>37</u>	x 4 = <u>148</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>90</u> (A)	<u>264</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																		
1. <u>Berberis thunbergii</u>	<u>7</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
2. <u>Lindera benzoin</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
3. <u>Rosa multiflora</u>	<u>3</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>15</u> = Total Cover																		
Herb Stratum (Plot size: <u>5 ft r</u>)																		
1. <u>Boehmeria cylindrica</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>OBL</u>															
2. <u>Impatiens capensis</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
3. <u>Phalaris arundinacea</u>	<u>3</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
4. <u>Polystichum acrostichoides</u>	<u>2</u>	_____	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>15</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30 ft r</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____														
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: 2W

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 3/2	75					Sand	C
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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: Sand, Gravel, Cobbles, Bedrock

Depth (inches): 10

Hydric Soil Present? Yes No

Remarks:

Sampling Point Within Brook

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Riggs Street City/County: Oxford/New Haven County Sampling Date: 2023-09-15
 Applicant/Owner: Solli Engineering, LLC State: Connecticut Sampling Point: 3U
 Investigator(s): Alexander Wojtkowiak, Jackson Smith Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Upland, Hillslope Local relief (concave, convex, none): Convex Slope (%): 7
 Subregion (LRR or MLRA): R 144A Lat: 41.44108194 Long: -73.12141695 Datum: WGS 84
 Soil Map Unit Name: 73C NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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.)	

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 <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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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: 3U

Tree Stratum (Plot size: <u>30 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer rubrum</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FAC</u>
2. <u>Quercus alba</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
3. <u>Fagus grandifolia</u>	<u>10</u>		<u>FACU</u>
4. <u>Ulmus americana</u>	<u>5</u>		<u>FACW</u>
5. _____	_____		
6. _____	_____		
7. _____	_____		

60 = Total Cover

Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Hamamelis virginiana</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
2. <u>Betula lenta</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
3. <u>Fagus grandifolia</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
4. <u>Liriodendron tulipifera</u>	<u>10</u>		<u>FACU</u>
5. _____	_____		
6. _____	_____		
7. _____	_____		

80 = Total Cover

Herb Stratum (Plot size: <u>5 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Dennstaedtia punctilobula</u>	<u>95</u>	<input checked="" type="checkbox"/>	<u>UPL</u>
2. _____	_____		
3. _____	_____		
4. _____	_____		
5. _____	_____		
6. _____	_____		
7. _____	_____		
8. _____	_____		
9. _____	_____		
10. _____	_____		
11. _____	_____		
12. _____	_____		

95 = Total Cover

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

0 = Total Cover

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 16.67 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>5</u>	x 2 = <u>10</u>
FAC species <u>25</u>	x 3 = <u>75</u>
FACU species <u>110</u>	x 4 = <u>440</u>
UPL species <u>95</u>	x 5 = <u>475</u>
Column Totals: <u>235</u> (A)	<u>1000</u> (B)

Prevalence Index = B/A = 4.26

- 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

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

SOIL

Sampling Point: 3U

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 - 2	10YR 2/2	100					Sandy Loam	A
2 - 12	10YR 4/3	100					Sandy Loam	Bw1
12 - 16	10YR 4/6	100					Sandy Loam	Bw2
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Riggs Street City/County: Oxford/New Haven County Sampling Date: 2023-09-15
 Applicant/Owner: Solli Engineering, LLC State: Connecticut Sampling Point: 3W
 Investigator(s): Alexander Wojtkowiak, Jackson Smith Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Brook Local relief (concave, convex, none): Linear Slope (%): 3
 Subregion (LRR or MLRA): R 144A Lat: 41.44087742 Long: -73.12099045 Datum: WGS 84
 Soil Map Unit Name: 3 NWI classification: R4SBC

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

Transect Point taken approximately between wf-490 & wf-563 as shown on the survey titled "Perimeter Survey Prepared For The William L. Ives Revocable Trust Riggs Street Oxford, Connecticut" prepared by J. Edwards & Associates, LLC dated January 7, 2014. The limit of wetland soils were delineated by Soil Science and Environmental Services, Inc.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) _____ <input type="checkbox"/> High Water Table (A2) _____ <input type="checkbox"/> Saturation (A3) _____ <input type="checkbox"/> Water Marks (B1) _____ <input type="checkbox"/> Sediment Deposits (B2) _____ <input type="checkbox"/> Drift Deposits (B3) _____ <input type="checkbox"/> Algal Mat or Crust (B4) _____ <input type="checkbox"/> Iron Deposits (B5) _____ <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) _____ <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) _____ <input type="checkbox"/> Water-Stained Leaves (B9) _____ <input type="checkbox"/> Aquatic Fauna (B13) _____ <input type="checkbox"/> Marl Deposits (B15) _____ <input type="checkbox"/> Hydrogen Sulfide Odor (C1) _____ <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) _____ <input type="checkbox"/> Presence of Reduced Iron (C4) _____ <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) _____ <input type="checkbox"/> Thin Muck Surface (C7) _____ <input type="checkbox"/> Other (Explain in Remarks) _____	Secondary Indicators (minimum of two required) <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 checked="" type="checkbox"/> FAC-Neutral Test (D5) _____
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Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> 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: 3W

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Betula alleghaniensis</u>	<u>30</u>	<input checked="" type="checkbox"/>	<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>85.71</u> (A/B)														
2. <u>Fagus grandifolia</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. <u>Acer rubrum</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>65</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>35</u></td> <td>x 1 = <u>35</u></td> </tr> <tr> <td>FACW species <u>25</u></td> <td>x 2 = <u>50</u></td> </tr> <tr> <td>FAC species <u>65</u></td> <td>x 3 = <u>195</u></td> </tr> <tr> <td>FACU species <u>35</u></td> <td>x 4 = <u>140</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>160</u> (A)</td> <td><u>420</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.63</u>	Total % Cover of:	Multiply by:	OBL species <u>35</u>	x 1 = <u>35</u>	FACW species <u>25</u>	x 2 = <u>50</u>	FAC species <u>65</u>	x 3 = <u>195</u>	FACU species <u>35</u>	x 4 = <u>140</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>160</u> (A)	<u>420</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>35</u>	x 1 = <u>35</u>																	
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FACU species <u>35</u>	x 4 = <u>140</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>160</u> (A)	<u>420</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																		
1. <u>Betula alleghaniensis</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
2. <u>Lindera benzoin</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
3. <u>Catalpa speciosa</u>	<u>5</u>	_____	<u>FACU</u>															
4. <u>Liriodendron tulipifera</u>	<u>5</u>	_____	<u>FACU</u>															
5. <u>Rosa multiflora</u>	<u>5</u>	_____	<u>FACU</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>50</u> = Total Cover																		
Herb Stratum (Plot size: <u>5 ft r</u>)																		
1. <u>Lysimachia thyrsoiflora</u>	<u>15</u>	<input checked="" type="checkbox"/>	<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>Osmundastrum cinnamomeum</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
3. <u>Boehmeria cylindrica</u>	<u>5</u>	_____	<u>OBL</u>															
4. <u>Carex diandra</u>	<u>5</u>	_____	<u>OBL</u>															
5. <u>Symplocarpus foetidus</u>	<u>5</u>	_____	<u>OBL</u>															
6. <u>Viola cucullata</u>	<u>5</u>	_____	<u>OBL</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>45</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30 ft r</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____														

SOIL

Sampling Point: 3W

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	10YR 2/2	100					Sandy Loam	A
16 - 18	10YR 5/1	80	10YR 5/6	20	C	M	Sandy Loam	Bg
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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)
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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: Cobbles
 Depth (inches): 2

Hydric Soil Present? Yes No

Remarks:

Sampling Point Within Brook

**Riggs Street
Oxford, CT 06478**

**United States Army Corps of Engineers Wetland Delineation
Site Photos**

Federal Wetland Delineation Plot ID: 1W



Federal Wetland Delineation Plot ID: 1U



**Riggs Street
Oxford, CT 06478**

**United States Army Corps of Engineers Wetland Delineation
Site Photos**

Federal Wetland Delineation Plot ID: 2W



Federal Wetland Delineation Plot ID: 2U



**Riggs Street
Oxford, CT 06478**

**United States Army Corps of Engineers Wetland Delineation
Site Photos**

Federal Wetland Delineation Plot ID: 3W



Federal Wetland Delineation Plot ID: 3U

