



2245 Watkins Mill Rd
Midlothian, VA 23113
Phone: 804.796.3911
<http://www.enviro-utilities.com>

November 8, 2021

United States Army Corps of Engineers
ATTN: CENAO-REG

1. Owner/Applicant:

Aimee Twarogowski
9841 Fairview Rd
Partlow, VA 22534

2. Authorized Agent:

Enviro-Utilities, Inc.
c/o Greg Monnett
2245 Watkins Mill Rd
Midlothian, VA 23113
(804)536-3910
greg@enviro-utilities.com

3. Site Location:

The subject property is located on Fairview Rd (Spotsylvania County), Virginia. The subject property's parcel ID is 81-A-36. The nearest waterway to the project is . Total project acreage is approximately 228.37 acres.

4. Project Description:

Request for jurisdictional determination (JD) confirmation.

Enclosed are the results of a wetland delineation conducted by Enviro-Utilities, Inc. (EU) on the above referenced property. The subject property is located on Fairview Rd in Spotsylvania County, Virginia. The subject property's parcel ID is 81-A-36. Total project acreage is approximately 228.37 acres, of which includes approximately 8.86 ac of PFO wetlands, 3770 linear feet of intermittent streams, and 894 linear feet of ephemeral streams.

Fieldwork was conducted from October 19th – November 3rd of 2021 by Enviro-Utilities, Inc. (EU) using the Routine Determination Method as outlined in the *1987 Corps of Engineers Wetland Delineation Manual*. The non-tidal wetlands boundaries have been flagged in the field. The enclosed Figure 3, Wetland Delineation Map, depicts the approximate limits of wetlands as flagged in the field. Supporting maps are attached for your review.

Pertinent data was extracted from several information sources in an effort to expedite the onsite investigation. The USGS Topographic Quadrangle Map for Spotsylvania County, VA was used to locate the site and identify drainage patterns. The subject property is underlain primarily by uplands soils. Soils along the wetlands are mapped as Fluvaquents.

Areas subject to jurisdiction by the U.S. Army Corps of Engineers (USACOE) and the Virginia Department of Environmental Quality (VDEQ) do exist within the property limits. If you have any further questions on this matter, please don't hesitate to contact me.

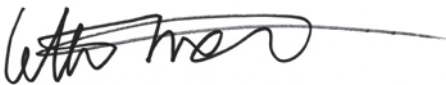
Sincerely,

A handwritten signature in black ink, reading "Gregory T. Monnett". The signature is fluid and cursive, with a long horizontal stroke at the end.

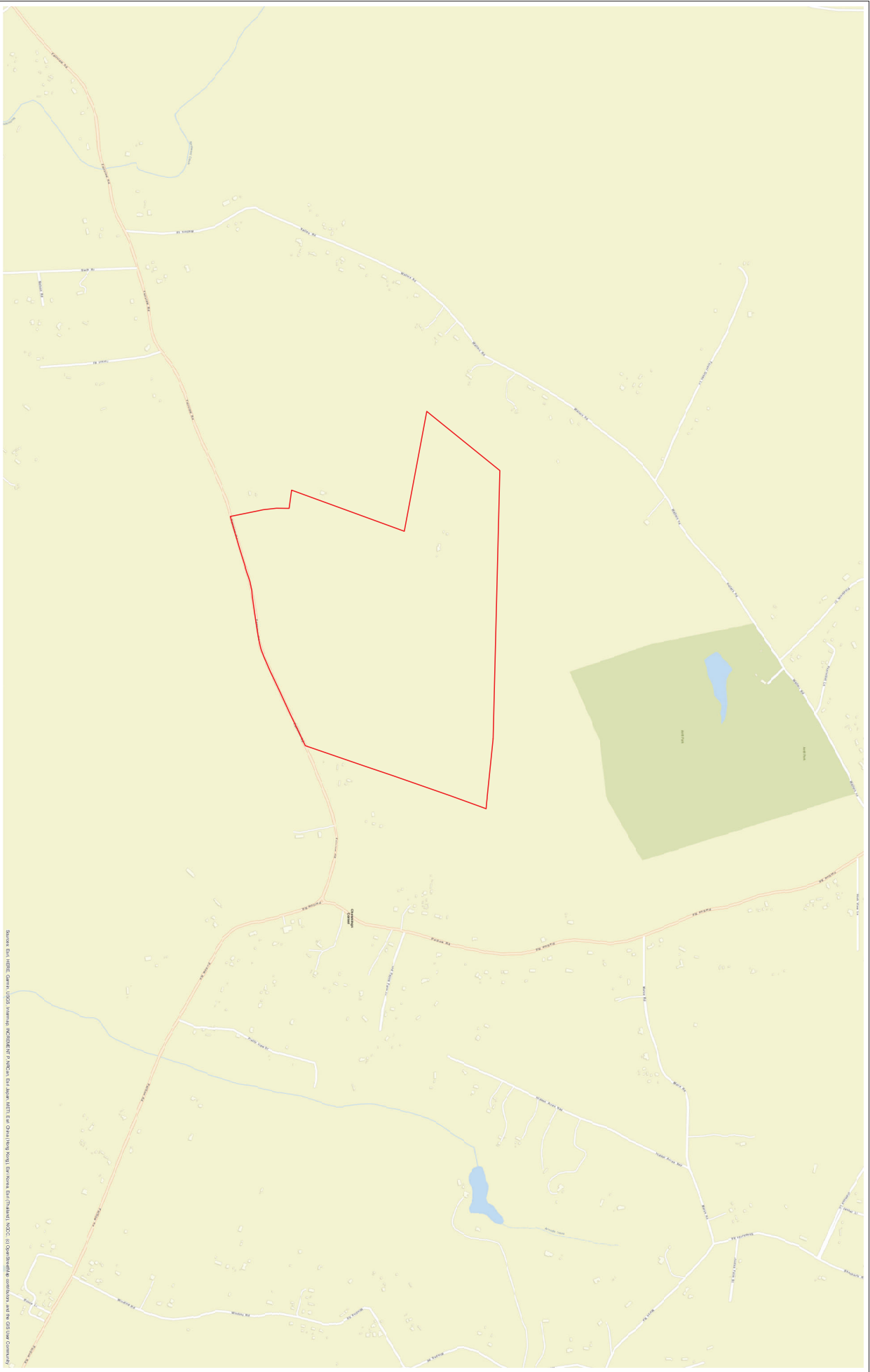
Gregory T. Monnett, PhD, LPSS
Professional Soil Scientist

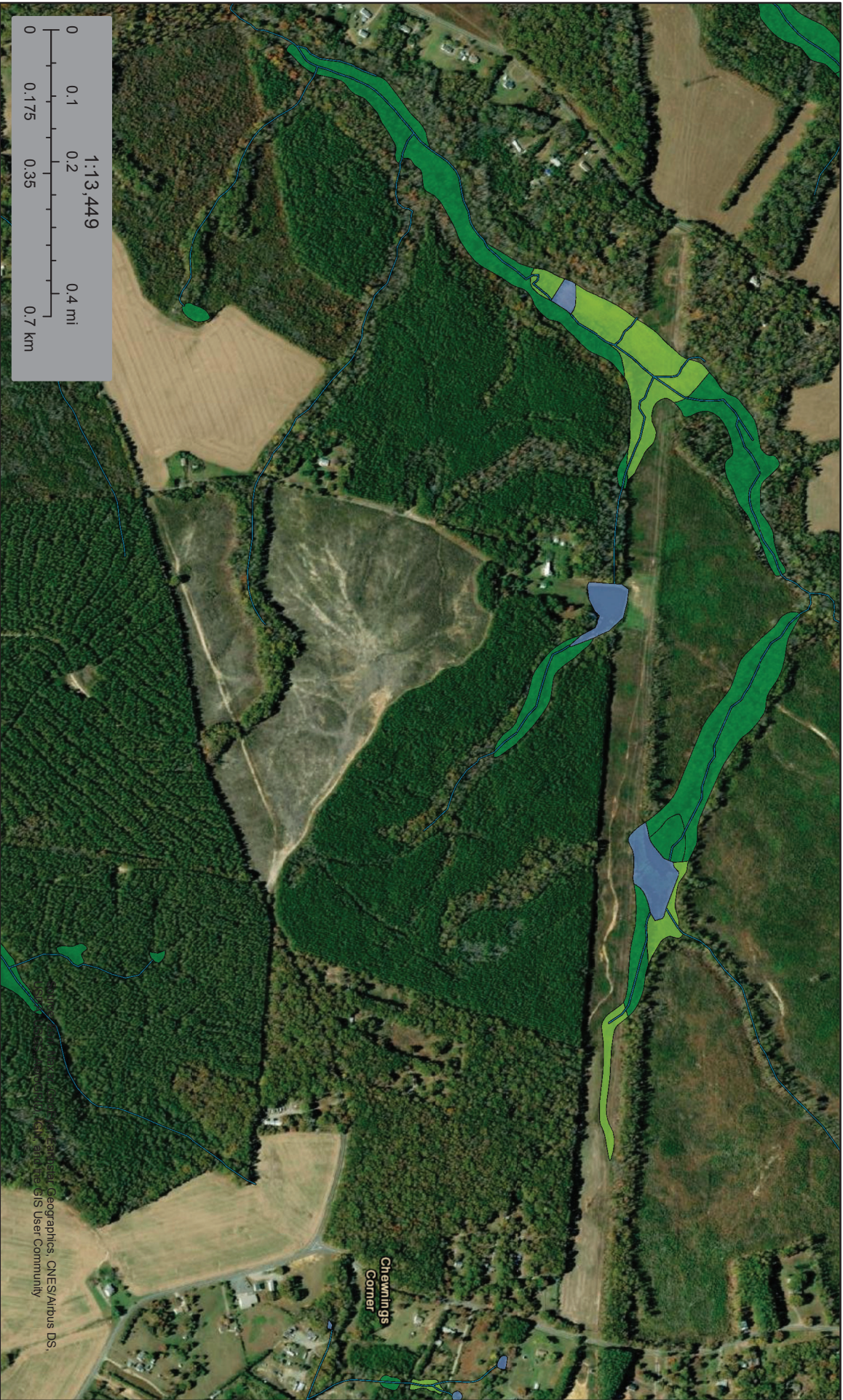
A handwritten signature in black ink, reading "Nicholas Hebel". The signature is cursive and somewhat stylized.

Nicholas Hebel
Soil Scientist

A handwritten signature in black ink, reading "Ethan Monnett". The signature is cursive and includes a long horizontal stroke at the end.

Ethan Monnett
Environmental Consultant





This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

[illegible][illegible]

Soil Map—Spotsylvania County, Virginia
(Soil Map)

38° 2' 48" N
38° 3' 24" N
77° 40' 55" W
77° 39' 45" W

0 100 200 400 600 Meters

Map Scale: 1:7,820 if printed on A landscape (11" x 8.5") sheet.

Soil Map may not be valid at this scale.

4214500 4214600 4214700 4214800 4214900 4215000 4215100 4215200 4215300 4215400 4215500

264700 264800 264900 265000 265100 265200 265300 265400 265500 265600 265700 265800 265900 266000 266100 266200 266300

1B, 12B, 13D2, 14B, 14C2, 22C2, 34B, 37B, 4C2, 4D2

Soil Map may not be valid at this scale.

Map Scale: 1:7820 if printed on A landscape (11" x 8.5") sheet.

N

0 100 200 400 Meters

38° 2' 48" N
77° 40' 55" W

38° 3' 24" N
77° 39' 45" W

Soil Map—Spotsylvania County, Virginia
(Soil Map)



MAP LEGEND

Area of Interest (AOI)		Area of Interest (AOI)		Spoil Area
Soils			Stony Spot	
	Soil Map Unit Polygons		Very Stony Spot	
	Soil Map Unit Lines		Wet Spot	
	Soil Map Unit Points		Other	
Special Point Features			Special Line Features	
	Blowout		Water Features	
	Borrow Pit			Streams and Canals
	Clay Spot		Transportation	
	Closed Depression			Rails
	Gravel Pit			Interstate Highways
	Gravelly Spot			US Routes
	Landfill			Major Roads
	Lava Flow			Local Roads
	Marsh or swamp			Background
	Mine or Quarry			Aerial Photography
	Miscellaneous Water			
	Perennial Water			
	Rock Outcrop			
	Saline Spot			
	Sandy Spot			
	Severely Eroded Spot			
	Sinkhole			
	Slide or Slip			
	Sodic Spot			

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Spotsylvania County, Virginia
Survey Area Data: Version 15, Sep 16, 2021

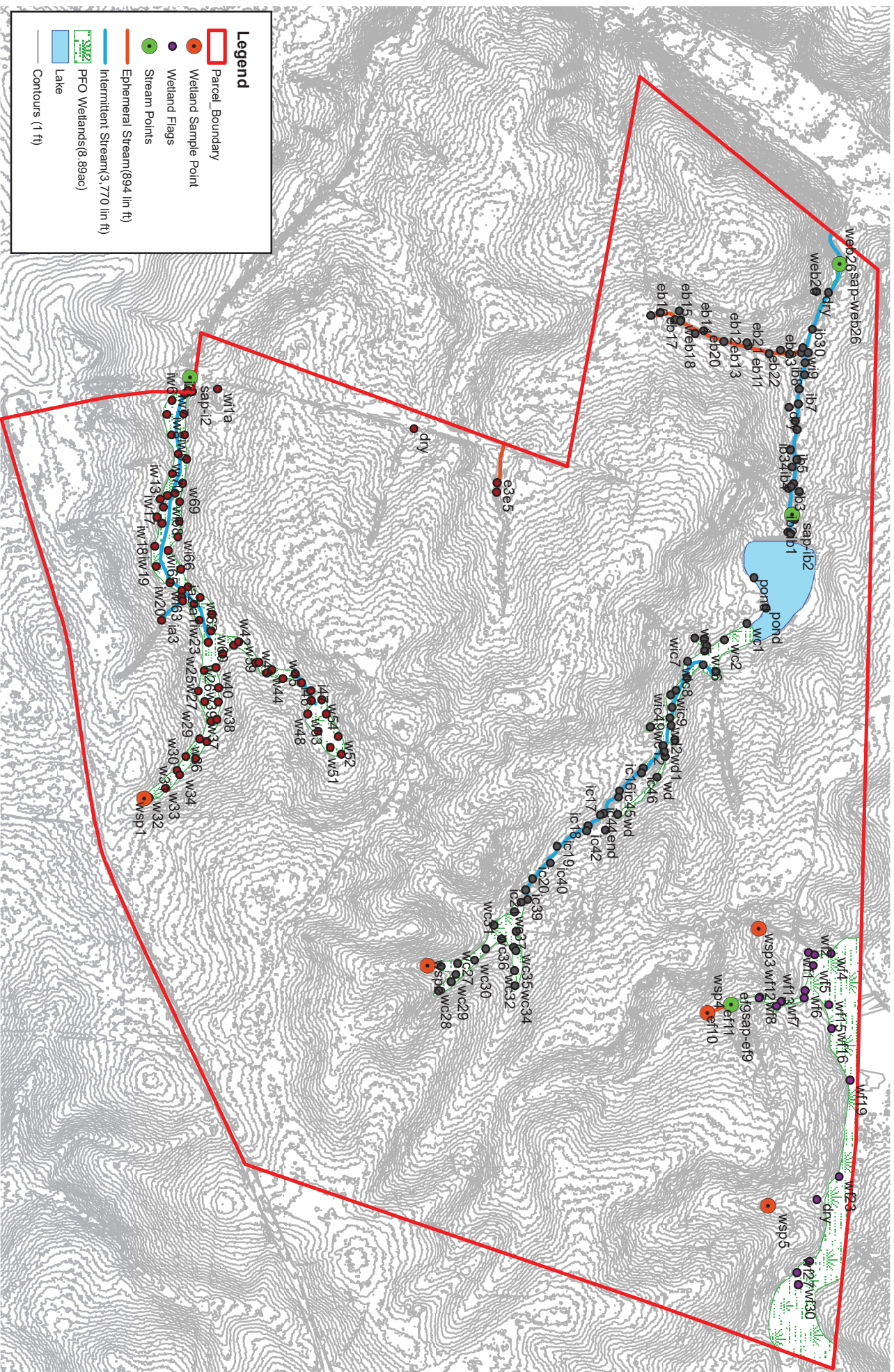
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 4, 2015—Oct 27, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1B	Abell sandy loam, 2 to 7 percent slopes	20.1	7.1%
3B	Appling sandy loam, 2 to 7 percent slopes	69.7	24.7%
4C2	Appling-Wedowee sandy loams, 7 to 15 percent slopes, eroded	95.9	34.0%
4D2	Appling-Wedowee sandy loams, 15 to 25 percent slopes, eroded	1.6	0.6%
12B	Cecil loam, 2 to 7 percent slopes	13.7	4.9%
13C2	Cecil-Pacolet complex, 7 to 15 percent slopes, eroded	1.4	0.5%
13D2	Cecil-Pacolet complex, 15 to 25 percent slopes, eroded	3.5	1.2%
14B	Colfax sandy loam, 2 to 7 percent slopes	13.7	4.9%
22C2	Fluvanna fine sandy loam, 7 to 15 percent slopes, eroded	10.7	3.8%
27C	Louisburg sandy loam, 7 to 15 percent slopes	0.3	0.1%
33B	Orange-Iredell loams, 2 to 7 percent slopes	2.1	0.8%
34B	Partlow sandy loam, 0 to 7 percent slopes	43.8	15.6%
37B	Spotsylvania fine sandy loam, 2 to 7 percent slopes	3.7	1.3%
W	Water	1.5	0.5%
Totals for Area of Interest		281.8	100.0%



Wetland Delineation Map
 Spotsylvania County
 9841 Fairview Rd
 11/8/21
 1 inch = 500 feet



2245 Watkins Mill Rd
 Middlethian, VA 23113
 804-796-3911
 WWW.ENVIRO-UTILITIES.COM

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Fairview Rd City/County: Spotsylvania Sampling Date: 10/19/21
 Applicant/Owner: Aimee Twarogowski State: VA Sampling Point: Wsp-1
 Investigator(s): Greg Monnett Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): none Slope (%): _____
 Subregion (LRR or MLRA): _____ Lat: 38.0490 Long: -77.6733 Datum: State Plane
 Soil Map Unit Name: 22C2 Fluvanna fine sandy loam, 7 to 15 percent slopes, eroded NWI classification: Not mapped

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 ☐	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Hydric Soil Present?	Yes ☐ No ☒	
Wetland Hydrology Present?	Yes ☐ No ☒	
Remarks:		

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ☐ Surface Water (A1) ☐ True Aquatic Plants (B14) ☐ High Water Table (A2) ☐ Hydrogen Sulfide Odor (C1) ☐ Saturation (A3) ☐ Oxidized Rhizospheres on Living Roots (C3) ☐ Water Marks (B1) ☐ Presence of Reduced Iron (C4) ☐ Sediment Deposits (B2) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Drift Deposits (B3) ☐ Thin Muck Surface (C7) ☐ Algal Mat or Crust (B4) ☐ Other (Explain in Remarks) ☐ Iron Deposits (B5) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Water-Stained Leaves (B9) ☐ Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> ☐ Surface Soil Cracks (B6) ☐ Sparsely Vegetated Concave Surface (B8) ☐ 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 ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes ☐ No ☒
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wsp-1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Liquidambar styraciflua</u>	25	☒	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Quercus phellos</u>	10	☐	FACW	
3. <u>Acer rubrum</u>	15	☒	FAC	
4. <u>Betula lenta</u>	10	☐	FACU	
5. _____	_____	☐	_____	
6. _____	_____	☐	_____	
7. _____	_____	☐	_____	
8. _____	_____	☐	_____	
		60	= Total Cover	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	☐	_____	
2. _____	_____	☐	_____	
3. _____	_____	☐	_____	
4. _____	_____	☐	_____	
5. _____	_____	☐	_____	
6. _____	_____	☐	_____	
7. _____	_____	☐	_____	Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	_____	☐	_____	
9. _____	_____	☐	_____	
10. _____	_____	☐	_____	
Herb Stratum (Plot size: <u>5'</u>)				
1. _____	_____	☒	_____	
2. _____	_____	☐	_____	
3. _____	_____	☐	_____	
4. _____	_____	☐	_____	
5. _____	_____	☐	_____	
6. _____	_____	☐	_____	
7. _____	_____	☐	_____	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 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 vine – All woody vines greater than 3.28 ft in height.
8. _____	_____	☐	_____	
9. _____	_____	☐	_____	
10. _____	_____	☐	_____	
11. _____	_____	☐	_____	
12. _____	_____	☐	_____	
Woody Vine Stratum (Plot size: <u>30'</u>)				
1. _____	_____	☐	_____	
2. _____	_____	☐	_____	
3. _____	_____	☐	_____	
4. _____	_____	☐	_____	
5. _____	_____	☐	_____	
6. _____	_____	☐	_____	
		0	= Total Cover	Hydrophytic Vegetation Present? Yes ☒ No ☐
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Wsp-1

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-4	2.5Y 4/1						SL	
4-7	2.5Y 7/3						SL	
7-12	7.5YR 4/6	15	2.5Y 7/3	0%			SCL	
		0%		0%				
		0%		0%				
		0%		0%				
		0%		0%				
		0%		0%				
		0%		0%				
		0%		0%				
		0%		0%				

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)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)

- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147, 148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)

Indicators for Problematic Hydric Soils³:

- ☐ 2 cm Muck (A10) (MLRA 147)
- ☐ Coast Prairie Redox (A16) (MLRA 147, 148)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- ☐ Red Parent Material (TF2)
- ☐ 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 – Eastern Mountains and Piedmont

Project/Site: Fairview Rd City/County: Spotsylvania Sampling Date: 10/19/21
 Applicant/Owner: Aimee Twarogowski State: VA Sampling Point: Wsp-1
 Investigator(s): Greg Monnett Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): none Slope (%): _____
 Subregion (LRR or MLRA): _____ Lat: 38.0490 Long: -77.6733 Datum: State Plane
 Soil Map Unit Name: 22C2 Fluvanna fine sandy loam, 7 to 15 percent slopes, eroded NWI classification: Not mapped

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 ☐	Is the Sampled Area within a Wetland? Yes ☐ No ☐
Hydric Soil Present?	Yes ☐ No ☐	
Wetland Hydrology Present?	Yes ☐ No ☐	
Remarks:		

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ☐ Surface Water (A1) ☐ True Aquatic Plants (B14) ☐ High Water Table (A2) ☐ Hydrogen Sulfide Odor (C1) ☐ Saturation (A3) ☐ Oxidized Rhizospheres on Living Roots (C3) ☐ Water Marks (B1) ☐ Presence of Reduced Iron (C4) ☐ Sediment Deposits (B2) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Drift Deposits (B3) ☐ Thin Muck Surface (C7) ☐ Algal Mat or Crust (B4) ☐ Other (Explain in Remarks) ☐ Iron Deposits (B5) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Water-Stained Leaves (B9) ☐ Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> ☐ Surface Soil Cracks (B6) ☐ Sparsely Vegetated Concave Surface (B8) ☐ 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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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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2. <u>Quercus phellos</u>	10	☐	FACW	
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4. <u>Betula lenta</u>	10	☐	FACU	
5. _____	_____	☐	_____	
6. _____	_____	☐	_____	
7. _____	_____	☐	_____	
8. _____	_____	☐	_____	
		60	= Total Cover	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = _____
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1. _____	_____	☐	_____	
2. _____	_____	☐	_____	
3. _____	_____	☐	_____	
4. _____	_____	☐	_____	
5. _____	_____	☐	_____	
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8. _____	_____	☐	_____	
9. _____	_____	☐	_____	
10. _____	_____	☐	_____	
Herb Stratum (Plot size: <u>5'</u>)				
1. _____	_____	☒	_____	
2. _____	_____	☐	_____	
3. _____	_____	☐	_____	
4. _____	_____	☐	_____	
5. _____	_____	☐	_____	
6. _____	_____	☐	_____	
7. _____	_____	☐	_____	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 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 vine – All woody vines greater than 3.28 ft in height.
8. _____	_____	☐	_____	
9. _____	_____	☐	_____	
10. _____	_____	☐	_____	
11. _____	_____	☐	_____	
12. _____	_____	☐	_____	
Woody Vine Stratum (Plot size: <u>30'</u>)				
1. _____	_____	☐	_____	
2. _____	_____	☐	_____	
3. _____	_____	☐	_____	
4. _____	_____	☐	_____	
5. _____	_____	☐	_____	
6. _____	_____	☐	_____	
		0	= Total Cover	Hydrophytic Vegetation Present? Yes ☐ No ☐
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Wsp-1

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-4	2.5Y 4/1						SL	
4-7	2.5Y 7/3						SL	
7-12	7.5YR 4/6	15	2.5Y 7/3	0%			SCL	
		0%		0%				
		0%		0%				
		0%		0%				
		0%		0%				
		0%		0%				
		0%		0%				
		0%		0%				
		0%		0%				

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)
☐ 2 cm Muck (A10) (**LRR N**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1) (**LRR N, MLRA 147, 148**)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)

- ☐ Dark Surface (S7)
☐ Polyvalue Below Surface (S8) (**MLRA 147, 148**)
☐ Thin Dark Surface (S9) (**MLRA 147, 148**)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
☐ Umbric Surface (F13) (**MLRA 136, 122**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 148**)

Indicators for Problematic Hydric Soils³:

- ☐ 2 cm Muck (A10) (**MLRA 147**)
☐ Coast Prairie Redox (A16) (**MLRA 147, 148**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
☐ Red Parent Material (TF2)
☐ 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 – Eastern Mountains and Piedmont

Project/Site: Fairview Rd City/County: Spotsylvania Sampling Date: 10/19/21
Applicant/Owner: Aimee Twarogowski State: VA Sampling Point: Wsp-1
Investigator(s): Greg Monnett Section, Township, Range: _____
Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): none Slope (%): _____
Subregion (LRR or MLRA): _____ Lat: 38.0490 Long: -77.6733 Datum: State Plane
Soil Map Unit Name: 22C2 Fluvanna fine sandy loam, 7 to 15 percent slopes, eroded NWI classification: Not mapped

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 ☐	Hydic Soil Present? Yes ☐ No ☐	Wetland Hydrology Present? Yes ☐ No ☐	Is the Sampled Area within a Wetland? Yes ☐ No ☐
Remarks:			

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
☐ Surface Water (A1)	☐ True Aquatic Plants (B14)	☐ Surface Soil Cracks (B6)	
☐ High Water Table (A2)	☐ Hydrogen Sulfide Odor (C1)	☐ Sparsely Vegetated Concave Surface (B8)	
☐ Saturation (A3)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Drainage Patterns (B10)	
☐ Water Marks (B1)	☐ Presence of Reduced Iron (C4)	☐ Moss Trim Lines (B16)	
☐ Sediment Deposits (B2)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Dry-Season Water Table (C2)	
☐ Drift Deposits (B3)	☐ Thin Muck Surface (C7)	☐ Crayfish Burrows (C8)	
☐ Algal Mat or Crust (B4)	☐ Other (Explain in Remarks)	☐ Saturation Visible on Aerial Imagery (C9)	
☐ Iron Deposits (B5)		☐ Stunted or Stressed Plants (D1)	
☐ Inundation Visible on Aerial Imagery (B7)		☐ Geomorphic Position (D2)	
☐ Water-Stained Leaves (B9)		☐ Shallow Aquitard (D3)	
☐ Aquatic Fauna (B13)		☐ Microtopographic Relief (D4)	
		☐ FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes ☐ No ☐	Depth (inches): _____	Wetland Hydrology Present? Yes ☐ No ☐	
Water Table Present? Yes ☐ No ☐	Depth (inches): _____		
Saturation Present? Yes ☐ No ☐	Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wsp-1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Liquidambar styraciflua</u>	25	☒	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Quercus phellos</u>	10	☐	FACW	
3. <u>Acer rubrum</u>	15	☒	FAC	
4. <u>Betula lenta</u>	10	☐	FACU	
5. _____	_____	☐	_____	
6. _____	_____	☐	_____	
7. _____	_____	☐	_____	
8. _____	_____	☐	_____	
		60	= Total Cover	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	☐	_____	
2. _____	_____	☐	_____	
3. _____	_____	☐	_____	
4. _____	_____	☐	_____	
5. _____	_____	☐	_____	
6. _____	_____	☐	_____	
7. _____	_____	☐	_____	Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	_____	☐	_____	
9. _____	_____	☐	_____	
10. _____	_____	☐	_____	
Herb Stratum (Plot size: <u>5'</u>)				
1. _____	_____	☒	_____	
2. _____	_____	☐	_____	
3. _____	_____	☐	_____	
4. _____	_____	☐	_____	
5. _____	_____	☐	_____	
6. _____	_____	☐	_____	
7. _____	_____	☐	_____	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 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 vine – All woody vines greater than 3.28 ft in height.
8. _____	_____	☐	_____	
9. _____	_____	☐	_____	
10. _____	_____	☐	_____	
11. _____	_____	☐	_____	
12. _____	_____	☐	_____	
Woody Vine Stratum (Plot size: <u>30'</u>)				
1. _____	_____	☐	_____	
2. _____	_____	☐	_____	
3. _____	_____	☐	_____	
4. _____	_____	☐	_____	
5. _____	_____	☐	_____	
6. _____	_____	☐	_____	
		0	= Total Cover	Hydrophytic Vegetation Present? Yes ☐ No ☐
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Wsp-1

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-4	2.5Y 4/1						SL	
4-7	2.5Y 7/3						SL	
7-12	7.5YR 4/6	15	2.5Y 7/3	0%			SCL	
		0%		0%				
		0%		0%				
		0%		0%				
		0%		0%				
		0%		0%				
		0%		0%				
		0%		0%				
		0%		0%				

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)
☐ 2 cm Muck (A10) (**LRR N**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1) (**LRR N, MLRA 147, 148**)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)

- ☐ Dark Surface (S7)
☐ Polyvalue Below Surface (S8) (**MLRA 147, 148**)
☐ Thin Dark Surface (S9) (**MLRA 147, 148**)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
☐ Umbric Surface (F13) (**MLRA 136, 122**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 148**)

Indicators for Problematic Hydric Soils³:

- ☐ 2 cm Muck (A10) (**MLRA 147**)
☐ Coast Prairie Redox (A16) (**MLRA 147, 148**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
☐ Red Parent Material (TF2)
☐ 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: