



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

November 8, 2021

Aimee Twarogowski
9841 Fairview Rd
Partlow, VA 22534

Re: Wetland Delineation and RPA Determination
9841 Fairview Rd
GPIN: 7270-03-8136
Spotsylvania County

Dear Ms. Twarogowski:

Enviro-Utilities, Inc. (EU) evaluated the above property to conduct a wetland delineation and Resource Protection Area (RPA) determination study on the referenced property. Wetlands were delineated utilizing the Routine Determination Method as outlined in the *1987 Corps of Engineers Wetland Delineation Manual*. Any connected or contiguous streams (Waters of the US) were evaluated for perennality using the North Carolina DEQ Stream Identification Method. The stream scoring results are attached. None of the streams on the property scored as perennial consequently these waters would not have an associated RPA

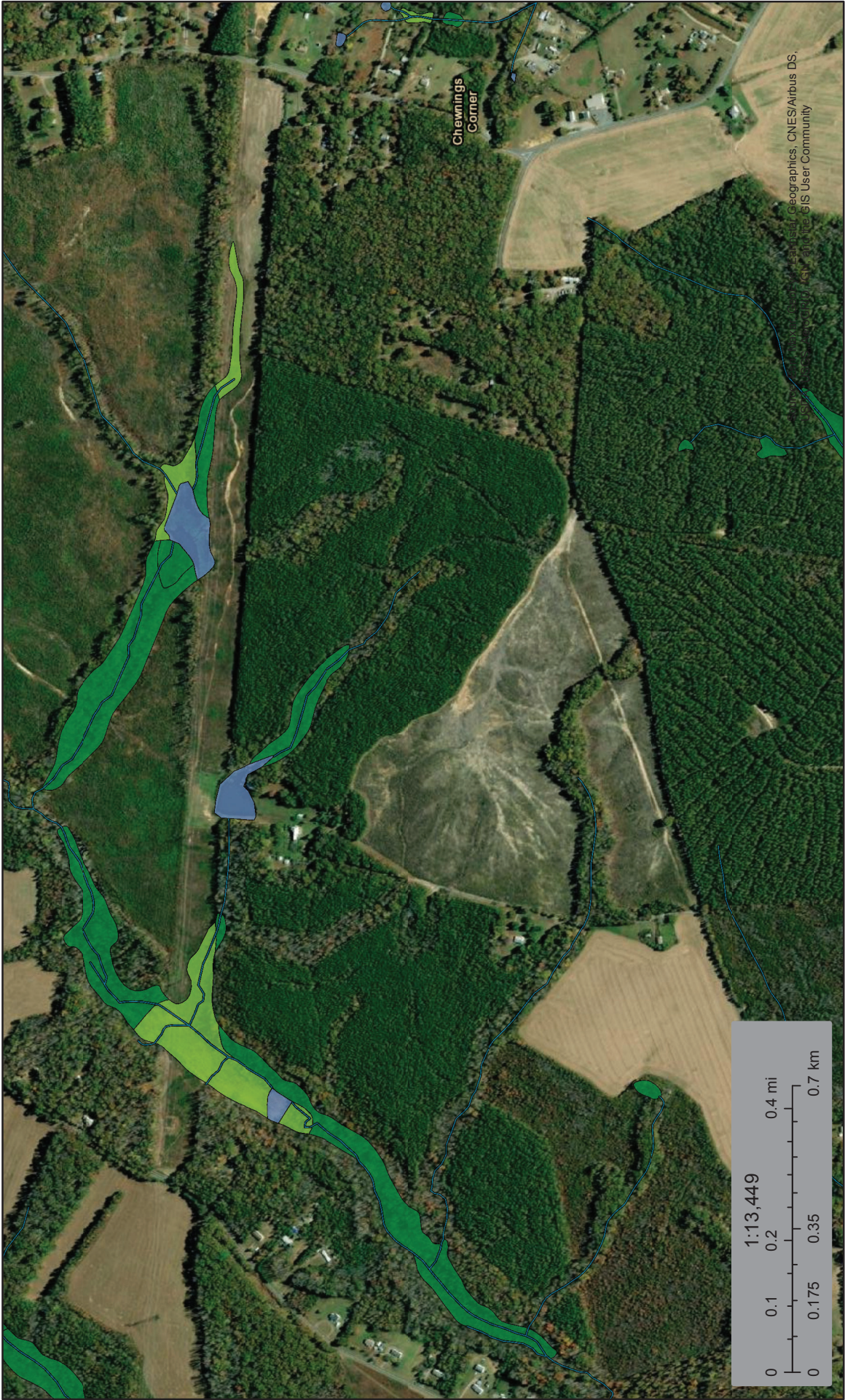
We have enclosed RPAD supporting documentation and maps. If you have any further questions on this matter, please don't hesitate to contact us.

Sincerely,

Gregory Monnett, PhD, LPSS
Professional Licensed Soil Scientist #308

Nicholas Hebel
Soil Scientist

Ethan Monnett
Environmental Consultant



November 4, 2021

Wetlands

- | | | | |
|---|-----------------------------------|---|----------|
|  | Estuarine and Marine Deepwater |  | Lake |
|  | Estuarine and Marine Wetland |  | Other |
|  | Freshwater Emergent Wetland |  | Riverine |
|  | Freshwater Forested/Shrub Wetland | | |
|  | Freshwater Pond | | |

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.

NC DWQ Stream Identification Form Version 4.11
Sampling Location: EF-9

Date: 10/20/21	Project/Site: Fairview	Latitude: 38.055056
Evaluator: Greg Monnett	County: Spotsylvania	Longitude: -77.670614
Total Points: <i>Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*</i>	Stream Determination (check one) ☒ Ephemeral ☐ Intermittent ☐ Perennial	Other <i>e.g. Quad Name:</i>

A. Geomorphology (Subtotal = 4)	Absent	Weak	Moderate	Strong
1 ^a . Continuity of channel bed and bank	0 ☐	1 ☒	2 ☐	3 ☐
2. Sinuosity of channel along thalweg	0 ☐	1 ☒	2 ☐	3 ☐
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0 ☒	1 ☐	2 ☐	3 ☐
4. Particle size of stream substrate	0 ☒	1 ☐	2 ☐	3 ☐
5. Active/relict floodplain	0 ☒	1 ☐	2 ☐	3 ☐
6. Depositional bars or benches	0 ☒	1 ☐	2 ☐	3 ☐
7. Recent alluvial deposits	0 ☐	1 ☒	2 ☐	3 ☐
8. Headcuts	0 ☒	1 ☐	2 ☐	3 ☐
9. Grade control	0 ☒	0.5 ☐	1 ☐	1.5 ☐
10. Natural valley	0 ☐	0.5 ☐	1 ☒	1.5 ☐
11. Second or greater order channel	No = 0 ☒		Yes = 3 ☐	

^a artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 1)	Absent	Weak	Moderate	Strong
12. Presence of Baseflow	0 ☒	1 ☐	2 ☐	3 ☐
13. Iron oxidizing bacteria	0 ☒	1 ☐	2 ☐	3 ☐
14. Leaf litter	1.5 ☐	1 ☐	0.5 ☐	0 ☒
15. Sediment on plants or debris	0 ☐	0.5 ☒	1 ☐	1.5 ☐
16. Organic debris lines or piles	0 ☐	0.5 ☒	1 ☐	1.5 ☐
17. Soil-based evidence of high water table?	No = 0 ☒		Yes = 3 ☐	

C. Biology (Subtotal = 4.25)	Absent	Weak	Moderate	Strong
18. Fibrous roots in streambed	3 ☐	2 ☒	1 ☐	0 ☐
19. Rooted upland plants in streambed	3 ☐	2 ☐	1 ☒	0 ☐
20. Macrobenthos (note diversity and abundance)	0 ☒	1 ☐	2 ☐	3 ☐
21. Aquatic Mollusks	0 ☒	1 ☐	2 ☐	3 ☐
22. Fish	0 ☒	0.5 ☐	1 ☐	1.5 ☐
23. Crayfish	0 ☐	0.5 ☒	1 ☐	1.5 ☐
24. Amphibians	0 ☒	0.5 ☐	1 ☐	1.5 ☐
25. Algae	0 ☒	0.5 ☐	1 ☐	1.5 ☐
26. Wetland plants in streambed	FACW = 0.75 ☒ OBL = 1.5 ☐ Other = 0 ☐			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:
Sketch:

NC DWQ Stream Identification Form Version 4.11

Sampling Location: |-2

Date: 10/20/21	Project/Site: Fairview	Latitude: 38.049535
Evaluator: Greg Monnett	County: Spotsylvania	Longitude: -77.678827
Total Points: <i>Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*</i>	Stream Determination (check one) Ephemeral ☐ Intermittent ☒ Perennial ☐	Other <i>e.g. Quad Name:</i>

28.25

A. Geomorphology (Subtotal = 13)	Absent	Weak	Moderate	Strong
1 ^a . Continuity of channel bed and bank	0 ☐	1 ☐	2 ☒	3 ☐
2. Sinuosity of channel along thalweg	0 ☐	1 ☒	2 ☐	3 ☐
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0 ☐	1 ☒	2 ☐	3 ☐
4. Particle size of stream substrate	0 ☐	1 ☒	2 ☐	3 ☐
5. Active/relict floodplain	0 ☐	1 ☐	2 ☒	3 ☐
6. Depositional bars or benches	0 ☐	1 ☒	2 ☐	3 ☐
7. Recent alluvial deposits	0 ☐	1 ☒	2 ☐	3 ☐
8. Headcuts	0 ☒	1 ☐	2 ☐	3 ☐
9. Grade control	0 ☒	0.5 ☐	1 ☐	1.5 ☐
10. Natural valley	0 ☐	0.5 ☐	1 ☒	1.5 ☐
11. Second or greater order channel	No = 0 ☐		Yes = 3 ☒	

^a artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 9)	Absent	Weak	Moderate	Strong
12. Presence of Baseflow	0 ☐	1 ☐	2 ☐	3 ☒
13. Iron oxidizing bacteria	0 ☐	1 ☒	2 ☐	3 ☐
14. Leaf litter	1.5 ☐	1 ☒	0.5 ☐	0 ☐
15. Sediment on plants or debris	0 ☐	0.5 ☒	1 ☐	1.5 ☐
16. Organic debris lines or piles	0 ☐	0.5 ☒	1 ☐	1.5 ☐
17. Soil-based evidence of high water table?	No = 0 ☐		Yes = 3 ☒	

C. Biology (Subtotal = 6.25)	Absent	Weak	Moderate	Strong
18. Fibrous roots in streambed	3 ☐	2 ☐	1 ☒	0 ☐
19. Rooted upland plants in streambed	3 ☐	2 ☐	1 ☒	0 ☐
20. Macrobenthos (note diversity and abundance)	0 ☐	1 ☒	2 ☐	3 ☐
21. Aquatic Mollusks	0 ☒	1 ☐	2 ☐	3 ☐
22. Fish	0 ☒	0.5 ☐	1 ☐	1.5 ☐
23. Crayfish	0 ☐	0.5 ☐	1 ☒	1.5 ☐
24. Amphibians	0 ☐	0.5 ☐	1 ☒	1.5 ☐
25. Algae	0 ☐	0.5 ☒	1 ☐	1.5 ☐
26. Wetland plants in streambed	FACW = 0.75 ☒ OBL = 1.5 ☐ Other = 0 ☐			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:
Sketch:

NC DWQ Stream Identification Form Version 4.11

Sampling Location: IB-2

Date: 10/20/21	Project/Site: Fairview	Latitude: 38.055686
Evaluator: Greg Monnett	County: Spotsylvania	Longitude: -77.676995
Total Points: <i>Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*</i>	Stream Determination (check one) Ephemeral ☐ Intermittent ☒ Perennial ☐	Other e.g. Quad Name:

27.25

A. Geomorphology (Subtotal = 12)	Absent	Weak	Moderate	Strong
1 ^a . Continuity of channel bed and bank	0 ☐	1 ☐	2 ☒	3 ☐
2. Sinuosity of channel along thalweg	0 ☐	1 ☒	2 ☐	3 ☐
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0 ☐	1 ☐	2 ☒	3 ☐
4. Particle size of stream substrate	0 ☐	1 ☒	2 ☐	3 ☐
5. Active/relict floodplain	0 ☐	1 ☒	2 ☐	3 ☐
6. Depositional bars or benches	0 ☒	1 ☐	2 ☐	3 ☐
7. Recent alluvial deposits	0 ☐	1 ☒	2 ☐	3 ☐
8. Headcuts	0 ☒	1 ☐	2 ☐	3 ☐
9. Grade control	0 ☒	0.5 ☐	1 ☐	1.5 ☐
10. Natural valley	0 ☐	0.5 ☐	1 ☒	1.5 ☐
11. Second or greater order channel	No = 0 ☐		Yes = 3 ☒	

^a artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 8)	Absent	Weak	Moderate	Strong
12. Presence of Baseflow	0 ☐	1 ☐	2 ☐	3 ☒
13. Iron oxidizing bacteria	0 ☒	1 ☐	2 ☐	3 ☐
14. Leaf litter	1.5 ☐	1 ☒	0.5 ☐	0 ☐
15. Sediment on plants or debris	0 ☐	0.5 ☒	1 ☐	1.5 ☐
16. Organic debris lines or piles	0 ☐	0.5 ☒	1 ☐	1.5 ☐
17. Soil-based evidence of high water table?	No = 0 ☐		Yes = 3 ☒	

C. Biology (Subtotal = 7.25)	Absent	Weak	Moderate	Strong
18. Fibrous roots in streambed	3 ☐	2 ☐	1 ☒	0 ☐
19. Rooted upland plants in streambed	3 ☐	2 ☒	1 ☐	0 ☐
20. Macroinvertebrates (note diversity and abundance)	0 ☐	1 ☒	2 ☐	3 ☐
21. Aquatic Mollusks	0 ☒	1 ☐	2 ☐	3 ☐
22. Fish	0 ☐	0.5 ☒	1 ☐	1.5 ☐
23. Crayfish	0 ☐	0.5 ☐	1 ☒	1.5 ☐
24. Amphibians	0 ☐	0.5 ☐	1 ☒	1.5 ☐
25. Algae	0 ☒	0.5 ☐	1 ☐	1.5 ☐
26. Wetland plants in streambed	FACW = 0.75 ☒ OBL = 1.5 ☐ Other = 0 ☐			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:
Sketch:

NC DWQ Stream Identification Form Version 4.11

Sampling Location: WEB-26

Date: 10/20/21	Project/Site: Fairview	Latitude: 38.056205
Evaluator: Greg Monnett	County: Spotsylvania	Longitude: -77.680174
Total Points: <i>Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*</i>	Stream Determination (check one) Ephemeral ☐ Intermittent ☒ Perennial ☐	Other e.g. Quad Name:

21.75

A. Geomorphology (Subtotal = 9)	Absent	Weak	Moderate	Strong
1 ^a . Continuity of channel bed and bank	0 ☐	1 ☒	2 ☐	3 ☐
2. Sinuosity of channel along thalweg	0 ☐	1 ☒	2 ☐	3 ☐
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0 ☐	1 ☒	2 ☐	3 ☐
4. Particle size of stream substrate	0 ☐	1 ☒	2 ☐	3 ☐
5. Active/relict floodplain	0 ☒	1 ☐	2 ☐	3 ☐
6. Depositional bars or benches	0 ☒	1 ☐	2 ☐	3 ☐
7. Recent alluvial deposits	0 ☐	1 ☒	2 ☐	3 ☐
8. Headcuts	0 ☒	1 ☐	2 ☐	3 ☐
9. Grade control	0 ☒	0.5 ☐	1 ☐	1.5 ☐
10. Natural valley	0 ☐	0.5 ☐	1 ☒	1.5 ☐
11. Second or greater order channel	No = 0 ☐		Yes = 3 ☒	

^a artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 7)	Absent	Weak	Moderate	Strong
12. Presence of Baseflow	0 ☐	1 ☐	2 ☒	3 ☐
13. Iron oxidizing bacteria	0 ☒	1 ☐	2 ☐	3 ☐
14. Leaf litter	1.5 ☐	1 ☒	0.5 ☐	0 ☐
15. Sediment on plants or debris	0 ☐	0.5 ☒	1 ☐	1.5 ☐
16. Organic debris lines or piles	0 ☐	0.5 ☒	1 ☐	1.5 ☐
17. Soil-based evidence of high water table?	No = 0 ☐		Yes = 3 ☒	

C. Biology (Subtotal = 5.75)	Absent	Weak	Moderate	Strong
18. Fibrous roots in streambed	3 ☐	2 ☐	1 ☐	0 ☒
19. Rooted upland plants in streambed	3 ☐	2 ☒	1 ☐	0 ☐
20. Macrobenthos (note diversity and abundance)	0 ☐	1 ☒	2 ☐	3 ☐
21. Aquatic Mollusks	0 ☒	1 ☐	2 ☐	3 ☐
22. Fish	0 ☒	0.5 ☐	1 ☐	1.5 ☐
23. Crayfish	0 ☐	0.5 ☐	1 ☒	1.5 ☐
24. Amphibians	0 ☐	0.5 ☐	1 ☒	1.5 ☐
25. Algae	0 ☒	0.5 ☐	1 ☐	1.5 ☐
26. Wetland plants in streambed	FACW = 0.75 ☒ OBL = 1.5 ☐ Other = 0 ☐			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:
Sketch:

Stream Photo Log

Fairview Rd

Spotsylvania County

10/20/21



Photo 1: I-2 viewing upstream



Photo 2: I-2 viewing downstream



Photo 3: IB-2 viewing upstream



Photo 4: IB-2 viewing downstream



Photo 5: WEB-26 viewing upstream



Photo 6: WEB-26 viewing downstream



Photo 7: EF-9 viewing upstream



Photo 8: EF-9 viewing downstream