KOONTZ BRYANT JOHNSON WILLIAMS

February 28, 2023

Mr. Steven VanderPloeg
Environmental Scientist
US Army Corps of Engineers, Norfolk District
Western Virginia Regulatory Section
9100 Arboretum Parkway, Suite 235
Richmond, VA 23236

Via Email: steven.a.vanderploeg@usace.army.mil

Reference: Green Ridge Recycling and Disposal Facility (NAO-2018-0995 (Muddy Creek))
Supplemental Information to the Preliminary Jurisdictional Determination
Request Submitted September 29, 2022
Project No: 2017-890

Dear Mr. VanderPloeg:

On behalf of Green Ridge Recycling and Disposal Facility, LLC, Koontz Bryant Johnson Williams (KBJW) is submitting the enclosed supplemental information and supporting documentation as an Appendix to the Preliminary Jurisdictional Determination (PJD) request that was submitted to the US Army Corps of Engineers (USACE), Western Virginia Regulatory Section Office, on September 29, 2022. On November 2, 2022 an onsite visit with the US Army Corps of Engineers (USACE), Virginia Department of Environmental Quality (DEQ), Environmental Protection Agency (EPA), TRC Companies, and other project team members occurred to review the jurisdictional features identified within the study area.

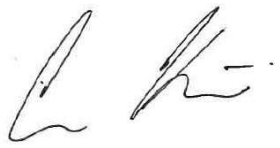
The onsite visit included reviewing and confirming the Waters of the US (WOUS) including Wetlands. Based on the onsite visit, additional field data collection was warranted, and the wetland delineation mapping was modified as shown in ***Enclosure 1***. The study area was modified to include delineating Pine Grove Road (approximately 0.6 miles) starting from Anderson Highway. The USACE aquatic resources table, Appendix 2 – Preliminary Jurisdictional Determination Form, has been updated to reflect the most current changes (***Enclosure 2)***. The USACE requested additional data from three areas within the study area. These areas are identified by sampling numbers **DP-5.501W, DP-5.502U, DP-EW5.3U, DP-E01U, and DP-EM-A01U** as shown in **Enclosure 1.** Supplemental data is also being submitted for areas associated with the following data point locations ***DP-G01U***, ***DP-G02U***, ***DP-M01U***, ***and DP-PG01U***. Associated field data forms and representative site photos are provided in **Enclosures 3** and **4** representing these areas. Additionally, the coordinate locations of sample points ***DP-4***, ***DP-7***, ***DP-24***, ***DP-25***, ***DP-26***, ***and DP-25*** have been updated and have been provided in ***Enclosure 3***. To determine if the site is experiencing normal climatic conditions the Antecedent Precipitation Tool was analyzed (***Enclosure 5)***.

During the onsite visit, an area identified as stream reach 4.2 was reviewed. Due to a lack of wetland and stream characteristics on this day, additional onsite information was warranted for this area. A report titled Supplemental Information to the Preliminary Jurisdictional Determination Request submitted September 29, 2022 (Evaluation of the Area Surrounding Stream Reach 4.2) is provided as ***Enclosure 6*** to document and describe the characteristics of this area.

The USACE has requested KBJW to submit the wetland delineation information using the ORM database. ORM information has been completed and will be submitted as an attachment via email as part of this submittal. An ORM index map has been provided as ***Exhibit 7***, identifying each feature and feature location.

Should you have any questions or need any additional information regarding this letter, please do not hesitate to contact me at e-mail: dkwasniewski@kbjwgroup.com or phone: (804) 338-0138.

Sincerely yours,
Koontz Bryant Johnson Williams



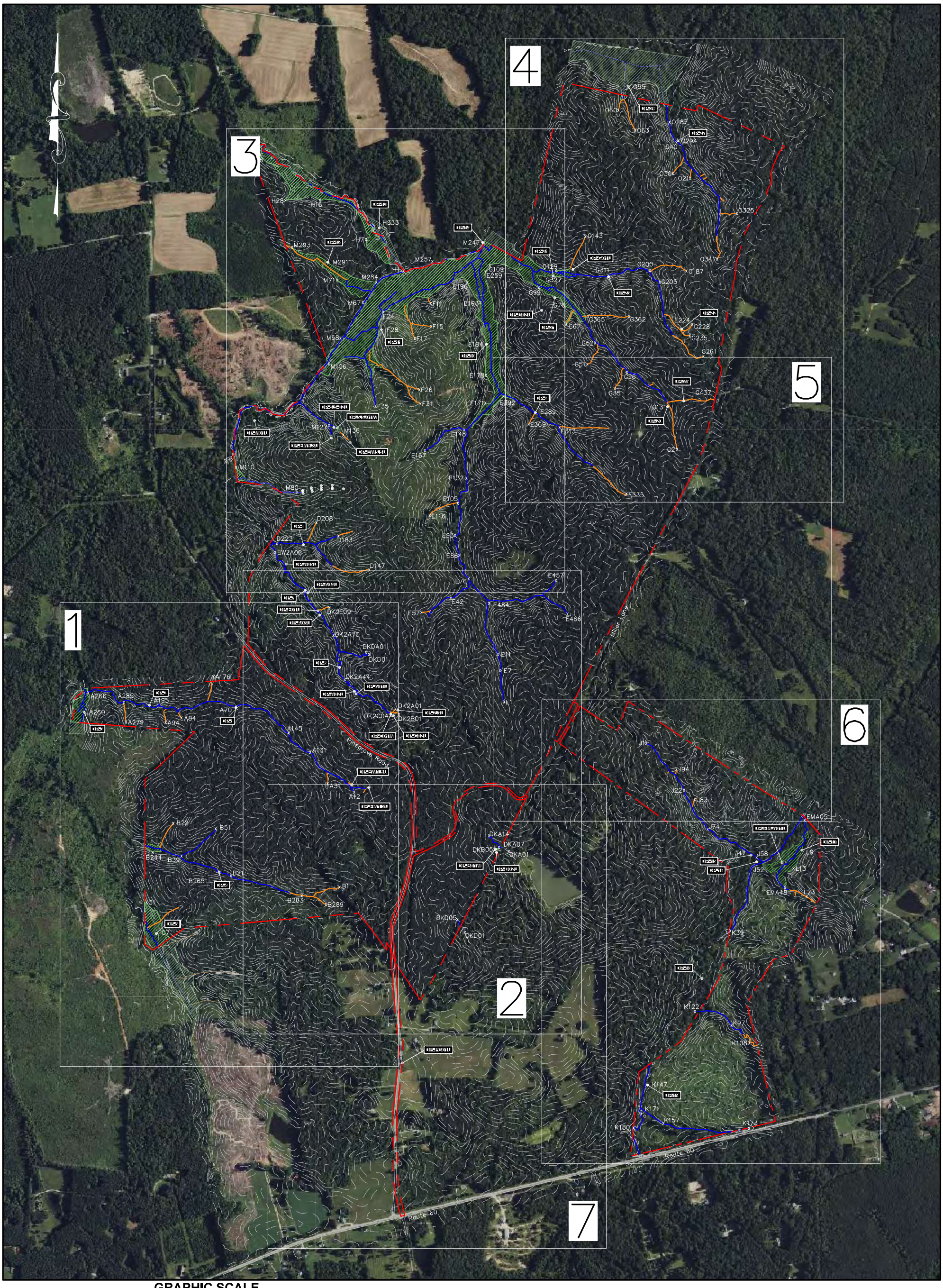
David Kwasniewski, PWD
Team Leader – Natural Resources

Enclosure:
1. Revised Waters of the US including wetlands delineation map
2. USACE aquatic resources table, Appendix 2 – Preliminary Jurisdictional Determination Form
3. Field Data points
4. Representative Site Photographs
5. Antecedent Precipitation Tool data
6. Report titled Supplemental Information to the Preliminary Jurisdictional Determination Request submitted September 29, 2022 (Evaluation of the Area Surrounding Stream Reach 4.2)
7. ORM Index Map

Enclosures

Enclosure 1

Revised Waters of the US including wetlands delineation map



GRAPHIC SCALE

1100 0 500 1100 2200

1 inch = 1100 feet

LEGEND

	Study Area (+/- 1,181 acres)	
	Ex. Contours (5' Contour Interval)	
DP-5	Field Data Point Location	
	Palustrine Forested (PFO) Wetlands	44.4 acres
	Perennial/Intermittent (R3/R4) Channel	49,786 LF
	Ephemeral (R6) Channel	16,101 LF

OVERALL - NATURAL COLOR IMAGERY

WETLAND DELINEATION MAP

CUMBERLAND COUNTY, VIRGINIA

HAMILTON DISTRICT

PROJECT:	DATE:	REVISED	SCALE:
2017-890	Aug 22, 2018	Feb 23, 2023	1"=1100'

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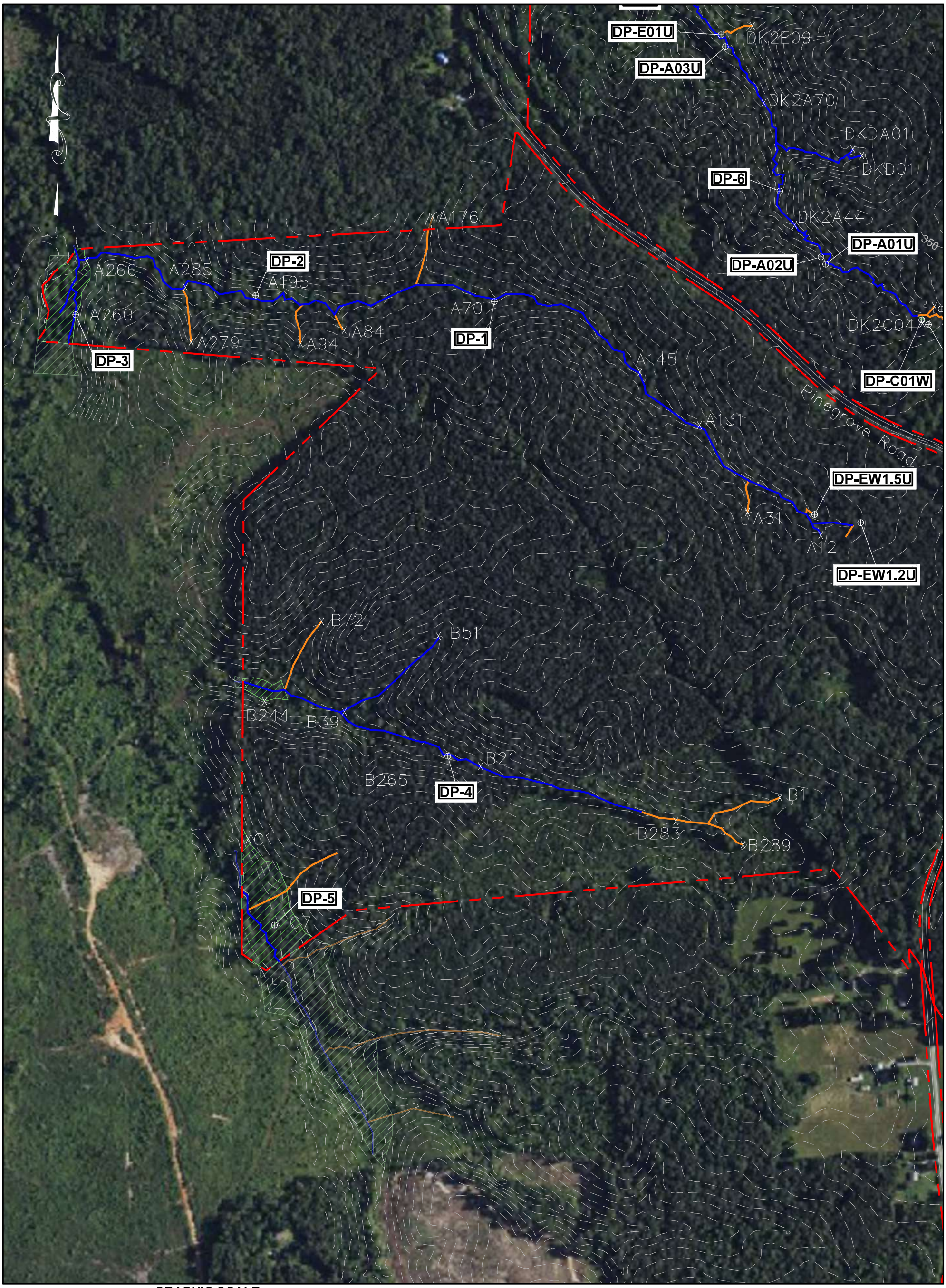

GRAPHIC SCALE

400 0 200 400 800

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LEGEND

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SECTION 1 - NATURAL COLOR IMAGERY

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CUMBERLAND COUNTY, VIRGINIA

HAMILTON DISTRICT

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DP-A04U
DP-7
DP-E01U
DP-A03U
DK2E09
DK2A70
DKDA01
DKD01
DP-6
DK2A44
DP-A01U
DP-A02U
350
INSET 1: SEE THIS SHEET
DK2A01
DK2C04
DK2B01
DP-2.3U
DP-C01W
DP-C02U
A145
A131
Pinegrove Road
DP-EW1.5U
A31
A12
DP-EW1.2U
B1
B283
B289
DKD05
DKD01
E76
E457
E42
E484
E57
E466
E11
E7
E1
DKA14
DKA07
DKB05
DKA01
DP-B01W
DP-B02U
INSET 2: SEE THIS SHEET

INSET 1: 1"=200' SCALE

INSET 2: 1"=200' SCALE

GRAPHIC SCALE

400 0 200 400 800

1 inch = 400 feet

LEGEND

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SECTION 2 - NATURAL COLOR IMAGERY

WETLAND DELINEATION MAP

CUMBERLAND COUNTY, VIRGINIA

HAMILTON DISTRICT

PROJECT:	*DATE:*	*REVISED*	*SCALE:*
2017-890	*Aug 22, 2018*	*Feb 23, 2023*	*1" = 400'*

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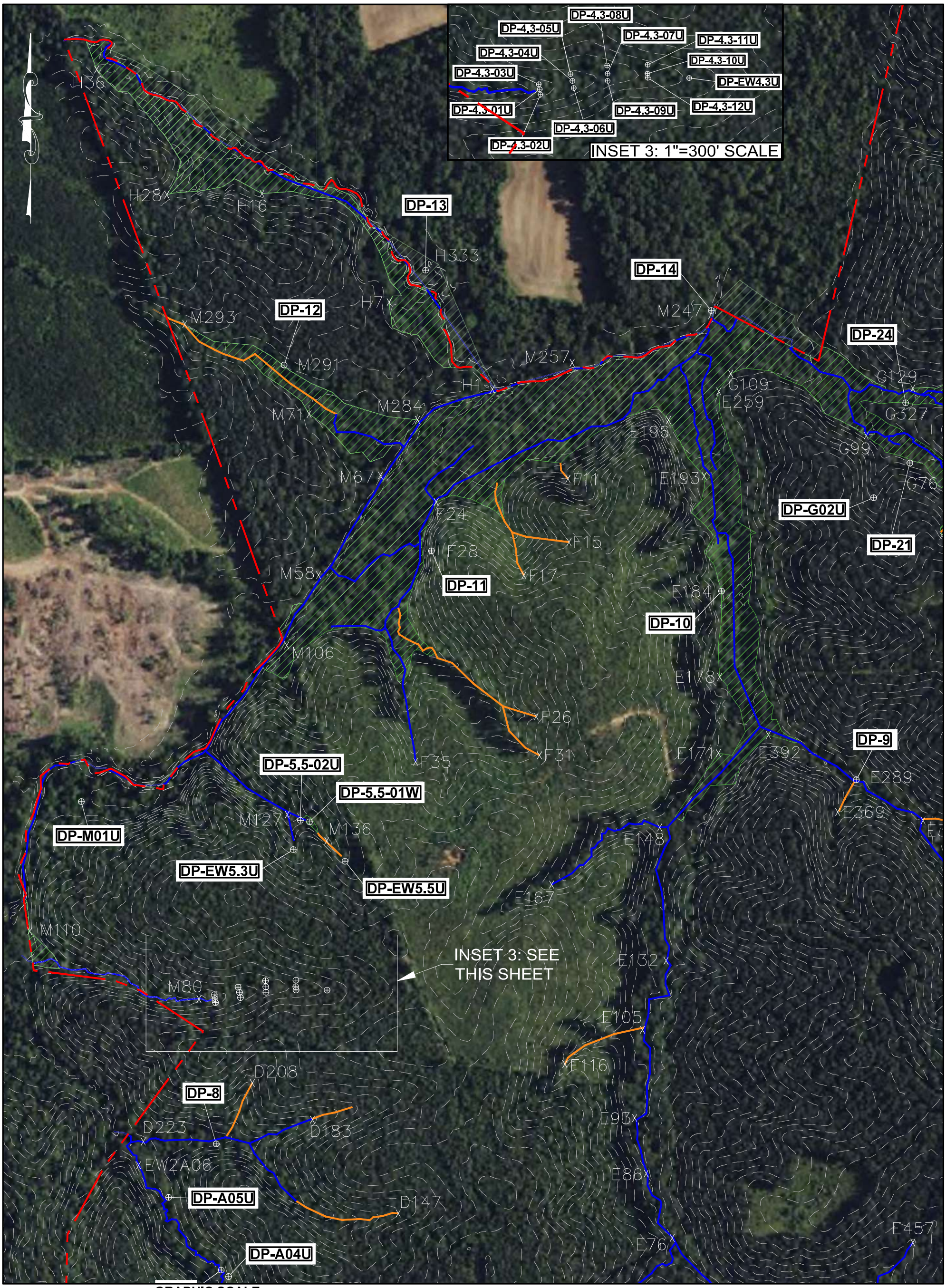

GRAPHIC SCALE

400 0 200 400 800

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LEGEND

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SECTION 3 - NATURAL COLOR IMAGERY

WETLAND DELINEATION MAP

CUMBERLAND COUNTY, VIRGINIA

HAMILTON DISTRICT

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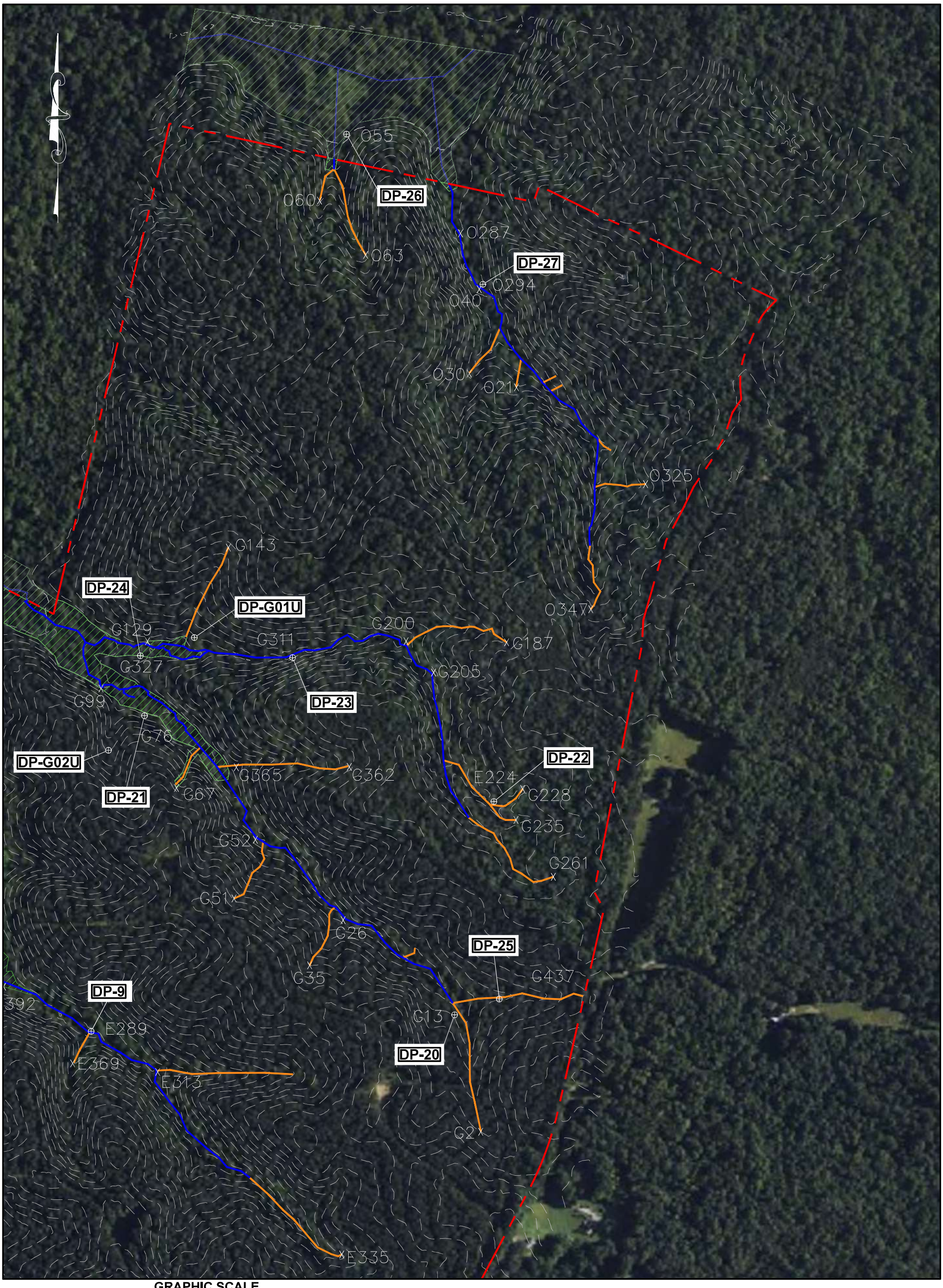

GRAPHIC SCALE

400 0 200 400 800

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LEGEND

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	Ex. Contours (5' Contour Interval)	
DP-5	Field Data Point Location	
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SECTION 4 - NATURAL COLOR IMAGERY

WETLAND DELINEATION MAP

CUMBERLAND COUNTY, VIRGINIA

HAMILTON DISTRICT

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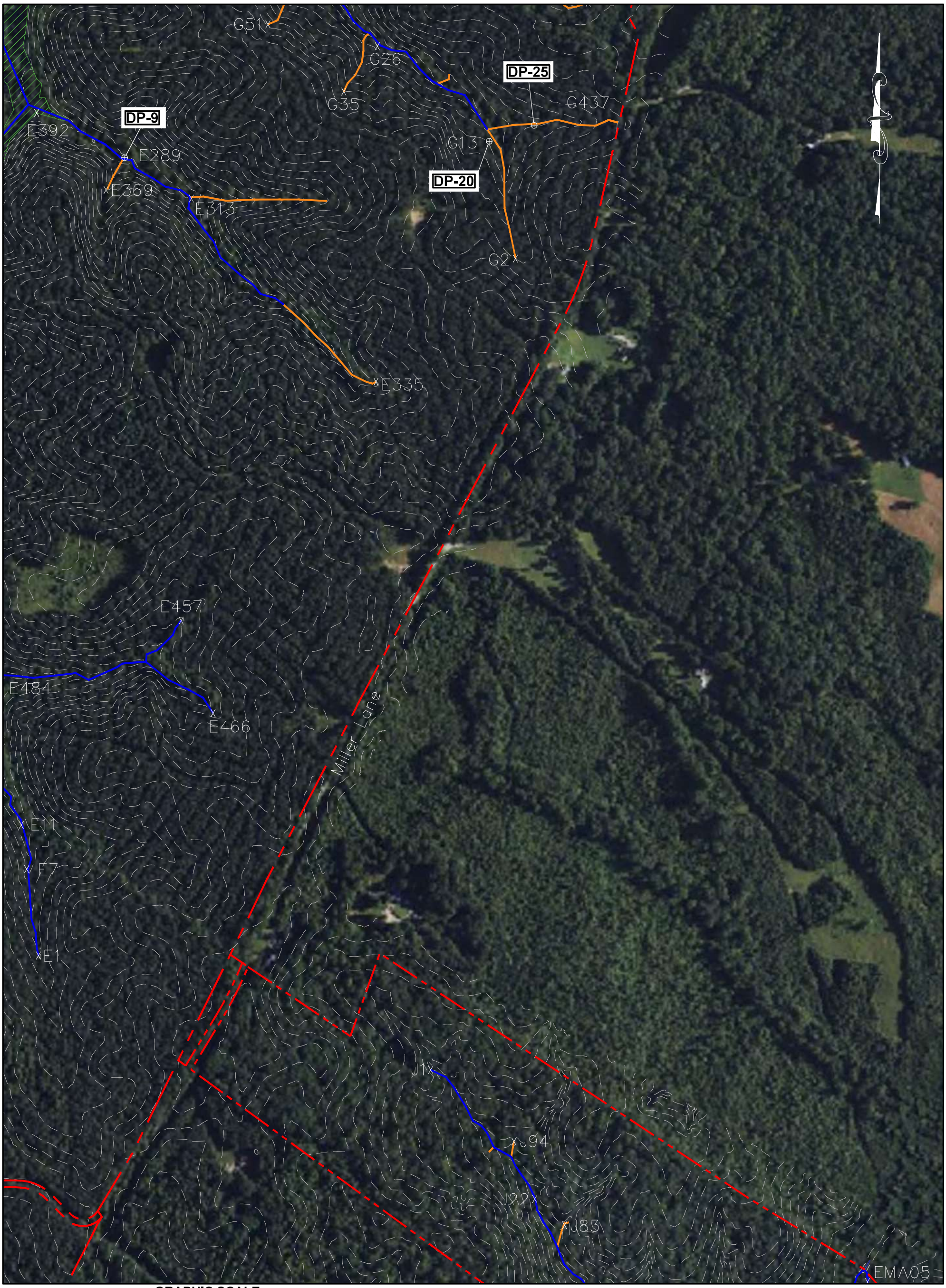

GRAPHIC SCALE

400 0 200 400 800

1 inch = 400 feet

LEGEND

	Study Area (+/- 1,181 acres)	
	Ex. Contours (5' Contour Interval)	
DP-5	Field Data Point Location	
	Palustrine Forested (PFO) Wetlands	44.4 acres
	Perennial/Intermittent (R3/R4) Channel	49,786 LF
	Ephemeral (R6) Channel	16,101 LF

SECTION 5 - NATURAL COLOR IMAGERY

WETLAND DELINEATION MAP

CUMBERLAND COUNTY, VIRGINIA

HAMILTON DISTRICT

PROJECT:	DATE:	REVISED	SCALE:
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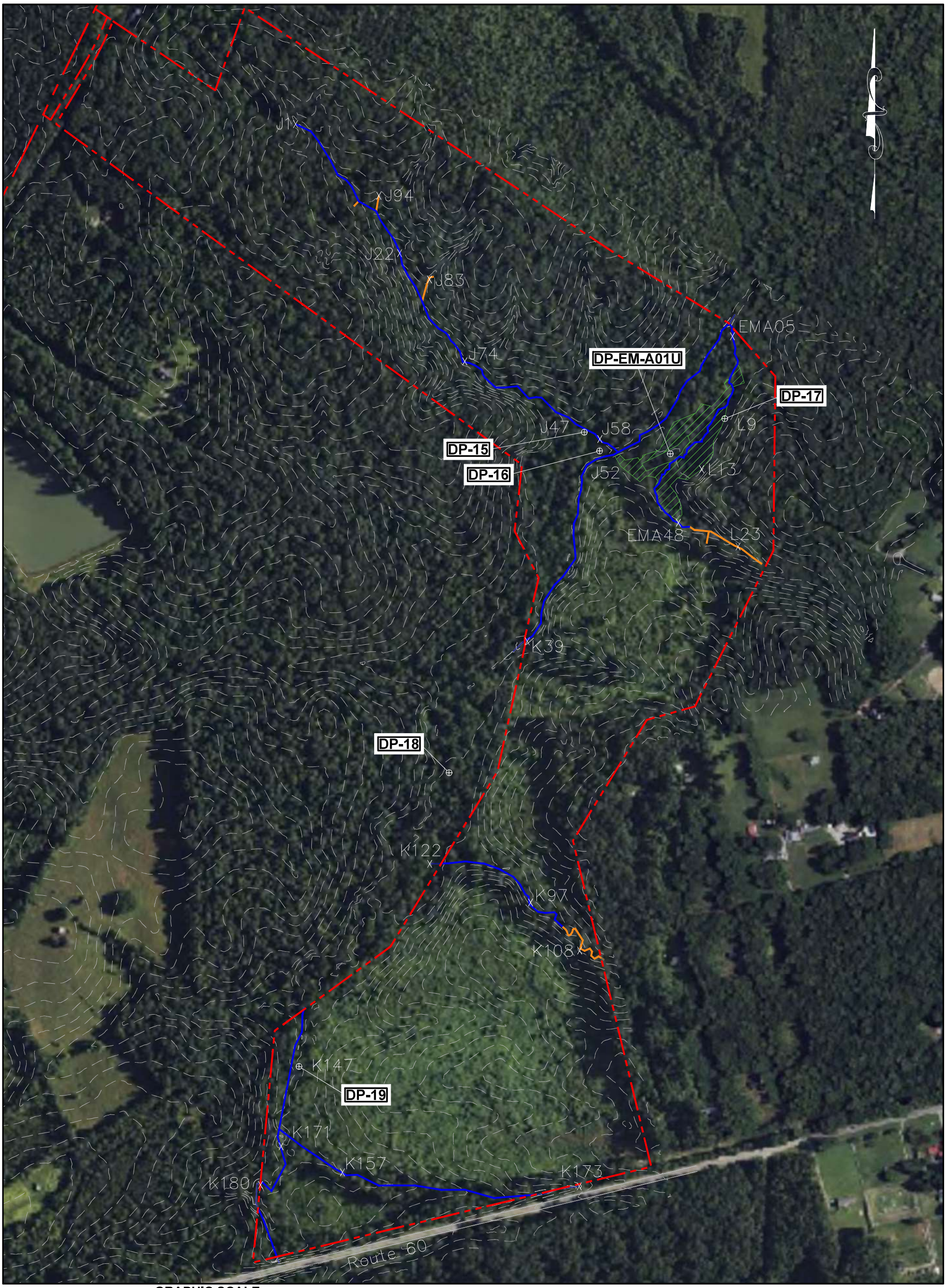

GRAPHIC SCALE

400 0 200 400 800

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LEGEND

	Study Area (+/- 1,181 acres)	
	Ex. Contours (5' Contour Interval)	
DP-5	Field Data Point Location	
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SECTION 6 - NATURAL COLOR IMAGERY

WETLAND DELINEATION MAP

CUMBERLAND COUNTY, VIRGINIA

HAMILTON DISTRICT

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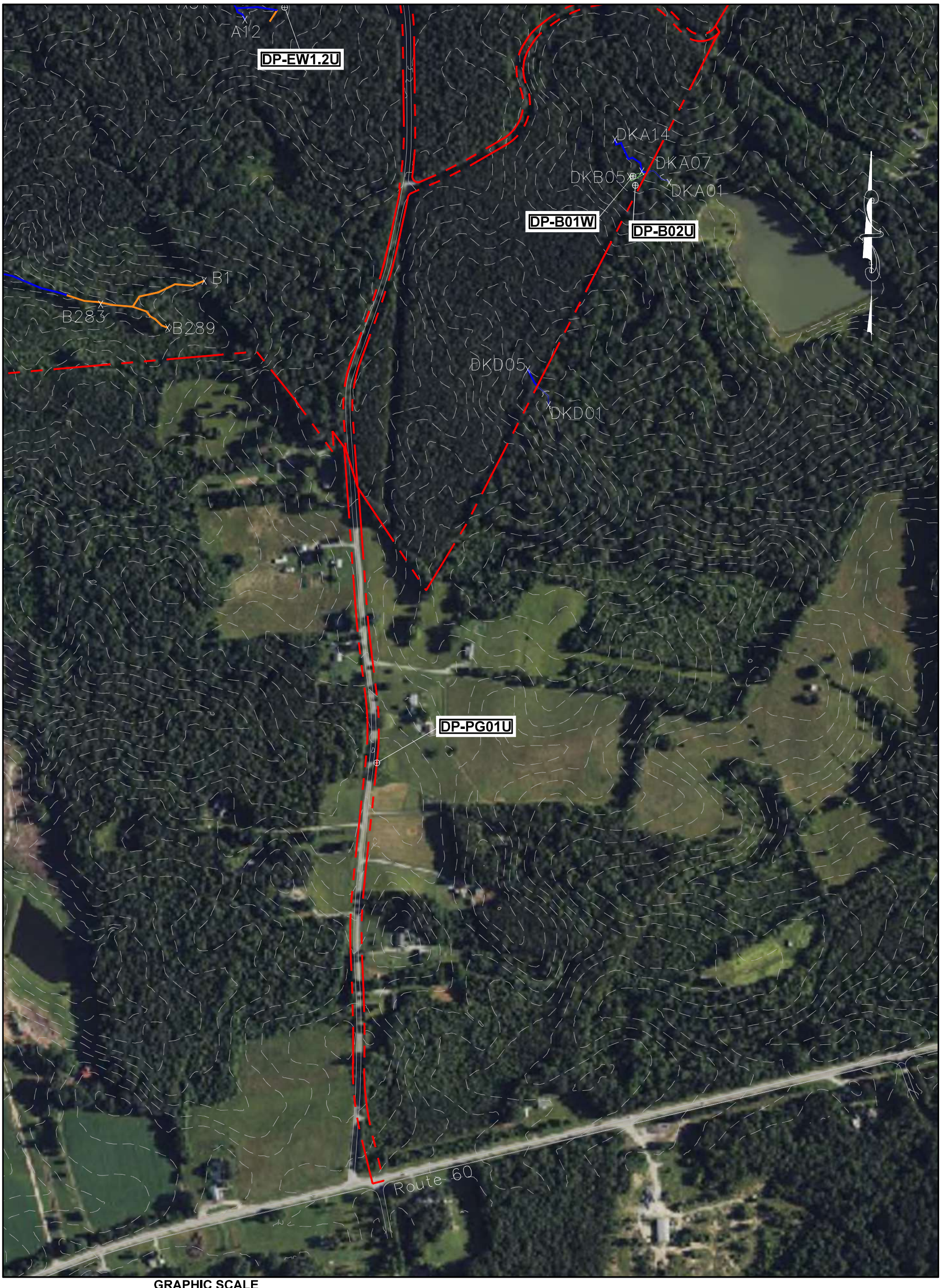

GRAPHIC SCALE

400 0 200 400 800

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LEGEND

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DP-5	Field Data Point Location	
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SECTION 7 - NATURAL COLOR IMAGERY

WETLAND DELINEATION MAP

CUMBERLAND COUNTY, VIRGINIA

HAMILTON DISTRICT

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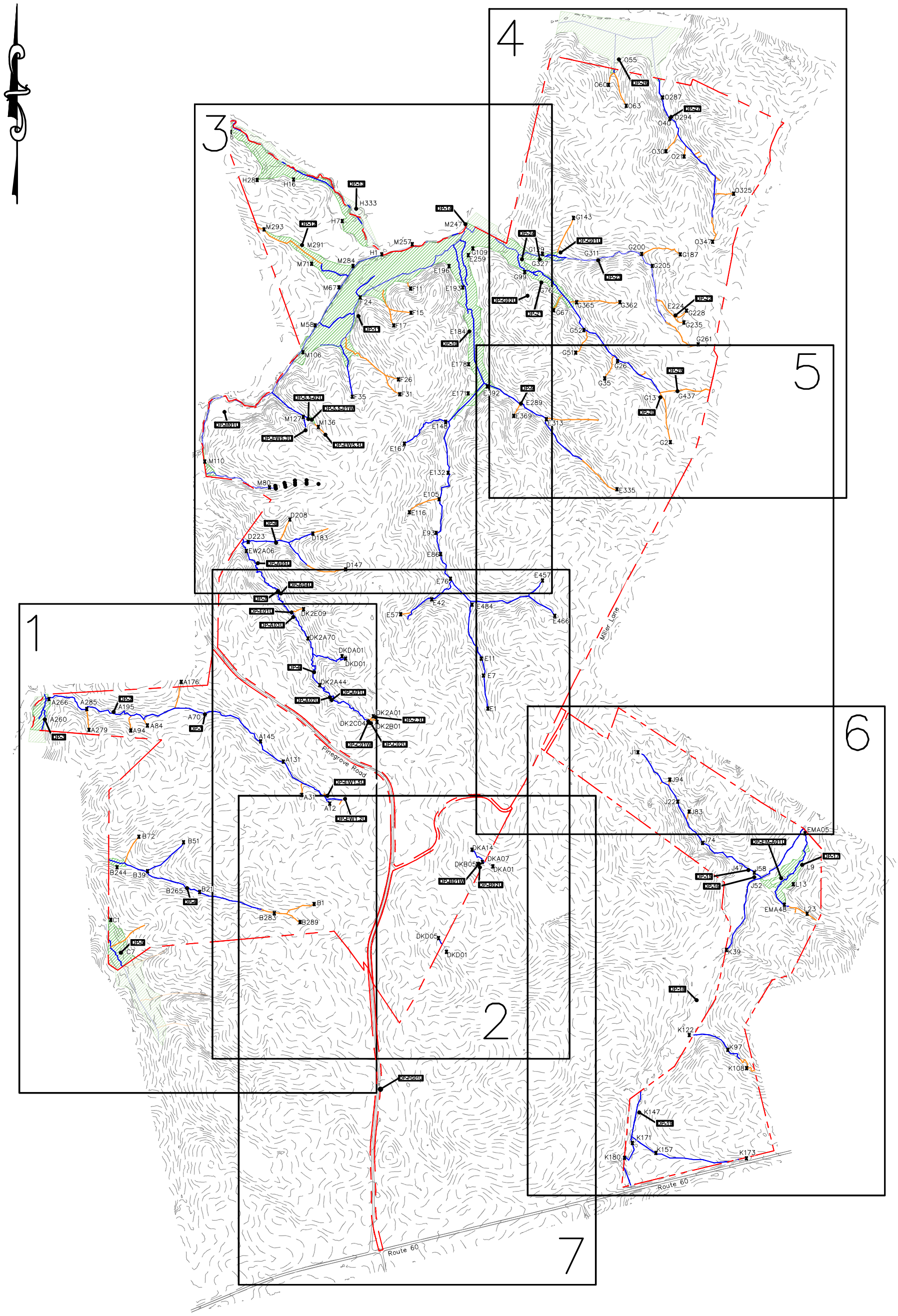

GRAPHIC SCALE

1100 0 500 1100 2200

1 inch = 1100 feet

LEGEND

	Study Area (+/- 1,181 acres)	
DP-5	Ex. Contours (5' Contour Interval)	
	Field Data Point Location	
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OVERALL WETLAND DELINEATION MAP

CUMBERLAND COUNTY, VIRGINIA

HAMILTON DISTRICT

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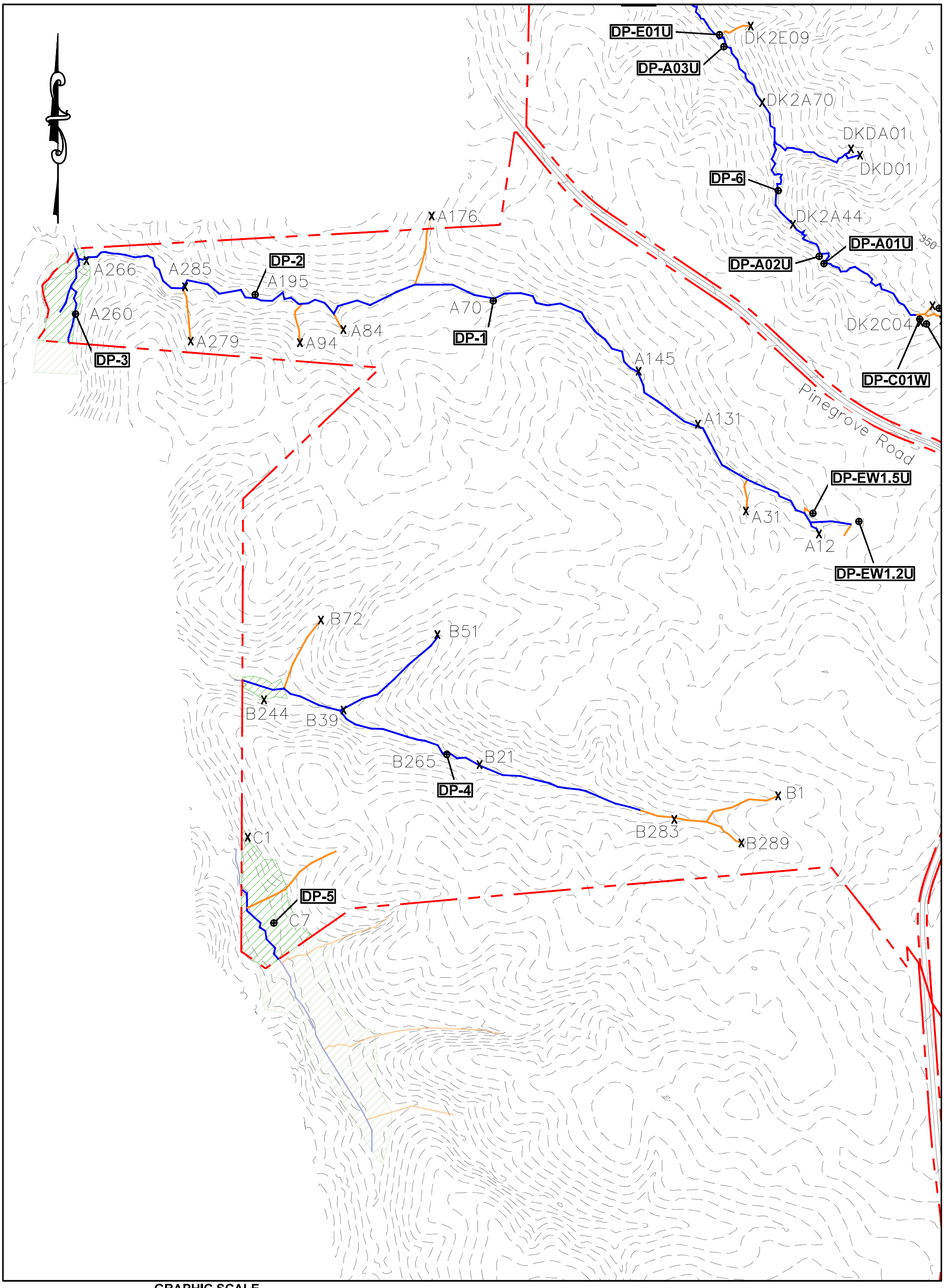

GRAPHIC SCALE

400 0 200 400 800

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LEGEND

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CUMBERLAND COUNTY, VIRGINIA
HAMILTON DISTRICT

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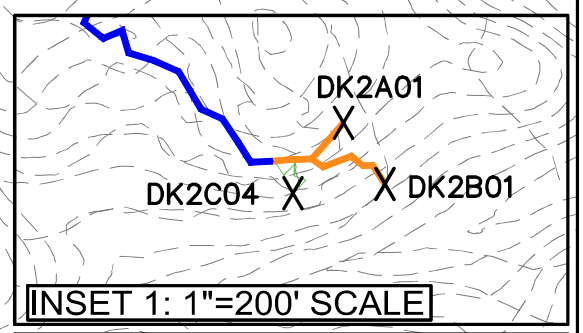
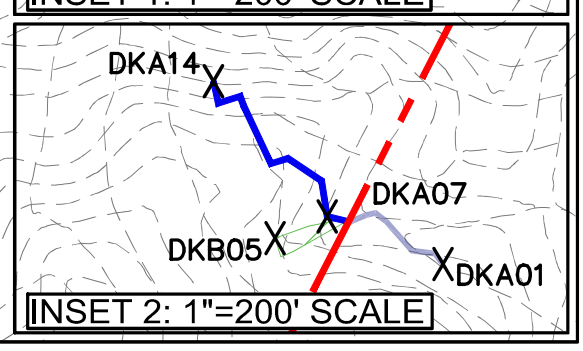
DP-A04U
DP-7
DP-E01U
DP-A03U
DK2E09
DK2A70
DKDA01
DKD01
DP-6
DK2A44
DP-A01U
DP-A02U
350
INSET 1: SEE THIS SHEET
DK2A01
DK2C04
DK2B01
DP-2.3U
DP-C01W
DP-C02U
A145
A131
A31
A12
DP-EW1.5U
DP-EW1.2U
Pinegrove Road
B283
B1
B289
DKD05
DKD01
E76
E42
E57
E457
E484
E466
E11
E7
E1
DKA14
DKA07
DKB05
DKA01
DP-B01W
DP-B02U
INSET 2: SEE THIS SHEET

INSET 1: 1"=200' SCALE



INSET 2: 1"=200' SCALE



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SECTION 2
WETLAND DELINEATION MAP
CUMBERLAND COUNTY, VIRGINIA
HAMILTON DISTRICT

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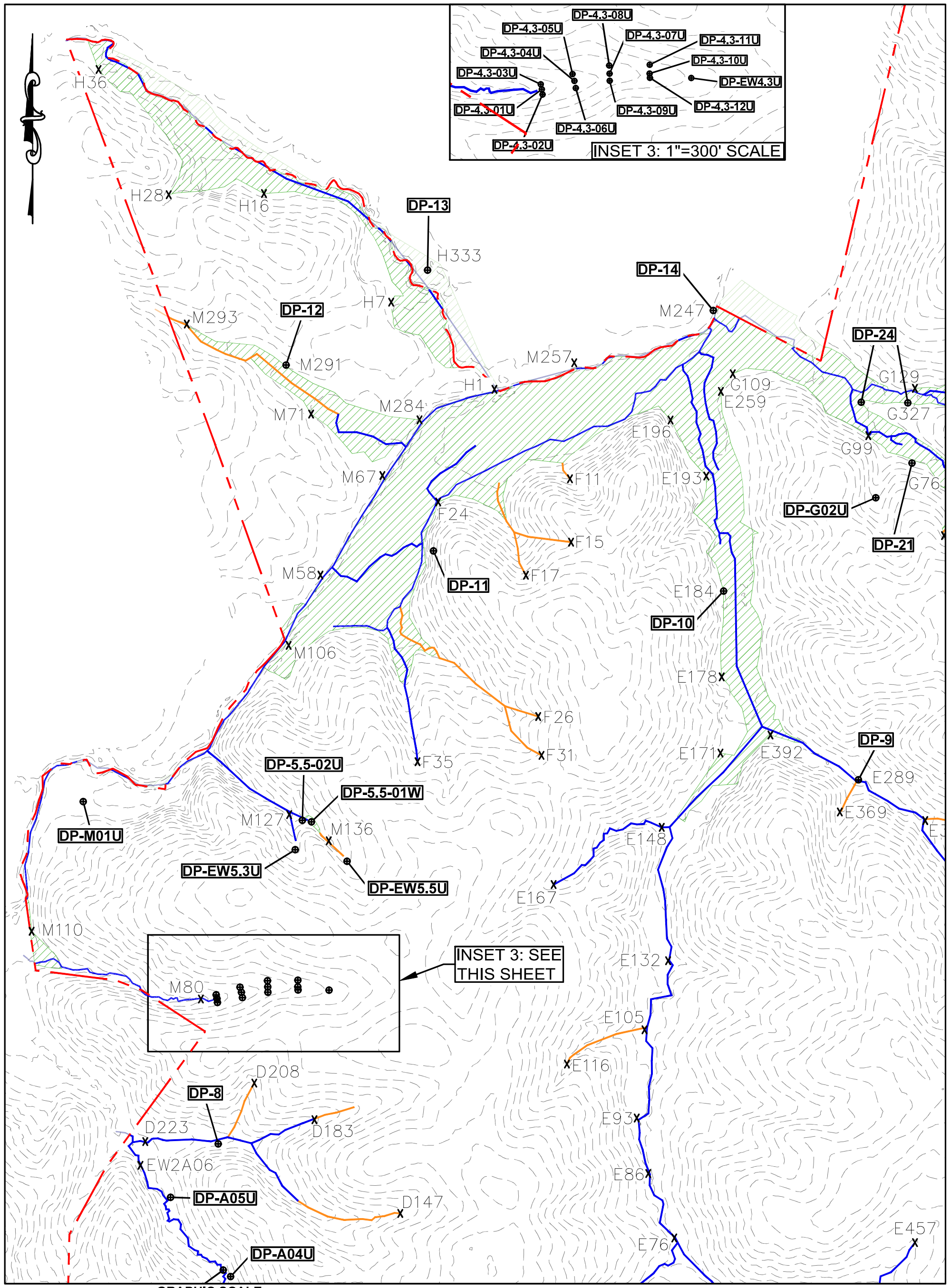

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SECTION 3
WETLAND DELINEATION MAP
CUMBERLAND COUNTY, VIRGINIA
HAMILTON DISTRICT

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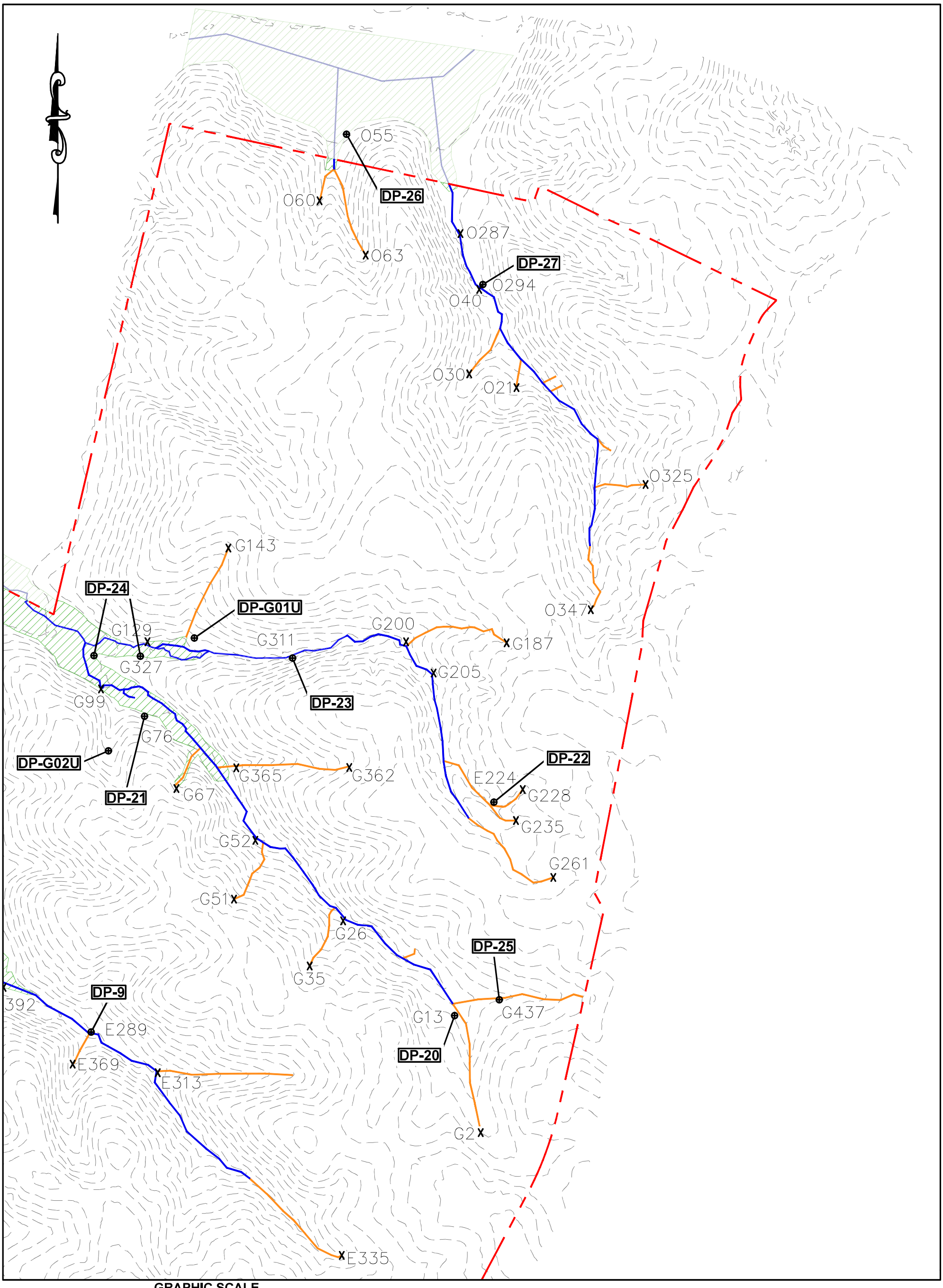

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SECTION 4
WETLAND DELINEATION MAP
CUMBERLAND COUNTY, VIRGINIA
HAMILTON DISTRICT

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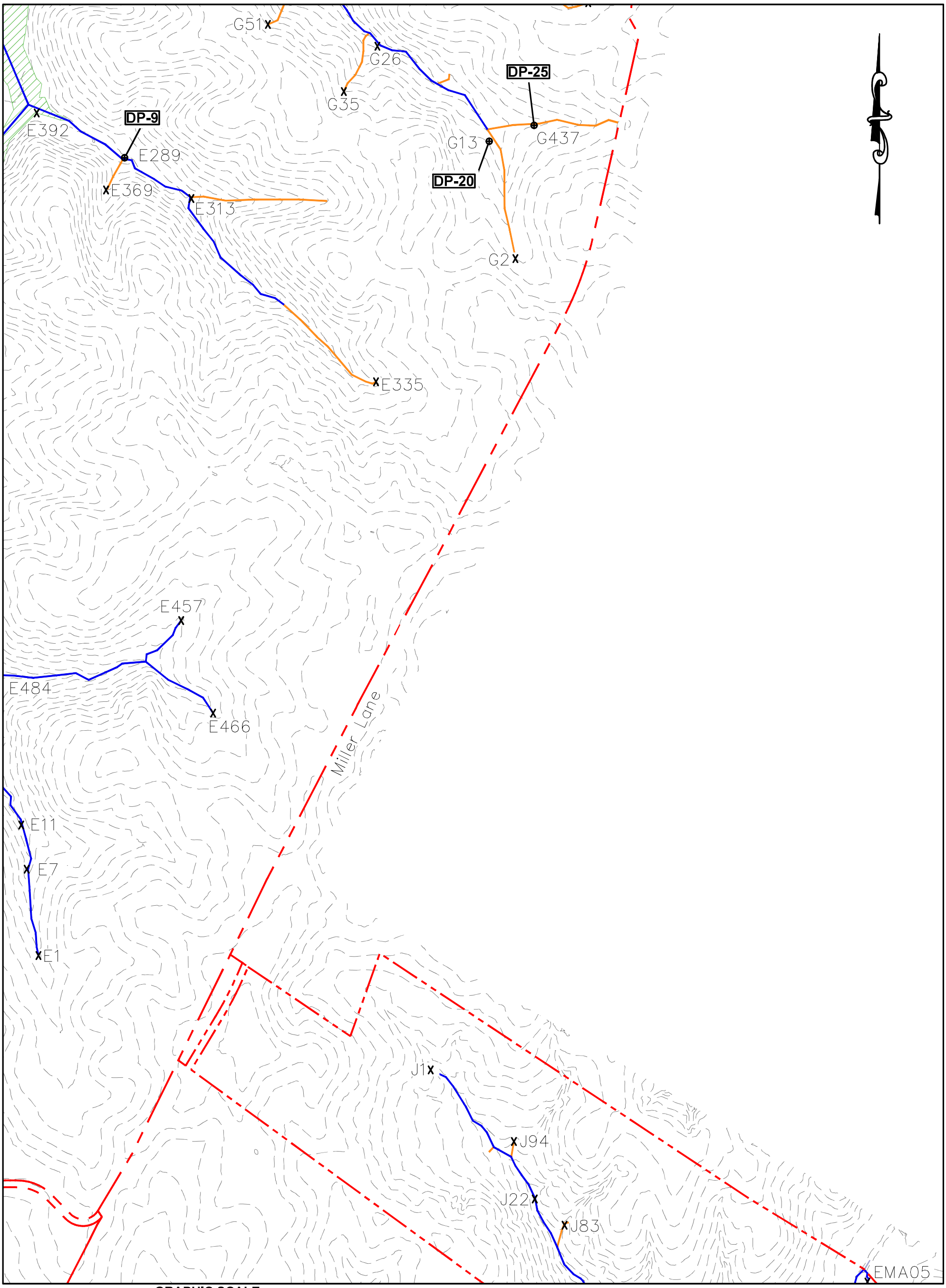

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SECTION 5
WETLAND DELINEATION MAP
CUMBERLAND COUNTY, VIRGINIA
HAMILTON DISTRICT

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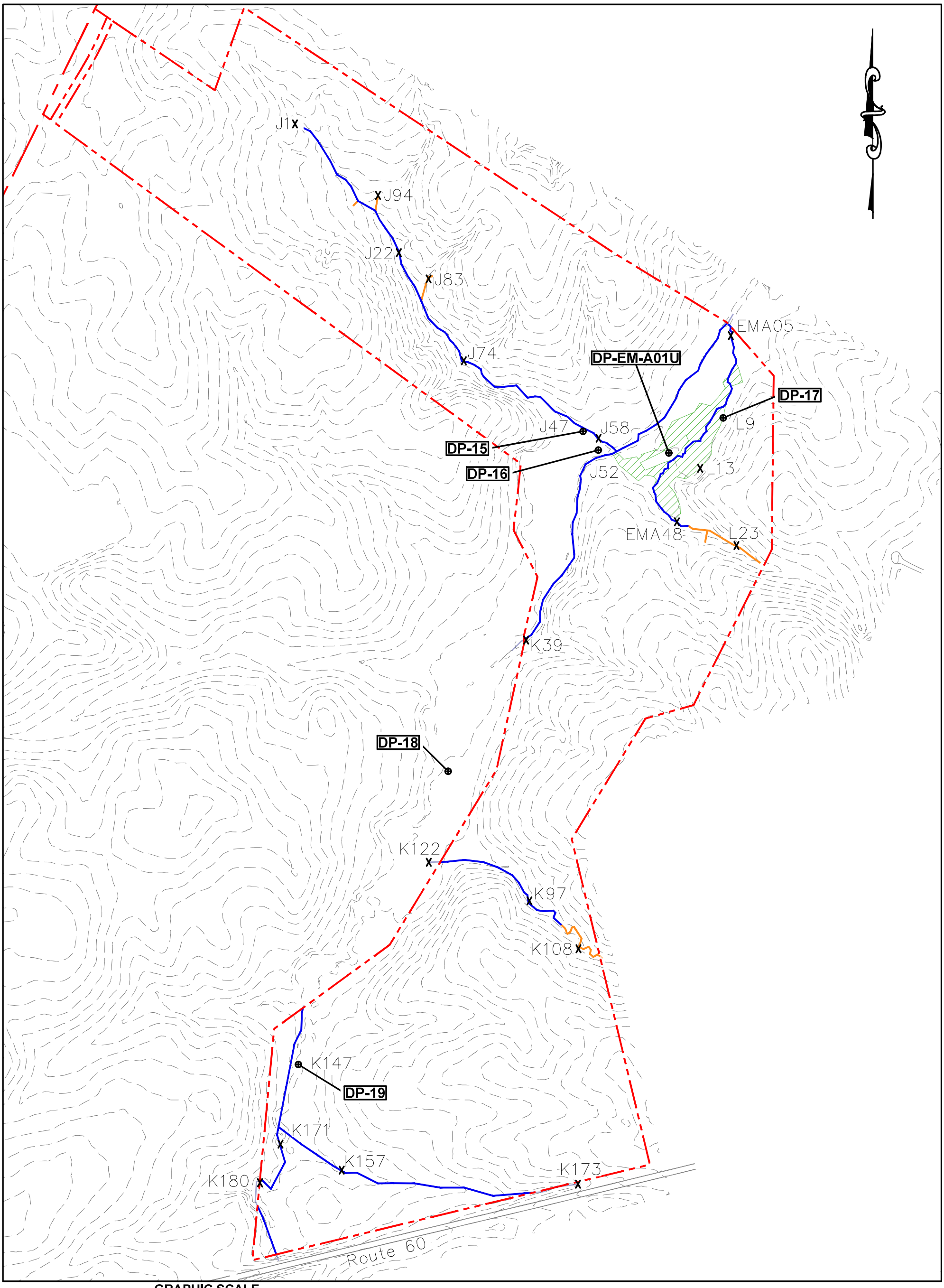

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SECTION 6
WETLAND DELINEATION MAP
CUMBERLAND COUNTY, VIRGINIA
HAMILTON DISTRICT

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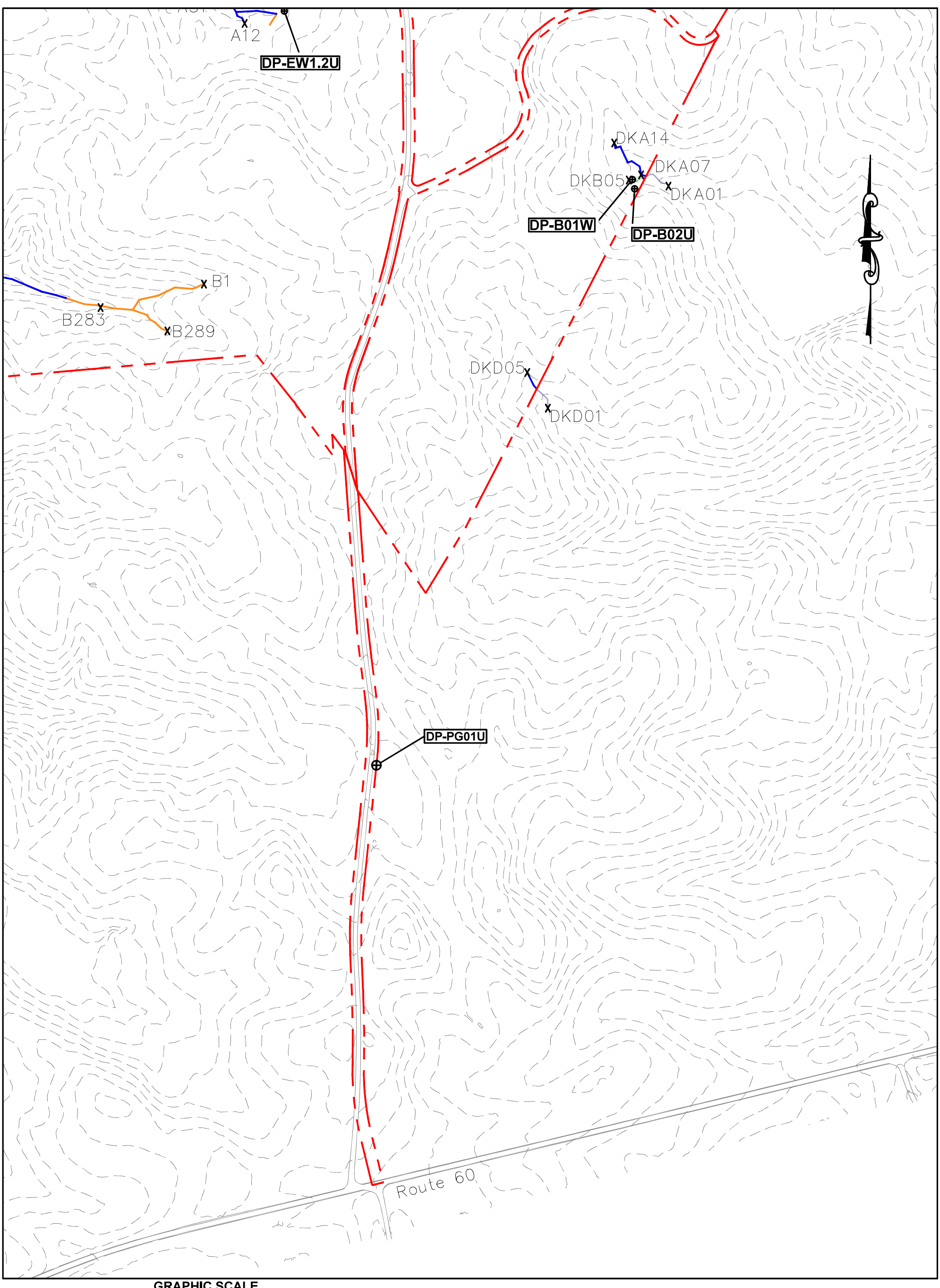

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SECTION 7
WETLAND DELINEATION MAP
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Enclosure 2

USACE Aquatic Resources Table

Appendix 2 – Preliminary Jurisdictional Determination Form

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATROY JURISDICTION

Site Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
SA.1	37.56017000	-78.13879200	304.52 lf	Non-Wetland Waters	Section 404
SA.2	37.56003300	-78.13282700	3972.96 lf	Non-Wetland Waters	Section 404
SA.3	37.56045600	-78.13348900	253.11 lf	Non-Wetland Waters	Section 404
SA.4	37.55739100	-78.12770200	47.52 lf	Non-Wetland Waters	Section 404
SA.5	37.55724600	-78.12733200	180.87 lf	Non-Wetland Waters	Section 404
SA.6	37.55714200	-78.12708000	58.93 lf	Non-Wetland Waters	Section 404
SA.7	37.55717000	-78.12757800	67.44 lf	Non-Wetland Waters	Section 404
SA.8	37.55756900	-78.12861500	142.7 lf	Non-Wetland Waters	Section 404
SA.9	37.55968100	-78.34791000	76.05 lf	Non-Wetland Waters	Section 404
SA.10	37.55967900	-78.13541500	187 lf	Non-Wetland Waters	Section 404
SA.11	37.55977400	-78.13706000	236.8 lf	Non-Wetland Waters	Section 404
SA.12	37.55977800	-78.13877900	264.68 lf	Non-Wetland Waters	Section 404
SB.1	37.13328100	-78.13328100	1884.61 lf	Non-Wetland Waters	Section 404
SB.2	37.55569000	-78.13540100	344.64 lf	Non-Wetland Waters	Section 404
SB.3	37.55535900	-78.13396700	550.42 lf	Non-Wetland Waters	Section 404
SB.4	37.55364500	-78.12944700	481.89 lf	Non-Wetland Waters	Section 404
SB.5	37.55384500	-78.12873400	353.61 lf	Non-Wetland Waters	Section 404
SC.1	37.55241100	-78.13600200	383.46 lf	Non-Wetland Waters	Section 404
SC.2	37.55293500	-78.13551200	471.77 lf	Non-Wetland Waters	Section 404
SD.1	37.56247100	-78.12846400	3127.02 lf	Non-Wetland Waters	Section 404
SD.2	37.56535500	-78.12925300	865.27 lf	Non-Wetland Waters	Section 404
SD.3	37.56571700	-78.12923900	265.1 lf	Non-Wetland Waters	Section 404
SD.4	37.56546000	-78.12861700	299.28 lf	Non-Wetland Waters	Section 404
SD.5	37.56568300	-78.12784000	183.72 lf	Non-Wetland Waters	Section 404
SD.6	37.56439800	-78.12763000	474.43 lf	Non-Wetland Waters	Section 404
SD.7	37.56319600	-78.12873200	131.08 lf	Non-Wetland Waters	Section 404
SD.8	37.56167100	-78.12752400	438.02 lf	Non-Wetland Waters	Section 404
SD.9	37.56169200	-78.12704600	37.66 lf	Non-Wetland Waters	Section 404
SD.10	37.55975400	-78.12587800	91.3 lf	Non-Wetland Waters	Section 404
SD.11	37.55973900	-78.12574000	94.88 lf	Non-Wetland Waters	Section 404
SDK-A	37.55539300	-78.12169300	245.82 lf	Non-Wetland Waters	Section 404
SDK-D	37.55274800	-78.12317100	84.32 lf	Non-Wetland Waters	Section 404
SE.1	37.56733300	-78.12278900	5956.03 lf	Non-Wetland Waters	Section 404
SE.2	37.57414200	-78.12216400	595.66 lf	Non-Wetland Waters	Section 404
SE.3	37.56931400	-78.11925600	1497.57 lf	Non-Wetland Waters	Section 404
SE.4	37.56916000	-78.11787300	600.66 lf	Non-Wetland Waters	Section 404
SE.5	37.56737200	-78.11682600	544.87 lf	Non-Wetland Waters	Section 404
SE.6	37.56947500	-78.12004100	150.04 lf	Non-Wetland Waters	Section 404
SE.7	37.56348100	-78.12020000	1072.65 lf	Non-Wetland Waters	Section 404
SE.8	37.56382300	-78.11932400	250.97 lf	Non-Wetland Waters	Section 404
SE.9	37.56354400	-78.12345800	650.3 lf	Non-Wetland Waters	Section 404
SE.10	37.56301900	-78.12432500	105.24 lf	Non-Wetland Waters	Section 404
SE.11	37.56307000	-78.12445900	127.24 lf	Non-Wetland Waters	Section 404
SE.12	37.56656000	-78.12376700	398.43 lf	Non-Wetland Waters	Section 404
SE.13	37.56895400	-78.12374700	670.55 lf	Non-Wetland Waters	Section 404
SE.14	37.57257200	-78.12197100	48.47 lf	Non-Wetland Waters	Section 404
SF.1	37.57359100	-78.12504200	3231.94 lf	Non-Wetland Waters	Section 404
SF.2	37.57339000	-78.12432400	79.32 lf	Non-Wetland Waters	Section 404
SF.3	37.57273500	-78.12514700	433.92 lf	Non-Wetland Waters	Section 404
SF.4	37.57260300	-78.12471400	253.98 lf	Non-Wetland Waters	Section 404
SF.5	37.57078800	-78.12557800	994.64 lf	Non-Wetland Waters	Section 404
SF.6	37.57050700	-78.12498100	152.93 lf	Non-Wetland Waters	Section 404
SF.7	37.56733300	-78.12278900	616.82 lf	Non-Wetland Waters	Section 404
SG.1	37.57425800	-78.11648200	3145.82 lf	Non-Wetland Waters	Section 404
SG.2	37.57495600	-78.11813700	434.53 lf	Non-Wetland Waters	Section 404
SG.3	37.57453100	-78.11432100	499.88 lf	Non-Wetland Waters	Section 404
SG.4	37.57225600	-78.11401100	438.67 lf	Non-Wetland Waters	Section 404
SG.5	37.57241100	-78.11000000	175.51 lf	Non-Wetland Waters	Section 404
SG.6	37.57177500	-78.11355600	508.62 lf	Non-Wetland Waters	Section 404
SG.7	37.57264400	-78.11779200	2482.76 lf	Non-Wetland Waters	Section 404
SG.8	37.57288500	-78.11696900	579.22 lf	Non-Wetland Waters	Section 404
SG.9	37.57057800	-78.11504500	77.1 lf	Non-Wetland Waters	Section 404
SG.10	37.57009100	-78.11328400	687.78 lf	Non-Wetland Waters	Section 404
SG.11	37.56923000	-78.11415200	589.13 lf	Non-Wetland Waters	Section 404
SG.12	37.57078600	-78.11631400	291.45 lf	Non-Wetland Waters	Section 404
SG.13	37.57158000	-78.11742900	307.63 lf	Non-Wetland Waters	Section 404
SG.14	37.57287200	-78.11841160	200.43 lf	Non-Wetland Waters	Section 404
SG.15	37.57371300	-78.11929500	71.29 lf	Non-Wetland Waters	Section 404
SH.1	37.57675400	-78.12796400	1202.45 lf	Non-Wetland Waters	Section 404
SJ.1	37.55580700	-78.11281000	1615.56 lf	Non-Wetland Waters	Section 404
SJ.2	37.55670600	-78.11336000	127.93 lf	Non-Wetland Waters	Section 404
SJ.3	37.55770800	-78.11407700	68.42 lf	Non-Wetland Waters	Section 404
SJ.4	37.55814600	-78.11474100	539.31 lf	Non-Wetland Waters	Section 404

SJ.5	37.55771500	-78.11440900	29.6 lf	Non-Wetland Waters	Section 404
SK.1	37.55314600	-78.11140100	2910.06 lf	Non-Wetland Waters	Section 404
SK.2	37.54960500	-78.11207400	681.7 lf	Non-Wetland Waters	Section 404
SK.3	37.54881100	-78.11104300	325.64 lf	Non-Wetland Waters	Section 404
SK.4	37.54589900	-78.11375000	1212.47 lf	Non-Wetland Waters	Section 404
SL.1	37.55485800	-78.10919700	1181.22 lf	Non-Wetland Waters	Section 404
SL.2	37.55363400	-78.10882100	362.45 lf	Non-Wetland Waters	Section 404
SL.3	37.55368400	-78.10911700	53.81 lf	Non-Wetland Waters	Section 404
SM.1	37.57235800	-78.12775700	3499.15 lf	Non-Wetland Waters	Section 404
SM.2	37.56957300	-78.12905900	539.08 lf	Non-Wetland Waters	Section 404
SM.3	37.56891000	-78.12786300	145.16 lf	Non-Wetland Waters	Section 404
SM.4	37.56913500	-78.12845300	130.91 lf	Non-Wetland Waters	Section 404
SM.5	37.56735200	-78.13104600	882.37 lf	Non-Wetland Waters	Section 404
SM.6	37.57384000	-78.12730100	396.24 lf	Non-Wetland Waters	Section 404
SM.7	37.57478400	-78.12895900	900.66 lf	Non-Wetland Waters	Section 404
SO.1	37.57768650	-78.11322700	1848.58 lf	Non-Wetland Waters	Section 404
SO.2	37.57751800	-78.11290500	65.82 lf	Non-Wetland Waters	Section 404
SO.3	37.57741200	-78.11279900	58.03 lf	Non-Wetland Waters	Section 404
SO.4	37.57671300	-78.11208400	78.3 lf	Non-Wetland Waters	Section 404
SO.5	37.57623800	-78.11184000	228.76 lf	Non-Wetland Waters	Section 404
SO.6	37.57511200	-78.11224600	308.14 lf	Non-Wetland Waters	Section 404
SO.7	37.57759700	-78.11336800	125 lf	Non-Wetland Waters	Section 404
SO.8	37.57784300	-78.11384400	240.43 lf	Non-Wetland Waters	Section 404
SO.9	37.58013000	-78.11615600	44.09 lf	Non-Wetland Waters	Section 404
SO.10	37.57953900	-78.11596000	406.5 lf	Non-Wetland Waters	Section 404
SO.11	37.57990700	-78.11631300	156.25 lf	Non-Wetland Waters	Section 404
WA	37.55998400	-78.13901900	1.26 ac	Wetland	Section 404
WB	37.55523100	-78.13593000	0.30 ac	Wetland	Section 404
WC	37.55258200	-78.13584700	2.38 ac	Wetland	Section 404
WD	37.55969200	-78.12597400	0.01 ac	Wetland	Section 404
WDK-A	37.55517500	-78.12160200	0.02 ac	Wetland	Section 404
WH	37.57711000	-78.12959500	5.44 ac	Wetland	Section 404
WL	37.55458300	-78.10953200	2.08 ac	Wetland	Section 404
WM.1	37.57415100	-78.12469500	32.50 ac	Wetland	Section 404
WM.2	37.56917600	-78.12814100	0.04 ac	Wetland	Section 404
WM.3	37.56763700	-78.13227700	0.28 ac	Wetland	Section 404
WO.1	37.57985900	-78.11440100	0.03 ac	Wetland	Section 404
WO.2	37.58017100	-78.11621300	0.05 ac	Wetland	Section 404

Enclosure 3

Field Data Points

WETLAND DETERMINATION DATA FORM – Eastern Mountain and Piedmont Region

Project Site: Green Ridge Recycling and Disposal Facility,LLC City/County: Cumberland Sampling Date: 12/8/2022

Applicant/Owner: Green Ridge Recycling and Disposal Facility, LLC State: VA Sampling Point: DP-5.5-01W

Investigator(s): KBJW - D. Kwasniewski, E. Williams Section, Township, Range: Tax Map #44-A-19

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 5-10%

Subregion (LRR or MLRA): MLRA 136, LRR P Lat: 37.569187 Long: -78.128166 Datum: NAD83

Soil Map Unit Name: 42D—Wateree sandy loam, 15 to 25 percent slopes NWI classification: PFO

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes X No ____**
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks: This data point represents a palustrine forested wetland (PFO).
According to the US Army Corps of Engineers Antecedent Precipitation tool, the site is experiencinig normal precipitation conditions; however, the area was in a mild drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Borrows
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface water Present? Yes ____ No X Depth (inches) ____

Water Table Present? Yes ____ No X Depth (inches) ____

Saturation Present? Yes X No ____ Depth (inches) 8
(includes capillary fringe)

Wetland Hydrology Present? **Yes X No ____**

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

Remarks:
Wetland hydrology was observed in the vicinity including soil saturation at 8 inches.

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

Sampling Point: DP-5.5-01W

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Platanus occidentalis*	20	Y	FACW
2. *Ulmus americana*	15	Y	FACW
3. *Liriodendron tulipifera*	10	Y	FACU
4.			
5.			
6.			
7.			
8.			
	45 = Total Cover		
50% of total cover: 22.5	20% of total cover: 9		

Sapling/Shrub Stratum (Plot size: 30ft radius)			
1. *Carpinus caroliniana*	30	Y	FAC
2. *Liquidambar styraciflua*	10	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	40 = Total Cover		
50% of total cover: 20	20% of total cover: 8		

Herb Stratum (Plot size: 30ft radius)			
1. *Smilax rotundifolia*	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9			
10			
11			
12			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		

Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 83% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1 =	0
FACW species		X 2 =	0
FAC species		X 3 =	0
FACU species		X 4 =	0
UPL species		X 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤ 3.00

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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.

Hydrophytic Vegetation Present? **Yes X** **No _**

Remarks: (If observed, list morphological adaptations below).
Hydrophytic vegetation was observed to be dominant in the vicinity.

SOIL

Sampling Point DP-5.5-01W

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/3	100					SiL	No redox concentrations
3-8	10YR 4/3	100					FSL	No redox concentrations
8-16	10YR 4/2	98	5YR 4/6	2	C	M	FSL	Prominent redox concentrations
16-20	10YR 4/1	95	7.5YR 4/6	5	C	M	FSL	Prominent redox concentrations

[1] Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ 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)
- X 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)**
- ___ Red Parent Material (TF2) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coastal Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Hydric soils were observed in this location.

WETLAND DETERMINATION DATA FORM – Eastern Mountain and Piedmont Region

Project Site: Green Ridge Recycling and Disposal Facility,LLC City/County: Cumberland Sampling Date: 12/8/2022

Applicant/Owner: Green Ridge Recycling and Disposal Facility, LLC State: VA Sampling Point: DP-5.5-02U

Investigator(s): KBJW - D. Kwasniewski, E. Williams Section, Township, Range: Tax Map #44-A-19

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 5-10%

Subregion (LRR or MLRA): MLRA 136, LRR P Lat: 37.569206 Long: -78.128303 Datum: NAD83

Soil Map Unit Name: 42D—Wateree sandy loam, 15 to 25 percent slopes NWI classification: UPL

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** **X**
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: This data point represents an upland location (UPL).
According to the US Army Corps of Engineers Antecedent Precipitation tool, the site is experiencinig normal precipitation conditions; however, the area was in a mild drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Borrows
- ____ 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 X Depth (inches) ____

Water Table Present? Yes ____ No X Depth (inches) ____

Saturation Present? Yes ____ No X Depth (inches) ____
(includes capillary fringe)

Wetland Hydrology Present? **Yes** ____ **No** **X**

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

Remarks:
No primary or secondary indicators of hydrology were observed on this day.

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

Sampling Point: DP-5.5-02U

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	25	Y	FAC
2. *Juniperus virginiana*	10	Y	FACU
3. *Liquidambar styraciflua*	10	Y	FAC
4.			
5.			
6.			
7.			
8.			
	45 = Total Cover		

50% of total cove 22.5 20% of total cover: 9

Sapling/Shrub Stratum (Plot size: 30ft radius)			
1. *Carpinus caroliniana*	30	Y	FAC
2. *Acer rubrum*	15	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	45 = Total Cover		

50% of total cove 22.5 20% of total cover: 9

Herb Stratum (Plot size: 30ft radius)			
1. *Lonicera japonica*	5	Y	FACU
2. *Polystichum acrostichoides*	5	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9			
10			
11			
12			
	10 = Total Cover		

50% of total cover: 5 20% of total cover: 2

Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		

50% of total cove 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 57% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1 =	0
FACW species		X 2 =	0
FAC species		X 3 =	0
FACU species		X 4 =	0
UPL species		X 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤ 3.00

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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.

Hydrophytic Vegetation Present? **Yes X** **No** _

Remarks: (If observed, list morphological adaptations below).

Hydrophytic vegetation was not observed to be dominant in the vicinity.

SOIL

Sampling Point DP-5.5-02U

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/3	100					Loam	No redox concentrations
1-10	10YR 4/4	100					Loam	No redox concentrations
10-20	7.5YR 4/3	98	5YR 4/4	2	C	M	Loam	Prominent redox concentrations

[1] Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ 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)**
- ___ Red Parent Material (TF2) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coastal Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

Hydric soils were not observed in this location. Clay content was observed to increase with depth.

WETLAND DETERMINATION DATA FORM – Eastern Mountain and Piedmont Region

Project Site: Green Ridge Recycling and Disposal Facility,LLC City/County: Cumberland Sampling Date: 1/6/2023

Applicant/Owner: Green Ridge Recycling and Disposal Facility, LLC State: VA Sampling Point: DP-E01U

Investigator(s): KBJW - D. Kwasniewski, E. Williams Section, Township, Range: Tax Map #44-A-19-A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 2-5%

Subregion (LRR or MLRA): MLRA 136, LRR P Lat: 37.563121 Long: -78.128993 Datum: NAD83

Soil Map Unit Name: 2C—Appling-Helena complex, 7 to 15 percent slopes NWI classification: UPL

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** **X**
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: This data point represents an upland location (UPL).
According to the US Army Corps of Engineers Antecedent Precipitation tool, the site is experiencing wetter than normal precipitation conditions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Borrows
- ____ 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 X Depth (inches) ____

Water Table Present? Yes ____ No X Depth (inches) ____

Saturation Present? Yes X No ____ Depth (inches) 13

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ____ **No** **X**

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

Remarks:
Wetland hydrology was not observed in the vicinity.

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

Sampling Point: DP-E01U

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liriodendron tulipifera*	50	Y	FACU
2. *Fagus grandifolia*	5	N	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	55 = Total Cover		
50% of total cover: 27.5	20% of total cover: 11		

Sapling/Shrub Stratum (Plot size: 30ft radius)			
1. *Carpinus caroliniana*	20	Y	FAC
2. *Ilex opaca*	5	N	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	25 = Total Cover		
50% of total cover: 12.5	20% of total cover: 5		

Herb Stratum (Plot size: 30ft radius)			
1. *Smilax rotundifolia*	5	Y	FAC
2. *Polystichum acrostichoides*	5	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9			
10			
11			
12			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1 =	0
FACW species		X 2 =	0
FAC species		X 3 =	0
FACU species		X 4 =	0
UPL species		X 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

_ 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤ 3.00

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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.

Hydrophytic Vegetation Present? **Yes** _ **No** X

Remarks: (If observed, list morphological adaptations below).

Hydrophytic vegetation was not observed to be dominant in the vicinity.

SOIL

Sampling Point DP-E01U

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/2	100					FSL	No redox concentrations
1-4	10YR 3/4	100					FSL	No redox concentrations
4-13	10YR 4/4	100					FSL	No redox concentrations
13-19	10YR 4/3	99	7.5YR 4/6	1	C	M	FSL	Prominent redox concentrations
19-20	2.5Y 4/3	98	7.5YR 4/4	2	C	M	FSL	Prominent redox concentrations

[1] Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ 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)**
- ___ Red Parent Material (TF2) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coastal Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

Hydric soils were not observed in this location. Soil was observed to be moist from 0-13 inches and saturated below 13 inches.

WETLAND DETERMINATION DATA FORM – Eastern Mountain and Piedmont Region

Project Site: Green Ridge Recycling and Disposal Facility,LLC City/County: Cumberland Sampling Date: 1/6/2023

Applicant/Owner: Green Ridge Recycling and Disposal Facility, LLC State: VA Sampling Point: DP-EM-A01U

Investigator(s): KBJW - D. Kwasniewski, E. Williams Section, Township, Range: Tax Map #45-1-41

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 2-5%

Subregion (LRR or MLRA): MLRA 136, LRR P Lat: 37.55469 Long: -78.10968 Datum: NAD83

Soil Map Unit Name: 8A - Chewacla and Monacan soils, 0 to 2 percent slopes, frequently flooded NWI classification: UPL

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** **X**
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: This data point represents an upland location (UPL). Spoil piles were observed throughout this upland area adjacent to the mapped stream and wetland complex.
According to the US Army Corps of Engineers Antecedent Precipitation tool, the site is experiencing wetter than normal precipitation conditions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Borrows
- ____ 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 X Depth (inches) ____

Water Table Present? Yes ____ No X Depth (inches) ____

Saturation Present? Yes ____ No X Depth (inches) ____
(includes capillary fringe)

Wetland Hydrology Present? **Yes** ____ **No** **X**

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

Remarks:
No primary or secondary indicators of hydrology were observed on this day.

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

Sampling Point: DP-EM-A01U

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	35	Y	FAC
2. *Ulmus americana*	15	Y	FACW
3. *Liriodendron tulipifera*	10	N	FACU
4. *Fagus grandifolia*	5	N	FACU
5.			
6.			
7.			
8.			
	65	= Total Cover	
50% of total cover:	32.5	20% of total cover:	13

Sapling/Shrub Stratum (Plot size: 30ft radius)			
1. *Lindera benzoin*	10	Y	FAC
2. *Ilex opaca*	5	Y	FACU
3. *Liriodendron tulipifera*	5	Y	FACU
4. *Liquidambar styraciflua*	5	Y	FAC
5.			
6.			
7.			
8.			
	25	= Total Cover	
50% of total cover:	12.5	20% of total cover:	5

Herb Stratum (Plot size: 30ft radius)			
1. *Lonicera japonica*	10	Y	FACU
2. *Polystichum acrostichoides*	5	Y	FACU
3. *Smilax rotundifolia*	5	Y	FAC
4.			
5.			
6.			
7.			
8.			
9			
10			
11			
12			
	20	= Total Cover	
50% of total cover:	10	20% of total cover:	4

Woody Vine Stratum (Plot size: 30ft radius)			
1. *Toxicodendron radicans*	5	Y	FAC
2. *Vitis rotundifolia*	5	Y	FAC
3.			
4.			
5.			
	10	= Total Cover	
50% of total cover:	5	20% of total cover:	2

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 11 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 64% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1 =	0
FACW species		X 2 =	0
FAC species		X 3 =	0
FACU species		X 4 =	0
UPL species		X 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤ 3.00

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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.

Hydrophytic Vegetation Present? **Yes** X **No** _

Remarks: (If observed, list morphological adaptations below).

Hydrophytic vegetation was observed to be dominant in the vicinity.

SOIL

Sampling Point DP-EM-A01U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-7	10YR 3/4	100					Loam	No redox concentrations
7-14	10YR 4/3	95	7.5YR 3/4	5	C	M	Loam	Prominent redox concentrations
14-20	2.5Y 4/3	80	2.5Y 4/3	20	C	M	CL	Prominent redox concentrations

[1] Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ 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)**
- ___ Red Parent Material (TF2) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coastal Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

Hydric soils were not observed in this location. Soil was observed to be moist throughout.

WETLAND DETERMINATION DATA FORM – Eastern Mountain and Piedmont Region

Project Site: Green Ridge Recycling and Disposal Facility,LLC City/County: Cumberland Sampling Date: 1/30/2023

Applicant/Owner: Green Ridge Recycling and Disposal Facility, LLC State: VA Sampling Point: DP-G01U

Investigator(s): KBJW - D. Kwasniewski, E. Williams, E.Myers Section, Township, Range: Tax Map #38-A-7

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 5-10%

Subregion (LRR or MLRA): MLRA 136, LRR P Lat: 37.574417 Long: -78.118305 Datum: NAD83

Soil Map Unit Name: 32D—Poindexter-Wedowee complex, 15 to 25 percent slopes NWI classification: UPL

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** **X**
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: This data point represents an upland location (UPL).
According to the US Army Corps of Engineers Antecedent Precipitation tool, the site is experiencinig normal precipitation conditions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Borrows
- ____ 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 X	Depth (inches) ____	
Water Table Present?	Yes ____	No X	Depth (inches) ____	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches) ____	**Wetland Hydrology Present?** **Yes** ____ **No** **X**

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

Remarks:
Wetland hydrology was not observed in the vicinity.

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

Sampling Point: DP-G01U

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus taeda*	40	Y	FAC
2. *Liriodendron tulipifera*	20	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	60 = Total Cover		
50% of total cove 30	20% of total cover: 12		

Sapling/Shrub Stratum (Plot size: 30ft radius)			
1. *Juniperus virginiana*	10	Y	FACU
2. *Liriodendron tulipifera*	10	Y	FACU
3. *Carpinus caroliniana*	10	Y	FAC
4. *Quercus alba*	5	N	FACU
5. *Cornus florida*	5	N	FACU
6.			
7.			
8.			
	40 = Total Cover		
50% of total cove 20	20% of total cover: 8		

Herb Stratum (Plot size: 30ft radius)			
1. *Polystichum acrostichoides*	10	Y	FACU
2. *Lonicera japonica*	5	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9			
10			
11			
12			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		

Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cove 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 29% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1 =	0
FACW species		X 2 =	0
FAC species		X 3 =	0
FACU species		X 4 =	0
UPL species		X 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

_ 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤ 3.00

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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.

Hydrophytic Vegetation Present? **Yes** _ **No** X

Remarks: (If observed, list morphological adaptations below).

Hydrophytic vegetation was not observed to be dominant in the vicinity.

SOIL

Sampling Point: DP-G01U

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/3	100					FSL	No redox concentrations
7-11	7.5YR 5/6	75					FSCL	No redox concentrations
	10YR 3/3	25						Mixed Matrix
11-20	10YR 4/2	75					FSC	No redox concentrations
	7.5YR 4/6	25						Mixed Matrix

[1] Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ 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)**
- ___ Red Parent Material (TF2) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coastal Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

Hydric soils were not observed in this location.

WETLAND DETERMINATION DATA FORM – Eastern Mountain and Piedmont Region

Project Site: Green Ridge Recycling and Disposal Facility,LLC City/County: Cumberland Sampling Date: 1/30/2023

Applicant/Owner: Green Ridge Recycling and Disposal Facility, LLC State: VA Sampling Point: DP-G02U

Investigator(s): KBJW - D. Kwasniewski, E. Williams, E.Myers Section, Township, Range: Tax Map #44-A-1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 10-15%

Subregion (LRR or MLRA): MLRA 136, LRR P Lat: 37.573061 Long: -78.119615 Datum: NAD83

Soil Map Unit Name: 32C—Poindexter-Wedowee complex, 7 to 15 percent slopes NWI classification: UPL

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?**	**Yes** ____	**No X**
Hydric Soil Present?	Yes ____	No X			
Wetland Hydrology Present?	Yes ____	No X			

Remarks: This data point represents an upland location (UPL).
According to the US Army Corps of Engineers Antecedent Precipitation tool, the site is experiencinig normal precipitation conditions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Borrows
- ____ 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 X	Depth (inches) ____		
Water Table Present?	Yes X	No ____	Depth (inches) 16		
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches) 16	**Wetland Hydrology Present?**	**Yes** ____ **No X**

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

Remarks:
No primary or secondary indicators of hydrology were observed on this day.

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

Sampling Point: DP-G02U

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus taeda*	40	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	40 = Total Cover		
50% of total cover: 20	20% of total cover: 8		

Sapling/Shrub Stratum (Plot size: 30ft radius)			
1. *Liriodendron tulipifera*	10	Y	FACU
2. *Acer rubrum*	10	Y	FAC
3. *Carpinus caroliniana*	10	Y	FAC
4. *Liquidambar styraciflua*	5	N	FAC
5. *Cornus florida*	5	N	FACU
6.			
7.			
8.			
	40 = Total Cover		
50% of total cover: 20	20% of total cover: 8		

Herb Stratum (Plot size: 30ft radius)			
1. *Lonicera japonica*	10	Y	FACU
2. *Polystichum acrostichoides*	10	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9			
10			
11			
12			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		

Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1 =	0
FACW species		X 2 =	0
FAC species		X 3 =	0
FACU species		X 4 =	0
UPL species		X 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

_ 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤ 3.00

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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.

Hydrophytic Vegetation Present? **Yes** _ **No X**

Remarks: (If observed, list morphological adaptations below).

Hydrophytic vegetation was not observed to be dominant in the vicinity.

SOIL

Sampling Point: DP-G02U

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 4/3	90	10YR 3/4	10	C	M	FSL	Faint redox concentrations
7-11	2.5Y 5/3	98	7.5YR 4/6	2	C	M	FSL	Prominent redox concentrations
11-16	10YR 5/3	95	10YR 4/4	5	C	M	FSL	Faint redox concentrations
16-20	2.5Y 5/3	95	10YR 3/4	5	C	M	FSL	Distinct redox concentrations

[1] Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ 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)**
- ___ Red Parent Material (TF2) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coastal Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

Hydric soils were not observed in this location.

WETLAND DETERMINATION DATA FORM – Eastern Mountain and Piedmont Region

Project Site: Green Ridge Recycling and Disposal Facility,LLC City/County: Cumberland Sampling Date: 2/2/2023

Applicant/Owner: Green Ridge Recycling and Disposal Facility, LLC State: VA Sampling Point: DP-M01U

Investigator(s): KBJW - D. Kwasniewski, E. Williams, E.Myers Section, Township, Range: Tax Map #44-A-19

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 0-2%

Subregion (LRR or MLRA): MLRA 136, LRR P Lat: 37.569442 Long: -78.131615 Datum: NAD83

Soil Map Unit Name: 8A - Chewacla and Monacan soils, 0 to 2 percent slopes, frequently flooded NWI classification: UPL

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?**	**Yes** ____	**No X**
Hydric Soil Present?	Yes ____	No X			
Wetland Hydrology Present?	Yes ____	No X			

Remarks: This data point represents an upland location (UPL).
According to the US Army Corps of Engineers Antecedent Precipitation tool, the site is experiencinig normal precipitation conditions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Borrows
- ____ 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 X	Depth (inches) ____	**Wetland Hydrology Present?**	**Yes** ____ **No X**
Water Table Present?	Yes X	No ____	Depth (inches) 17		
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches) 17		

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

Remarks:
No primary or secondary indicators of hydrology were observed on this day.

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

Sampling Point: DP-M01U

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	15	Y	FAC
2. *Liriodendron tulipifera*	15	Y	FACU
3. *Betula nigra*	15	Y	FACW
4. *Prunus serotina*	10	N	FACU
5.			
6.			
7.			
8.			
	55 = Total Cover		
50% of total cover: 27.5	20% of total cover: 11		

Sapling/Shrub Stratum (Plot size: 30ft radius)			
1. *Carpinus caroliniana*	50	Y	FAC
2. *Platanus occidentalis*	5	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	55 = Total Cover		
50% of total cover: 27.5	20% of total cover: 11		

Herb Stratum (Plot size: 30ft radius)			
1. *Allium canadense*	10	Y	FACU
2. *Lonicera japonica*	5	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9			
10			
11			
12			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		

Woody Vine Stratum (Plot size: 30ft radius)			
1. *Vitus rotundifolia*	10	Y	FACU
2.			
3.			
4.			
5.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 43% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1 =	0
FACW species		X 2 =	0
FAC species		X 3 =	0
FACU species		X 4 =	0
UPL species		X 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

_ 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤ 3.00

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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.

Hydrophytic Vegetation Present? **Yes** _ **No** X

Remarks: (If observed, list morphological adaptations below).

Hydrophytic vegetation was not observed to be dominant in the vicinity.

SOIL

Sampling Point: DP-M01U

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 5/6	100					FSL	No redox concentrations
7-12	10YR 5/3	100					FSL	No redox concentrations
12-20	10YR 5/4	95	7.5YR 4/4	5	C	M	FSCL	Faint redox concentrations

[1] Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ 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)**
- ___ Red Parent Material (TF2) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coastal Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

Hydric soils were not observed in this location.

WETLAND DETERMINATION DATA FORM – Eastern Mountain and Piedmont Region

Project Site: Green Ridge Recycling and Disposal Facility,LLC City/County: Cumberland Sampling Date: 2/23/2023

Applicant/Owner: Green Ridge Recycling and Disposal Facility, LLC State: VA Sampling Point: DP-PG01U

Investigator(s): KBJW - D. Kwasniewski, E. Williams Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 0-2%

Subregion (LRR or MLRA): MLRA 136, LRR P Lat: 37.5481 Long: -78.12555 Datum: NAD83

Soil Map Unit Name: 21B—Helena sandy loam, 2 to 7 percent slopes NWI classification: UPL

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?**	**Yes**	**No X**
Hydric Soil Present?	Yes	No X			
Wetland Hydrology Present?	Yes X	No			

Remarks: This data point represents an upland location (UPL).
This data point location is positioned upslope of a single culvert pipe inlet going under Pine Grove Road.
According to the US Army Corps of Engineers Antecedent Precipitation tool, the site is experiencinig normal precipitation conditions. However, the site is in a mild drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Borrows
- 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 X	Depth (inches)		
Water Table Present?	Yes X	No	Depth (inches)	8	
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches)	0	

Wetland Hydrology Present? **Yes X 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: DP-PG01U

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	20	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	20 = Total Cover		
50% of total cove 10	20% of total cover: 4		

Sapling/Shrub Stratum (Plot size: 30ft radius)			
1. *Acer negundo*	15	Y	FAC
2. *Gleditsia triacanthos*	15	Y	FAC
3. *Juniperus virginiana*	10	Y	FACU
4.			
5.			
6.			
7.			
8.			
	40 = Total Cover		
50% of total cove 20	20% of total cover: 8		

Herb Stratum (Plot size: 30ft radius)			
1. *Microstegium vimineum*	20	Y	FAC
2. *Lonicera japonica*	15	Y	FACU
3. *Rubus allegheniensis*	15	Y	FACU
4. *Allium canadense*	10	N	FACU
5.			
6.			
7.			
8.			
9			
10			
11			
12			
	60 = Total Cover		
50% of total cover: 30	20% of total cover: 12		

Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cove 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 57% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1 =	0
FACW species		X 2 =	0
FAC species		X 3 =	0
FACU species		X 4 =	0
UPL species		X 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤ 3.00

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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.

Hydrophytic Vegetation Present? **Yes X** **No _**

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: DP-PG01U

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 4/4	100					CL	no redox concentrations
2-19	10YR 4/3	95	7.5YR 4/4	5	C	M	CL	faint redox concentrations
19-20	2.5Y 4/3	98	7.5YR 4/4	2	C	M	FSCL	distinct redox concentrations

[1] Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ 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)**
- ___ Red Parent Material (TF2) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coastal Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

Hydric soils were not observed in this location.

Enclosure 4

Representative Site Photographs

Exhibit 4: Representative Site Photographs

DP-5.5-01W Soils (PFO)

DP-5.5-01W Surrounding Area Looking Upslope

DP-5.5-01W Surrounding Area Looking Downslope

Exhibit 4: Representative Site Photographs

DP-5.5-02U Soils (UPL)

DP-5.5-02U Surrounding Area Looking Upslope

DP-5.5-02U Surrounding Area Looking Downslope

Exhibit 4: Representative Site Photographs

DP-2-E01U Soils (UPL)

DP-2-E01U Surrounding Area Looking Upslope

DP-2-E01U Surrounding Area Looking Downslope

Exhibit 4: Representative Site Photographs

DP-EM-A01U Soils (UPL)

DP-2-E01U Surrounding Area Looking Southwest

DP-2-E01U Surrounding Area Looking Northeast

Exhibit 4: Representative Site Photographs

DP-G01U Soils (UPL)

DP-G01U Surrounding Area Looking Upslope

DP-G01U Surrounding Area Looking Downslope

Exhibit 4: Representative Site Photographs

DP-G02U Soils (UPL)

DP-G02U Surrounding Area Looking Upslope

DP-G02U Surrounding Area Looking Downslope

Exhibit 4: Representative Site Photographs

DP-M01U Soils (UPL)

DP-M01U Surrounding Area Looking Southwest

DP-M01U Surrounding Area Looking Northeast

Exhibit 4: Representative Site Photographs

DP-PG01U Soils (UPL)

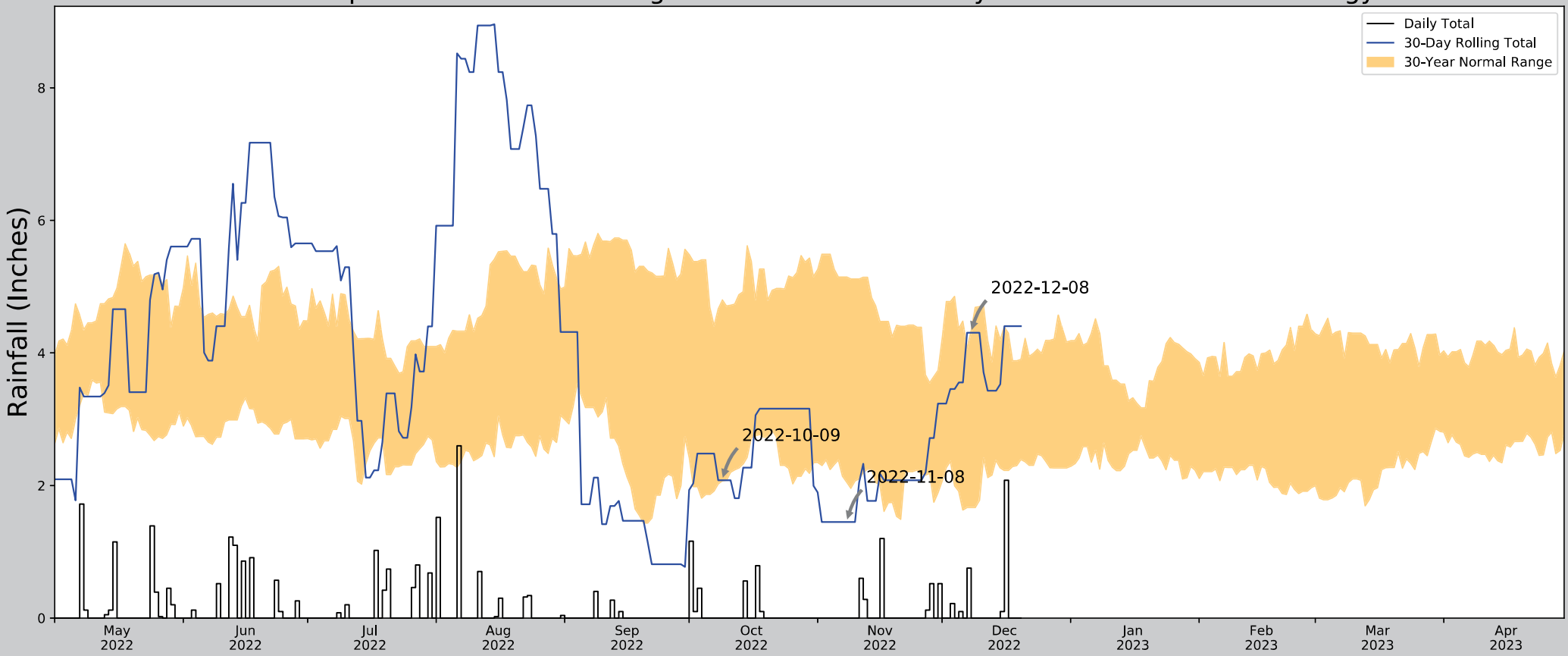
DP-PG01U Surrounding Area Looking North along the east side of Pine Grove Road

DP-PG01U Surrounding Area Looking South along the east side of Pine Grove Road

Enclosure 5

Antecedent Precipitation Tool data

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	37.56705, -78.12965
Observation Date	2022-12-08
Elevation (ft)	292.22
Drought Index (PDSI)	Mild drought (2022-11)
WebWIMP H_2O Balance	Wet Season

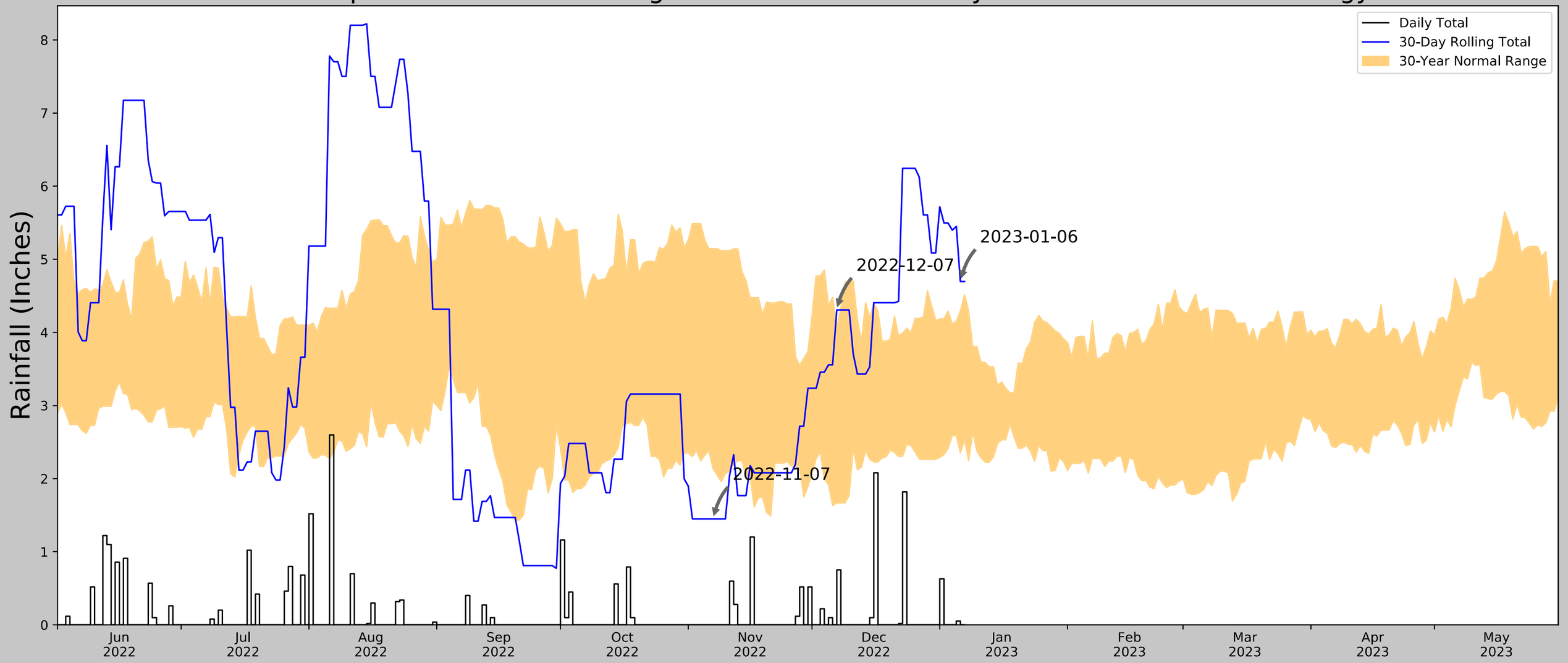
30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-12-08	1.666929	4.332677	4.307087	Normal	2	3	6
2022-11-08	2.046457	5.144882	1.448819	Dry	1	2	2
2022-10-09	2.071654	4.8	2.07874	Normal	2	1	2
Result							Normal Conditions - 10

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
CROZIER	37.6664, -77.8769	279.856	15.442	12.364	7.14	10873	90
COLUMBIA 17.2 SSE	37.5308, -78.0233	312.008	6.341	19.788	2.979	60	0
CUMBERLAND 0.4 NE	37.5014, -78.2401	445.866	7.563	153.646	4.565	5	0
POWHATAN 5.0 NW	37.6102, -77.9495	285.105	10.304	7.115	4.71	2	0
NEW CANTON 2.6 SE	37.6794, -78.2631	308.071	10.658	15.851	4.965	4	0
CUMBERLAND	37.5, -78.25	459.974	8.059	167.754	4.978	10	0
POWHATAN 3.2 SW	37.5048, -77.9548	336.942	10.501	44.722	5.195	1	0
BREMO BLUFF	37.7092, -78.2886	225.066	13.119	67.154	6.784	298	0
POWHATAN	37.5144, -77.8858	399.934	13.846	107.714	7.722	87	0
RICE 7.3 NE	37.3685, -78.2274	377.953	14.729	85.733	7.891	2	0
AMELIA COURTHOUSE	37.345, -77.9781	345.144	17.449	52.924	8.776	11	0

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	37.56667, -78.12222
Observation Date	2023-01-06
Elevation (ft)	292.25
Drought Index (PDSI)	Not available
WebWIMP H_2O Balance	Wet Season

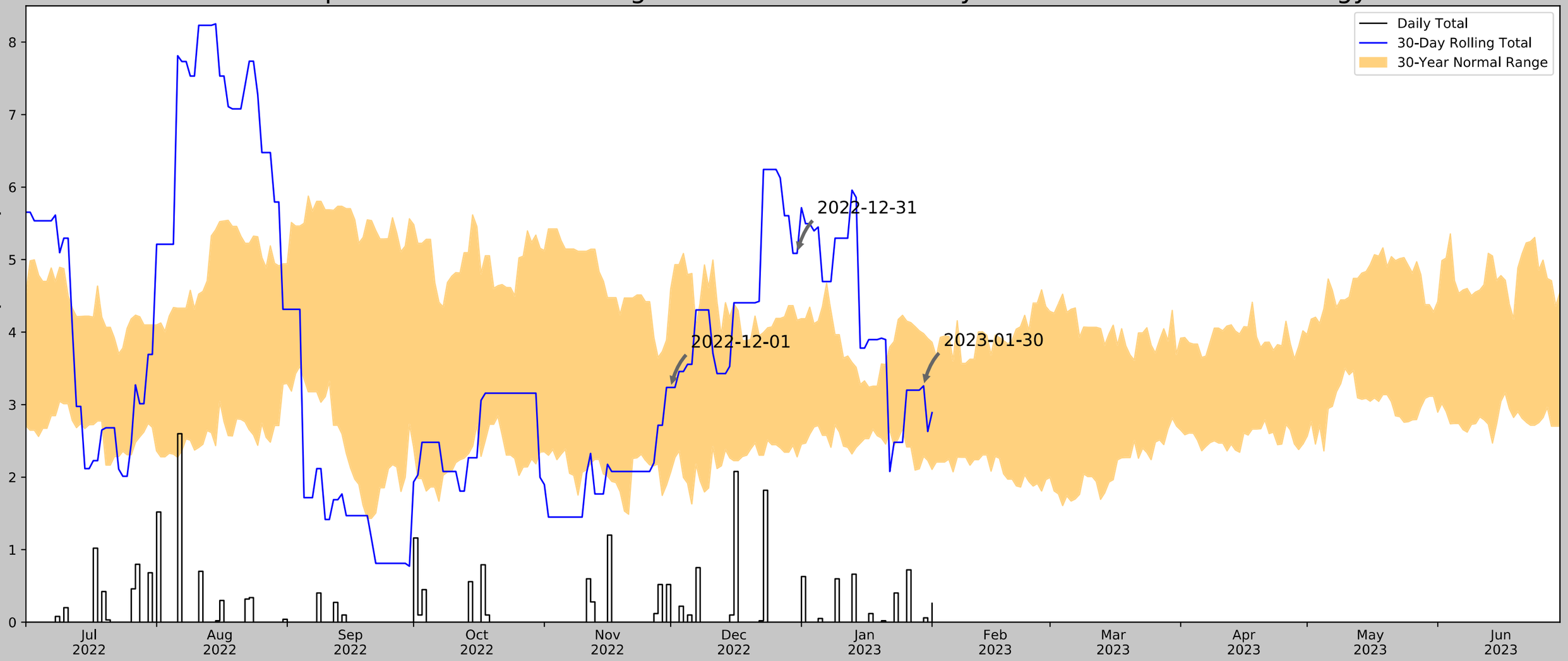
30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-01-06	2.351575	4.292914	4.696851	Wet	3	3	9
2022-12-07	1.666929	4.059843	4.307087	Wet	3	2	6
2022-11-07	2.137402	5.144882	1.448819	Dry	1	1	1
Result							Wetter than Normal - 16

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
CROZIER	37.6664, -77.8769	279.856	15.091	12.394	6.978	10873	89
COLUMBIA 17.2 SSE	37.5308, -78.0233	312.008	5.959	19.758	2.799	60	0
POWHATAN 5.0 NW	37.6102, -77.9495	285.105	9.923	7.145	4.536	2	0
CUMBERLAND 0.4 NE	37.5014, -78.2401	445.866	7.877	153.616	4.755	5	0
POWHATAN 3.2 SW	37.5048, -77.9548	336.942	10.12	44.692	5.006	5	1
CUMBERLAND	37.5, -78.25	459.974	8.381	167.724	5.177	10	0
BREMO BLUFF	37.7092, -78.2886	225.066	13.411	67.184	6.936	298	0
POWHATAN	37.5144, -77.8858	399.934	13.447	107.684	7.499	87	0
RICE 7.3 NE	37.3685, -78.2274	377.953	14.858	85.703	7.959	2	0
AMELIA COURTHOUSE	37.345, -77.9781	345.144	17.235	52.894	8.668	11	0

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	37.569442, -78.131615
Observation Date	2023-01-30
Elevation (ft)	251.62
Drought Index (PDSI)	Not available
WebWIMP H_2O Balance	Wet Season

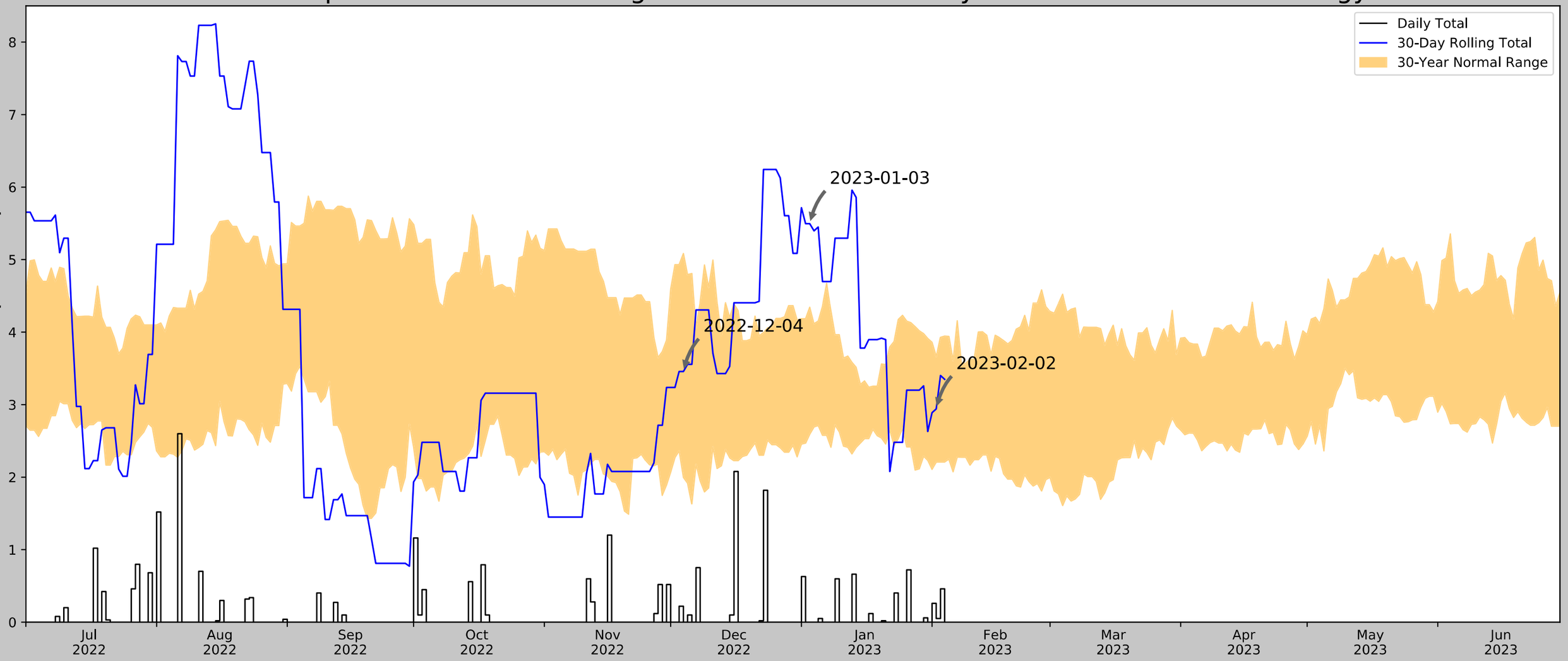
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-01-30	2.288189	3.979134	3.259843	Normal	2	3	6
2022-12-31	2.281102	4.164173	5.086614	Wet	3	2	6
2022-12-01	2.067323	4.592126	3.236221	Normal	2	1	2
Result							Normal Conditions - 14

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
CROZIER	37.6664, -77.8769	279.856	15.466	28.236	7.396	10873	89
POWHATAN 5.0 NW	37.6102, -77.9495	285.105	5.555	5.249	2.529	2	0
POWHATAN 7.8 NE	37.5877, -77.7872	259.843	7.325	20.013	3.443	2	1
ROCKVILLE 5.1 W	37.7211, -77.7705	375.984	6.937	96.128	3.788	4	0
MANAKIN-SABOT 1.6 SW	37.6341, -77.7422	211.942	7.699	67.914	3.987	3	0
COLUMBIA 11.6 ENE	37.8165, -77.9685	318.898	11.515	39.042	5.631	26	0
COLUMBIA 17.2 SSE	37.5308, -78.0233	312.008	12.329	32.152	5.944	41	0
POWHATAN	37.5144, -77.8858	399.934	10.513	120.078	5.993	345	0
POWHATAN 6.6 SE	37.4883, -77.8212	341.864	12.678	62.008	6.491	9	0
MIDLOTHIAN 2.8 NW	37.5336, -77.6865	253.937	13.886	25.919	6.609	4	0
GLEN ALLEN 6.8 WNW	37.6838, -77.6058	275.919	14.874	3.937	6.752	2	0
GLEN ALLEN 4.6 W	37.6554, -77.5687	272.966	16.875	6.89	7.71	38	0
ASHLAND	37.7553, -77.485	220.144	22.285	59.712	11.359	4	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	37.569442, -78.131615
Observation Date	2023-02-02
Elevation (ft)	251.62
Drought Index (PDSI)	Not available
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-02-02	2.208268	3.661417	2.940945	Normal	2	3	6
2023-01-03	2.59252	4.343307	5.496063	Wet	3	2	6
2022-12-04	1.99685	5.084252	3.456693	Normal	2	1	2
Result							Normal Conditions - 14

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
CROZIER	37.6664, -77.8769	279.856	15.466	28.236	7.396	10873	89
POWHATAN 5.0 NW	37.6102, -77.9495	285.105	5.555	5.249	2.529	2	0
POWHATAN 7.8 NE	37.5877, -77.7872	259.843	7.325	20.013	3.443	2	1
ROCKVILLE 5.1 W	37.7211, -77.7705	375.984	6.937	96.128	3.788	4	0
MANAKIN-SABOT 1.6 SW	37.6341, -77.7422	211.942	7.699	67.914	3.987	3	0
COLUMBIA 11.6 ENE	37.8165, -77.9685	318.898	11.515	39.042	5.631	26	0
COLUMBIA 17.2 SSE	37.5308, -78.0233	312.008	12.329	32.152	5.944	41	0
POWHATAN	37.5144, -77.8858	399.934	10.513	120.078	5.993	345	0
POWHATAN 6.6 SE	37.4883, -77.8212	341.864	12.678	62.008	6.491	9	0
MIDLOTHIAN 2.8 NW	37.5336, -77.6865	253.937	13.886	25.919	6.609	4	0
GLEN ALLEN 6.8 WNW	37.6838, -77.6058	275.919	14.874	3.937	6.752	2	0
GLEN ALLEN 4.6 W	37.6554, -77.5687	272.966	16.875	6.89	7.71	38	0
ASHLAND	37.7553, -77.485	220.144	22.285	59.712	11.359	4	0

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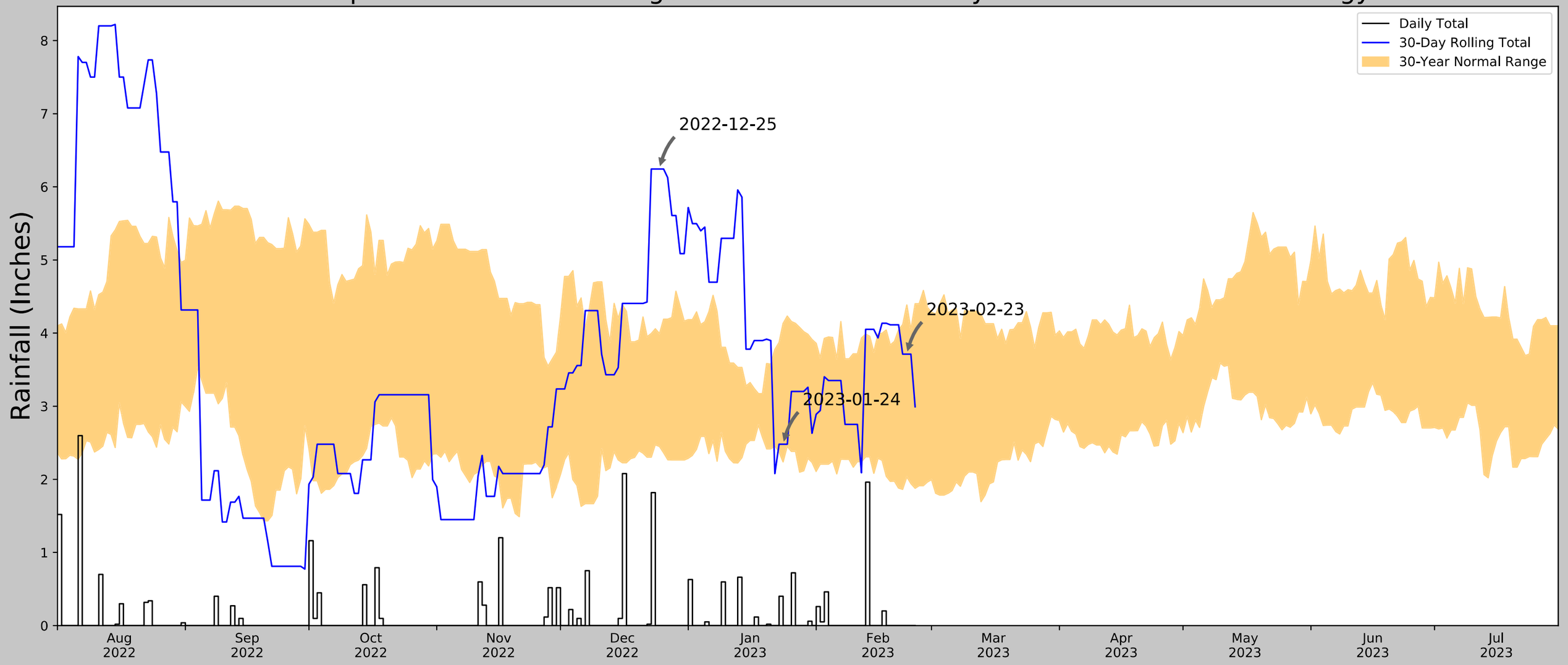

Coordinates	37.56667, -78.12222
Observation Date	2023-02-23
Elevation (ft)	292.25
Drought Index (PDSI)	Mild drought (2023-01)
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-02-23	2.034252	4.383858	3.712599	Normal	2	3	6
2023-01-24	2.238583	4.133858	2.480315	Normal	2	2	4
2022-12-25	2.448032	3.993307	6.244095	Wet	3	1	3
Result							Normal Conditions - 13

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
CROZIER	37.6664, -77.8769	279.856	15.091	12.394	6.978	10873	90
COLUMBIA 17.2 SSE	37.5308, -78.0233	312.008	5.959	19.758	2.799	60	0
POWHATAN 5.0 NW	37.6102, -77.9495	285.105	9.923	7.145	4.536	2	0
CUMBERLAND 0.4 NE	37.5014, -78.2401	445.866	7.877	153.616	4.755	5	0
POWHATAN 3.2 SW	37.5048, -77.9548	336.942	10.12	44.692	5.006	5	0
CUMBERLAND	37.5, -78.25	459.974	8.381	167.724	5.177	10	0
BREMO BLUFF	37.7092, -78.2886	225.066	13.411	67.184	6.936	298	0
POWHATAN	37.5144, -77.8858	399.934	13.447	107.684	7.499	87	0
RICE 7.3 NE	37.3685, -78.2274	377.953	14.858	85.703	7.959	2	0
AMELIA COURTHOUSE	37.345, -77.9781	345.144	17.235	52.894	8.668	11	0

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Enclosure 6

Report titled Supplemental Information to the Preliminary Jurisdictional Determination Request submitted September 29, 2022 (Evaluation of the Area Surrounding Stream Reach 4.2)

KOONTZ BRYANT JOHNSON WILLIAMS

Green Ridge Recycling and Disposal Facility
(NAO-2018-0995 (Muddy Creek))

Supplemental Information to the Preliminary Jurisdictional Determination Request submitted September 29, 2022
(Evaluation of the Area Surrounding Stream Reach 4.2)

Cumberland County, Virginia

February 8, 2023

Table of Contents

Exhibits

INTRODUCTION

On behalf of Green Ridge Recycling and Disposal Facility, LLC, Koontz Bryant Johnson Williams (KBJW) is submitting the enclosed supplemental information and supporting documentation as an appendix to the information that was submitted to the US Army Corps of Engineers (USACE), Western Virginia Regulatory Section Office on September 29, 2022, as part of a Preliminary Jurisdictional Determination (PJD) request. On December 8, 2022, KBJW conducted an onsite evaluation of stream Reach 4.2. Newly identified information for the area is provided herein. This evaluation occurred following a November 2, 2022, onsite visit with the USACE, Virginia Department of Environmental Quality (DEQ), Environmental Protection Agency (EPA), TRC Companies, and other project team members.

The purpose of the onsite visit with regulatory agencies was to review and confirm the Waters of the US (WOUS) including Wetlands as shown on the mapping provided in the PJD request. During the onsite visit, the area identified as stream reach 4.2 was reviewed. Due to a lack of wetland and stream characteristics on this day, additional onsite information was warranted.

The limits of waters of the U.S. described in this submittal is based on an examination of field conditions at the time of this evaluation and may differ from future observations by others. The jurisdictional nature of WOUS. or lack thereof described in this submittal, is subject to concurrence from the USACE. This supplement does not constitute a jurisdictional determination as such determinations must be verified by the USACE to decide if areas in the evaluation area meet the current regulatory requirements.

SITE DESCRIPTION AND LOCAL RELIEF

The Green Ridge Recycling and Disposal Facility is located north of U.S. Route 60 (Anderson Highway), and loosely bounded by Route 654 (Pinegrove Road) and Route 685 (Miller Lane) in Clinton, Cumberland County, Virginia. Route 654 is located approximately one (1) mile west of the Cumberland County/Powhatan County line. The evaluation area is in the northwestern portion of the overall study area as shown on ***Exhibit 1***. Cumberland County has recorded the evaluation area as being on parcel #44-A-19. The approximate centroid of the evaluation area can be found at Latitude: 37.56705; Longitude: -78.12965. The PJD request submitted on September 29, 2022 identified the evaluation area as **Reach 4.2**; an intermittent stream.

Cumberland County land features are typical of a moderately high plateau dissected by numerous streams and rivers. The elevation in the evaluation area ranges from approximately 292 feet to 312 feet above mean sea level with a supporting watershed of approximately 0.01-square miles/6.4-acres as shown on ***Exhibit 2***. Based on USGS lidar 2-elevation contours, the evaluation area is sloped west toward Muddy Creek at approximately 3.9%. Generally, the side slopes are moderately sloping toward stream Reach 4.2 with a drainage divide to the east and a named stream, Muddy Creek, and its associated 100-year floodplain to the west.

METHODOLOGY

On December 8, 2022, an evaluation of stream Reach 4.2 included the collection of best available on-line information and site-specific information to include vegetation, hydrology, subsurface soils, slope breaks, and stream characteristics.

In-office Review

Prior to conducting an on-site evaluation, relevant site-specific background information was reviewed to assess whether evidence indicative of wetlands or other Waters of the U.S. occur within the evaluation area. Site-specific information reviewed included the U.S. Geological Survey (USGS) topographic quadrangle map, Whiteville, Virginia quadrangle (***Exhibit 3***), Natural Resources Conservation Service (NRCS) soils map data (***Exhibit 4***), U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory

(NWI) data (***Exhibit 4***), historical natural color aerial imagery (***Exhibit 5***), and USGS Light Detection and Ranging (Lidar) imagery (***Exhibit 6***).

Precipitation Data

Precipitation data analyzed a variety of online tools to determine the amount of precipitation the localized area is receiving. Rainfall data were collected in inches by date (if available). To analyze if the site is experiencing normal climatic conditions, the Antecedent Precipitation Tool (APT) was downloaded from the USACE Norfolk District website. The APT is used to compare recent rainfall to the range of normal rainfall conditions that has occurred over the last 30-years. The centroid of the evaluation area was used to calculate site-specific precipitation conditions collected in the APT analysis. To determine if the site is exhibiting normal climatic conditions at the time of the on-site delineation the APT was queried for December 8, 2022, as shown in ***Exhibit 7***.

The nearest reliable precipitation data were obtained from the Farmville Regional Airport, weather station KFVX, located 23-miles southwest of the evaluation area (as a crow flies). Precipitation data from this station can be found in ***Exhibit 8***. The nearest weather station to the evaluation area (KVAPOWHA28) is in Powhatan approximately 3-miles to the south/southwest.

The use of aerial imagery was analyzed to determine the current and past land use of the area. Land cover, soil signatures, drainage patterns or other evidence of a seasonal high-water table on the ground surface is usually visible when present. The best available aerial imagery was obtained from google earth historical imagery as shown in ***Exhibit 5***.

On-site Field Data Collection

On December 8th, 2022, KBJW scientists conducted further evaluation of the Waters of the U.S. (including wetlands) within stream Reach 4.2 by ground-truthing the evaluation area. The evaluation area, including data point locations, is shown on ***Exhibit 9-10***. Waters of the U.S. (including wetlands) were evaluated pursuant to the USACE Wetland Delineation Manual, Technical Report Y-87-1 (1987 Manual), the USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0) (USACE, April 2012), and subsequent regulatory guidance. Samples of hydrology, vegetation, and soils were evaluated and can be found in ***Exhibit 11***. Additionally, the area was evaluated for the observance of an Ordinary High-Water Mark (OHWM) using the USACE National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams: Interim Version.

The OHWM occurs at transition points found on the landscape between stream features and terrestrial features. The three initial characteristics to look for when assessing an OHWM are transitional points, slope breaks, changes in sediment characteristics, and a transition in vegetation type and density.

A total of twelve (12) field data point locations were taken approximately every 100-feet starting at the headcut which is located approximately fifteen feet down gradient of flag DP-4.3-01U,and extending upslope/gradient approximately 513-feet to data point DP- EW 4.3 U. Field data point DP-EW4.3U was initially included as part of the PJD request, and is included in the evaluation area as supporting documentation. This evaluation was conducted to determine the presence or absence of jurisdictional features and/or an OHWM that may exist within the evaluation area. The start of a stream channel is located downslope/gradient of the evaluation area and is labeled as Reach 4.1. This channel start is evident due to a 3-4-foot high vertical headcut/slope break.

A total of four (4) cross-sectional transects were collected, each consisting of three (3) data point locations. The three (3) data point locations include a centroid location within the local relief with two (2) locations at the toe of slope to the north and south of the centroid location. The average transect is 43-feet wide horizontally relative to the landscape. The area landward of the toe of slope was not evaluated due to the unlikelihood of finding jurisdictional features. Therefore, the lowest topographic relief was only evaluated.

Each field data point location consists of a 30-foot radius from the data point center. The center of each field data point location was surveyed using a sub-meter capable GPS unit; Trimble TDC650 GPS. Wetland determination data forms were recorded to describe hydrology indicators, plant communities, and soil characteristics of the area. Wetlands and streams were classified according to the Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al., 1979).

Soil colors were determined from moist, undisturbed peds using a Munsell Soil-Color Chart. NRCS digital soils data and mapping were obtained from the NRCS website (Web Soil Survey) and were compared for consistency to the current conditions encountered during the field investigation.

A three (3)-inch diameter auger bit was used to bore a pit subsurface to 20-inches below the soil surface. The soil profile was used to examine soil hue, value, and chroma describing the soil characteristics to determine presence of hydric conditions in the upper part. Ground surface elevations were not field surveyed; however, if needed, it can be determined using topographic mapping.

Representative site photographs were taken during the onsite field visit. Photos of the field data point locations include soil profile (0-20") and the surrounding area looking upslope and downslope to best document the field conditions at the time of the site visit as shown in ***Exhibit 12***.

FINDINGS AND CONCLUSION

In-Office Review

The USGS topographic quadrangle map depicts the topographic relief as being sloped west toward Muddy Creek with moderate topographic relief. Streams are not depicted on the quadrangle mapping as being within the evaluation area. Based on the most recent google earth aerial photography (12/2022), it appears that the majority of the evaluation area is forested, which is consistent with current onsite field characteristics.

Google Earth historic aerial imagery depicts the evaluation area as being disturbed. It is assumed that the disturbance occurred during timber harvesting. Stream features or saturation are not evident on aerial imagery. A timbering operation occurred prior to December 2001 which harvested most of the trees in the area as shown on ***Exhibit 7***. A treed buffer was not identified/preserved in the evaluation area. Typically, a treed buffer would have possibly been maintained if a stream feature was in the area.

The NRCS soil survey for Cumberland County, Virginia (VA049) is a desktop tool used to determine the potential presence of soil units with hydric components known to occur within the evaluation area. The identification of hydric soil is one criterion of determining if an area meets the wetland criteria. Soil map units overlaid on the evaluation area are depicted in ***Exhibit 4***. The soil unit in stream Reach 4.2 has been mapped as Appling-Helena complex, 7 to 15 percent slopes (2C) which has a hydric rating of 3. Appling-Helena complex soils is a moderately well drained to well-drained soil complex that is found on 7-15 percent hillslopes. This soil is developed from granite and gneiss residuum parent material that can be seasonally moist-wet.

In general, the soil map unit does not meet the definition of hydric soils because it does not have one of the hydric soil indicators as indicated by the NRCS Soil Survey of Cumberland County, Virginia. The evaluation area is not dominated by at least one approved hydric soil indicator identified by NRCS. Therefore, it may be considered a non-hydric soil. Typical soil textures describe the soil map units within the upper twenty inches of the soil surface include sandy loam, sandy clay loam, clay.

A review of the USFWS NWI mapper did not reveal any mapped wetland or riverine types within the evaluation area as shown on ***Exhibit 4***. The nearest NWI mapped wetland or riverine type is located west of the evaluation area and is associated with Muddy Creek.

A 1-meter LiDAR dataset was utilized to detect the presence of a depressed area that could support stream flow and for the identification of stream banks. This mapping technology is capable of measuring landscape topography. Based on the USGS Lidar mapping, stream channels are not shown within the evaluation area. However, a well-defined feature is shown downslope of the evaluation area starting at a headcut. For the purposes of this submittal, jurisdictional features are not shown on the mapping should they exist outside of the evaluation area. Please refer to the latest Wetland Delineation mapping dated as revised on 1/9/2023.

Precipitation Data

The APT suggests the site was experiencing normal rainfall conditions at the time of the evaluation; however, the area is experiencing a mild drought. Therefore, evidence of hydrological characteristics should more than likely be present at the time of the on-site visit.

Rainfall data were gathered from two weather stations, the Farmville Airport weather station (KFVX) and Powhatan (KVAPOWHA28), as shown below in ***Table* 1**. This table presents precipitation events for the month November and leading up to the site visit on December 8, 2022. According to these data, between 10-12 rain events occurred between November and December. Weather station KFVX recorded 0.63-inches of rainfall the day prior to the site visit while a total of 0.75-inches of rain occurred at weather station KVAPOWHA28 between December 6-7. Both weather stations indicate rainfall produced greater than 0.5-inches of rain, therefore, evidence of hydrological characteristics on the surface and subsurface should be readily found.

Table 1: 2022 Precipitation Data

Month/Day	Weather Station	
	KFVX Precipitation (in)	KVAPOWHA28 Precipitation (in)
November/4	0.01	0.00
November/11	0.44	1.34
November/12	0.45	0.00
November/13	0.02	0.00
November/15	0.00	1.22
November/16	1.37	0.01
November/25	0.00	0.03
November/27	0.03	1.03
November/28	0.79	0.00
November/30	0.33	0.65
December/1	0.27	0.00
December/3	0.14	0.42
December/4	0.26	0.01
December/6	0.00	0.64
December/7	0.63	0.11
Total Precipitation Nov (entire month)	**3.44**	**4.28**
Total Precipitation Dec 1-7	**1.3**	**1.18**

The shaded row represents the rainfall the day before the onsite visit

On-site Field Review

Field data points were placed in the best position to describe the site conditions and to provide sufficient evidence of wetland hydrology. Of the thirteen (13) data points, three (3) data points met the criteria for wetland hydrology. Field data point 4.3-08U met a primary wetland hydrology indicator for saturation occurring at ten (10)-inches below ground surface. Saturation was observed at six (6) other field data points, including 4.3-01U, 4.3-02U, 4.3-03U, 4.3-07U, 4.3-09U, and 4.3-12U; however, these data points

did not meet the primary indicator of hydrology as saturation was observed at 14-21 inches from the soil surface. The primary wetland hydrology indicator of a high-water table was not met at any field data points in the evaluation area. A high-water table was observed within the range of 14-18 inches of the soil surface at field data points 4.3-03U, 4.3-07U, and 4.3-08U. Surface hydrology indicators were not observed in the evaluation area, except for drainage patterns at field data points 4.3-01U and EW-4.3U. Oxidized rhizospheres were observed at field data point 4.3-04U. The FAC-Neutral test was not met at any field data points within the evaluation area.

The hydrophytic vegetative community was assessed to determine if the species located within the area are indicative of being found in wetland communities including OBL, FACW, and FAC. The only facultative wet (FACW) species observed to the dominant within the evaluation area was *Ulmus americana*. The facultative upland (FACU) vegetative community dominating the area includes *Quercus alba, Liriodendron tulipifera, Prunus serotina, Juniperus virginiana, Polystichum acrostichoides,* and *Lonicera japonica*. Generally, the vegetative community was consistent throughout the evaluation area with no significant change in vegetative species.

An examination of the soil profile provides evidence that hydric soil is not found in the evaluation area. The common soil hue of this area is 10YR or 2.5Y with a chroma and value of 4/3. The soil texture in the upper part of the profile is a fine sandy loam. Iron manganese masses were observed in data points 4.3-01U, 4.3-04U, and 4.3-12U. These masses were observed from 11-20 inches below the soil surface. They were not observed entirely within the upper 12-inches of the soil surface therefore, indicator F12 was not met.

Geomorphic refers to that part of the landscape shaped by stream processes and, therefore, shaped by range of flows. The OHWM can be located along breaks in slope on stream banks, which can occur at various elevations. These breaks in slope occur because different physical and chemical processes working on the land surface that leave behind changes in topography. An OHWM is distinguished from the bed of the channel by a break in slope and change in lateral gradient, from the flatter bed to the steeper bank.

Data collected at the four (4) cross-sectional transects did not indicate any bank sloughing or removal of vegetation by streamflow, which would indicate fluvial action. ***Exhibits 9-10*** do not show an observed change in the spacing of contour lines, which indicates the slope has not changed significantly.

Residual and alluvial soils are two general characteristics of soils identified adjacent to stream channels. Residual soils are dominated by decomposed rock – augmented by organic matter – left by weathering of the underlying rock over an extended period. These soils tend to be older and often lie beyond the reach of erosive or depositional flows. Alluvial soils occur in floodplains, terraces, alluvial fans, and deltas and represent pedogenesis on surfaces deposited by water at some time in the recent or distant geologic past. These soils may be vertically stratified by the deposition of coarse sediment during floods followed by finer sediment. Alluvium may also show spatial patterns, such as coarse deposits near the edge of the stream bank and fine sediment further away from the channel, where water velocities slow down.

The data collected show no evidence of an OHWM because there were no clear differences between alluvial and residual soils in sediment grain sizes between the data collected. The area of stream Reach 4.2 was dry when data were collected, through careful observation there were not any notable differences in sediment types between the lowest elevation and horizontal (toe of slope) surface material. No transitions between smooth and rougher sediment were identified through the data collected. Soil texture within the upper 20-inches of the soil profile is shown in ***Exhibit 11***.

Changes in particle size distribution may sometimes be more obvious in dry channels and assist with an initial location to identify other indicators the OHWM. Based on data collected at the four (4) cross-sectional transects, in the upper 12-inches of the soil profile, the soils were classified as fine sandy loam,

fine sandy clay loam, loam, and sandy loam. At all four (4) cross-sectional transects, the lowest elevation and horizontal (toe of slope) surface material did not vary. Furthermore, leaf packs were not observed on the ground surface throughout the evaluation area. Soil was not exposed, drainage patterns, wrack lines, or sediment were not identified which would indicate surface flow had eroded the area either recently or historically. Typically, streams form by eroding soil leaving the substrate with a varying soil /sediment size relative to the surrounding area.

The vegetative community and dynamics along stream corridors are largely controlled by physical and biological factors, with the dominant physical factor being the disturbance created by fluvial (stream) processes. Transitions in vegetation species, density, and age along stream boundaries all provide evidence for determining the location of the OHWM. Most woody shrubs and trees generally establish in areas in which their roots will not be constantly inundated by flows or have extended exposure to waterlogged conditions. Total tree stem density was consistent throughout each cross-sectional transect. This indicates that there would not be sufficiently high flows which would have eliminated longer-lived woody vegetation and does not provide a good indication of the elevation of the OHWM.

No organic litter was found to have accumulated at the base of the woody vegetation which would indicate that these species are not inundated by high-flow events. Most of the woody vegetation at the site is younger vegetation, meaning the plants have shallower roots and are likely to be in waterlogged sediment longer than older woody plants. The location of woody vegetation at this site does not provide an indicator that identifies the elevation of flow.

Based on this new information Reach 4.2 is not identified as having jurisdictional features to include positive indicators indicative of wetlands. Characteristics of an OHWM were not observed on this day. Therefore, this area should not be considered jurisdictional and is considered uplands.

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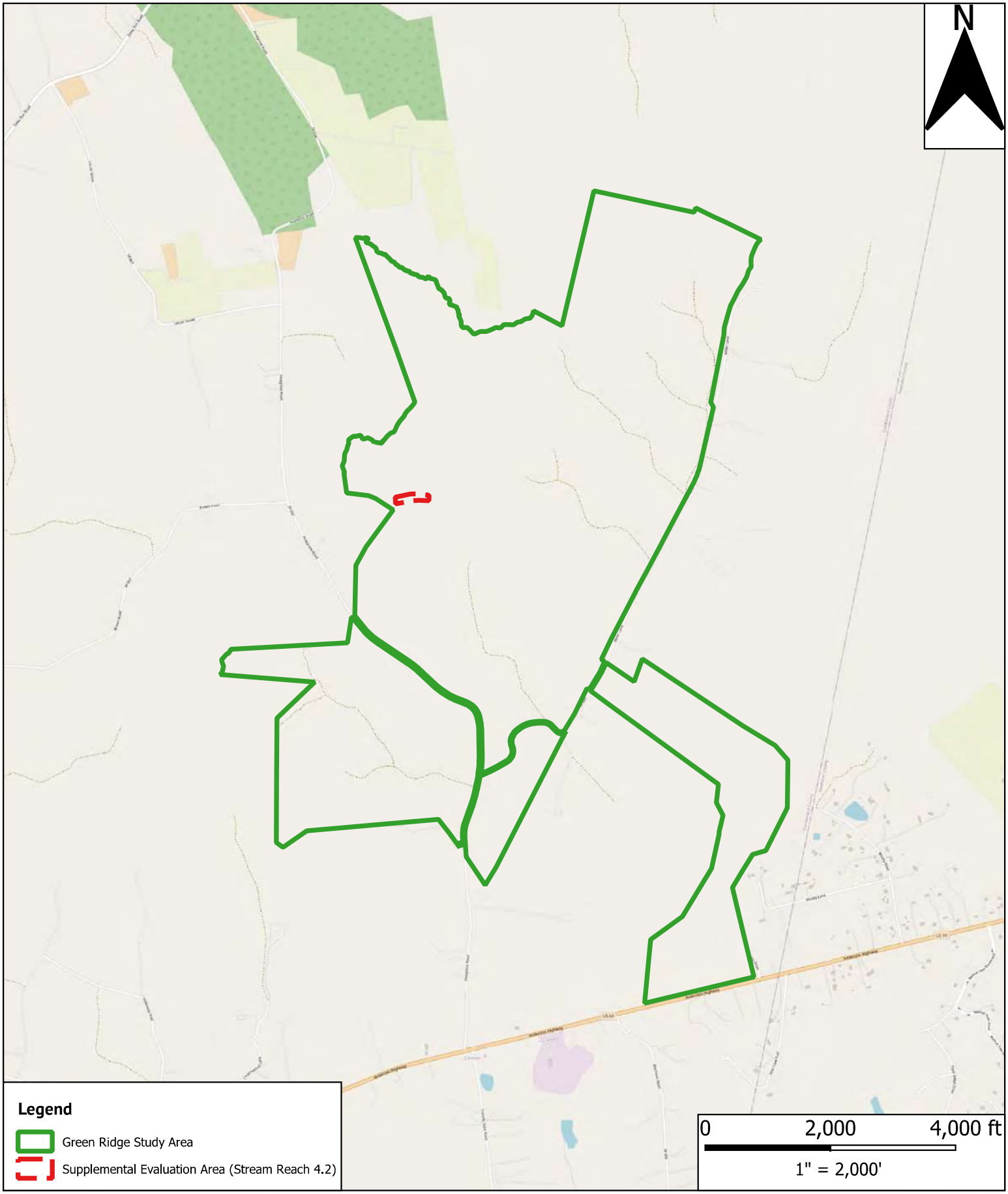
Exhibits

Exhibit 1

Location Map



Project Name: Green Ridge Recycling and Disposal Facility LLC
Project Location: Cumberland County, Virginia
Date: 12/20/2022
Source: OSM

KOONTZ BRYANT JOHNSON WILLIAMS

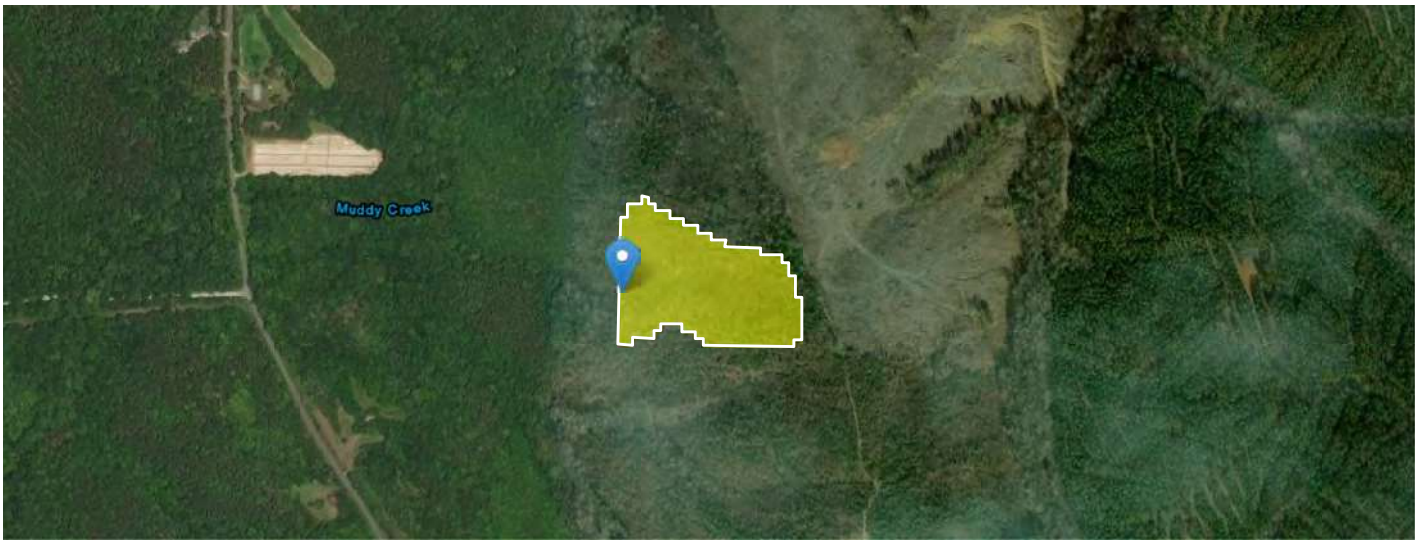
Exhibit: 1
Location Map

Exhibit 2

Drainage Area Map

StreamStats Report

Region ID: VA
Workspace ID: VA20221220135057225000
Clicked Point (Latitude, Longitude): 37.56698, -78.12958
Time: 2022-12-20 08:51:19 -0500



Collapse All

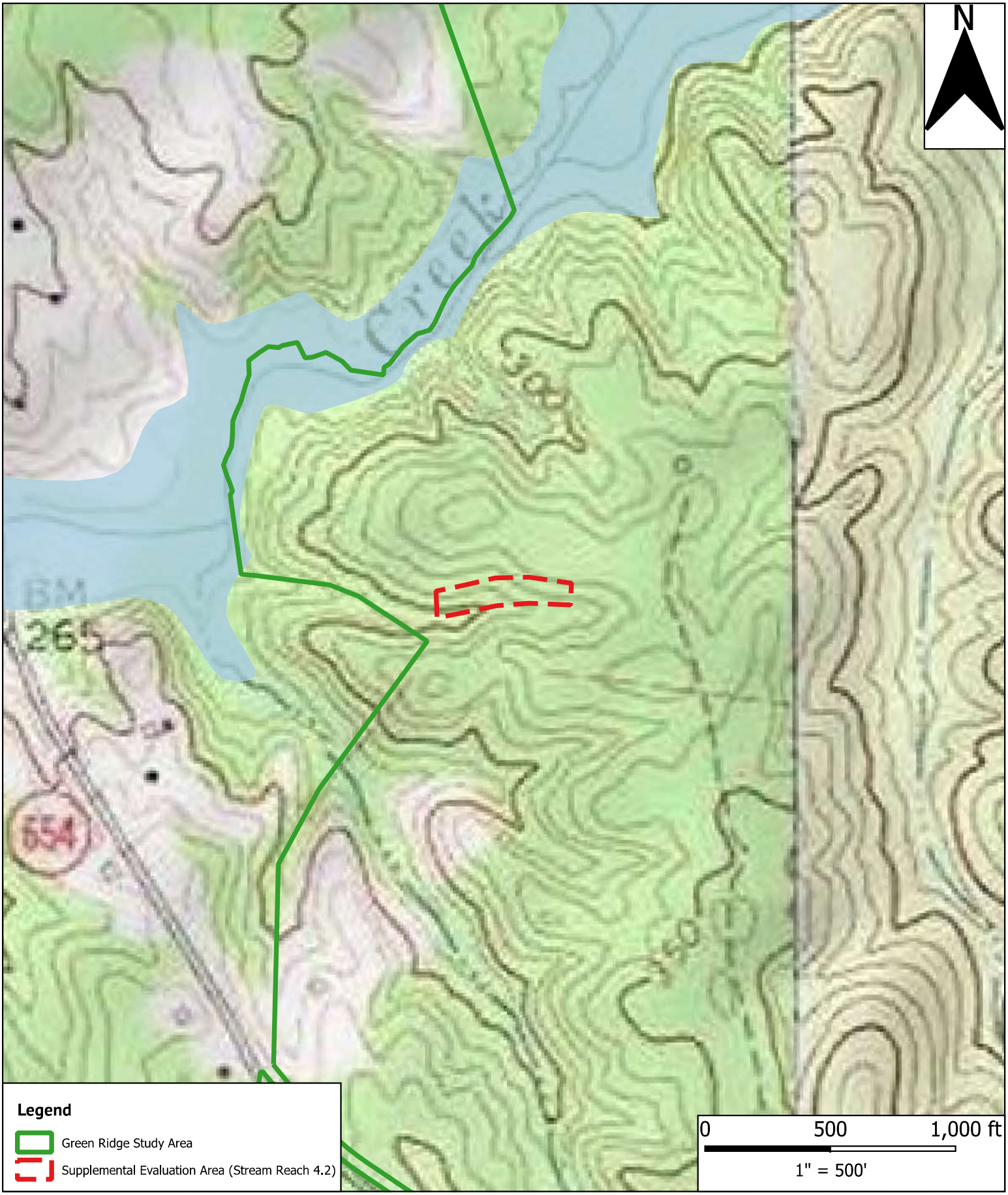
Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.0149	square miles

Application Version: 4.11.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Exhibit 3

USGS Topographic and FEMA Map



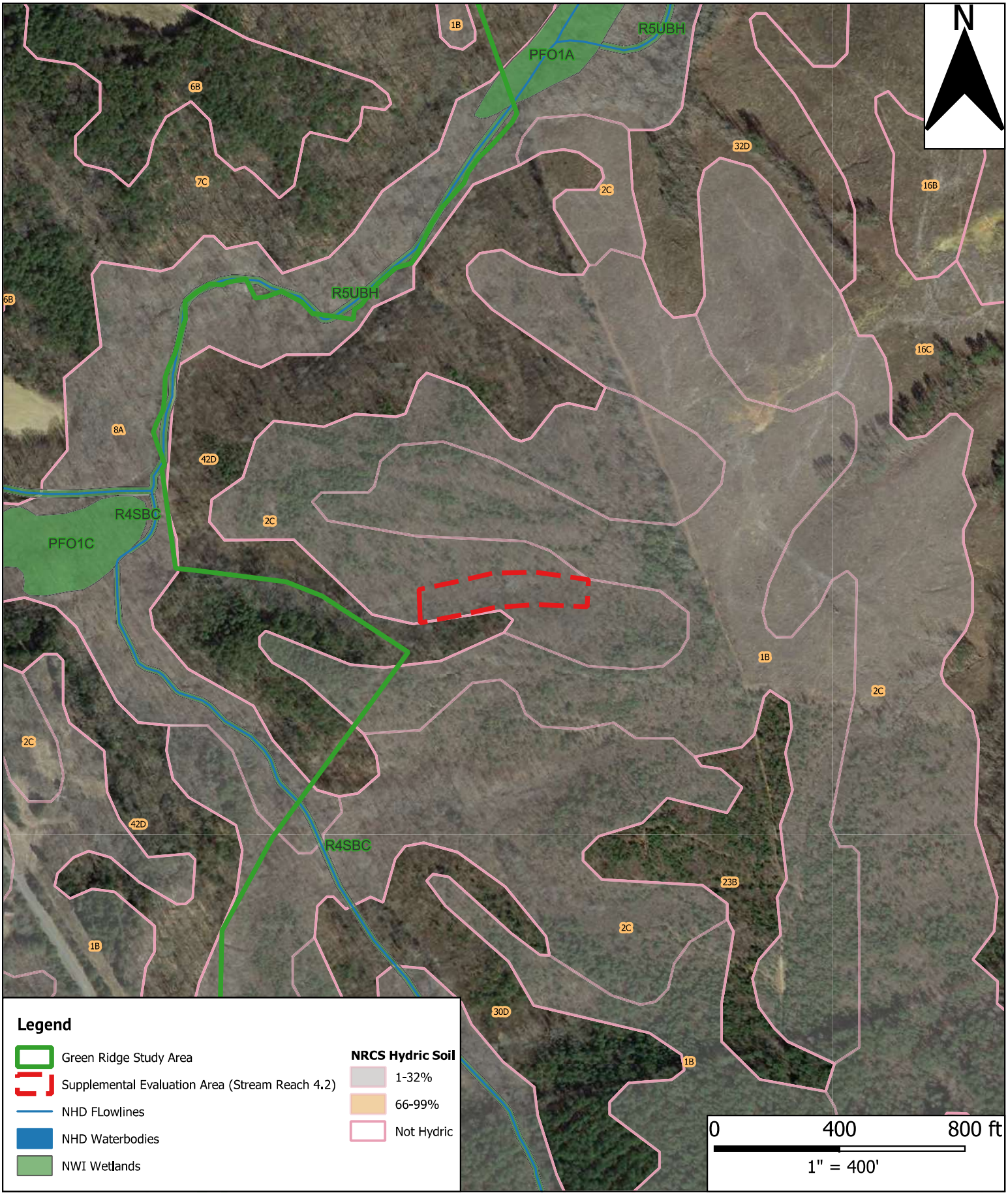
Project Name: Green Ridge Recycling and Disposal Facility LLC
Project Location: Cumberland County, Virginia
Date: 12/20/2022
Source: USGS (Whiteville, Virginia) Quad., FEMA

KOONTZ BRYANT JOHNSON WILLIAMS

Exhibit: 3
USGS Topographic and FEMA Map

Exhibit 4

Natural Resources Inventory Map



Project Name: Green Ridge Recycling and Disposal Facility LLC

Project Location: Cumberland County, Virginia

Date: 12/20/2022

Source: NHD, NRCS, NWI, Google Aerial Imagery

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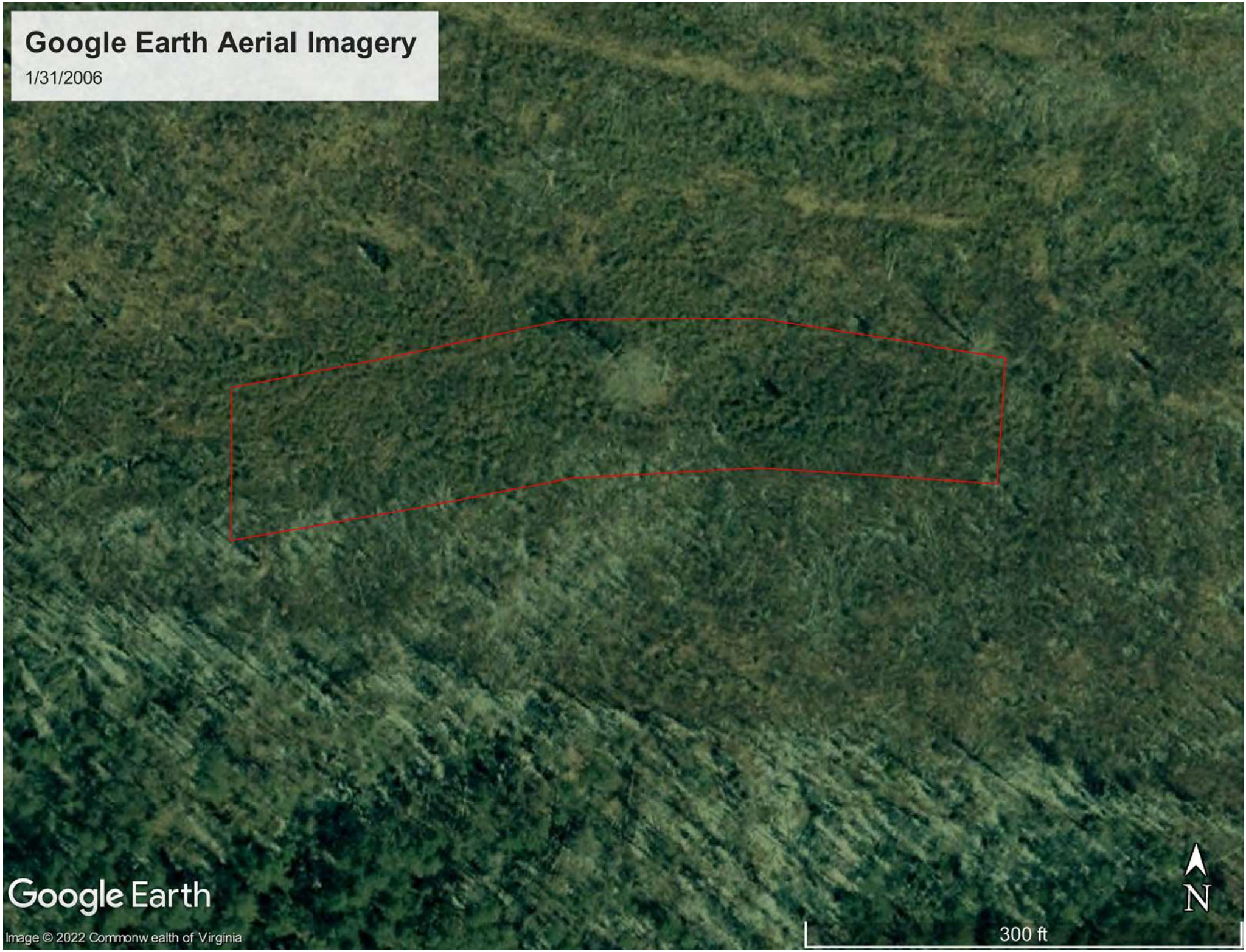
Exhibit: 4
Natural Resources Inventory Map

Exhibit 5

Historical Google Aerial Imagery


Google Earth Aerial Imagery
1/31/2006
Google Earth
Image © 2022 Commonw ealth of Virginia
N
300 ft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12/31/2001
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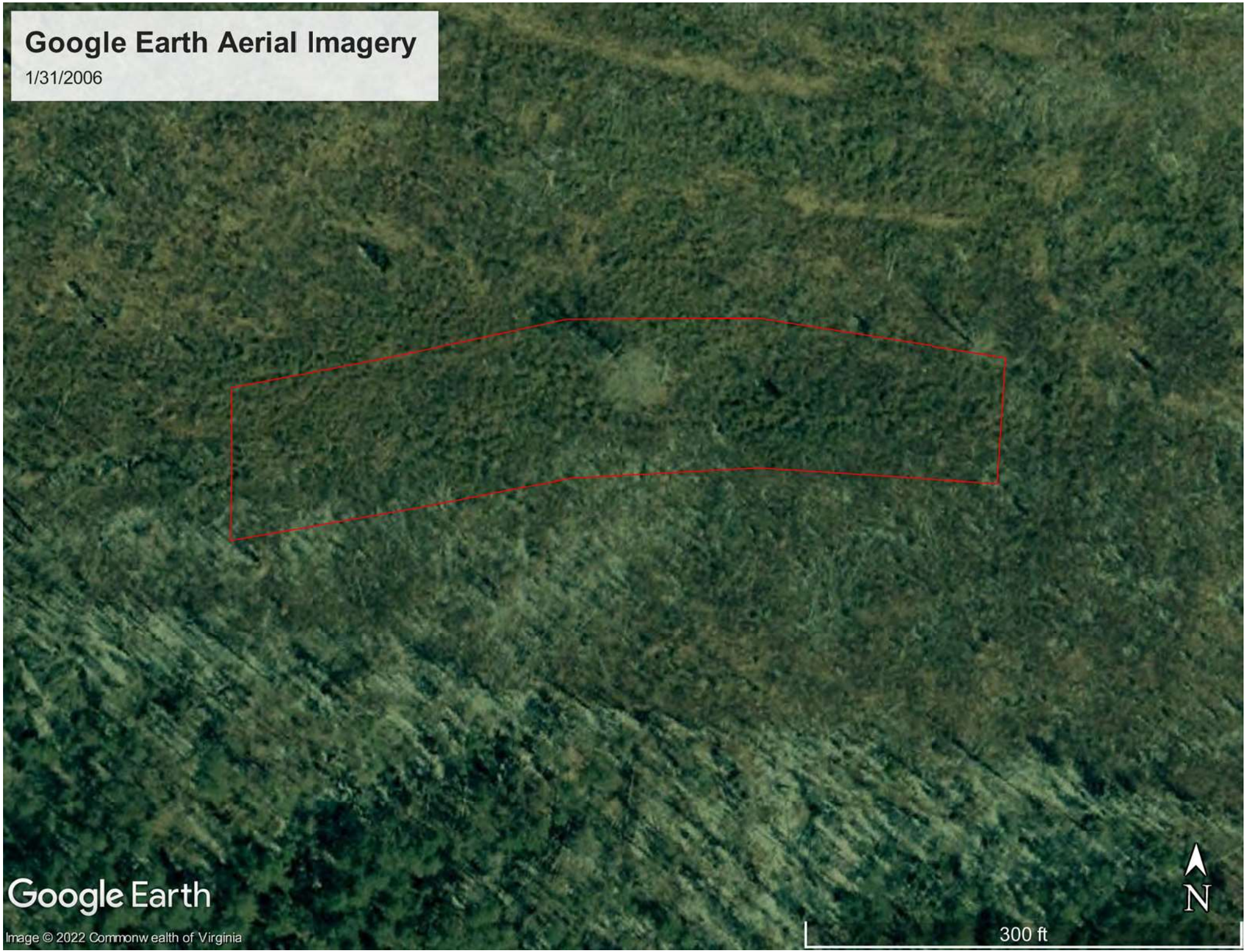
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1/31/2006
Google Earth
Image © 2022 Commonw ealth of Virginia
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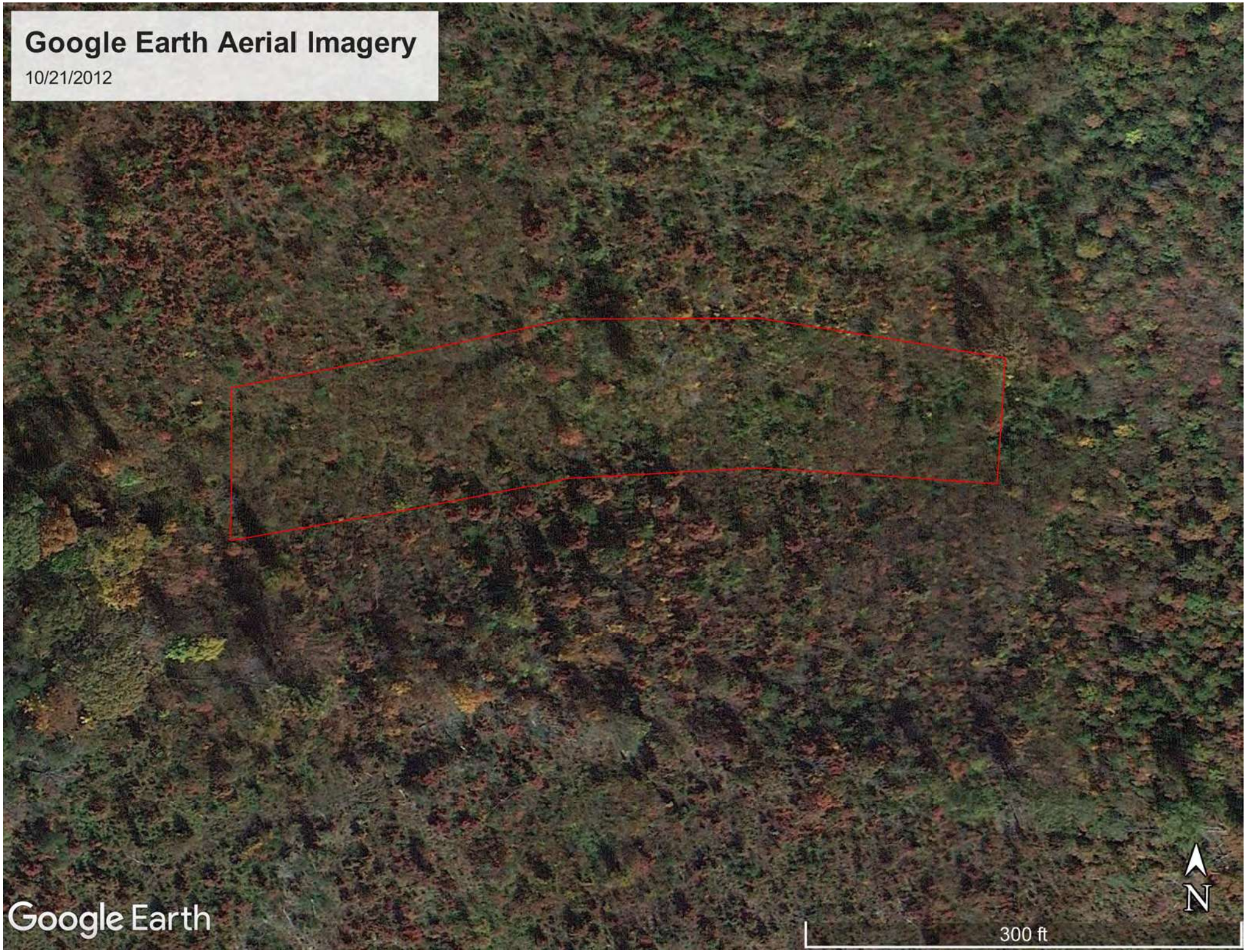
Google Earth Aerial Imagery
10/21/2012
Google Earth
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Google Earth Aerial Imagery
2/25/2019
Google Earth
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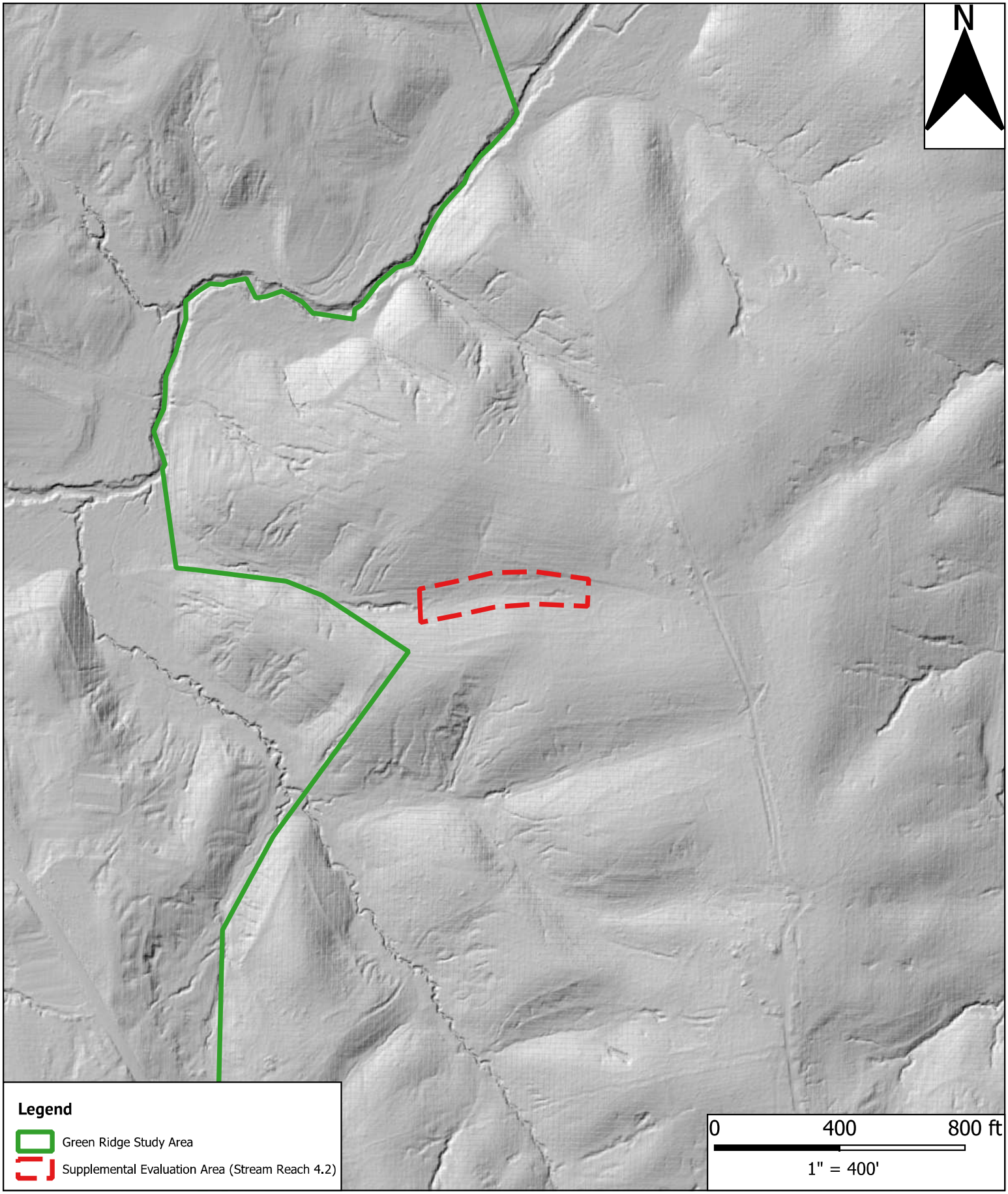
300 ft

Exhibit 6
USGS Light Detection and Ranging (Lidar) Imagery



Project Name: Green Ridge Recycling and Disposal Facility LLC
Project Location: Cumberland County, Virginia
Date: 12/20/2022
Source: USGS (Lidar)

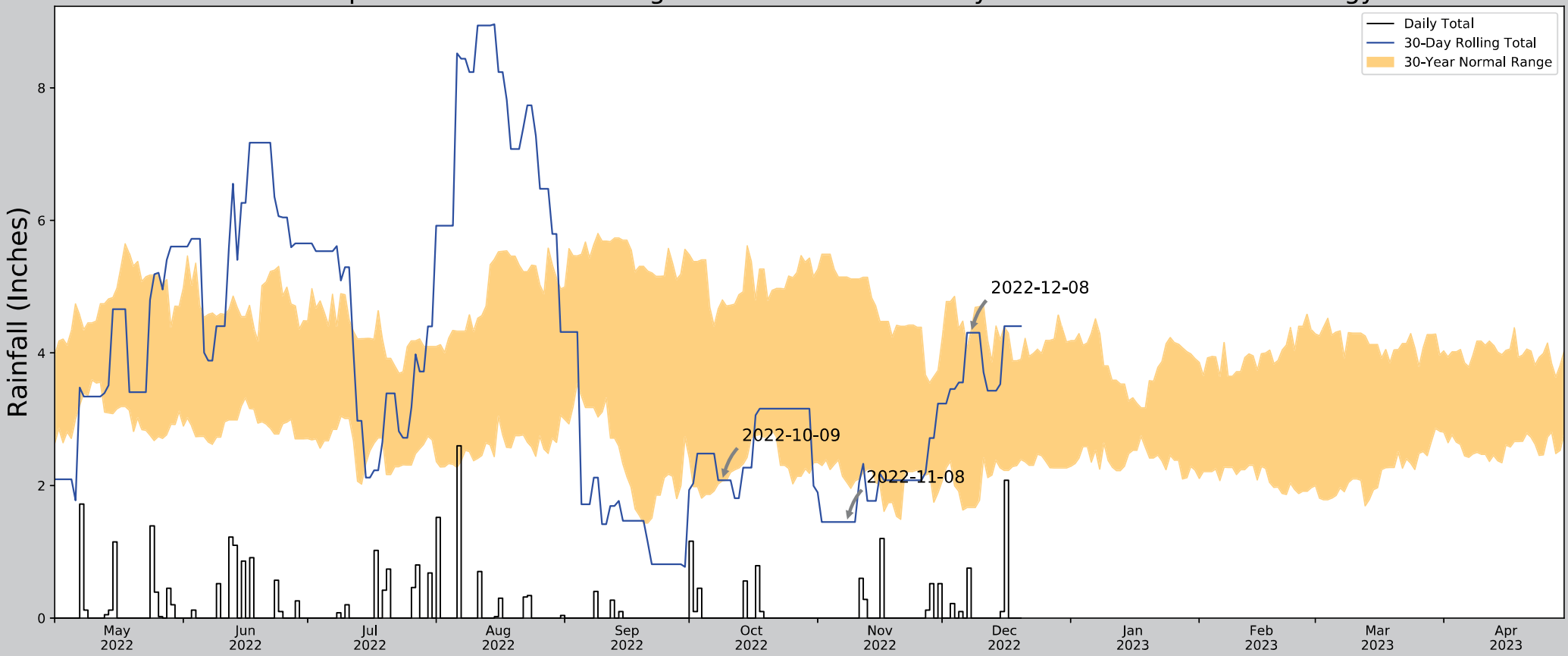
KOONTZ BRYANT JOHNSON WILLIAMS

Exhibit: 6
USGS Lidar Map

Exhibit 7

Antecedent Precipitation Tool Data

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	37.56705, -78.12965
Observation Date	2022-12-08
Elevation (ft)	292.22
Drought Index (PDSI)	Mild drought (2022-11)
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-12-08	1.666929	4.332677	4.307087	Normal	2	3	6
2022-11-08	2.046457	5.144882	1.448819	Dry	1	2	2
2022-10-09	2.071654	4.8	2.07874	Normal	2	1	2
Result							Normal Conditions - 10

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
CROZIER	37.6664, -77.8769	279.856	15.442	12.364	7.14	10873	90
COLUMBIA 17.2 SSE	37.5308, -78.0233	312.008	6.341	19.788	2.979	60	0
CUMBERLAND 0.4 NE	37.5014, -78.2401	445.866	7.563	153.646	4.565	5	0
POWHATAN 5.0 NW	37.6102, -77.9495	285.105	10.304	7.115	4.71	2	0
NEW CANTON 2.6 SE	37.6794, -78.2631	308.071	10.658	15.851	4.965	4	0
CUMBERLAND	37.5, -78.25	459.974	8.059	167.754	4.978	10	0
POWHATAN 3.2 SW	37.5048, -77.9548	336.942	10.501	44.722	5.195	1	0
BREMO BLUFF	37.7092, -78.2886	225.066	13.119	67.154	6.784	298	0
POWHATAN	37.5144, -77.8858	399.934	13.846	107.714	7.722	87	0
RICE 7.3 NE	37.3685, -78.2274	377.953	14.729	85.733	7.891	2	0
AMELIA COURTHOUSE	37.345, -77.9781	345.144	17.449	52.924	8.776	11	0

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Exhibit 8

Weather Station Precipitation Data

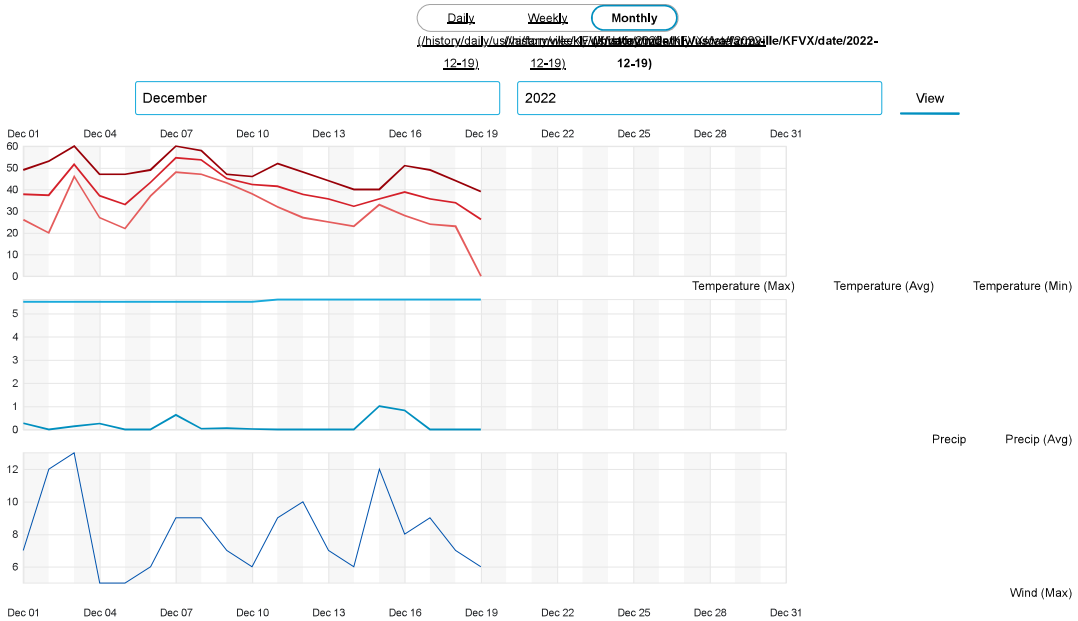
37.3 °N, 78.39 °W

Farmville, VA Weather History

40° FARMVILLE RGNL STATION (/DASHBOARD/PWS/KVAFARMV21?CM_VEN=LOCALWX_PWSDASH) | CHANGE

HISTORY (/HISTORY/DAILY/US/VA/FARMVILLE/KFVX)

- TODAY (/WEATHER/US/VA/FARMVILLE/KFVX)
- HOURLY (/HOURLY/US/VA/FARMVILLE/KFVX)
- 10-DAY (/FORECAST/US/VA/FARMVILLE/KFVX)
- CALENDAR (/CALENDAR/US/VA/FARMVILLE/KFVX)
- HISTORY (/HISTORY/DAILY/US/VA/FARMVILLE/KFVX)
- WUNDERMAP (/WUNDERMAP?LAT=37.302&LON=-78.392)



Summary

Temperature (°F)	Max	Average	Min	
Max Temperature	60	48.58	39	
Avg Temperature	54.64	39.63	26.15	
Min Temperature	48	29.95	0	
Dew Point (°F)	Max	Average	Min	
Dew Point	59	33.09	0	
Precipitation (in)	Max	Average	Min	Sum
Precipitation	1.01	0.17	0.00	3.25
Snowdepth	0.00	0.00	0.00	0.00
Wind (mph)	Max	Average	Min	
Wind	13	2.25	0	
Gust Wind	18	0.12	0	
Sea Level Pressure (in)	Max	Average	Min	
Sea Level Pressure	30.1	29.74	29.29	

Daily Observations

Time	Temperature (°F)			Dew Point (°F)			Humidity (%)			Wind Speed (mph)			Pressure (in)			Precipitation (in)
Dec	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Total
1	49	37.8	26	27	19.3	13	92	50.6	26	7	2.0	0	30.0	29.9	29.7	0.27
2	53	37.4	20	38	24.3	19	99	65.2	28	12	2.8	0	30.1	30.0	29.9	0.00
3	60	51.6	46	55	48.7	38	100	90.3	65	13	5.7	0	29.9	29.8	29.7	0.14
4	47	37.1	27	38	29.9	27	99	77.3	46	5	0.6	0	29.9	29.8	29.7	0.26
5	47	33.0	22	33	27.9	21	99	83.6	43	5	0.5	0	29.8	29.8	29.7	0.00
6	49	43.3	37	49	42.5	33	100	97.1	84	6	1.1	0	29.8	29.8	29.8	0.00
7	60	54.6	48	59	54.3	48	100	98.8	94	9	3.8	0	29.8	29.7	29.7	0.63
8	58	53.6	47	57	49.8	44	100	87.3	68	9	2.6	0	29.8	29.8	29.7	0.04
9	47	45.1	43	46	39.8	33	98	83.1	62	7	2.4	0	29.8	29.8	29.8	0.06
10	46	42.3	38	38	34.4	32	97	74.7	58	6	1.8	0	29.9	29.8	29.8	0.02
11	52	41.5	32	41	36.3	32	100	83.3	58	9	1.1	0	29.8	29.7	29.6	0.00
12	48	37.7	27	38	30.4	27	100	77.7	52	10	3.6	0	29.8	29.7	29.6	0.00
13	44	35.7	25	30	27.5	24	99	73.6	53	7	1.8	0	29.9	29.8	29.8	0.00
14	40	32.3	23	36	29.5	22	99	90.2	72	6	0.9	0	29.8	29.7	29.7	0.00
15	40	35.6	33	40	35.3	33	100	98.8	95	12	5.6	0	29.7	29.5	29.3	1.01
16	51	38.8	28	38	33.1	27	100	82.7	52	8	2.3	0	29.4	29.4	29.3	0.82
17	49	35.6	24	32	26.7	23	99	74.1	38	9	1.8	0	29.5	29.4	29.4	0.00
18	44	33.9	23	27	20.9	16	97	62.2	40	7	1.8	0	29.8	29.6	29.5	0.00
19	39	26.1	0	21	17.9	0	89	69.7	0	6	0.8	0	29.9	29.9	29.8	0.00

Elev **315** ft, **37.53** °N, **78.10** °W

Weatherstation - KVAPOWHA28

FORECAST FOR POWHATAN, VA (/WEATHER/US/VA/POWHATAN/KVAPOWHA28)

Station Summary

Online(updated 3 seconds ago)

CURRENT CONDITIONS

38.1 °F

Feels Like 38.1 °

ESE

WIND & GUST
0.0 / **0.0** mph

DEWPOINT
27.7 ° F

PRECIP RATE
0.00 in/hr

PRESSURE
30.35 in

HUMIDITY
66 %

PRECIP ACCUM
0.00 in

UV
0

MAP

lat=37.52033672047396&lon=-78.08522390254336&zoom=13&tl.play=0&tl.spd=2&groupSevere=1

PWS CURRENT CONDITIONS

TEMPERATURE

CURRENT
38°

DEWPOINT
27.7 °F

HUMIDITY
66 %

WIND

0.0

WIND FROM
ESE

GUST
0.0 mph

PRESSURE

CURRENT
30.35 In

PRECIPITATION

PRECIP RATE
0.00 in/hr

PRECIP TOTAL
0.00 in

UV

CURRENT UV
0

UV RISK

SOLAR RADIATION

CURRENT
0.00 watts/m²

Weather History for KVAPOWHA28

Monthly Mode | December | 2022 | **View** | Next

Previous

Summary
December 1, 2022 - December 31, 2022

	High	Low	Average
Temperature	**61.0 °F**	**18.1 °F**	**39.0 °F**

	High	Low	Average
Dew Point	60.6 °F	17.6 °F	34.0 °F
Humidity	99 %	30 %	84 %
Precipitation	3.55 in	--	--

	High	Low	Average
Wind Speed	7.6 mph	0.0 mph	0.2 mph
Wind Gust	13.6 mph	--	0.3 mph
Wind Direction	--	--	SE
Pressure	30.52 in	29.67 in	--

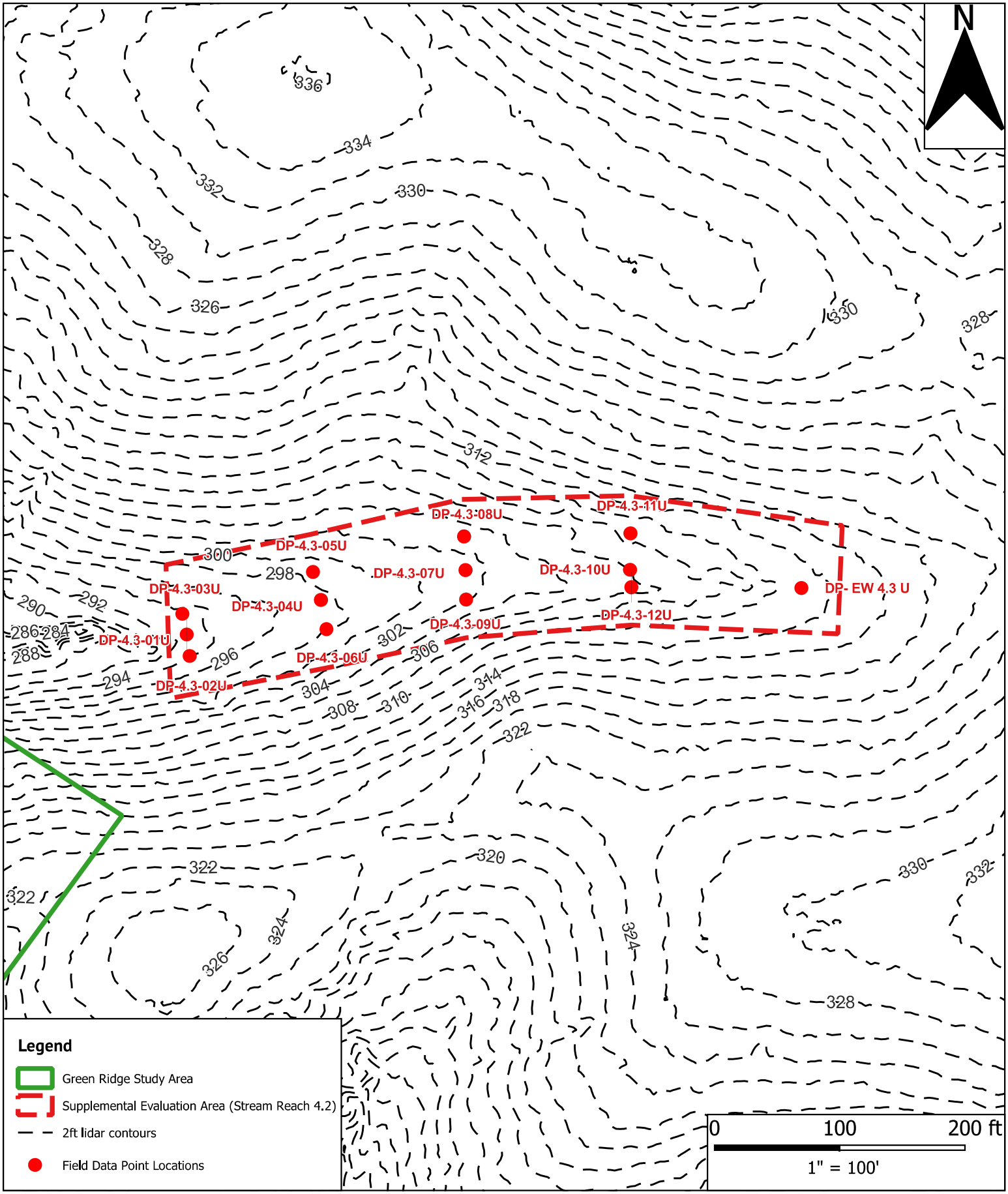
Graph | Table

December 1, 2022 - December 31, 2022

	Temperature			Dew Point			Humidity			Speed			Pressure		Precip. Accum.
Date	High	Avg	Low	High	Avg	Low	High	Avg	Low	High	Avg	Low	High	Low	Sum
12/1/2022	49.8 °F	37.3 °F	26.2 °F	33.1 °F	24.4 °F	18.5 °F	97 %	63 %	30 %	4.3 mph	0.3 mph	0.0 mph	30.45 in	30.07 in	0.00 in
12/2/2022	55.0 °F	37.6 °F	21.2 °F	41.4 °F	28.0 °F	20.7 °F	99 %	73 %	32 %	3.8 mph	0.2 mph	0.0 mph	30.52 in	30.33 in	0.00 in
12/3/2022	60.1 °F	52.4 °F	43.3 °F	57.7 °F	51.1 °F	41.2 °F	99 %	96 %	77 %	7.6 mph	0.6 mph	0.0 mph	30.35 in	30.06 in	0.42 in
12/4/2022	49.6 °F	36.8 °F	26.8 °F	43.0 °F	33.2 °F	26.4 °F	99 %	89 %	51 %	2.7 mph	0.1 mph	0.0 mph	30.25 in	30.13 in	0.01 in
12/5/2022	50.2 °F	33.1 °F	22.6 °F	37.2 °F	29.2 °F	22.3 °F	99 %	88 %	45 %	3.4 mph	0.1 mph	0.0 mph	30.25 in	30.14 in	0.00 in
12/6/2022	49.8 °F	43.1 °F	33.3 °F	49.5 °F	42.6 °F	32.7 °F	99 %	98 %	96 %	1.1 mph	0.0 mph	0.0 mph	30.22 in	30.15 in	0.64 in
12/7/2022	61.0 °F	55.5 °F	49.6 °F	60.6 °F	55.1 °F	49.3 °F	99 %	99 %	99 %	2.9 mph	0.3 mph	0.0 mph	30.19 in	30.09 in	0.11 in
12/8/2022	59.2 °F	54.4 °F	48.6 °F	57.9 °F	51.2 °F	46.8 °F	99 %	90 %	70 %	3.6 mph	0.1 mph	0.0 mph	30.24 in	30.11 in	0.02 in
12/9/2022	50.7 °F	46.3 °F	43.5 °F	48.0 °F	40.7 °F	36.3 °F	99 %	82 %	61 %	3.1 mph	0.1 mph	0.0 mph	30.25 in	30.16 in	0.02 in
12/10/2022	46.9 °F	43.1 °F	39.9 °F	39.6 °F	35.4 °F	32.2 °F	96 %	75 %	58 %	2.2 mph	0.1 mph	0.0 mph	30.28 in	30.19 in	0.00 in
12/11/2022	52.9 °F	42.0 °F	31.1 °F	44.6 °F	38.6 °F	30.7 °F	99 %	88 %	69 %	2.7 mph	0.2 mph	0.0 mph	30.24 in	30.01 in	0.01 in
12/12/2022	46.0 °F	36.4 °F	25.9 °F	38.8 °F	31.3 °F	25.5 °F	99 %	83 %	63 %	3.6 mph	0.1 mph	0.0 mph	30.25 in	30.04 in	0.00 in
12/13/2022	47.1 °F	36.6 °F	25.0 °F	33.1 °F	29.6 °F	24.3 °F	97 %	77 %	54 %	3.8 mph	0.2 mph	0.0 mph	30.31 in	30.18 in	0.00 in
12/14/2022	42.6 °F	33.0 °F	23.0 °F	37.8 °F	30.6 °F	22.6 °F	99 %	91 %	74 %	2.0 mph	0.0 mph	0.0 mph	30.19 in	30.09 in	0.20 in
12/15/2022	40.5 °F	36.3 °F	33.6 °F	40.1 °F	35.9 °F	33.3 °F	99 %	99 %	99 %	4.0 mph	0.3 mph	0.0 mph	30.11 in	29.67 in	2.12 in
12/16/2022	53.6 °F	39.1 °F	28.0 °F	43.5 °F	35.3 °F	27.7 °F	99 %	88 %	51 %	5.8 mph	0.4 mph	0.0 mph	29.79 in	29.69 in	0.00 in
12/17/2022	50.2 °F	34.2 °F	24.8 °F	36.7 °F	29.0 °F	24.4 °F	99 %	84 %	45 %	5.1 mph	0.4 mph	0.0 mph	29.89 in	29.76 in	0.00 in
12/18/2022	46.0 °F	33.0 °F	24.1 °F	35.1 °F	24.8 °F	19.2 °F	99 %	75 %	45 %	5.1 mph	0.5 mph	0.0 mph	30.23 in	29.83 in	0.00 in
12/19/2022	45.9 °F	30.2 °F	19.6 °F	28.0 °F	22.5 °F	18.5 °F	97 %	76 %	40 %	4.7 mph	0.3 mph	0.0 mph	30.39 in	30.21 in	0.00 in
12/20/2022	42.8 °F	28.4 °F	18.5 °F	27.9 °F	22.6 °F	18.0 °F	98 %	81 %	50 %	3.8 mph	0.1 mph	0.0 mph	30.49 in	30.36 in	0.00 in
12/21/2022	47.7 °F	30.5 °F	18.1 °F	30.7 °F	24.0 °F	17.6 °F	99 %	80 %	47 %	3.1 mph	0.1 mph	0.0 mph	30.47 in	30.34 in	0.00 in

Exhibit 9

Evaluation Area Map (Topographic)



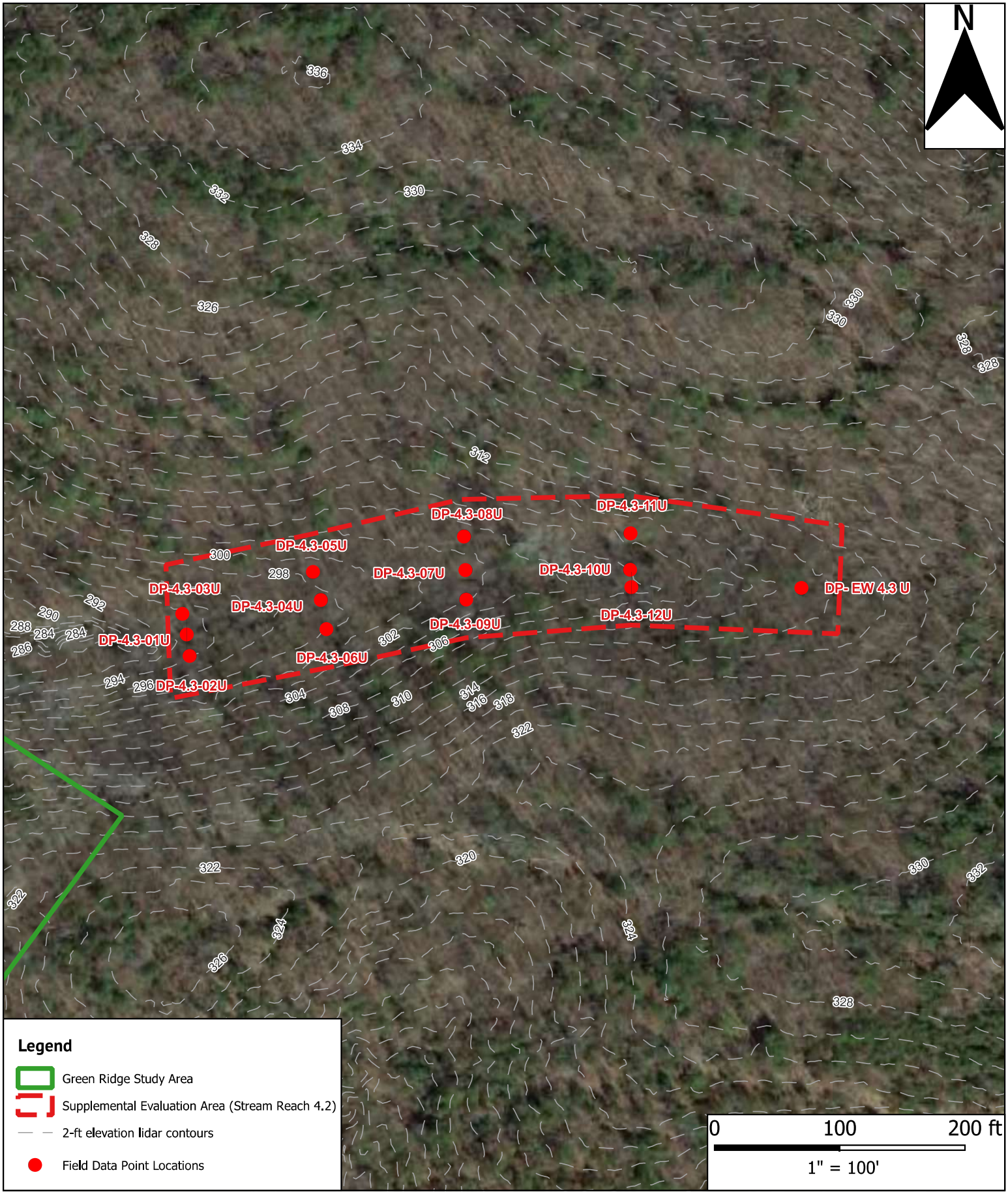
Project Name: Green Ridge Recycling and Disposal Facility LLC
Project Location: Cumberland County, Virginia
Date: 12/20/2022
Source: USGS (Lidar)

KOONTZ BRYANT JOHNSON WILLIAMS

Exhibit: 9
USGS Topographic and FEMA Map

Exhibit 10

Evaluation Area Map (Color Aerial Imagery)



Project Name: Green Ridge Recycling and Disposal Facility LLC
Project Location: Cumberland County, Virginia
Date: 12/20/2022
Source: USGS, Google Aerial Imagery

KOONTZ BRYANT JOHNSON WILLIAMS

Exhibit: 10
Field Data Point Location Map (Natural Aerial Imagery)

Exhibit 11

Field Data Points

WETLAND DETERMINATION DATA FORM – Eastern Mountain and Piedmont Region

Project Site: Green Ridge Recycling and Disposal Facility,LLC City/County: Cumberland Sampling Date: 12/8/2022

Applicant/Owner: Green Ridge Recycling and Disposal Facility, LLC State: VA Sampling Point: DP-4.3-01U

Investigator(s): KBJW - D. Kwasniewski, E. Williams Section, Township, Range: Tax Map #44-A-19

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): None Slope (%): 2-5%

Subregion (LRR or MLRA): MLRA 136, LRR P Lat: 37.567065 Long: -78.129605 Datum: NAD83

Soil Map Unit Name: 2C—Appling-Helena complex, 7 to 15 percent slopes NWI classification: UPL

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** **X**
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes X	No ____	

Remarks: This data point represents an upland location (UPL).
According to the US Army Corps of Engineers Antecedent Precipitation tool, the site is experiencinig normal precipitation conditions; however, the area was in a mild drought.

HYDROLOGY

Wetland Hydrology Indicators:

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 along Living Roots (C3)	X 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 Borrows
____ 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)		X Geomorphic Position (D2)
____ Water-Stained Leaves (B9)		____ Shallow Aquitard (D3)
____ Aquatic Fauna (B13)		____ Microtopographic Relief (D4)
		____ FAC-Neutral Test (D5)

Secondary Indicators (minimum of two required)

Field Observations:

Surface water Present?	Yes ____	No X	Depth (inches) ____		
Water Table Present?	Yes ____	No X	Depth (inches) ____		
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches) 20in	**Wetland Hydrology Present?**	**Yes X No** ____

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

Remarks:
Wetland hydrology was observed in the vicinity.

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

Sampling Point: DP-4.3-01U

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	40	Y	FAC
2. *Liriodendron tulipifera*	30	Y	FACU
3. *Ulmus americana*	10	N	FACW
4.			
5.			
6.			
7.			
8.			
	80 = Total Cover		
50% of total cove 40	20% of total cover: 16		

Sapling/Shrub Stratum (Plot size: 30ft radius)			
1. *Carpinus caroliniana*	30	Y	FAC
2. *Acer rubrum*	10	N	FAC
3. *Quercus alba*	10	N	FACU
4.			
5.			
6.			
7.			
8.			
	50 = Total Cover		
50% of total cove 25	20% of total cover: 10		

Herb Stratum (Plot size: 30ft radius)			
1. *Polystichum acrostichoides*	5	Y	FACU
2. *Lonicera japonica*	5	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9			
10			
11			
12			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cove 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 40% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1 =	0
FACW species		X 2 =	0
FAC species		X 3 =	0
FACU species		X 4 =	0
UPL species		X 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

_ 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤ 3.00

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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.

Hydrophytic Vegetation Present? **Yes** _ **No X**

Remarks: (If observed, list morphological adaptations below).
Hydrophytic vegetation was not observed to be dominant in the vicinity.

SOIL

Sampling Point DP-4.3-01U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	2.5Y 4/4	98	7.5YR 4/6	2	C	M	FSL	Prominent redox concentratio
6-14	10YR 5/4	98	7.5YR 4/4	2	C	M	FSL	Faint redox concentrations
14-18	10YR 4/2	95	7.5YR 4/6	5	C	M	FSL	Prominent redox concentratio
18-20	2.5Y 5/3	90	7.5YR 3/4	10	C	M	FSL	Prominent redox concentratio

[1] Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ 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)**
- ___ Red Parent Material (TF2) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coastal Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

Hydric soils were not observed in this location. Iron-manganese masses were observed within the 14-18in soil layer.

WETLAND DETERMINATION DATA FORM – Eastern Mountain and Piedmont Region

Project Site: Green Ridge Recycling and Disposal Facility,LLC City/County: Cumberland Sampling Date: 12/8/2022

Applicant/Owner: Green Ridge Recycling and Disposal Facility, LLC State: VA Sampling Point: DP-4.3-02U

Investigator(s): KBJW - D. Kwasniewski, E. Williams Section, Township, Range: Tax Map #44-A-19

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5-10%

Subregion (LRR or MLRA): MLRA 136, LRR P Lat: 37.567018 Long: -78.129597 Datum: NAD83

Soil Map Unit Name: 2C—Appling-Helena complex, 7 to 15 percent slopes NWI classification: UPL

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** **X**
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: This data point represents an upland location (UPL).
According to the US Army Corps of Engineers Antecedent Precipitation tool, the site is experiencinig normal precipitation conditions; however, the area was in a mild drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Borrows
- ____ 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 X Depth (inches) ____

Water Table Present? Yes ____ No X Depth (inches) ____

Saturation Present? Yes X No ____ Depth (inches) 20

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ____ **No** **X**

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

Remarks:
Wetland hydrology was not observed in the vicinity.

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

Sampling Point: DP-4.3-02U

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liriodendron tulipifera*	20	Y	FACU
2. *Prunus serotina*	10	N	FACU
3. *Ulmus americana*	10	N	FACW
4. *Acer rubrum*	10	N	FAC
5.			
6.			
7.			
8.			
	50 = Total Cover		

50% of total cove 25 20% of total cover: 10

Sapling/Shrub Stratum (Plot size: 30ft radius)			
1. *Carpinus caroliniana*	35	Y	FAC
2. *Juniperus virginiana*	5	N	FACU
3. *Acer rubrum*	5	N	FAC
4.			
5.			
6.			
7.			
8.			
	45 = Total Cover		

50% of total cove 22.5 20% of total cover: 9

Herb Stratum (Plot size: 30ft radius)			
1. *Polystichum acrostichoides*	5	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9			
10			
11			
12			
	5 = Total Cover		

50% of total cover: 2.5 20% of total cover: 1

Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		

50% of total cove 0 20% of total cover: 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1 =	0
FACW species		X 2 =	0
FAC species		X 3 =	0
FACU species		X 4 =	0
UPL species		X 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

_ 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤ 3.00

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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.

Hydrophytic Vegetation Present? **Yes** _ **No X**

Remarks: (If observed, list morphological adaptations below).
Hydrophytic vegetation was not observed to be dominant in the vicinity.

SOIL

Sampling Point DP-4.3-02U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-3	10YR 3/3	100					FSL	No redox observed
3-4	10YR 3/3	50					FSL	No redox observed
	10YR 4/4	50						Mixed Matrix
4/10	10YR 5/4	90	7.5YR 4/4	2	C	M	FSL	Faint redox concentrations
	10YR 4/4	8						Mixed Matrix
10-20	10YR 5/3	90	7.5YR 3/4	10	C	M	FSL	Distinct redox concentrations

[1] Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ 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)**
- ___ Red Parent Material (TF2) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coastal Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

Hydric soils were not observed in this location.

WETLAND DETERMINATION DATA FORM – Eastern Mountain and Piedmont Region

Project Site: Green Ridge Recycling and Disposal Facility,LLC City/County: Cumberland Sampling Date: 12/8/2022

Applicant/Owner: Green Ridge Recycling and Disposal Facility, LLC State: VA Sampling Point: DP-4.3-03U

Investigator(s): KBJW - D. Kwasniewski, E. Williams Section, Township, Range: Tax Map #44-A-19

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5-10%

Subregion (LRR or MLRA): MLRA 136, LRR P Lat: 37.56711 Long: -78.129617 Datum: NAD83

Soil Map Unit Name: 2C—Appling-Helena complex, 7 to 15 percent slopes NWI classification: UPL

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** **X**
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: This data point represents an upland location (UPL).
According to the US Army Corps of Engineers Antecedent Precipitation tool, the site is experiencinig normal precipitation conditions; however, the area was in a mild drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Borrows
- ____ 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 X	Depth (inches) ____	
Water Table Present?	Yes X	No ____	Depth (inches) 14in	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches) 14in	**Wetland Hydrology Present?** **Yes** ____ **No** **X**

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

Remarks:
Wetland hydrology was not observed in the vicinity.

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

Sampling Point: DP-4.3-03U

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liriodendron tulipifera*	15	Y	FACU
2. *Ulmus americana*	10	Y	FACW
3. *Acer rubrum*	10	Y	FAC
4.			
5.			
6.			
7.			
8.			
	35 = Total Cover		
50% of total cove 17.5	20% of total cover: 7		

Sapling/Shrub Stratum (Plot size: 30ft radius)			
1. *Carpinus caroliniana*	30	Y	FAC
2. *Quercus alba*	5	N	FACU
3. *Platanus occidentalis*	5	N	FACW
4.			
5.			
6.			
7.			
8.			
	40 = Total Cover		
50% of total cove 20	20% of total cover: 8		

Herb Stratum (Plot size: 30ft radius)			
1. *Polystichum acrostichoides*	5	Y	FACU
2. *Lonicera japonica*	5	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9			
10			
11			
12			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cove 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1 =	0
FACW species		X 2 =	0
FAC species		X 3 =	0
FACU species		X 4 =	0
UPL species		X 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

_ 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤ 3.00

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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.

Hydrophytic Vegetation Present? **Yes** _ **No X**

Remarks: (If observed, list morphological adaptations below).
Hydrophytic vegetation was not observed to be dominant in the vicinity.

SOIL

Sampling Point DP-4.3-03U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-7	2.5Y 4/3	98	10YR 5/4	2	C	M	FSL	Faint redox concentrations
7-12	2.5Y 4/3	95	10YR 5/6	5	C	M	FSL	Prominent redox concentratio
12-18	10YR 5/4	90	7.5YR 3/4	10	C	M	FSL	Prominent redox concentratio
18-20	2.5Y 5/3	98	10YR 5/6	2	C	M	FSL	Prominent redox concentratio

[1] Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ 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)**
- ___ Red Parent Material (TF2) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coastal Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

Hydric soils were not observed in this location.

WETLAND DETERMINATION DATA FORM – Eastern Mountain and Piedmont Region

Project Site: Green Ridge Recycling and Disposal Facility,LLC City/County: Cumberland Sampling Date: 12/8/2022

Applicant/Owner: Green Ridge Recycling and Disposal Facility, LLC State: VA Sampling Point: DP-4.3-04U

Investigator(s): KBJW - D. Kwasniewski, E. Williams Section, Township, Range: Tax Map #44-A-19

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 2-5%

Subregion (LRR or MLRA): MLRA 136, LRR P Lat: 37.567139 Long: -78.129235 Datum: NAD83

Soil Map Unit Name: 2C—Appling-Helena complex, 7 to 15 percent slopes NWI classification: UPL

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

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ___	**Is the Sampled Area within a Wetland?** **Yes** ___ **No** **X**
Hydric Soil Present?	Yes ___	No X	
Wetland Hydrology Present?	Yes X	No ___	

Remarks: This data point represents an upland location (UPL).
According to the US Army Corps of Engineers Antecedent Precipitation tool, the site is experiencinig normal precipitation conditions; however, the area was in a mild drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___	Surface Water (A1)	___	True Aquatic Plants (B14)
___	High Water Table (A2)	___	Hydrogen Sulfide Odor (C1)
___	Saturation (A3)	X	Oxidized Rhizospheres along 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)		

Secondary Indicators (minimum of two required)

___	Surface Soil Cracks (B6)
___	Sparsely Vegetated Concave Surface (B8)
___	Drainage Patterns (B10)
___	Moss Trim Lines (B16)
___	Dry-Season Water Table (C2)
___	Crayfish Borrows
___	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 X	Depth (inches) ___		
Water Table Present?	Yes ___	No X	Depth (inches) ___		
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches) ___	**Wetland Hydrology Present?**	**Yes X No** ___

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

Remarks:
Wetland hydrology was observed in the vicinity including oxidized rhizospheres in the 0-3in soil layer.

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

Sampling Point: DP-4.3-04U

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	20	Y	FACW
2. *Acer rubrum*	20	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	40	= Total Cover	
50% of total cove 20	20% of total cover: 8		

Sapling/Shrub Stratum (Plot size: 30ft radius)			
1. *Carpinus caroliniana*	40	Y	FAC
2. *Prunus serotina*	5	N	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	45	= Total Cover	
50% of total cove 22.5	20% of total cover: 9		

Herb Stratum (Plot size: 30ft radius)			
1. *Polystichum acrostichoides*	5	Y	FACU
2. *Lonicera japonica*	5	Y	FACU
3. *Smilax rotundifolia*	5	Y	FAC
4.			
5.			
6.			
7.			
8.			
9			
10			
11			
12			
	15	= Total Cover	
50% of total cover: 7.5	20% of total cover: 3		

Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cove 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1 =	0
FACW species		X 2 =	0
FAC species		X 3 =	0
FACU species		X 4 =	0
UPL species		X 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤ 3.00

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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.

Hydrophytic Vegetation Present? **Yes** X **No** _

Remarks: (If observed, list morphological adaptations below).
Hydrophytic vegetation was observed to be dominant in the vicinity.

SOIL

Sampling Point: DP-4.3-04U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/3	98	7.5YR 3/4	2	C	M	FSL	Faint redox concentrations
4-11	2.5Y 4/3	60	7.5YR 4/6	2	C	M	FSL	Prominent redox concentrations
	10YR 4/2	38						Mixed Matrix
11-14	10YR 4/1	100					FSL	No redox observed
14-16	2.5Y 5/3	98	10YR 5/4	2	C	M	FSL	Faint redox concentrations
16-20	2.5Y 5/2	90	7.5YR 3/4	10	C	M	FSL	Prominent redox concentrations

[1] Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ 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)**
- ___ Red Parent Material (TF2) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coastal Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

Hydric soils were not observed in this location. Iron manganese masses were observed in the 11-14in layer of soil.

WETLAND DETERMINATION DATA FORM – Eastern Mountain and Piedmont Region

Project Site: Green Ridge Recycling and Disposal Facility,LLC City/County: Cumberland Sampling Date: 12/8/2022

Applicant/Owner: Green Ridge Recycling and Disposal Facility, LLC State: VA Sampling Point: DP-4.3-05U

Investigator(s): KBJW - D. Kwasniewski, E. Williams Section, Township, Range: Tax Map #44-A-19

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5-10%

Subregion (LRR or MLRA): MLRA 136, LRR P Lat: 37.567201 Long: -78.129257 Datum: NAD83

Soil Map Unit Name: 2C—Appling-Helena complex, 7 to 15 percent slopes NWI classification: UPL

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** **X**
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: This data point represents an upland location (UPL).
According to the US Army Corps of Engineers Antecedent Precipitation tool, the site is experiencinig normal precipitation conditions; however, the area was in a mild drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Borrows
- ____ 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 X	Depth (inches) ____
Water Table Present?	Yes ____	No X	Depth (inches) ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches) ____

Wetland Hydrology Present? **Yes** ____ **No** **X**

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

Remarks:
Wetland hydrology was not observed in the vicinity.

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

Sampling Point: DP-4.3-05U

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	15	Y	FACW
2. *Acer rubrum*	15	Y	FAC
3. *Prunus serotina*	5	N	FACU
4.			
5.			
6.			
7.			
8.			
	35 = Total Cover		

50% of total cove 17.5 20% of total cover: 7

Sapling/Shrub Stratum (Plot size: 30ft radius)			
1. *Carpinus caroliniana*	30	Y	FAC
2. *Quercus alba*	10	N	FACU
3. *Acer rubrum*	5	N	FAC
4. *Juniperus virginiana*	5	N	FACU
5.			
6.			
7.			
8.			
	50 = Total Cover		

50% of total cove 25 20% of total cover: 10

Herb Stratum (Plot size: 30ft radius)			
1. *Polystichum acrostichoides*	5	Y	FACU
2. *Lonicera japonica*	5	Y	FACU
3. *Smilax rotundifolia*	5	Y	FAC
4.			
5.			
6.			
7.			
8.			
9			
10			
11			
12			
	15 = Total Cover		

50% of total cover: 7.5 20% of total cover: 3

Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		

50% of total cove 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1 =	0
FACW species		X 2 =	0
FAC species		X 3 =	0
FACU species		X 4 =	0
UPL species		X 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤ 3.00

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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.

Hydrophytic Vegetation Present? **Yes** X **No** _

Remarks: (If observed, list morphological adaptations below).

Hydrophytic vegetation was observed to be dominant in the vicinity.

SOIL

Sampling Point: DP-4.3-05U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-7	10YR 4/3	100					FSCL	No redox observed
7-15	2.5Y 6/4	98	7.5YR 4/6	2	C	M	FSL	Prominent redox concentrations
15-20	2.5Y 6/4	78	10YR 5/6	2	C	M	FSCL	Prominent redox concentrations
	5YR 4/6	20						Mixed Matrix

[1] Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ 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)**
- ___ Red Parent Material (TF2) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coastal Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

Hydric soils were not observed in this location.

WETLAND DETERMINATION DATA FORM – Eastern Mountain and Piedmont Region

Project Site: Green Ridge Recycling and Disposal Facility,LLC City/County: Cumberland Sampling Date: 12/8/2022

Applicant/Owner: Green Ridge Recycling and Disposal Facility, LLC State: VA Sampling Point: DP-4.3-06U

Investigator(s): KBJW - D. Kwasniewski, E. Williams Section, Township, Range: Tax Map #44-A-19

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5-10%

Subregion (LRR or MLRA): MLRA 136, LRR P Lat: 37.5677075 Long: -78.12922 Datum: NAD83

Soil Map Unit Name: 2C—Appling-Helena complex, 7 to 15 percent slopes NWI classification: UPL

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** **X**
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: This data point represents an upland location (UPL).
According to the US Army Corps of Engineers Antecedent Precipitation tool, the site is experiencinig normal precipitation conditions; however, the area was in a mild drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Borrows
- ____ 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 X	Depth (inches) ____	
Water Table Present?	Yes ____	No X	Depth (inches) ____	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches) ____	**Wetland Hydrology Present?** **Yes** ____ **No** **X**

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

Remarks:
Wetland hydrology was not observed in the vicinity.

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

Sampling Point: DP-4.3-06U

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	Y	FAC
2. *Ulmus americana*	15	Y	FACW
3. *Quercus alba*	10	Y	FACU
4. *Liriodendron tulipifera*	5	N	FACU
5.			
6.			
7.			
8.			
	50 = Total Cover		
50% of total cove 25	20% of total cover: 10		

Sapling/Shrub Stratum (Plot size: 30ft radius)			
1. *Carpinus caroliniana*	30	Y	FAC
2. *Quercus alba*	10	N	FACU
3. *Ulmus americana*	10	N	FACW
4. *Prunus serotina*	10	N	FACU
5.			
6.			
7.			
8.			
	60 = Total Cover		
50% of total cove 30	20% of total cover: 12		

Herb Stratum (Plot size: 30ft radius)			
1. *Polystichum acrostichoides*	5	Y	FACU
2. *Lonicera japonica*	5	Y	FACU
3. *Smilax rotundifolia*	5	Y	FAC
4.			
5.			
6.			
7.			
8.			
9			
10			
11			
12			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		

Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cove 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 57% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1 =	0
FACW species		X 2 =	0
FAC species		X 3 =	0
FACU species		X 4 =	0
UPL species		X 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤ 3.00

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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.

Hydrophytic Vegetation Present? **Yes** X **No** _

Remarks: (If observed, list morphological adaptations below).

Hydrophytic vegetation was observed to be dominant in the vicinity.

SOIL

Sampling Point: DP-4.3-06U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	2.5Y 4/3	98	7.5YR 3/4	2	C	M	FSL	Distinct redox concentrations
8-15	2.5Y 6/3	95	7.5YR 3/4	5	C	M	FSL	Prominent redox concentrations
18-20	10YR 5/6	80	7.5YR 3/4	20	C	M	FSCL	Distinct redox concentrations

[1] Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ 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)**
- ___ Red Parent Material (TF2) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coastal Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

Hydric soils were not observed in this location.

WETLAND DETERMINATION DATA FORM – Eastern Mountain and Piedmont Region

Project Site: Green Ridge Recycling and Disposal Facility,LLC City/County: Cumberland Sampling Date: 12/8/2022

Applicant/Owner: Green Ridge Recycling and Disposal Facility, LLC State: VA Sampling Point: DP-4.3-07U

Investigator(s): KBJW - D. Kwasniewski, E. Williams Section, Township, Range: Tax Map #44-A-19

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 2-5%

Subregion (LRR or MLRA): MLRA 136, LRR P Lat: 37.567204 Long: -78.128836 Datum: NAD83

Soil Map Unit Name: 2C—Appling-Helena complex, 7 to 15 percent slopes NWI classification: UPL

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?**	**Yes ____ No X**
Hydric Soil Present?	Yes ____	No X		
Wetland Hydrology Present?	Yes ____	No X		

Remarks: This data point represents an upland location (UPL).
According to the US Army Corps of Engineers Antecedent Precipitation tool, the site is experiencinig normal precipitation conditions; however, the area was in a mild drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Borrows
- ____ 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 X	Depth (inches) ____	**Wetland Hydrology Present?**	**Yes ____ No X**
Water Table Present?	Yes X	No ____	Depth (inches) 18		
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches) 14		

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

Remarks:
Wetland hydrology was not observed in the vicinity.

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

Sampling Point: DP-4.3-07U

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	25	Y	FACW
2. *Acer rubrum*	20	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	45 = Total Cover		
50% of total cove 22.5	20% of total cover: 9		

Sapling/Shrub Stratum (Plot size: 30ft radius)			
1. *Carpinus caroliniana*	35	Y	FAC
2. *Liquidambar styraciflua*	5	N	FAC
3. *Juniperus virginiana*	5	N	FACU
4.			
5.			
6.			
7.			
8.			
	45 = Total Cover		
50% of total cove 22.5	20% of total cover: 9		

Herb Stratum (Plot size: 30ft radius)			
1. *Lonicera japonica*	5	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9			
10			
11			
12			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		

Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cove 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1 =	0
FACW species		X 2 =	0
FAC species		X 3 =	0
FACU species		X 4 =	0
UPL species		X 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤ 3.00

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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.

Hydrophytic Vegetation Present? **Yes** X **No** _

Remarks: (If observed, list morphological adaptations below).
Hydrophytic vegetation was observed to be dominant in the vicinity.

SOIL

Sampling Point: DP-4.3-07U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-3	2.5Y 3/3	100					FSL	No redox concentrations
3-12	2.5Y 5/3	98	10YR 4/4	2	C	M	FSL	Distinct redox concentrations
12-20	2.5Y 4/3	98	7.5YR 3/4	2	C	M	FSL	Distinct redox concentrations

[1] Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ 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)**
- ___ Red Parent Material (TF2) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coastal Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

Hydric soils were not observed in this location.

WETLAND DETERMINATION DATA FORM – Eastern Mountain and Piedmont Region

Project Site: Green Ridge Recycling and Disposal Facility,LLC City/County: Cumberland Sampling Date: 12/8/2022

Applicant/Owner: Green Ridge Recycling and Disposal Facility, LLC State: VA Sampling Point: DP-4.3-08U

Investigator(s): KBJW - D. Kwasniewski, E. Williams Section, Township, Range: Tax Map #44-A-19

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5-10%

Subregion (LRR or MLRA): MLRA 136, LRR P Lat: 37.567277 Long: -78.12884 Datum: NAD83

Soil Map Unit Name: 2C—Appling-Helena complex, 7 to 15 percent slopes NWI classification: UPL

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** **X**
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes X	No ____	

Remarks: This data point represents an upland location (UPL).
According to the US Army Corps of Engineers Antecedent Precipitation tool, the site is experiencinig normal precipitation conditions; however, the area was in a mild drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Borrows
- ____ 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 X	Depth (inches) ____	
Water Table Present?	Yes X	No ____	Depth (inches) 18	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches) 10	**Wetland Hydrology Present?** **Yes** **X** **No** ____

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

Remarks:
Wetland hydrology was observed in the vicinity.

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

Sampling Point: DP-4.3-08U

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	20	Y	FACW
2. *Acer rubrum*	10	Y	FAC
3. *Liriodendron tulipifera*	10	Y	FACU
4.			
5.			
6.			
7.			
8.			
	40 = Total Cover		
50% of total cove 20	20% of total cover: 8		

Sapling/Shrub Stratum (Plot size: 30ft radius)			
1. *Carpinus caroliniana*	30	Y	FAC
2. *Juniperus virginiana*	15	Y	FACU
3. *Quercus alba*	5	N	FACU
4.			
5.			
6.			
7.			
8.			
	50 = Total Cover		
50% of total cove 25	20% of total cover: 10		

Herb Stratum (Plot size: 30ft radius)			
1. *Lonicera japonica*	5	Y	FACU
2. *Polystichum acrostichoides*	5	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9			
10			
11			
12			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cove 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 43% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1 =	0
FACW species		X 2 =	0
FAC species		X 3 =	0
FACU species		X 4 =	0
UPL species		X 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

_ 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤ 3.00

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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.

Hydrophytic Vegetation Present? **Yes** _ **No** X

Remarks: (If observed, list morphological adaptations below).

Hydrophytic vegetation was not observed to be dominant in the vicinity.

SOIL

Sampling Point: DP-4.3-08U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-4	2.5Y 4/3	100					FSL	No redox concentrations
4-10	2.5Y 4/3	98	7.5YR 4/3	2	C	M	FSL	Faint redox concentrations
10-16	2.5Y 5/3	100					FSL	
16-20	2.5Y 6/4	95	10YR 5/6	5	C	M	FSL	Distinct redox concentrations

[1] Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ 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)**
- ___ Red Parent Material (TF2) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coastal Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

Hydric soils were not observed in this location.

WETLAND DETERMINATION DATA FORM – Eastern Mountain and Piedmont Region

Project Site: Green Ridge Recycling and Disposal Facility,LLC City/County: Cumberland Sampling Date: 12/8/2022

Applicant/Owner: Green Ridge Recycling and Disposal Facility, LLC State: VA Sampling Point: DP-4.3-09U

Investigator(s): KBJW - D. Kwasniewski, E. Williams Section, Township, Range: Tax Map #44-A-19

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5-10%

Subregion (LRR or MLRA): MLRA 136, LRR P Lat: 37.567139 Long: -78.128835 Datum: NAD83

Soil Map Unit Name: 2C—Appling-Helena complex, 7 to 15 percent slopes NWI classification: UPL

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?**	**Yes** ____	**No X**
Hydric Soil Present?	Yes ____	No X			
Wetland Hydrology Present?	Yes ____	No X			

Remarks: This data point represents an upland location (UPL).
According to the US Army Corps of Engineers Antecedent Precipitation tool, the site is experiencinig normal precipitation conditions; however, the area was in a mild drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Borrows
- ____ 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 X	Depth (inches) ____		
Water Table Present?	Yes ____	No X	Depth (inches) ____		
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches) 15	**Wetland Hydrology Present?**	**Yes** ____ **No X**

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

Remarks:
Wetland hydrology was not observed in the vicinity.

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

Sampling Point: DP-4.3-09U

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	20	Y	FACW
2. *Acer rubrum*	20	Y	FAC
3. *Liriodendron tulipifera*	15	Y	FACU
4.			
5.			
6.			
7.			
8.			
	55 = Total Cover		
50% of total cove 27.5	20% of total cover: 11		

Sapling/Shrub Stratum (Plot size: 30ft radius)			
1. *Carpinus caroliniana*	35	Y	FAC
2. *Liriodendron tulipifera*	10	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	45 = Total Cover		
50% of total cove 22.5	20% of total cover: 9		

Herb Stratum (Plot size: 30ft radius)			
1. *Polystichum acrostichoides*	10	Y	FACU
2. *Lonicera japonica*	5	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9			
10			
11			
12			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		

Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cove 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 43% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1 =	0
FACW species		X 2 =	0
FAC species		X 3 =	0
FACU species		X 4 =	0
UPL species		X 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

_ 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤ 3.00

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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.

Hydrophytic Vegetation Present? **Yes** _ **No** X

Remarks: (If observed, list morphological adaptations below).
Hydrophytic vegetation was not observed to be dominant in the vicinity.

SOIL

Sampling Point: DP-4.3-09U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-3	2.5Y 3/3	100					FSL	No redox concentrations
3-5	2.5Y 3/3	70					FSL	No redox concentrations
	2.5Y 4/4	30						Mixed Matrix
5-20	10YR 5/4	98	7.5YR 3/4	2	C	M	FSL	Distinct redox concentrations

[1] Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ 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)**
- ___ Red Parent Material (TF2) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coastal Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

Hydric soils were not observed in this location.

WETLAND DETERMINATION DATA FORM – Eastern Mountain and Piedmont Region

Project Site: Green Ridge Recycling and Disposal Facility,LLC City/County: Cumberland Sampling Date: 12/8/2022

Applicant/Owner: Green Ridge Recycling and Disposal Facility, LLC State: VA Sampling Point: DP-4.3-10U

Investigator(s): KBJW - D. Kwasniewski, E. Williams Section, Township, Range: Tax Map #44-A-19

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 2-5%

Subregion (LRR or MLRA): MLRA 136, LRR P Lat: 37.567203 Long: -78.128382 Datum: NAD83

Soil Map Unit Name: 2C—Appling-Helena complex, 7 to 15 percent slopes NWI classification: UPL

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** **X**
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: This data point represents an upland location (UPL).
According to the US Army Corps of Engineers Antecedent Precipitation tool, the site is experiencinig normal precipitation conditions; however, the area was in a mild drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Borrows
- ____ 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 X	Depth (inches) ____	
Water Table Present?	Yes ____	No X	Depth (inches) ____	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches) ____	**Wetland Hydrology Present?** **Yes** ____ **No** **X**

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

Remarks:
Wetland hydrology was not observed in the vicinity.

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

Sampling Point: DP-4.3-10U

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juniperus virginiana*	15	Y	FACU
2. *Acer rubrum*	15	Y	FAC
3. *Liriodendron tulipifera*	10	Y	FACU
4.			
5.			
6.			
7.			
8.			
	40 = Total Cover		
50% of total cove 20	20% of total cover: 8		

Sapling/Shrub Stratum (Plot size: 30ft radius)			
1. *Carpinus caroliniana*	25	Y	FAC
2. *Prunus serotina*	10	Y	FACU
3. *Ulmus americana*	5	N	FACW
4.			
5.			
6.			
7.			
8.			
	40 = Total Cover		
50% of total cove 20	20% of total cover: 8		

Herb Stratum (Plot size: 30ft radius)			
1. *Smilax rotundifolia*	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9			
10			
11			
12			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		

Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cove 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1 =	0
FACW species		X 2 =	0
FAC species		X 3 =	0
FACU species		X 4 =	0
UPL species		X 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

_ 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤ 3.00

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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.

Hydrophytic Vegetation Present? **Yes** _ **No** X

Remarks: (If observed, list morphological adaptations below).

Hydrophytic vegetation was not observed to be dominant in the vicinity.

SOIL

Sampling Point: DP-4.3-10U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-5	10YR 3/3	100					FSL	No redox concentrations
5-12	2.5Y 4/3	94	7.4YR 4/4	5	C	M	FSL	Distinct redox concentrations
12-18	10YR 4/2	98	10YR 5/6	2	C	M	FSCL	Prominent redox concentrations
18-20	2.5Y 5/2	98	2.5Y 4/3	2	C	M	FSCL	Faint redox concentrations

[1] Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ 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)**
- ___ Red Parent Material (TF2) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coastal Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

Hydric soils were not observed in this location.

WETLAND DETERMINATION DATA FORM – Eastern Mountain and Piedmont Region

Project Site: Green Ridge Recycling and Disposal Facility,LLC City/County: Cumberland Sampling Date: 12/8/2022

Applicant/Owner: Green Ridge Recycling and Disposal Facility, LLC State: VA Sampling Point: DP-4.3-11U

Investigator(s): KBJW - D. Kwasniewski, E. Williams Section, Township, Range: Tax Map #44-A-19

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5-10%

Subregion (LRR or MLRA): MLRA 136, LRR P Lat: 37.567283 Long: -78.128381 Datum: NAD83

Soil Map Unit Name: 2C—Appling-Helena complex, 7 to 15 percent slopes NWI classification: UPL

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** **X**
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: This data point represents an upland location (UPL).
According to the US Army Corps of Engineers Antecedent Precipitation tool, the site is experiencinig normal precipitation conditions; however, the area was in a mild drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Borrows
- ____ 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 X	Depth (inches) ____	
Water Table Present?	Yes ____	No X	Depth (inches) ____	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches) ____	**Wetland Hydrology Present?** **Yes** ____ **No** **X**

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

Remarks:
Wetland hydrology was not observed in the vicinity.

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

Sampling Point: DP-4.3-11U

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus taeda*	15	Y	FAC
2. *Ulmus americana*	10	Y	FACW
3. *Liriodendron tulipifera*	10	Y	FACU
4.			
5.			
6.			
7.			
8.			
	35 = Total Cover		
50% of total cove 17.5	20% of total cover: 7		

Sapling/Shrub Stratum (Plot size: 30ft radius)			
1. *Carpinus caroliniana*	30	Y	FAC
2. *Juniperus virginiana*	10	N	FACU
3. *Ulmus americana*	10	N	FACW
4. *Acer rubrum*	5	N	FAC
5. *Liquidambar styraciflua*	5	N	FAC
6.			
7.			
8.			
	60 = Total Cover		
50% of total cove 30	20% of total cover: 12		

Herb Stratum (Plot size: 30ft radius)			
1. *Polystichum acrostichoides*	10	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9			
10			
11			
12			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cove 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1 =	0
FACW species		X 2 =	0
FAC species		X 3 =	0
FACU species		X 4 =	0
UPL species		X 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤ 3.00

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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.

Hydrophytic Vegetation Present? **Yes** X **No** _

Remarks: (If observed, list morphological adaptations below).

Hydrophytic vegetation was observed to be dominant in the vicinity.

SOIL

Sampling Point: DP-4.3-11U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-5	2.5Y 5/3	100					FSL	No redox concentrations
5-12	2.5Y 4/3	50					FSCL	No redox concentrations
	10YR 5/6	50						Mixed matrix
12-20	10YR 6/8	90					FSCL	No redox concentrations
	10YR 6/4	10						Mixed matrix

[1] Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ 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)**
- ___ Red Parent Material (TF2) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coastal Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

Hydric soils were not observed in this location.

WETLAND DETERMINATION DATA FORM – Eastern Mountain and Piedmont Region

Project Site: Green Ridge Recycling and Disposal Facility,LLC City/County: Cumberland Sampling Date: 12/8/2022

Applicant/Owner: Green Ridge Recycling and Disposal Facility, LLC State: VA Sampling Point: DP-4.3-12U

Investigator(s): KBJW - D. Kwasniewski, E. Williams Section, Township, Range: Tax Map #44-A-19

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5-10%

Subregion (LRR or MLRA): MLRA 136, LRR P Lat: 37.567165 Long: -78.128379 Datum: NAD83

Soil Map Unit Name: 2C—Appling-Helena complex, 7 to 15 percent slopes NWI classification: UPL

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** **X**
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: This data point represents an upland location (UPL).
According to the US Army Corps of Engineers Antecedent Precipitation tool, the site is experiencinig normal precipitation conditions; however, the area was in a mild drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Borrows
- ____ 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 X	Depth (inches) ____	
Water Table Present?	Yes ____	No X	Depth (inches) ____	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches) 21	**Wetland Hydrology Present?** **Yes** ____ **No** **X**

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

Remarks:
Wetland hydrology was not observed in the vicinity.

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

Sampling Point: DP-4.3-12U

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	Y	FAC
2. *Juniperus virginiana*	10	Y	FACU
3. *Liriodendron tulipifera*	5	N	FACU
4.			
5.			
6.			
7.			
8.			
	35 = Total Cover		

50% of total cove 17.5 20% of total cover: 7

Sapling/Shrub Stratum (Plot size: 30ft radius)			
1. *Carpinus caroliniana*	30	Y	FAC
2. *Ulmus americana*	10	N	FACW
3. *Fagus grandifolia*	10	N	FACU
4. *Prunus serotina*	5	N	FACU
5.			
6.			
7.			
8.			
	55 = Total Cover		

50% of total cove 27.5 20% of total cover: 11

Herb Stratum (Plot size: 30ft radius)			
1. *Smilax rotundifolia*	10	Y	FAC
2. *Polystichum acrostichoides*	5	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9			
10			
11			
12			
	15 = Total Cover		

50% of total cover: 7.5 20% of total cover: 3

Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		

50% of total cove 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1 =	0
FACW species		X 2 =	0
FAC species		X 3 =	0
FACU species		X 4 =	0
UPL species		X 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤ 3.00

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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.

Hydrophytic Vegetation Present? **Yes** X **No** _

Remarks: (If observed, list morphological adaptations below).
Hydrophytic vegetation was observed to be dominant in the vicinity.

SOIL

Sampling Point: DP-4.3-12U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-3	2.5Y 4/3	100					Loam	No redox concentrations
3-11	2.5Y 4/3	98	10YR 4/6	2	C	M	Loam	Prominent redox concentrations
11-16	2.5Y 5/4	95	7.5YR 4/4	5	C	M	SL	Distinct redox concentrations
16-20	2.5Y 5/2	95	10YR 4/6	5	C	M	SL	Prominent redox concentrations

[1] Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ 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)**
- ___ Red Parent Material (TF2) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coastal Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

Hydric soils were not observed in this location. Iron manganese masses were observed in the 16-20in soil layer.

WETLAND DETERMINATION DATA FORM – Eastern Mountain and Piedmont Region

Project Site: Green Ridge Recycling and Disposal Facility,LLC City/County: Cumberland Sampling Date: 8/16/2022

Applicant/Owner: Green Ridge Recycling and Disposal Facility, LLC State: VA Sampling Point: DP-EW4.3U

Investigator(s): KBJW - E. Williams, E. Beacham Section, Township, Range: Tax Map #44-A-19

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Concave Slope (%): 5-10

Subregion (LRR or MLRA): MLRA 136, LRR P Lat: 37.340178 Long: -78.074048 Datum: NAD83

Soil Map Unit Name: 2C—Appling-Helena complex, 7 to 15 percent slopes NWI classification: UPL

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?**	**Yes ____ No X**
Hydric Soil Present?	Yes ____	No X		
Wetland Hydrology Present?	Yes ____	No X		

Remarks: This data point represents an upland location (UPL).
According to the US Army Corps of Engineers Antecedent Precipitation tool the site is experiencinig normal precipitation conditions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Borrows
- ____ 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 X	Depth (inches) ____	
Water Table Present?	Yes ____	No X	Depth (inches) ____	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches) ____	**Wetland Hydrology Present? Yes ____ No X**

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

Remarks:
One secondary wetland hydrology indicator was observed in the vicinity.

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

Sampling Point: DP-EW4.3U

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus taeda*	10	Y	FAC
2. *Liriodendron tulipifera*	5	Y	FACU
3. *Acer rubrum*	5	Y	FAC
4. *Ulmus americana*	5	Y	FACW
5. *Prunus serotina*	5	Y	FACU
6.			
7.			
8.			
	30	= Total Cover	
50% of total cove	15	20% of total cover:	6

Sapling/Shrub Stratum (Plot size: 30ft radius)			
1. *Carpinus caroliniana*	35	Y	FAC
2. *Acer rubrum*	15	Y	FAC
3. *Nyssa sylvatica*	5	N	FAC
4.			
5.			
6.			
7.			
8.			
	55	= Total Cover	
50% of total cove	27.5	20% of total cover:	11

Herb Stratum (Plot size: 30ft radius)			
1. *Smilax rotundifolia*	15	Y	FAC
2. *Polystichum acrostichoides*	5	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9			
10			
11			
12			
	20	= Total Cover	
50% of total cover:	10	20% of total cover:	4

Woody Vine Stratum (Plot size: 30ft radius)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cove	0	20% of total cover:	0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1 =	0
FACW species	5	X 2 =	10
FAC species	85	X 3 =	255
FACU species	15	X 4 =	60
UPL species		X 5 =	0
Column Totals:	105 (A)		325 (B)

Prevalence Index = B/A= 3.10

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤ 3.00

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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.

Hydrophytic Vegetation Present? **Yes** X **No** _

Remarks: (If observed, list morphological adaptations below).
Hydrophytic vegetation was observed to be dominant in the vicinity.

SOIL

Sampling Point DP-EW4.3U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-2	10YR 3/2	100					SL	no redox observed
2-9	10YR 4/3	100					SL	no redox observed
9-21	10YR 4/4	100					SL	no redox observed

[1] Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ 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)**
- ___ Red Parent Material (TF2) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coastal Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

Hydric soils were not observed in this location.

Exhibit 12

Representative Site Photographs

Exhibit 12: Representative Site Photographs

DP-4.3-01U Soils (UPL)

DP-4.3-01U Surrounding Area Looking Upslope

DP-4.3-01U Surrounding Area Looking Downslope

Exhibit 12: Representative Site Photographs

DP-4.3-02U Soils (UPL)

DP-4.3-02U Surrounding Area Looking Upslope

DP-4.3-02U Surrounding Area Looking Downslope

Exhibit 12: Representative Site Photographs

DP-4.3-03U Soils (UPL)

DP-4.3-03U Surrounding Area Looking Upslope

DP-4.3-03U Surrounding Area Looking Downslope

Exhibit 12: Representative Site Photographs

DP-4.3-04U Soils (UPL)

DP-4.3-04U Surrounding Area Looking Upslope

DP-4.3-04U Surrounding Area Looking Downslope

Exhibit 12: Representative Site Photographs

DP-4.3-05U Soils (UPL)

DP-4.3-05U Surrounding Area Looking Upslope

DP-4.3-05U Surrounding Area Looking Downslope

Exhibit 12: Representative Site Photographs

DP-4.3-06U Soils (UPL)

DP-4.3-06U Surrounding Area Looking Upslope

DP-4.3-06U Surrounding Area Looking Downslope

Exhibit 12: Representative Site Photographs

DP-4.3-07U Soils (UPL)

DP-4.3-07U Surrounding Area Looking Upslope

DP-4.3-07U Surrounding Area Looking Downslope

Exhibit 12: Representative Site Photographs

DP-4.3-08U Soils (UPL)

DP-4.3-09U Surrounding Area Looking Upslope

DP-4.3-08U Surrounding Area Looking Downslope

Exhibit 12: Representative Site Photographs

DP-4.3-09U Soils (UPL)

DP-4.3-09U Surrounding Area Looking Upslope

DP-4.3-09U Surrounding Area Looking Downslope

Exhibit 12: Representative Site Photographs

DP-4.3-10U Soils (UPL)

DP-4.3-10U Surrounding Area Looking Upslope

DP-4.3-10U Surrounding Area Looking Downslope

Exhibit 12: Representative Site Photographs

DP-4.3-11U Soils (UPL)

DP-4.3-11U Surrounding Area Looking Upslope

DP-4.3-11U Surrounding Area Looking Downslope

Exhibit 12: Representative Site Photographs

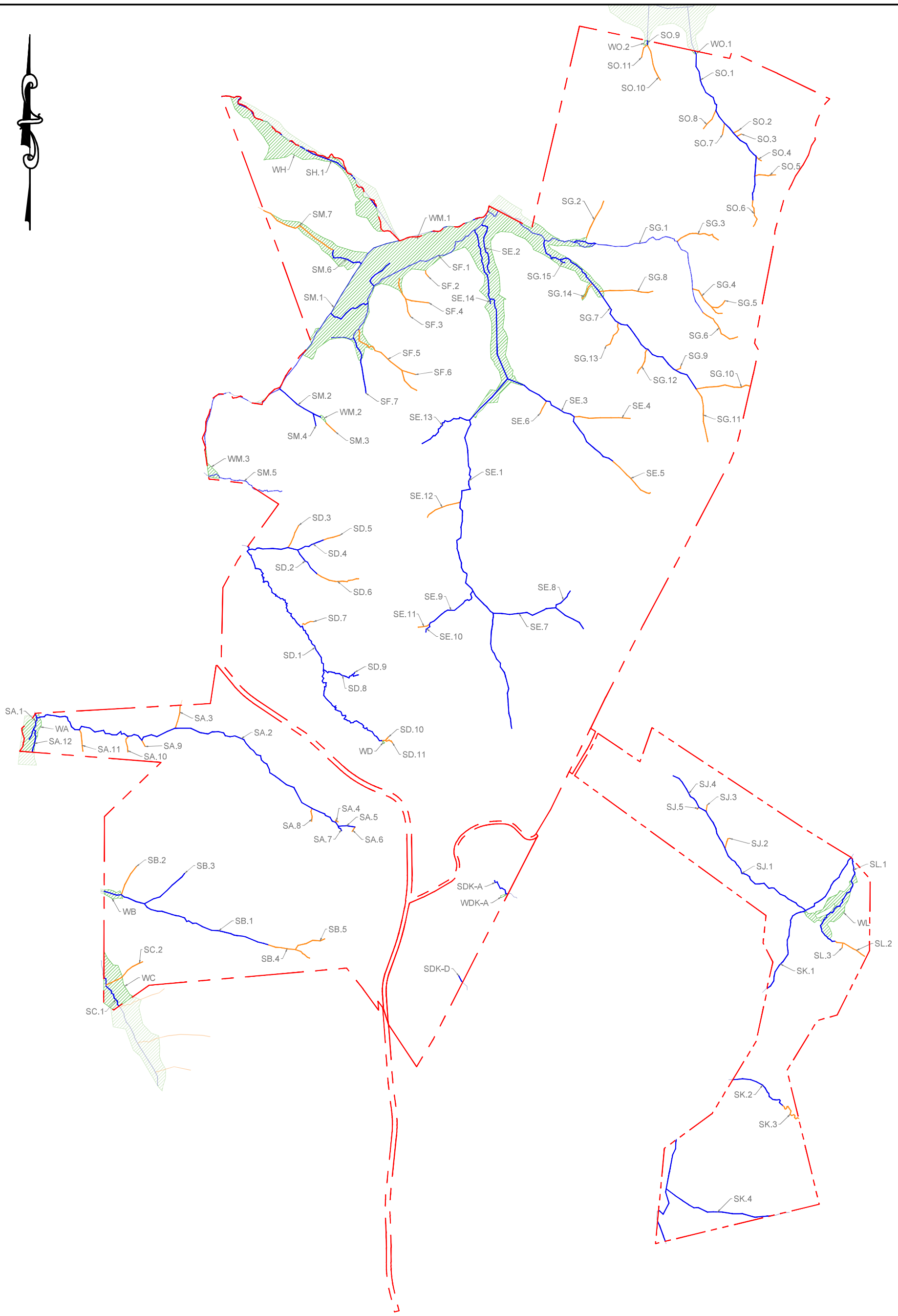
DP-4.3-12U Soils (UPL)

DP-4.3-12U Surrounding Area Looking Upslope

DP-4.3-12U Surrounding Area Looking Downslope

Enclosure 7

ORM Index Map



GRAPHIC SCALE

1000 0 500 1000 2000

1 inch = 1000 feet

LEGEND

	Study Area (+/- 1,181 acres)	
SA.1	ORM Feature Identifiers	
	Palustrine Forested (PFO) Wetlands	44.4 acres
	Perennial/Intermittent (R3/R4) Channel	49,786 LF
	Ephemeral (R6) Channel	16,101 LF

ORM INDEX MAP
CUMBERLAND COUNTY, VIRGINIA
HAMILTON DISTRICT

PROJECT:	DATE:	REVISED	SCALE:
2017-890	February 27, 2023		1"=1000'

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