

## Wetland Border Report

Site Locus: 934 Victory Highway, North Smithfield, RI 02896

Prepared for: Solli Engineering, LLC

Prepared by: Goddard Consulting LLC, 291 Main St, Suite 8, Northborough MA 01532

Date: 3/13/2025

### **INTRODUCTION**

On March 13, 2024, wetland resources were delineated for Solli Engineering LLC on land located on or near 934 Victory Highway, North Smithfield, RI 02896 (refer to enclosed locus maps). The wetland border was flagged using the criteria in the most recent edition of the Rules and Regulations under the Freshwater Wetlands Act and US Army Corps of Engineers standards. Hydric soil indicators, vegetation changes, hydrological indicators, and topography were all considered for delineation purposes.

The titles of attached documents are as follows:

- US Army Corps of Engineers Wetland Determination Data Sheet
- USGS of Locus Site, Goddard Consulting LLC, 3/11/2025
- Orthophoto of Locus Site, Goddard Consulting LLC, 3/11/2025
- FEMA Flood Map of Locus Site, Goddard Consulting LLC, 3/11/2025
- NRCS Soil Survey of Locus Site, Goddard Consulting LLC, 3/11/2025

### **SITE OVERVIEW**

The locus site is a piece of land that has historically been utilized as a tree farm until the early 2000s. As such, the site exhibits a preponderance of evidence that it has been altered throughout the years, including the wholesale manipulation of soils and vegetation. Based on Goddard's site assessment, it appears that a substantial amount of cut has occurred, lowering grades across the majority of the site by 1 to 2 feet below natural conditions, it is possible this manipulation occurred as part of past brownfield cleanup measures on site. Soils identified on site, by and large, appear to be unnatural and, to some extent, likely have not formed in place.

Soil series mapped on site include Canton and Charlton Fine Sandy Loams, Sutton Fine Sandy Loam, and small portions of Ridgebury, Leicester and Whitman Soils, Urban Land, and Canton-Urban Land Complex. One wetland area is mapped on the site alongside the eastern property boundary.

### **SUMMARY OF FINDINGS**

The boundary of one freshwater wetland on site was delineated with flag series GCA1-GCA20. The sampling point for the BVW determination took place near flag GCA13. Vegetation upgradient of the wetland boundary is dominated by black cherry, red maple, cultivated apple trees, honeysuckle, silky dogwood, multiflora rose, Asiatic bittersweet and Pennsylvania sedge. Vegetation downgradient of the wetland boundary is dominated by silky dogwood, reed canary grass, and grapevine. This wetland is an apparent excavated farm pond and surrounding areas of low topography that exhibits wetland vegetation and hydric soils. This wetland system flows offsite to a broader wetland system to the east of the site.

Soils identified on the property consist of primarily sandy loams. In the wetland soil sample, an A horizon with matrix color 10YR2/1 was found from 0-10", a B horizon with matrix color 10YR4/4 was found from 10-15", and a C horizon with matrix color 10YR5/3 and redoximorphic features was found below 15". In the upland soil sample, an A horizon with matrix color 10YR2/2 was found from 0-4", a B horizon with matrix color 10YR4/6 was found from 4-9", and a C horizon with matrix color 10YR6/6 was found below 9". More detailed information about soils is included in the attached NRCS Soil Map and US Army Corps of Engineers Wetland Determination Data Sheets.

According to RIGIS data layers, the locus site is not located within a Natural Heritage Area. The delineated wetland on site is mapped by NWI as PUBHh. The site is located within Rivers Protection Region 2.

The RI Freshwater Wetlands Rules (250-RICR-150-15-3) takes jurisdiction over freshwater wetlands as delineated on the site. The delineated wetland on site has a jurisdictional Buffer Zone that casts onto the locus site. The width of the Buffer Zone can be variable dependent on the size of the wetland. Buffer, within the Buffer Zone, is likely present as well.

Any work within the wetlands or buffer zones requires a permit filing with RI DEM.

### **DESCRIPTION OF REGULATED FRESHWATER WETLANDS**

The table below provides the regulatory jurisdiction, flag numbers/colors, and wetland types and locations for the resource areas delineated.

Resource Area	Regulatory Jurisdiction	Flag Numbers and Color	Wetland Types and Locations
Freshwater Wetland (Marsh; farm pond internal to marsh)	Freshwater Wetland & variable Buffer Zone width dependent partially on surface area	GCA1-GCA20 (Blue flags)	The outer boundary of a marsh in the eastern portion of the site.

### **SITE PHOTOS**



Photo 1. View of farm pond internal to delineated wetland.



Photo 2. View of delineated wetland adjacent to farm pond.



Photo 3. View of hydric soil sample pulled downgradient of flag GCA13.



Photo 4. View of non-hydric soil sample pulled upgradient of flag GCA13.

Sincerely,  
Goddard Consulting, LLC



Steven Riberdy, MS, PWS, CWB, CERP, CE, PSS  
Lead Biologist / Senior Manager / Palmer Office Manager

  
Chris Frattaroli  
Lead Wetland Scientist

**U.S. Army Corps of Engineers**

**WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region**  
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 9/30/2027

Requirement Control Symbol EXEMPT:  
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: 934 Victory Highway City/County: North Smithfield Sampling Date: 3/13/2025

Applicant/Owner: Solli Engineering, LLC State: RI Sampling Point: GCA13 - up

Investigator(s): Steve Riberdy, Chris Frattaroli, Jessica Smith Section, Township, Range: \_\_\_\_\_

Landform (hillside, terrace, etc.): Field Local relief (concave, convex, none): Concave Slope %: 5

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 42.00436089704214 Long: -71.58722702338369 Datum: \_\_\_\_\_

Soil Map Unit Name: Canton and Charlton FSL, Sutton FSL, Ridgebury, Leicester, and Whitman NWI classification: Freshwater Pond

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

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

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 <u>x</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>x</u>
Hydric Soil Present?	Yes _____ No <u>x</u>	If yes, optional Wetland Site ID: _____	
Wetland Hydrology Present?	Yes _____ No <u>x</u>		
Remarks: (Explain alternative procedures here or in a separate report.) Site is highly disturbed after decades of agricultural activities. Soils are visibly heavily manipulated and subsoils appear to be imported fill. Topsoil may also be imported.			

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>	
Primary Indicators (minimum of one is required; check all that apply)			
____ Surface Water (A1)	____ Water-Stained Leaves (B9)	____ Surface Soil Cracks (B6)	____ Drainage Patterns (B10)
____ High Water Table (A2)	____ Aquatic Fauna (B13)	____ Moss Trim Lines (B16)	____ Dry-Season Water Table (C2)
____ Saturation (A3)	____ Marl Deposits (B15)	____ Crayfish Burrows (C8)	____ Stunted or Stressed Plants (D1)
____ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	____ Saturation Visible on Aerial Imagery (C9)	____ Geomorphic Position (D2)
____ Sediment Deposits (B2)	____ Oxidized Rhizospheres on Living Roots (C3)	____ Shallow Aquitard (D3)	____ Shallow Aquitard (D3)
____ Drift Deposits (B3)	____ Presence of Reduced Iron (C4)	____ Microtopographic Relief (D4)	____ FAC-Neutral Test (D5)
____ 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)			

<b>Field Observations:</b>		
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: GCA13 - up

Tree Stratum (Plot size: 30 )				Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
1. <i>Prunus serotina</i>	20	Yes	FACU				Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)		
2. <i>Acer rubrum</i>	20	Yes	FAC				Total Number of Dominant Species Across All Strata: 8 (B)		
3. <i>Malus</i>	20	Yes	FACU				Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)		
4.									
5.									
6.									
7.									
	60	=Total Cover					Prevalence Index worksheet:		
Sapling/Shrub Stratum (Plot size: 15 )				OBL species	0	Multiply by:	x 1 =	0	
1. <i>Cornus amomum</i>	10	Yes	FACW	FACW species	10	x 2 =	20		
2. <i>Rosa multiflora</i>	15	Yes	FACU	FAC species	35	x 3 =	105		
3. <i>Lonicera japonica</i>	15	Yes	FACU	FACU species	100	x 4 =	400		
4.				UPL species	20	x 5 =	100		
5.				Column Totals:	165	(A)	625 (B)		
6.							Prevalence Index = B/A = 3.79		
7.									
	40	=Total Cover							
Herb Stratum (Plot size: 5 )				Hydrophytic Vegetation Indicators:					
1. <i>Carex pensylvanica</i>	20	Yes	UPL	1 - Rapid Test for Hydrophytic Vegetation					
2. <i>Solidago rugosa</i>	5	No	FAC	2 - Dominance Test is >50%					
3. <i>Toxicodendron radicans</i>	5	No	FAC	3 - Prevalence Index is $\leq 3.0^1$					
4.				4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)					
5.				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)					
6.									
7.									
8.									
9.									
10.									
11.									
12.									
	30	=Total Cover							
Woody Vine Stratum (Plot size: 30 )				1 <sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</sup>					
1. <i>Celastrus orbiculatus</i>	30	Yes	FACU	Definitions of Vegetation Strata:					
2. <i>Toxicodendron radicans</i>	5	No	FAC	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.					
3.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.					
4.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.					
	35	=Total Cover		Woody vines – All woody vines greater than 3.28 ft in height.					
				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>					
Remarks: (Include photo numbers here or on a separate sheet.)									

## SOIL

Sampling Point GCA13 - up

## U.S. Army Corps of Engineers

## WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 9/30/2027

Requirement Control Symbol EXEMPT:

(Authority: AR 335-15, paragraph 5-2a)

Project/Site: 934 Victory Highway City/County: North Smithfield Sampling Date: 3/13/2025Applicant/Owner: Solli Engineering, LLC State: RI Sampling Point: GCA13-wetInvestigator(s): Steve Riberdy, Chris Frattaroli, Jessica Smith Section, Township, Range: \_\_\_\_\_Landform (hillside, terrace, etc.): Field Local relief (concave, convex, none): Concave Slope %: 5Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 42.00436089704214 Long: -71.58722702338369 Datum: \_\_\_\_\_Soil Map Unit Name: Canton and Charlton FSL, Sutton FSL, Ridgebury, Leicester, and Whitman NWI classification: Freshwater PondAre climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)Are Vegetation \_\_\_\_\_, Soil x, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes \_\_\_\_\_ No x

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 _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: (Explain alternative procedures here or in a separate report.) Site is highly disturbed after decades of agricultural activities. Soils are visibly heavily manipulated and subsoils appear to be imported fill. Topsoil may also be imported.		

**HYDROLOGY**

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

## VEGETATION – Use scientific names of plants.

Sampling Point: GCA13 - wet

Tree Stratum	(Plot size: 30 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
1.					Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)		
2.					Total Number of Dominant Species Across All Strata: 6 (B)		
3.					Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)		
4.					Prevalence Index worksheet:		
5.					Total % Cover of:	Multiply by:	
6.					OBL species	x 1 =	
7.					FACW species	x 2 =	
					FAC species	x 3 =	
					FACU species	x 4 =	
					UPL species	x 5 =	
					Column Totals:	(A) (B)	
					Prevalence Index = B/A =		
						Hydrophytic Vegetation Indicators:	
						1 - Rapid Test for Hydrophytic Vegetation	
						X 2 - Dominance Test is >50%	
						3 - Prevalence Index is $\leq 3.0^1$	
						4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
						<sup>1</sup> Indicators 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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: (Include photo numbers here or on a separate sheet.)							

## SOIL

Sampling Point GCA13 - wet

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

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Mesic Spodic (A17)  
**(MLRA 144A, 145, 149B)**
- Iron Monosulfide (A18)
- 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)**
- Red Parent Material (F21) **(MLRA 145)**

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

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- 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**)
- Red Parent Material (F21) (**outside MLRA 145**)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

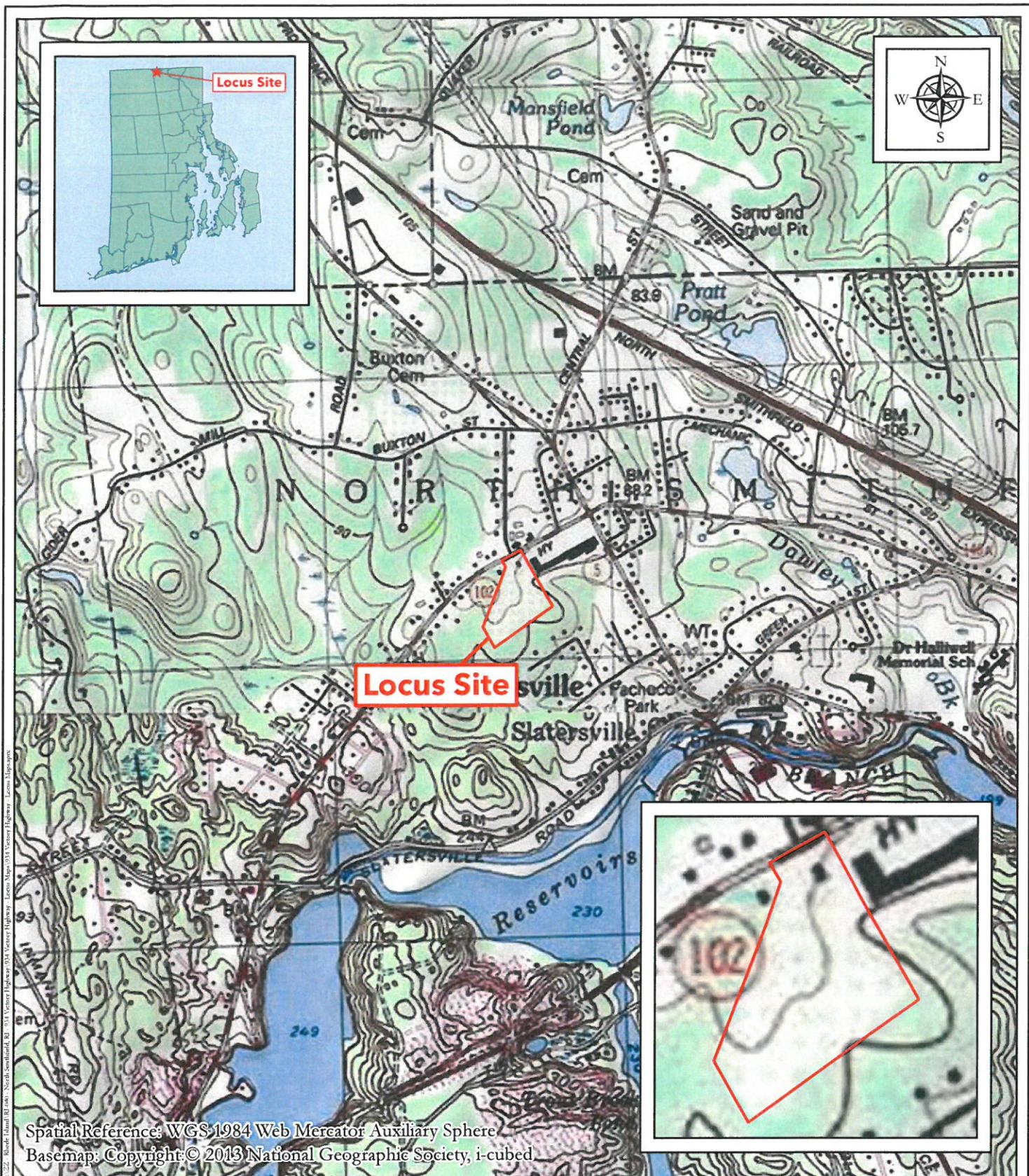
<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

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

Hydric Soil Present? Yes  No

**Remarks:**



## USGS of Locus Site

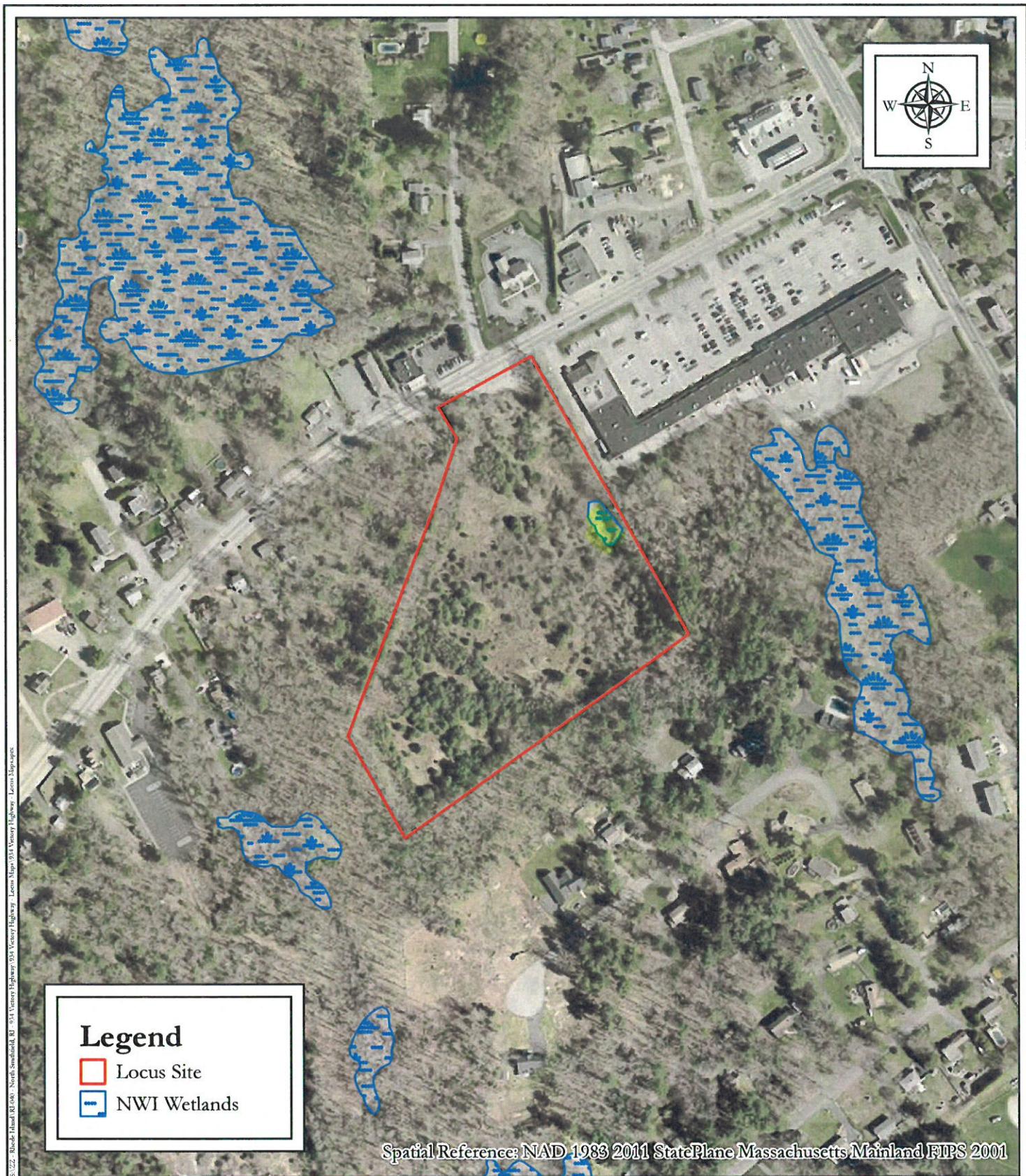
Date: 03/11/2025

934 Victory Highway  
North Smithfield, RI 02896

0      1,000      2,000      1" = 2,000'

71.5875464°W, 42.0036249°N

Parcel Number: 001-045



Date: 03/11/2025

### Orthophoto of Locus Site

934 Victory Highway  
North Smithfield, RI 02896

0 150 300  
Feet 1" = 300'

71.5875465°W, 42.0036166°N

Parcel Number: 001-045



Date: 03/11/2025

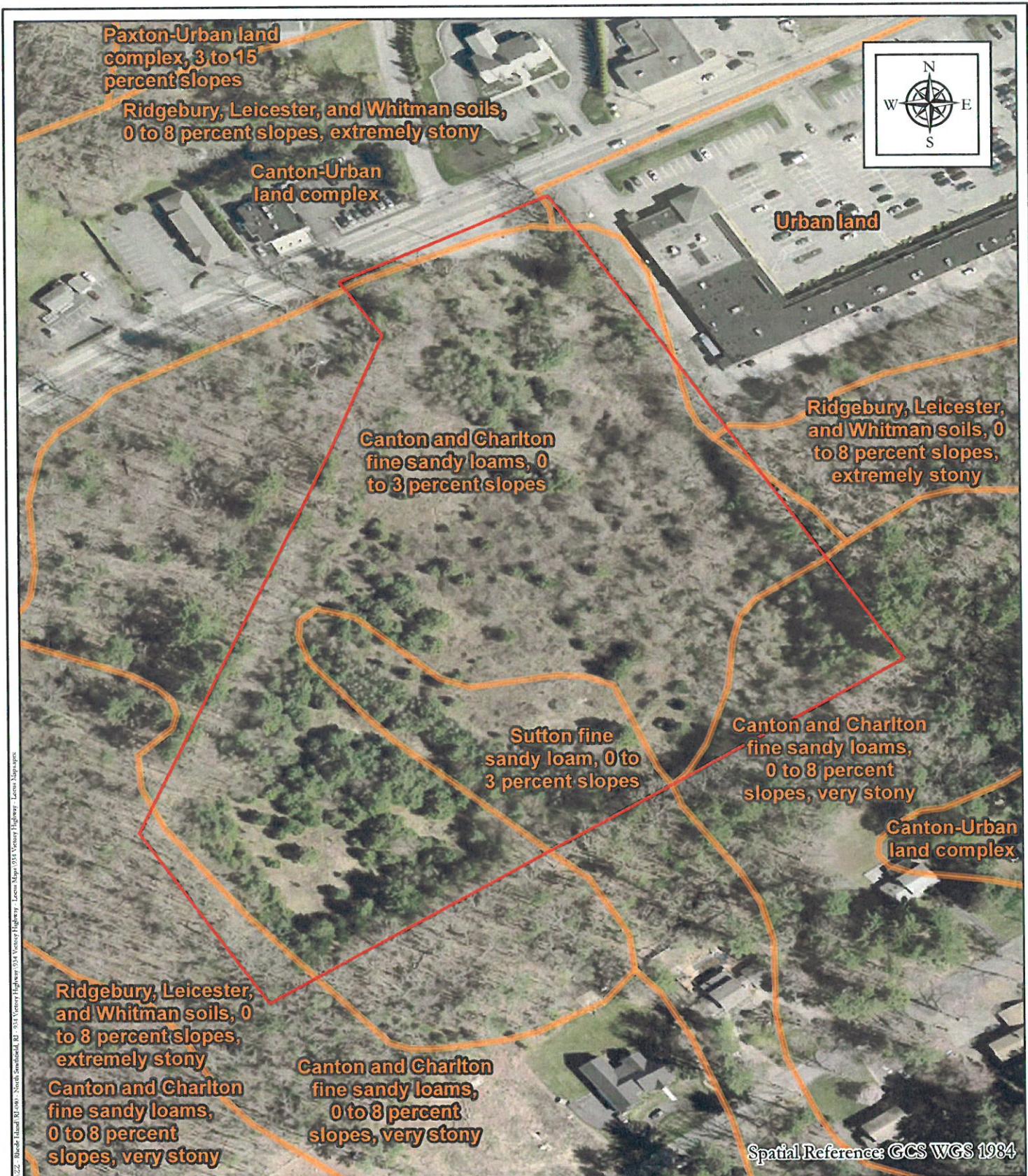
**FEMA Flood Map  
of Locus Site**

934 Victory Highway  
North Smithfield, RI 02896

0 150 300  
Feet 1" = 300'

71.5879291°W, 42.0038914°N

Parcel Number: 001-045



**GODDARD  
CONSULTING**  
Strategic Ecological Consulting

## NRCS Soil Survey of Locus Site

0      90      180      1" = 180'

71.5875464°W, 42.0036249°N

Date: 03/11/2025

934 Victory Highway  
North Smithfield, RI 02896

Parcel Number: 001-045

Figure 4