



**Sent Via Email**

March 1, 2023

Trammel Crow Company  
555 Fayetteville Street, Suite 300  
Raleigh, North Carolina 27601

Attn: Ms. Brooke Bures

Re: Preliminary Stream and Wetlands Survey  
Undeveloped Land  
Mulberry Road  
Harrisburg, North Carolina  
H&H Job No.TCD-007

Dear Brooke:

**1.0 Introduction**

Hart & Hickman, PC (H&H) is pleased to present this preliminary stream and wetlands survey for the residential and undeveloped land located at 1967-2173 Mulberry Road and 6205 Pharr Mill Road in Harrisburg, Cabarrus County, North Carolina (Site or subject Site). The Site consists of four tax parcels (Cabarrus County Parcel ID Numbers 55177993000000, 55179854430000, 55270917400000, and 55179699450000) that total approximately 234 acres of land. The Site currently exists primarily as undeveloped wooded land with residences in the western and northern portions of the Site and apparent vacant structures in the north-central portion of the site. Cleared field areas exist in the southern portion of the Site. A Site location map is provided as Figure 1, and an aerial map that depicts potential Waters of the US is provided as Figure 2.

H&H personnel visited the Site and conducted the preliminary stream and wetlands survey activities on October 11 and 12, 2022. The purpose of the preliminary survey activities was to identify Waters of the US (potential jurisdictional streams, wetlands, and open waters) at the Site prior to potential future development activities. A summary of the preliminary stream and wetlands survey activities and results is provided in the following sections.

## 2.0 Preliminary Stream and Wetland Survey Activities

H&H conducted a preliminary stream and wetlands survey at the subject Site, which consisted of 1) a desktop review of maps and environmental documents; and 2) a Site-specific survey for streams, wetlands, and surface water features. A summary of the survey activities is provided below.

### 2.1 Map and Environmental Document Review

In order to evaluate the potential presence of streams and wetlands on the subject Site, H&H performed the following:

- reviewed the Concord SE and Harrisburg, North Carolina (2019) US Geological Survey (USGS) 7.5-minute topographic maps with coverage of the subject Site;
- reviewed the Cabarrus County Geographical Information System (GIS) website for the presence of water bodies and floodplains on the subject Site (<https://location.cabarruscounty.us/mapcabarrus/>);
- reviewed the US Fish and Wildlife Service (FWS) National Wetlands Inventory (NWI) map for the presence of potential jurisdictional wetlands and surface water features on the subject Site (<https://www.fws.gov/wetlands/data/mapper.html>);
- reviewed the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey website for potential hydric soil series present on the subject Site (<https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>);
- reviewed the USDA Soil Conservation Service (SCS) Published Soil Survey of Cabarrus County (1988) for soil series and the presence of water bodies on the subject Site; and
- reviewed the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) for the presence of floodplains on the subject Site (<https://msc.fema.gov/portal/search>).

A copy of the USGS topographic maps is included as Figure 1, and copies of the GIS information, NWI map, soil survey maps, and flood map are included in Appendix A. Information obtained from our review of these documents is summarized below.

#### USGS 7.5-Minute Topographic Maps

H&H reviewed the USGS 7.5-minute topographic maps with coverage of the subject Site. The USGS maps depict Rocky River as generally forming the Site's southwestern and southern boundaries. The USGS maps also depict an intermittent stream channel draining from a dammed pond in the central portion of the Site along with an additional intermittent stream channel in the east-central portion of the Site. Wetland symbology is also depicted in the southern portion of the Site. The topographic gradient at the Site slopes generally to the south-southwest towards Rocky River.

#### Cabarrus County GIS

H&H reviewed the Cabarrus County GIS website to determine if surface water bodies or floodplains are depicted on the subject Site. The Cabarrus County GIS website depicts Rocky River as generally forming the Site's southwestern and southern boundaries. The website also depicts a stream channel draining from a dammed pond in the central portion of the Site along with an additional stream channel in the east-central portion of the Site. The Cabarrus County GIS website also depicts the regulatory floodway, and the 100- and 500-year floodplains of Rocky River in the southwestern and southern portions of the Site.

#### NWI Map

H&H reviewed the NWI map for potential jurisdictional wetlands and surface waters located on the Site. The NWI map depicts Rocky River as generally forming the Site's southwestern and southern boundaries. NWI classifies Rocky River as R2UBH, which is defined as a lower perennial riverine system with an unconsolidated bottom that is permanently flooded. The NWI map also depicts a stream feature in the central portion of the Site, and classifies the upgradient portion as R5UBH and the downgradient portion as R4SBC. R5UBH is defined as an unknown perennial riverine system with an unconsolidated bottom that is permanently flooded. R4SBC is

defined as an intermittent riverine system with a streambed bottom that is seasonally flooded. An additional stream feature is depicted in the east-central portion of the Site and is also classified by NWI as R4SBC. The NWI map also depicts a wetland feature in the southeastern portion of the Site. NWI classifies the wetland area as PFO1A, which is defined as a forested palustrine system that is dominated by broad-leaved deciduous vegetation and is temporarily flooded.

#### USDA NRCS Web Soil Survey

H&H reviewed soil survey information and identified one potentially hydric soil series on the Site: Chewacla loam, 0 to 2 percent slopes, frequently flooded (ChA). The ChA series is depicted in the southwestern and southern portions of the Site, and the north-central portion of the Site. Hydric soil series are sometimes associated with consistently saturated soil such as in wetland areas.

#### USDA SCS Published Soil Survey

H&H reviewed soil information on the published soil survey and identified multiple soil series including the potentially hydric soil series ChA on the Site. No other potentially hydric soil series were identified on the Site. The published soil survey also depicts Rocky River along the Site's southwestern and southern boundaries, and three unnamed stream channels in the western, central, and east-central portions of the Site.

#### FEMA FIRM

The FEMA FIRM panels depict the regulatory floodway and the 100- and 500-year floodplains of Rocky River in the southwestern and southern portions of the Site.

## **2.2 Site-Specific Survey**

On October 11 and 12, 2022, H&H performed a preliminary stream and wetlands survey on the Site in accordance with the *1987 US Army Corps of Engineers (Corps) Manual* and the *Regional Supplement to the Corps Wetland Delineation Manual – Eastern Mountains and Piedmont*

*Region (Version 2.0)*, and the *North Carolina Department of Environmental Quality Division of Water Resources (DEQ DWR) Methodology for Identification of Intermittent and Perennial Streams and Their Origins (Version 4.11)*. Hydric soil, wetland hydrology, and wetland vegetation must be present to classify an area as a wetland. A defined bed and bank and an ordinary high-water mark (OHWM) must be present to classify a channel as a stream. H&H flagged potential features in the field using an alphanumeric system, and estimated the locations of each flag using a handheld Trimble Global Positioning System (GPS) unit. A summary of the survey activities is provided below.

### Stream Survey

H&H surveyed the Site for potential streams or surface water features. H&H observed the following potentially jurisdictional stream on the subject Site:

- *Stream Channel "A" (SCA)* – SCA originates in the northwestern portion of the Site where an ephemeral/erosional drainage feature transitions to an intermittent stream at a transitional headcut. At this point, a defined bed and bank and OHWM are present, and SCA appears to seasonally intersect the water table. SCA flows generally to the south before reaching a confluence with Rocky River near the southwestern Site boundary. H&H used DEQ DWR's Stream Identification Form (version 4.11), which indicates that SCA appears to have characteristics consistent with that of an intermittent stream. SCA totals approximately 678 linear feet of on-Site stream length.
- *Stream Channel "B" (SCB)* – SCB originates in the western portion of the Site where an ephemeral/erosional drainage feature transitions to an intermittent stream at a transitional headcut. At this point, a defined bed and bank and OHWM are present, and SCB appears to seasonally intersect the water table. SCB flows generally to the west before reaching a confluence with SCA. H&H used DEQ DWR's Stream Identification Form (version 4.11), which indicates that SCB appears to have characteristics consistent with that of an intermittent stream. SCB totals approximately 36 linear feet of on-Site stream length.

- *Stream Channel “C” (SCC)* – SCC originates in the central portion of the Site downgradient of the northeastern branch of Wetland Area “B” (WAB) when drainage from WAB channelizes and forms a defined bed and bank. At this point, an OHWM is also present and SCC appears to seasonally intersect the water table. SCC flows generally to the south-southwest into WAB where SCC loses bed and bank and OHWM. H&H used DEQ DWR’s Stream Identification Form (version 4.11), which indicates that SCC appears to have characteristics consistent with that of an intermittent stream. SCC totals approximately 124 linear feet on-Site stream length.
- *Stream Channel “D” (SCD)* – SCD originates in the central portion of the Site downgradient of a culvert pipe. SCD appears to seasonally intersect the water table. SCD flows generally to the south into WAB where SCD loses bed and bank and OHWM. H&H used DEQ DWR’s Stream Identification Form (version 4.11), which indicates that SCD appears to have characteristics consistent with that of an intermittent stream. SCD totals approximately 46 linear feet on-Site stream length.
- *Stream Channel “E” (SCE)* – SCE originates in the north-central portion of the Site where an ephemeral/erosional drainage feature transitions to an intermittent stream at a transitional headcut. At this point, a defined bed and bank and OHWM are present, and SCE appears to seasonally intersect the water table. SCE flows generally to the south into Wetland Area “C” (WAC) where SCE loses bed and bank and OHWM. H&H used DEQ DWR’s Stream Identification Form (version 4.11), which indicates that SCE appears to have characteristics consistent with that of an intermittent stream. SCE totals approximately 496 linear feet on-Site stream length.
- *Rocky River* – Rocky River originates off-Site to the west and flows in a southeasterly direction, generally forming the Site’s southwestern and southern boundaries. Rocky River totals approximately 5,980 linear feet of on-Site length.

The stream features are depicted on Figure 2, and representative data forms and photos are provided in Appendix B and Appendix C, respectively.

### Wetland Survey

During our Site visit, H&H checked potential wetland areas for the presence of hydrology indicators, hydrophytic vegetation, and hydric soil indicators. H&H delineated six potentially jurisdictional wetland areas on the Site. H&H advanced test pit borings in the potential wetland areas to document the wetland criteria and noted that soils sampled in the wetland areas exhibited characteristics consistent with those of a hydric soil. H&H also observed the primary and secondary hydrologic indicators and sufficient obligate to facultative wetland vegetation located at the wetland test pit borings within the potential wetland areas. In addition, test pit borings were advanced in upland areas at the Site to document upland conditions. H&H observed the following potentially jurisdictional wetland areas on the subject Site:

- *Wetland Area "A" (WAA)* – WAA is a linear wetland located in a drainage swale in the western portion of the Site. WAA drains generally in a southern direction into Rocky River and encompasses approximately 0.01 acre of on-Site area. Vegetation consists of herbaceous species.
- *Wetland Area "B" (WAB)* – WAB is a depressional wetland located in the central portion of the Site. WAB receives drainage from SCC and SCD. WAB drains generally in a southerly direction and encompasses approximately 0.59 acre of on-Site area. Vegetation consists of deciduous hardwoods and herbaceous species.
- *Wetland Area "C" (WAC)* – WAC is a fringe wetland located in a depressional area upgradient of Pond "A" in the north-central portion of the Site. WAC receives drainage from SCE and drains generally in a southerly direction into Pond "A". WAC encompasses approximately 1.31 acres of on-Site area. Vegetation consists of deciduous hardwoods and herbaceous species.

- *Wetland Area “D” (WAD)* – WAD is a linear wetland located in a drainage swale in the north-central portion of the Site. WAD drains generally in a southwesterly direction into SCE. WAD encompasses approximately 0.01 acre of on-Site area. Vegetation consists of deciduous hardwood saplings and herbaceous species.
- *Wetland Area “E” (WAE)* – WAE is a linear wetland located in a drainage swale in the east-central portion of the Site. WAE drains generally in a southerly direction and encompasses approximately 0.13 acre of on-Site area. Vegetation consists of deciduous hardwood saplings and herbaceous species.
- *Wetland Area “F” (WAF)* – WAF is a depressional wetland located in the south-central and southeastern portions of the Site. WAF drains generally in a southeasterly direction into Rocky River and encompasses approximately 1.55 acres of on-Site area. Vegetation consists of deciduous hardwoods and deciduous hardwood saplings.

The wetland areas are depicted on Figure 2, and representative data forms and photos are provided in Appendix B and Appendix C, respectively.

#### Open Water Survey

H&H surveyed the Site for potential surface water features other than streams and wetlands, and observed one pond on-Site during our survey:

- *Pond “A”* is located in the central portion of the Site. Pond “A” is constructed with a dam and drains through a spillway in a southwesterly direction toward SCD. Pond “A” encompasses approximately 0.88 acre of on-Site area.

The pond is depicted on Figure 2 and representative photos are provided in Appendix C.



### 3.0 Permitting for Stream and Wetland Impacts

Proposed impacts to streams, wetlands, and/or open water features require Section 404/401 permits from the Corps and DWR, respectively. H&H recommends that the streams, wetlands, and pond be verified by the Corps during a Preliminary Jurisdictional Determination (PJD) Site visit. Only the Corps can determine if jurisdictional features exist. If the Corps concurs with the preliminary findings of this survey, Section 404/401 permits will be required if future development plans include impacts to the on-Site streams, wetlands, and/or pond.

The Corps published Nationwide Permits (NWP) including NWP #39, which went into effect on March 15, 2021. The NWP #39 allows for cumulative impacts of 0.5 acre to streams, wetlands, and open waters for commercial and institutional developments. In response to NWP #39, the North Carolina DEQ DWR published corresponding Water Quality Certificate (WQC) #4263, which also went into effect on March 15, 2021. According to WQC #4263, an Individual 401 WQC will be required if impacts exceed 150 linear feet of stream or 0.1 acre of wetland. The Individual 401 WQC requires the publication of an electronic Public Notice, which is published by DEQ DWR during their review timeframe. Finally, the Corps Wilmington District has finalized regional conditions associated with the NWP, which limits the loss of stream bed to 0.05 acre under the NWP program. As noted above, the current NWP #39 allows up to 0.5 acre of cumulative wetland, stream, and open water impact with potential mitigation provided the applicant can: 1) justify avoidance of wetland/stream impacts where practicable, and 2) minimize impacts to wetland/streams where impacts cannot be avoided. If impacts to on-Site streams, wetlands, and open waters cumulatively exceed 0.5 acre or other criteria noted above, an Individual Permit will be required.

Ms. Brooke Bures

March 1, 2023

Page 10

Thank you for the opportunity to assist you with this project. Please contact us should you have questions or require additional information.

Sincerely,

***Hart and Hickman, PC***

*Danielle Clark*

Danielle Clark, PWS  
Sr. Project Environmental Scientist



Julia McGuire  
Asst. Project Environmental Scientist

Attachments

Figure 1 – Site Location Map

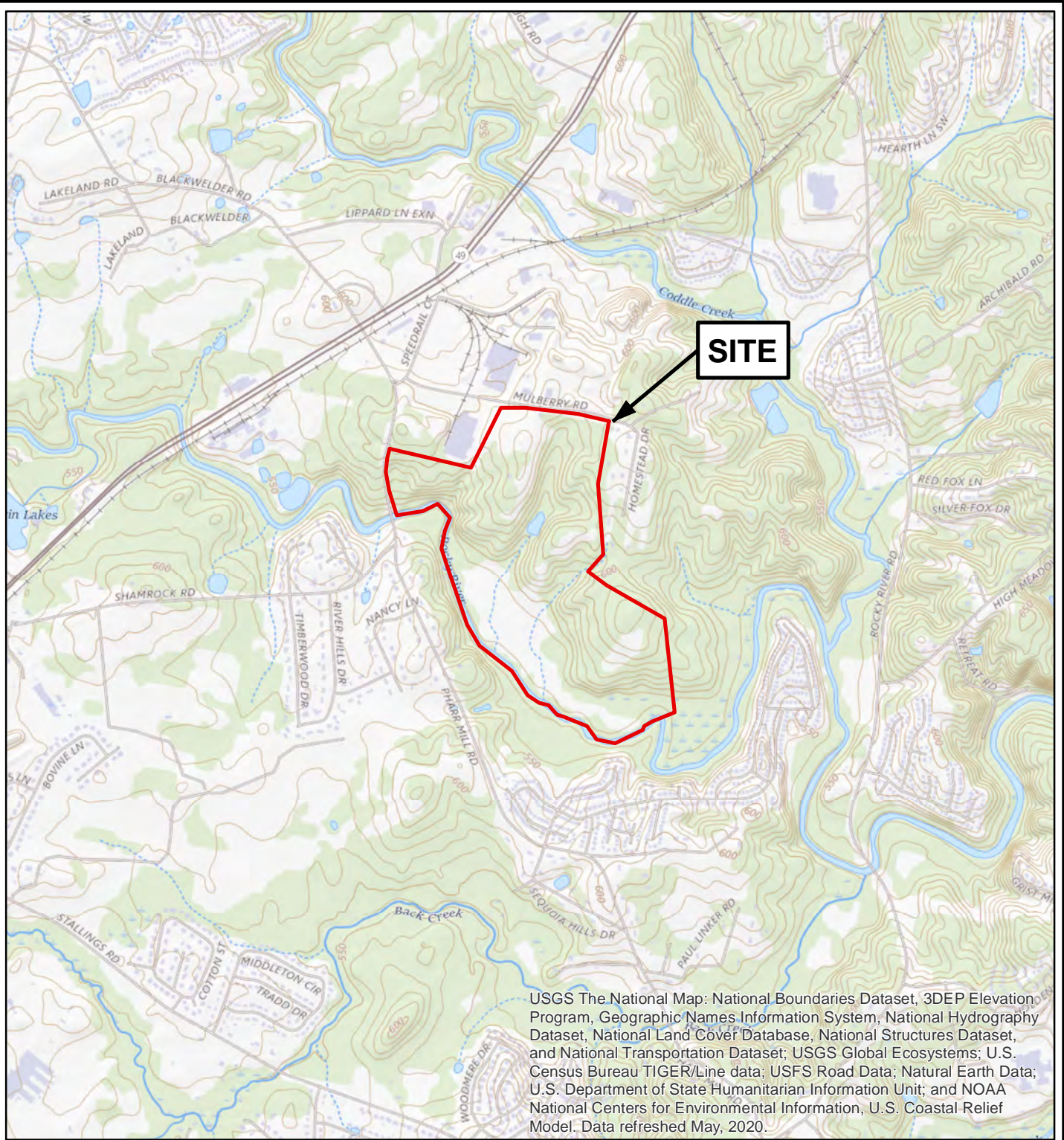
Figure 2 – Preliminary Wetland Delineation Map

Appendix A – Support Documents: Cabarrus County GIS Map, NWI Map, Soil Survey Maps, and FEMA Flood Map

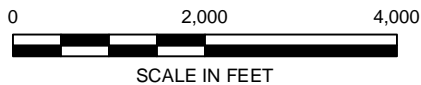
Appendix B – Survey Field Forms: DEQ DWR Stream Identification Forms and U.S. Army Corps of Engineers Wetland Determination Forms

Appendix C – Site Photographs


## Figures

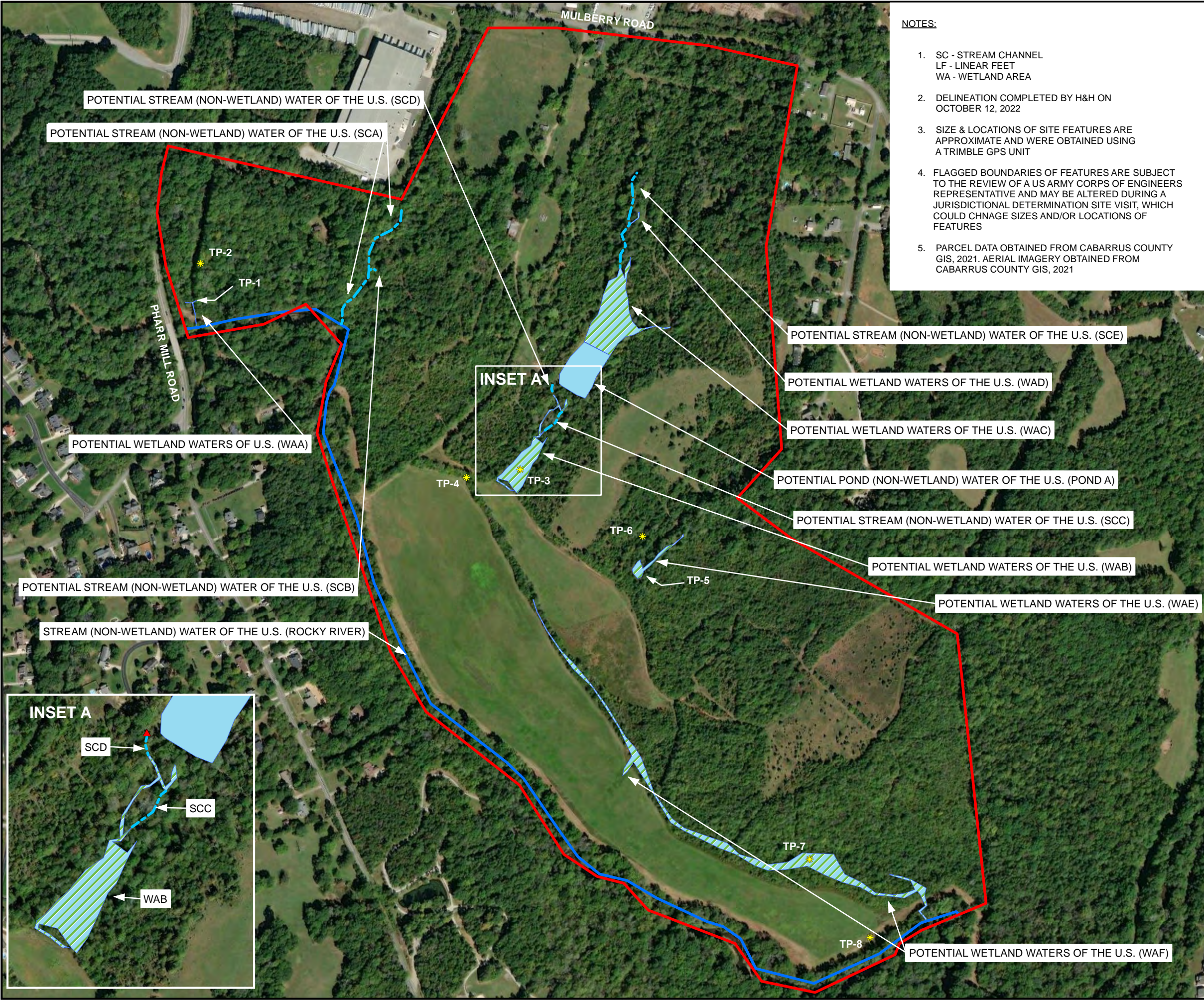


USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed May, 2020.



U.S.G.S. QUADRANGLE MAP  
**CONCORD SE AND HARRISBURG,  
 NORTH CAROLINA 2019**  
 QUADRANGLE  
 7.5 MINUTE SERIES (TOPOGRAPHIC)

TITLE		<b>SITE LOCATION MAP</b>	
PROJECT		UNDEVELOPED LAND MULBERRY ROAD HARRISBURG, NORTH CAROLINA	
		2923 South Tryon Street - Suite 100 Charlotte, North Carolina 28203 704-586-0007 (p) 704-586-0373 (f) License # C-1269 / # C-245 Geology	
DATE: 10/19/2022		REVISION NO: 0	
JOB NO: TCD-007		FIGURE NO: 1	



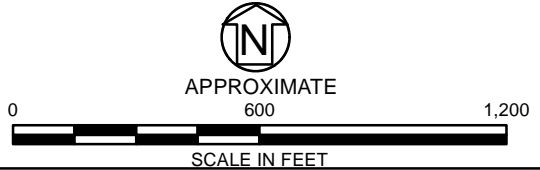
- NOTES:**
1. SC - STREAM CHANNEL  
LF - LINEAR FEET  
WA - WETLAND AREA
  2. DELINEATION COMPLETED BY H&H ON OCTOBER 12, 2022
  3. SIZE & LOCATIONS OF SITE FEATURES ARE APPROXIMATE AND WERE OBTAINED USING A TRIMBLE GPS UNIT
  4. FLAGGED BOUNDARIES OF FEATURES ARE SUBJECT TO THE REVIEW OF A US ARMY CORPS OF ENGINEERS REPRESENTATIVE AND MAY BE ALTERED DURING A JURISDICTIONAL DETERMINATION SITE VISIT, WHICH COULD CHNAGE SIZES AND/OR LOCATIONS OF FEATURES
  5. PARCEL DATA OBTAINED FROM CABARRUS COUNTY GIS, 2021. AERIAL IMAGERY OBTAINED FROM CABARRUS COUNTY GIS, 2021

- LEGEND**
- SITE PROPERTY BOUNDARY
  - H&H IDENTIFIED POTENTIAL PERENNIAL STREAM
  - - - H&H IDENTIFIED POTENTIAL INTERMITTENT STREAM
  - ▨ H&H IDENTIFIED POTENTIAL WETLAND
  - ▭ H&H IDENTIFIED POTENTIAL POND
  - ★ TEST PIT
  - ▲ CULVERT

POTENTIAL WETLAND AREA	
WETLAND AREA ID	APPROXIMATE AREA (ACRES)
WAA	0.01
WAB	0.59
WAC	1.31
WAD	0.01
WAE	0.13
WAF	1.55
<b>WETLAND TOTAL</b>	<b>3.60</b>

POTENTIAL STREAM CHANNEL	
STREAM CHANNEL ID	APPROXIMATE LENGTH (LF)
SCA	678 (INTERMITTENT)
SCB	36 (INTERMITTENT)
SCC	124 (INTERMITTENT)
SCD	46 (INTERMITTENT)
SCE	496 (INTERMITTENT)
ROCKY RIVER	5,980 (PERENNIAL)
<b>ON-SITE STREAM TOTAL</b>	<b>7,360</b>

POTENTIAL POND	
POND ID	APPROXIMATE AREA (ACRES)
POND "A"	0.88



TITLE: PRELIMINARY WETLAND DELINEATION MAP

PROJECT: UNDEVELOPED LAND  
MULBERRY ROAD  
HARRISBURG, NORTH CAROLINA

**hart hickman**  
SMARTER ENVIRONMENTAL SOLUTIONS  
2923 South Tryon Street, Ste. 100  
Charlotte, North Carolina 28203  
704-586-0007 (p) 704-586-0373 (f)  
License # C-1269 / #C-245 Geology

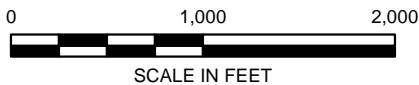
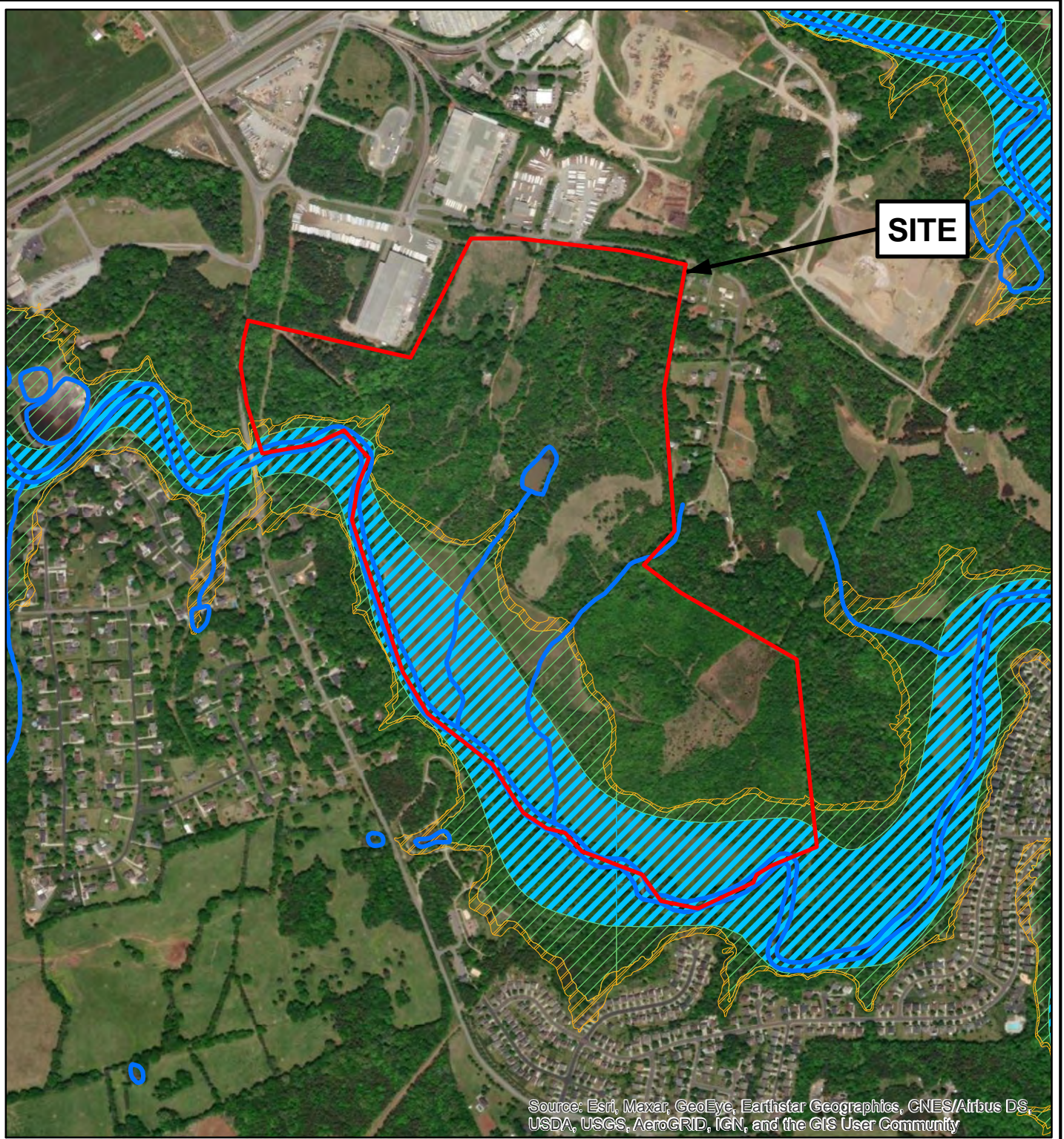
DATE: 10/24/2022	REVISION NO. 0
JOB NO. TCD-007	FIGURE NO. 2

S:\AAA-Master Projects\Trammell Crow Company - TCD\TCD-007 Mulberry Road\GIS


## **Appendix A**

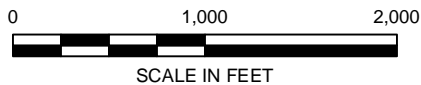
### **Support Documents**

- Cabarrus County GIS Map (Figure A1)
- NWI Map (Figure A2)
- Soil Survey Maps (Figures A3 & A4)
- FEMA Flood Map (Figure A5)



MAP CABARRUS  
OPEN MAPPING DATA

TITLE		<b>CABARRUS COUNTY GIS MAP</b>	
PROJECT		UNDEVELOPED LAND MULBERRY ROAD HARRISBURG, NORTH CAROLINA	
		2923 South Tryon Street - Suite 100 Charlotte, North Carolina 28203 704-586-0007 (p) 704-586-0373 (f) License # C-1269 / # C-245 Geology	
DATE: 11/16/2022		REVISION NO: 0	
JOB NO: TCD-007		FIGURE NO: A1	



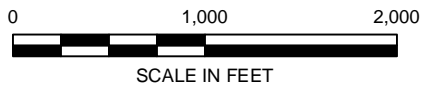
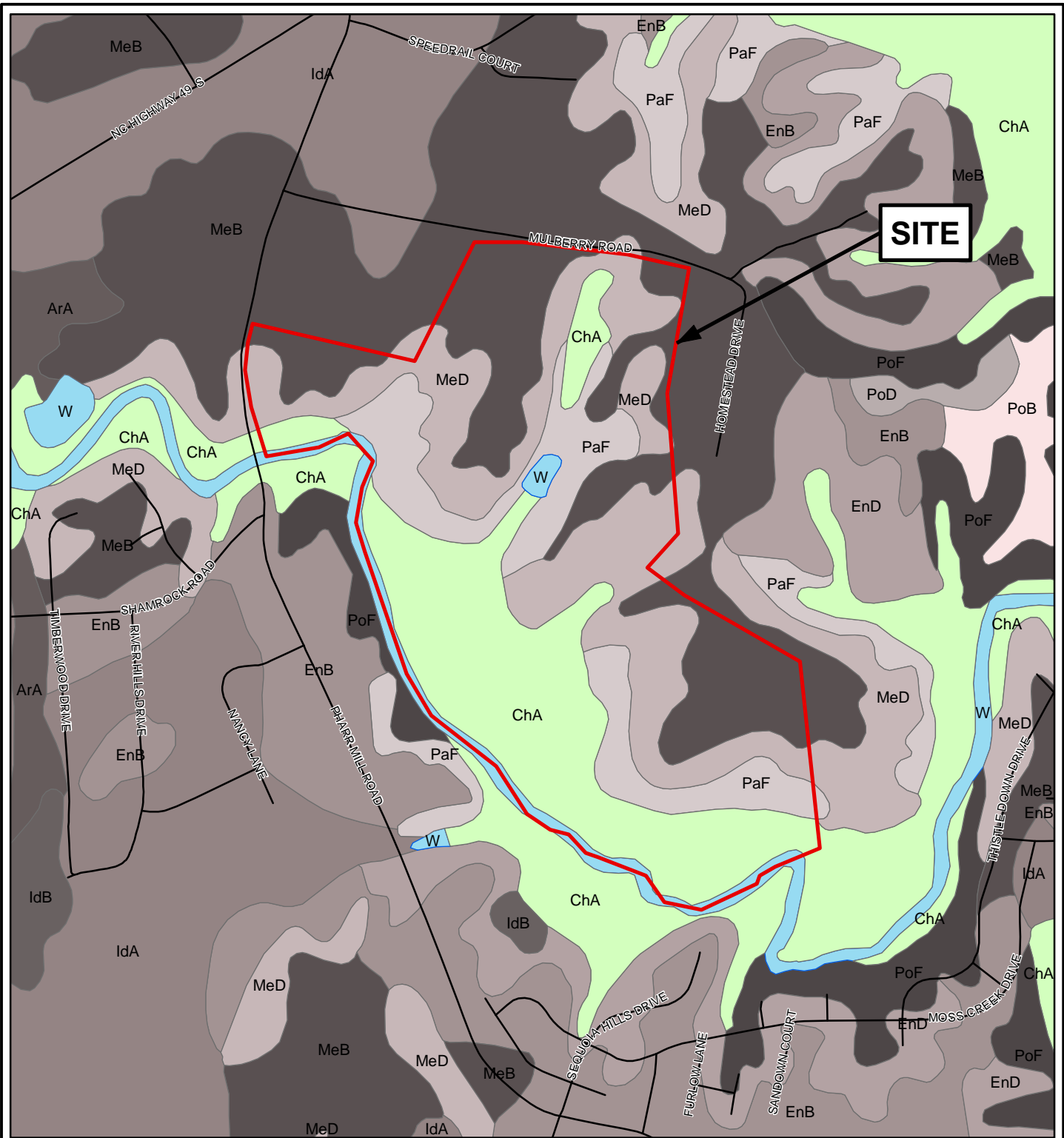
U.S. FISH AND WILDLIFE SERVICE (USFWS)

**HYDROLOGIC UNIT CODE 03040105**

NATIONAL WETLANDS INVENTORY (NWI)

TITLE		<b>NATIONAL WETLANDS INVENTORY MAP</b>	
PROJECT		UNDEVELOPED LAND MULBERRY ROAD HARRISBURG, NORTH CAROLINA	
		2923 South Tryon Street - Suite 100 Charlotte, North Carolina 28203 704-586-0007 (p) 704-586-0373 (f) License # C-1269 / # C-245 Geology	
DATE: 10/23/2022		REVISION NO: 0	
JOB NO: TCD-007		FIGURE NO: A2	

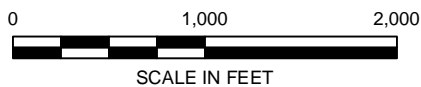
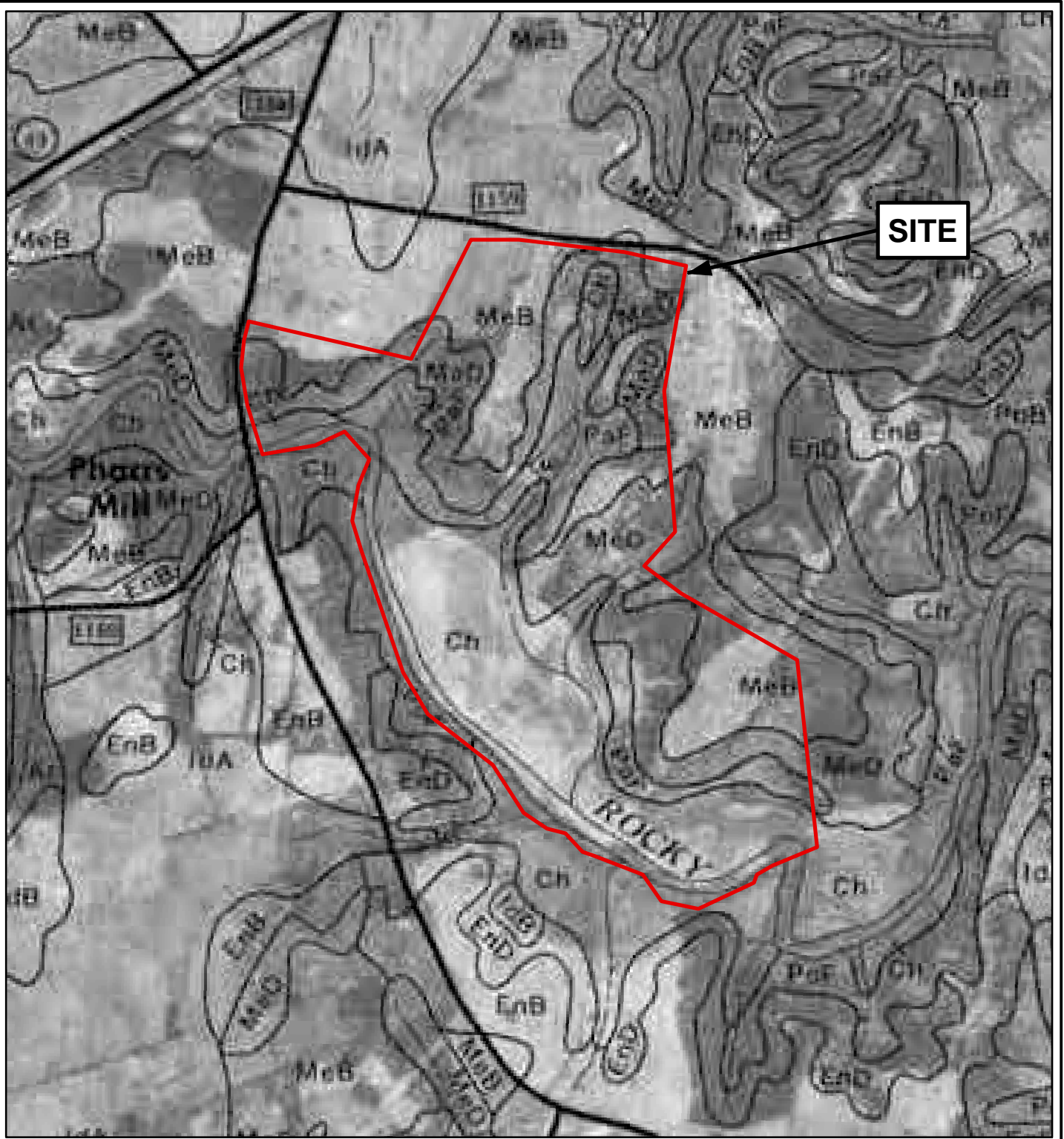




USDA SOIL CONSERVATION SERVICE (SCS)  
**CABARRUS COUNTY, NC025**

WEB SOIL SURVEY


TITLE		<b>WEB SOIL SURVEY MAP</b>	
PROJECT		UNDEVELOPED LAND MULBERRY ROAD HARRISBURG, NORTH CAROLINA	
		2923 South Tryon Street - Suite 100 Charlotte, North Carolina 28203 704-586-0007 (p) 704-586-0373 (f) License # C-1269 / # C-245 Geology	
DATE: 10/23/2022		REVISION NO: 0	
JOB NO: TCD-007		FIGURE NO: A3	

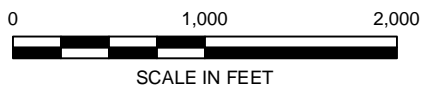
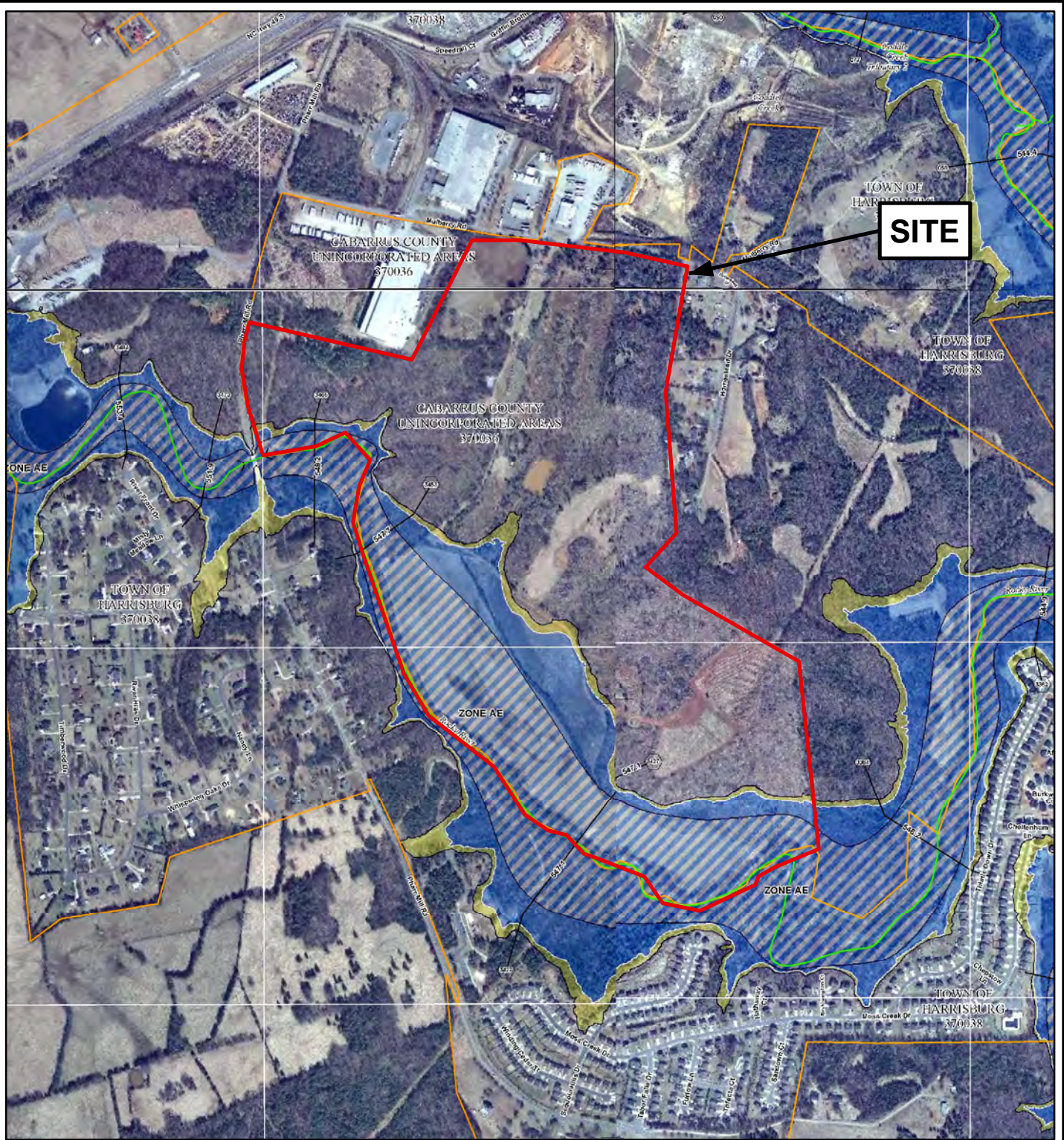


USDA SOIL CONSERVATION SERVICE (SCS)

**CABARRUS COUNTY, SHEET 6, PUBLISHED 1988**

PUBLISHED SOIL SURVEY


TITLE	<b>PUBLISHED SOIL SURVEY MAP</b>	
PROJECT	UNDEVELOPED LAND MULBERRY ROAD HARRISBURG, NORTH CAROLINA	
	 SMARTER ENVIRONMENTAL SOLUTIONS	2923 South Tryon Street - Suite 100 Charlotte, North Carolina 28203 704-586-0007 (p) 704-586-0373 (f) License # C-1269 / # C-245 Geology
DATE: 10/21/2022	REVISION NO: 0	
JOB NO: TCD-007	FIGURE NO: A4	



FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

**PANELS 3710551800K, 3710552800K,  
3710551700K, 3710552700K  
REVISED 11/16/2018**

FLOOD INSURANCE RATE MAP (FIRM)

TITLE		<b>FEMA FLOOD INSURANCE RATE MAP</b>	
PROJECT		UNDEVELOPED LAND MULBERRY ROAD HARRISBURG, NORTH CAROLINA	
		 2923 South Tryon Street - Suite 100 Charlotte, North Carolina 28203 704-586-0007 (p) 704-586-0373 (f) License # C-1269 / # C-245 Geology	
DATE: 10/21/2022		REVISION NO: 0	
JOB NO: TCD-007		FIGURE NO: A5	

**Appendix B**  
**Survey Field Forms**

**NC DWQ Stream Identification Form Version 4.11**

<b>Date:</b> 10/11/2022	<b>Project/Site:</b> TCD-007 Mulberry Road	<b>Latitude:</b> 35.331708
<b>Evaluator:</b> DWM	<b>County:</b> Cabarrus County	<b>Longitude:</b> -80.614095
<b>Total Points:</b> <i>Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*</i>  <b>27</b>	<b>Stream Determination:</b> Ephemeral Intermittent Perennial  <b>Intermittent</b>	<b>Other Stream Name:</b> Stream A

A. Geomorphology	Subtotal =	13.5	Absent	Weak	Moderate	Strong
1. Continuity of channel bed and bank*			0	1	2	3
2. Sinuosity of channel along thalweg			0	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence			0	1	2	3
4. Particle size of stream substrate			0	1	2	3
5. Active/relict floodplain			0	1	2	3
6. Depositional bars or benches			0	1	2	3
7. Recent alluvial deposits			0	1	2	3
8. Headcuts			0	1	2	3
9. Grade control			0	0.5	1	1.5
10. Natural valley			0	0.5	1	1.5
11. Second or greater order channel			No = 0		Yes = 3	

\*artificial ditches are not rated; see discussions in manual

B. Hydrology	Subtotal =	7.5	Absent	Weak	Moderate	Strong
12. Presence of Baseflow			0	1	2	3
13. Iron oxidizing bacteria			0	1	2	3
14. Leaf litter			1.5	1	0.5	0
15. Sediment on plants or debris			0	0.5	1	1.5
16. Organic debris lines or piles			0	0.5	1	1.5
17. Soil-based evidence of high water table?			No = 0		Yes = 3	

C. Biology	Subtotal =	6	Absent	Weak	Moderate	Strong
18. Fibrous roots in streambed			3	2	1	0
19. Rooted upland plants in streambed			3	2	1	0
20. Macroinvertebrates (note diversity and abundance)			0	1	2	3
21. Aquatic Mollusks			0	1	2	3
22. Fish			0	0.5	1	1.5
23. Crayfish			0	0.5	1	1.5
24. Amphibians			0	0.5	1	1.5
25. Algae			0	0.5	1	1.5
26. Wetland plants in streambed			FACW = 0.75; OBL = 1.5 Other = 0			0

\*perennial streams may also be identified using other methods.

Notes:

Sketch:

**NC DWQ Stream Identification Form Version 4.11**

<b>Date:</b> 10/11/22	<b>Project/Site:</b> TCD.007 Mullberry Road	<b>Latitude:</b> 35.330825
<b>Evaluator:</b> DWM	<b>County:</b> Cabarrus County	<b>Longitude:</b> -80.614108
<b>Total Points:</b> <i>Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*</i>  <b>22.5</b>	<b>Stream Determination:</b> Ephemeral Intermittent Perennial  <b>Intermittent</b>	<b>Other Stream Name:</b> Stream B

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

\*artificial ditches are not rated; see discussions in manual

<b>B. Hydrology</b>	Subtotal = <b>5.5</b>				
12. Presence of Baseflow		0	1	2	3
13. Iron oxidizing bacteria		0	1	2	3
14. Leaf litter		1.5	1	0.5	0
15. Sediment on plants or debris		0	0.5	1	1.5
16. Organic debris lines or piles		0	0.5	1	1.5
17. Soil-based evidence of high water table?		No = 0		Yes = 3	

<b>C. Biology</b>	Subtotal = <b>6</b>				
18. Fibrous roots in streambed		3	2	1	0
19. Rooted upland plants in streambed		3	2	1	0
20. Macroinvertebrates (note diversity and abundance)		0	1	2	3
21. Aquatic Mollusks		0	1	2	3
22. Fish		0	0.5	1	1.5
23. Crayfish		0	0.5	1	1.5
24. Amphibians		0	0.5	1	1.5
25. Algae		0	0.5	1	1.5
26. Wetland plants in streambed		FACW = 0.75; OBL = 1.5 Other = 0			0

\*perennial streams may also be identified using other methods.

Notes:

Sketch:

**NC DWQ Stream Identification Form Version 4.11**

<b>Date:</b> 10/11/2022	<b>Project/Site:</b> TCD.007 Mullberry Road	<b>Latitude:</b> 35.328794
<b>Evaluator:</b> DWM	<b>County:</b> Cabarrus County	<b>Longitude:</b> -80.611589
<b>Total Points:</b> <i>Stream is at least intermittent if <math>\geq 19</math> or perennial if <math>\geq 30</math>*</i>  <b>26</b>	<b>Stream Determination:</b> Ephemeral Intermittent Perennial  <b>Intermittent</b>	<b>Other Stream Name:</b> Stream C

<b>A. Geomorphology</b> Subtotal = <b>12.5</b>	<b>Absent</b>	<b>Weak</b>	<b>Moderate</b>	<b>Strong</b>
1. Continuity of channel bed and bank*	0	1	2	3
2. Sinuosity of channel along thalweg	0	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3
4. Particle size of stream substrate	0	1	2	3
5. Active/relict floodplain	0	1	2	3
6. Depositional bars or benches	0	1	2	3
7. Recent alluvial deposits	0	1	2	3
8. Headcuts	0	1	2	3
9. Grade control	0	0.5	1	1.5
10. Natural valley	0	0.5	1	1.5
11. Second or greater order channel	No = 0		Yes = 3	

\*artificial ditches are not rated; see discussions in manual

<b>B. Hydrology</b> Subtotal = <b>7.5</b>	<b>Absent</b>	<b>Weak</b>	<b>Moderate</b>	<b>Strong</b>
12. Presence of Baseflow	0	1	2	3
13. Iron oxidizing bacteria	0	1	2	3
14. Leaf litter	1.5	1	0.5	0
15. Sediment on plants or debris	0	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

<b>C. Biology</b> Subtotal = <b>6</b>	<b>Absent</b>	<b>Weak</b>	<b>Moderate</b>	<b>Strong</b>
18. Fibrous roots in streambed	3	2	1	0
19. Rooted upland plants in streambed	3	2	1	0
20. Macroinvertebrates (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			0

\*perennial streams may also be identified using other methods.

Notes:

Sketch:

**NC DWQ Stream Identification Form Version 4.11**

<b>Date:</b> 10/11/22	<b>Project/Site:</b> TCD.007 Mullberry Road	<b>Latitude:</b> 35.329018
<b>Evaluator:</b> DWM	<b>County:</b> Cabarrus County	<b>Longitude:</b> -80.611742
<b>Total Points:</b> <i>Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*</i>  <b>25.5</b>	<b>Stream Determination:</b> Ephemeral Intermittent Perennial  <b>Intermittent</b>	<b>Other Stream Name:</b> Stream D

A. Geomorphology	Subtotal =	<b>13.5</b>	<b>Absent</b>	<b>Weak</b>	<b>Moderate</b>	<b>Strong</b>
1. Continuity of channel bed and bank*			0	1	2	3
2. Sinuosity of channel along thalweg			0	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence			0	1	2	3
4. Particle size of stream substrate			0	1	2	3
5. Active/relict floodplain			0	1	2	3
6. Depositional bars or benches			0	1	2	3
7. Recent alluvial deposits			0	1	2	3
8. Headcuts			0	1	2	3
9. Grade control			0	0.5	1	1.5
10. Natural valley			0	0.5	1	1.5
11. Second or greater order channel			No = 0		Yes = 3	

\*artificial ditches are not rated; see discussions in manual

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

C. Biology	Subtotal =	<b>4</b>	<b>Absent</b>	<b>Weak</b>	<b>Moderate</b>	<b>Strong</b>
18. Fibrous roots in streambed			3	2	1	0
19. Rooted upland plants in streambed			3	2	1	0
20. Macroinvertebrates (note diversity and abundance)			0	1	2	3
21. Aquatic Mollusks			0	1	2	3
22. Fish			0	0.5	1	1.5
23. Crayfish			0	0.5	1	1.5
24. Amphibians			0	0.5	1	1.5
25. Algae			0	0.5	1	1.5
26. Wetland plants in streambed			FACW = 0.75; OBL = 1.5 Other = 0			0

\*perennial streams may also be identified using other methods.

Notes:

Sketch:



**NC DWQ Stream Identification Form Version 4.11**

<b>Date:</b> 10/11/22	<b>Project/Site:</b> TCD.006	<b>Latitude:</b> 35.329794
<b>Evaluator:</b> JKM	<b>County:</b> Cabarrus	<b>Longitude:</b> -80.617798
<b>Total Points:</b> <i>Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*</i>  <b>42.5</b>	<b>Stream Determination:</b> Ephemeral Intermittent Perennial  <b>Perennial</b>	<b>Other Stream Name:</b> Rocky River

A. Geomorphology	Subtotal =	<u>22.5</u>	Absent	Weak	Moderate	Strong
1. Continuity of channel bed and bank*			0	1	2	3
2. Sinuosity of channel along thalweg			0	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence			0	1	2	3
4. Particle size of stream substrate			0	1	2	3
5. Active/relict floodplain			0	1	2	3
6. Depositional bars or benches			0	1	2	3
7. Recent alluvial deposits			0	1	2	3
8. Headcuts			0	1	2	3
9. Grade control			0	0.5	1	1.5
10. Natural valley			0	0.5	1	1.5
11. Second or greater order channel			No = 0		Yes = 3	

\*artificial ditches are not rated; see discussions in manual

B. Hydrology	Subtotal =	<u>11</u>	Absent	Weak	Moderate	Strong
12. Presence of Baseflow			0	1	2	3
13. Iron oxidizing bacteria			0	1	2	3
14. Leaf litter			1.5	1	0.5	0
15. Sediment on plants or debris			0	0.5	1	1.5
16. Organic debris lines or piles			0	0.5	1	1.5
17. Soil-based evidence of high water table?			No = 0		Yes = 3	

C. Biology	Subtotal =	<u>9</u>	Absent	Weak	Moderate	Strong
18. Fibrous roots in streambed			3	2	1	0
19. Rooted upland plants in streambed			3	2	1	0
20. Macroinvertebrates (note diversity and abundance)			0	1	2	3
21. Aquatic Mollusks			0	1	2	3
22. Fish			0	0.5	1	1.5
23. Crayfish			0	0.5	1	1.5
24. Amphibians			0	0.5	1	1.5
25. Algae			0	0.5	1	1.5
26. Wetland plants in streambed			FACW = 0.75; OBL = 1.5 Other = 0			0

\*perennial streams may also be identified using other methods.

Notes:

Sketch:

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Mulberry Road (TCD.007) City/County: Harrisburg Sampling Date: 10-11-22  
 Applicant/Owner: Trammel Crow Company State: NC Sampling Point: TP1  
 Investigator(s): DWM Section, Township, Range: Cabarrus  
 Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 2  
 Subregion (LRR or MLRA): LRR P, MLRA 136 Lat: 35.330139 Long: -80.617693 Datum: NAD83  
 Soil Map Unit Name: Chewacla and Wehadkee soils, 0 to 2 percent slopes, frequently flooded (ChA) NWI classification: None  
 Are climatic / hydrologic conditions on the 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 <u>X</u> No <u>    </u> Hydric Soil Present?                      Yes <u>X</u> No <u>    </u> Wetland Hydrology Present?            Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Data point is representative of jurisdictional wetland 'A'	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present?    Yes <u>X</u> No <u>    </u> Depth (inches): <u>1</u> Water Table Present?      Yes <u>X</u> No <u>    </u> Depth (inches): <u>1</u> Saturation Present?        Yes <u>X</u> No <u>    </u> Depth (inches): <u>0</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No <u>    </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Indicators of wetland hydrology are present.	

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

Sampling Point: TP1

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
_____ = Total Cover			
50% of total cover: _____ 20% of total cover: _____			

Sapling/Shrub Stratum (Plot size: <u>15</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
_____ = Total Cover			
50% of total cover: _____ 20% of total cover: _____			

Herb Stratum (Plot size: <u>5</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Carex lurida</u>	<u>30</u>	<u>Yes</u>	<u>OBL</u>
2. <u>Juncus effusus</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
3. <u>Impatiens capensis</u>	<u>10</u>	<u>No</u>	<u>FACW</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
_____ = Total Cover			
50% of total cover: <u>30</u> 20% of total cover: <u>12</u>			

Woody Vine Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
_____ = Total Cover			
50% of total cover: _____ 20% of total cover: _____			

**Dominance Test worksheet:**

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

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**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)
Prevalence Index = B/A = _____	

**Hydrophytic Vegetation Indicators:**

   1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

   3 - Prevalence Index is ≤3.0<sup>1</sup>

   4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

   Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of 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 or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

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

Remarks: (Include photo numbers here or on a separate sheet.)  
 100.0% of dominant vegetation is FAC or wetter.

**SOIL**

Sampling Point: TP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 3/1	90	10YR 5/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
4-18	10YR 3/1	85	10YR 5/6	15	C	M	Loamy/Clayey	Prominent redox concentrations

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

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

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Mucky Mineral (F1) **(MLRA 136)**
- 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 122, 136)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147, 148)**

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

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

**Remarks:**

This data form is revised from Eastern Mountains and Piedmont Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

Indicators of hydric soils are present.

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Mulberry Road (TCD.007) City/County: Harrisburg Sampling Date: 10-11-22  
 Applicant/Owner: Trammel Crow Company State: NC Sampling Point: TP-2  
 Investigator(s): DWM Section, Township, Range: Cabarrus  
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): LRR P, MLRA 136 Lat: 35.329882 Long: -80.614469 Datum: NAD83  
 Soil Map Unit Name: Pacolet sandy loam, 25 to 45 percent slopes (PaF) NWI classification: none  
 Are climatic / hydrologic conditions on the 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 <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Remarks: Data point is representative of a non-jurisdictional upland area near jurisdictional wetland 'A'	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1)      ___ True Aquatic Plants (B14) ___ High Water Table (A2)      ___ Hydrogen Sulfide Odor (C1) ___ Saturation (A3)      ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1)      ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2)      ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3)      ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4)      ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Indicators of wetland hydrology are not present.	

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

Sampling Point: TP-2

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Quercus phellos</u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Liquidambar styraciflua</u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>
3. <u>Ulmus alata</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
100 = Total Cover			
50% of total cover: <u>50</u>		20% of total cover: <u>20</u>	

Sapling/Shrub Stratum (Plot size: <u>15</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer rubrum</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Liquidambar styraciflua</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
15 = Total Cover			
50% of total cover: <u>8</u>		20% of total cover: <u>3</u>	

Herb Stratum (Plot size: <u>5</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Microstegium vimineum</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Potentilla indica</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>
3. <u>Dichanthelium clandestinum</u>	<u>5</u>	<u>No</u>	<u>FAC</u>
4. <u>Toxicodendron radicans</u>	<u>3</u>	<u>No</u>	<u>FAC</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
38 = Total Cover			
50% of total cover: <u>19</u>		20% of total cover: <u>8</u>	

Woody Vine Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Lonicera japonica</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>
2. <u>Toxicodendron radicans</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
10 = Total Cover			
50% of total cover: <u>5</u>		20% of total cover: <u>2</u>	

**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: 66.7% (A/B)

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**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)
Prevalence Index = B/A = _____	

**Hydrophytic Vegetation Indicators:**

   1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

   3 - Prevalence Index is ≤3.0<sup>1</sup>

   4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

   Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of 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 or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

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

Remarks: (Include photo numbers here or on a separate sheet.)  
 66.7% of dominant vegetation is FAC or wetter.

**SOIL**

Sampling Point: TP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-20	7.5YR 3/4	100					Loamy/Clayey	

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

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

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Mucky Mineral (F1) **(MLRA 136)**
- 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 122, 136)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147, 148)**

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

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No X

**Remarks:**

This data form is revised from Eastern Mountains and Piedmont Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

Indicators of hydric soils are not present.

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Mulberry Road (TCD.007) City/County: Harrisburg Sampling Date: 10-11-22  
 Applicant/Owner: Trammel Crow Company State: NC Sampling Point: TP-3  
 Investigator(s): DWM Section, Township, Range: Cabarrus  
 Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 3  
 Subregion (LRR or MLRA): LRR P, MLRA 136 Lat: 35.330134 Long: -80.610907 Datum: NAD83  
 Soil Map Unit Name: Pacolet sandy loam, 25 to 45 percent slopes (PaF) NWI classification: none

Are climatic / hydrologic conditions on the 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 <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Data point is representative of jurisdictional wetland areas 'B' and 'C'	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>1</u> Water Table Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0</u> Saturation Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No <u>    </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Indicators of wetland hydrology are present.



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

Sampling Point: TP-3

<u>Tree Stratum</u> (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer negundo</u>	30	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)
2. <u>Nyssa sylvatica</u>	5	No	FAC	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
35 =Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
50% of total cover: <u>18</u>	20% of total cover: <u>7</u>			
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u> )				
1. <u>Aesculus sylvatica</u>	10	Yes	FAC	<b>Hydrophytic Vegetation Indicators:</b> <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  <u>        </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. <u>Juniperus virginiana</u>	5	Yes	FACU	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
15 =Total Cover				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: <u>8</u>	20% of total cover: <u>3</u>			
<u>Herb Stratum</u> (Plot size: <u>5</u> )				
1. <u>Scirpus atrovirens</u>	60	Yes	OBL	<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody Vine</b> – All woody vines greater than 3.28 ft in height.
2. <u>Microstegium vimineum</u>	25	Yes	FAC	
3. <u>Juncus effusus</u>	20	No	FACW	
4. <u>Boehmeria cylindrica</u>	5	No	FACW	
5. <u>Rosa multiflora</u>	5	No	FACU	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
115 =Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
50% of total cover: <u>58</u>	20% of total cover: <u>23</u>			
<u>Woody Vine Stratum</u> (Plot size: <u>30</u> )				
1. <u>Lonicera japonica</u>	5	Yes	FACU	
2. _____				
3. _____				
4. _____				
5. _____				
5 =Total Cover				
50% of total cover: <u>3</u>	20% of total cover: <u>1</u>			

Remarks: (Include photo numbers here or on a separate sheet.)  
66.7% of dominant vegetation is FAC or wetter.

**SOIL**

Sampling Point: TP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 5/2	90	10YR 5/6	10	C	PL/M	Loamy/Clayey	Prominent redox concentrations
4-18	10YR 5/2	85	10YR 5/8	15	C	M	Loamy/Clayey	Prominent redox concentrations

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

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

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Mucky Mineral (F1) **(MLRA 136)**
- 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 122, 136)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147, 148)**

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

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present?    Yes     No

Remarks:  
 This data form is revised from Eastern Mountains and Piedmont Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.  
 Indicators of hydric soils are present.

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Mulberry Road (TCD.007) City/County: Harrisburg Sampling Date: 10/11/22  
 Applicant/Owner: Trammel Crow Company State: NC Sampling Point: TP-4  
 Investigator(s): DWM Section, Township, Range: Cabarrus  
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope (%): 4  
 Subregion (LRR or MLRA): LRR P, MLRA 136 Lat: 35.330863 Long: -80.609592 Datum: NAD83  
 Soil Map Unit Name: Mecklenburg fine sandy loam, 2 to 8 percent (MeB) NWI classification: none  
 Are climatic / hydrologic conditions on the 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 <u>X</u> No <u>    </u> Hydric Soil Present?                      Yes <u>    </u> No <u>X</u> Wetland Hydrology Present?            Yes <u>    </u> No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u>
Remarks: Data point is representative of a non-jurisdictional upland area near jurisdictional wetland area 'B'	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present?    Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Water Table Present?      Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Saturation Present?        Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>    </u> No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Indicators of wetland hydrology are not present.	

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

Sampling Point: TP-4

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30</u> )				
1. <u>Liquidambar styraciflua</u>	<u>30</u>	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>83.3%</u> (A/B)
2. <u>Acer rubrum</u>	<u>20</u>	Yes	FAC	
3. <u>Platanus occidentalis</u>	<u>5</u>	No	FACW	
4. _____				
5. _____				
6. _____				
7. _____				
	<u>55</u> =Total Cover			<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
	50% of total cover: <u>28</u> 20% of total cover: <u>11</u>			
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15</u> )				
1. <u>Fraxinus pennsylvanica</u>	<u>5</u>	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Liquidambar styraciflua</u>	<u>5</u>	Yes	FAC	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
	<u>10</u> =Total Cover			
	50% of total cover: <u>5</u> 20% of total cover: <u>2</u>			
<b>Herb Stratum</b> (Plot size: <u>5</u> )				
1. _____				<b>Definitions of Four Vegetation Strata:</b> <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody Vine</b> – All woody vines greater than 3.28 ft in height.
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
	_____ =Total Cover			
	50% of total cover: _____ 20% of total cover: _____			
<b>Woody Vine Stratum</b> (Plot size: <u>30</u> )				
1. <u>Lonicera japonica</u>	<u>5</u>	Yes	FACU	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
2. <u>Smilax rotundifolia</u>	<u>3</u>	Yes	FAC	
3. _____				
4. _____				
5. _____				
	<u>8</u> =Total Cover			
	50% of total cover: <u>4</u> 20% of total cover: <u>2</u>			
Remarks: (Include photo numbers here or on a separate sheet.) 83.3% of dominant vegetation is FAC or wetter.				

**SOIL**

Sampling Point: TP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-3	7.5YR 3/3	100					Loamy/Clayey	
3-20	7.5YR 3/4	100					Loamy/Clayey	

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

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

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Mucky Mineral (F1) **(MLRA 136)**
- 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 122, 136)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147, 148)**

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

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No X

**Remarks:**

This data form is revised from Eastern Mountains and Piedmont Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

Indicators of hydric soils are not present.

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Mulberry Road (TCD.007) City/County: Harrisburg Sampling Date: 10-12-22  
 Applicant/Owner: Trammel Crow Company State: NC Sampling Point: TP-5  
 Investigator(s): DWM Section, Township, Range: Cabarrus  
 Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 2  
 Subregion (LRR or MLRA): LRR P, MLRA 136 Lat: 35.325799 Long: -80.610205 Datum: NAD83  
 Soil Map Unit Name: Chewacla and Wehadkee soils, 0 to 2 percent slopes, frequently flooded (ChA) NWI classification: none  
 Are climatic / hydrologic conditions on the 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 <u>X</u> No <u>    </u> Hydric Soil Present?                      Yes <u>X</u> No <u>    </u> Wetland Hydrology Present?            Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Data point is representative of jurisdictional wetland areas 'D' and 'E'	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1)                      ___ True Aquatic Plants (B14) ___ High Water Table (A2)                   ___ Hydrogen Sulfide Odor (C1) <u>X</u> Saturation (A3)                            ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1)                        ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2)                ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3)                      ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4)                 ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) <u>X</u> Sparsely Vegetated Concave Surface (B8) <u>X</u> Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present?    Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Water Table Present?      Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Saturation Present?        Yes <u>X</u> No <u>    </u> Depth (inches): <u>4</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No <u>    </u>
--	---

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

Remarks:  
 Indicators of wetland hydrology are present.

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

Sampling Point: TP-5

<u>Tree Stratum</u> (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75.0%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
=Total Cover _____				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
50% of total cover: _____		20% of total cover: _____		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u> )				
1. <u>Fraxinus pennsylvanica</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>      </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. <u>Acer negundo</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
=Total Cover <u>10</u>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: <u>5</u>		20% of total cover: <u>2</u>		
<u>Herb Stratum</u> (Plot size: <u>5</u> )				
1. <u>Cryptotaenia canadensis</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	<b>Definitions of Four Vegetation Strata:</b> <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody Vine</b> – All woody vines greater than 3.28 ft in height.
2. <u>Persicaria pensylvanica</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
=Total Cover <u>15</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
50% of total cover: <u>8</u>		20% of total cover: <u>3</u>		
<u>Woody Vine Stratum</u> (Plot size: <u>30</u> )				
1. <u>Smilax rotundifolia</u>	<u>3</u>	<u>No</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
=Total Cover <u>3</u>				
50% of total cover: <u>2</u>		20% of total cover: <u>1</u>		

Remarks: (Include photo numbers here or on a separate sheet.)  
 75.0% of dominant vegetation is FAC or wetter.

**SOIL**

Sampling Point: TP-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 5/2	95	10YR 5/4	5	C	PL/M	Loamy/Clayey	Distinct redox concentrations
12-20	10YR 5/3	100					Loamy/Clayey	

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

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

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Mucky Mineral (F1) **(MLRA 136)**
- 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 122, 136)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147, 148)**

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

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present?    Yes     No

**Remarks:**

This data form is revised from Eastern Mountains and Piedmont Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.  
 Indicators of hydric soils are present.



## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Mulberry Road (TCD.007) City/County: Harrisburg Sampling Date: 10-12-22  
 Applicant/Owner: Trammel Crow Company State: NC Sampling Point: TP-6  
 Investigator(s): DWM Section, Township, Range: Cabarrus  
 Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR or MLRA): LRR P, MLRA 136 Lat: 35.325129 Long: -80.609536 Datum: NAD83  
 Soil Map Unit Name: Pacolet sandy loam, 25 to 45 percent slopes (PaF) NWI classification: none  
 Are climatic / hydrologic conditions on the 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 <u>    </u> No <u>X</u> Hydric Soil Present?                      Yes <u>    </u> No <u>X</u> Wetland Hydrology Present?            Yes <u>    </u> No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u>
Remarks: Data point is representative of a non-jurisdictional upland area near jurisdictional wetland area 'E'	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present?    Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Water Table Present?      Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Saturation Present?        Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>    </u> No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Indicators of wetland hydrology are not present.	

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

Sampling Point: TP-6

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30</u> )				
1. <u>Acer negundo</u>	<u>30</u>	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>8</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)
2. <u>Liquidambar styraciflua</u>	<u>25</u>	Yes	FAC	
3. <u>Platanus occidentalis</u>	<u>5</u>	No	FACW	
4. _____				
5. _____				
6. _____				
7. _____				
	<u>60</u> =Total Cover			
	50% of total cover: <u>30</u>	20% of total cover: <u>12</u>		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15</u> )				
1. <u>Ligustrum sinense</u>	<u>10</u>	Yes	FACU	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
	<u>10</u> =Total Cover			
	50% of total cover: <u>5</u>	20% of total cover: <u>2</u>		
<b>Herb Stratum</b> (Plot size: <u>5</u> )				
1. <u>Lonicera japonica</u>	<u>10</u>	Yes	FACU	<b>Hydrophytic Vegetation Indicators:</b> <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Elephantopus tomentosus</u>	<u>5</u>	Yes	UPL	
3. <u>Viola sororia</u>	<u>5</u>	Yes	FAC	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
	<u>20</u> =Total Cover			
	50% of total cover: <u>10</u>	20% of total cover: <u>4</u>		
<b>Woody Vine Stratum</b> (Plot size: <u>30</u> )				
1. <u>Lonicera japonica</u>	<u>5</u>	Yes	FACU	<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody Vine</b> – All woody vines greater than 3.28 ft in height.
2. <u>Toxicodendron radicans</u>	<u>5</u>	Yes	FAC	
3. _____				
4. _____				
5. _____				
	<u>10</u> =Total Cover			
	50% of total cover: <u>5</u>	20% of total cover: <u>2</u>		

Remarks: (Include photo numbers here or on a separate sheet.)  
 50.0% of dominant vegetation is FAC or wetter.

**SOIL**

Sampling Point: TP-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-3	7.5YR 3/3	100					Loamy/Clayey	
3-20	7.5YR 3/4	100					Loamy/Clayey	

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

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

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Mucky Mineral (F1) **(MLRA 136)**
- 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 122, 136)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147, 148)**

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

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No X

**Remarks:**

This data form is revised from Eastern Mountains and Piedmont Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

Indicators of hydric soils are not present.

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Mulberry Road (TCD.007) City/County: Harrisburg Sampling Date: 10-11-22  
 Applicant/Owner: Trammel Crow Company State: NC Sampling Point: TP-7  
 Investigator(s): JKM Section, Township, Range: Cabarrus  
 Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 2  
 Subregion (LRR or MLRA): LRR P, MLRA 136 Lat: 35.322819 Long: -80.607428 Datum: NAD83  
 Soil Map Unit Name: Chewacla and Wehadkee soils, 0 to 2 percent slopes, frequently flooded (ChA) NWI classification: None  
 Are climatic / hydrologic conditions on the 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 <u>X</u> No <u>    </u> Hydric Soil Present?                      Yes <u>X</u> No <u>    </u> Wetland Hydrology Present?            Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Data point is representative of jurisdictional wetland area 'F'	

### HYDROLOGY

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

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

Sampling Point: TP-7

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Populus deltoides</u>	<u>60</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Acer rubrum</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
3. <u>Platanus occidentalis</u>	<u>10</u>	<u>No</u>	<u>FACW</u>
4. <u>Salix nigra</u>	<u>10</u>	<u>No</u>	<u>OBL</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	<u>100</u> =Total Cover		
	50% of total cover: <u>50</u>	20% of total cover: <u>20</u>	

Sapling/Shrub Stratum (Plot size: <u>15</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Salix nigra</u>	<u>30</u>	<u>Yes</u>	<u>OBL</u>
2. <u>Acer rubrum</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
	<u>60</u> =Total Cover		
	50% of total cover: <u>30</u>	20% of total cover: <u>12</u>	

Herb Stratum (Plot size: <u>5</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
	_____ =Total Cover		
	50% of total cover: _____	20% of total cover: _____	

Woody Vine Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
	_____ =Total Cover		
	50% of total cover: _____	20% of total cover: _____	

**Dominance Test worksheet:**

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)
Prevalence Index = B/A = _____	

**Hydrophytic Vegetation Indicators:**

   1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

   3 - Prevalence Index is ≤3.0<sup>1</sup>

   4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

   Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of 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 or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody Vine** – All woody vines greater than 3.28 ft in height.

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

Remarks: (Include photo numbers here or on a separate sheet.)  
100.0% of dominant vegetation is FAC or wetter.

**SOIL**

Sampling Point: TP-7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR 6/2	80	10YR 5/6	20	C	PL/M	Loamy/Clayey	Prominent redox concentrations

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

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

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Mucky Mineral (F1) **(MLRA 136)**
- 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 122, 136)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147, 148)**

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

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

**Remarks:**

This data form is revised from Eastern Mountains and Piedmont Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.  
 Indicators of hydric soils are present.

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Mulberry Road (TCD.007) City/County: Harrisburg Sampling Date: 10-12-22  
 Applicant/Owner: Trammel Crow Company State: NC Sampling Point: TP-8  
 Investigator(s): JKM Section, Township, Range: Cabarrus  
 Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 2  
 Subregion (LRR or MLRA): LRR P, MLRA 136 Lat: 35.321789 Long: -80.606444 Datum: NAD83  
 Soil Map Unit Name: Chewacla and Wehadkee soils, 0 to 2 percent slopes, frequently flooded (ChA) NWI classification: none  
 Are climatic / hydrologic conditions on the 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 <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>    </u> No <u>X</u> Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u>
Remarks: Data point is representative of a non-jurisdictional upland area near jurisdictional wetland area 'F'	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
--	--

<b>Field Observations:</b> Surface Water Present? Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Water Table Present? Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Saturation Present? Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>    </u> No <u>X</u>
--	---

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

Remarks:  
 Indicators of wetland hydrology are not present.

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

Sampling Point: TP-8

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30</u> )				
1. <u><i>Acer negundo</i></u>	<u>60</u>	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>62.5%</u> (A/B)
2. <u><i>Celtis occidentalis</i></u>	<u>20</u>	Yes	FACU	
3. <u><i>Ulmus alata</i></u>	<u>10</u>	No	FACU	
4. _____				
5. _____				
6. _____				
7. _____				
	<u>90</u>	=Total Cover		<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
50% of total cover: <u>45</u>	<u>45</u>	<u>20</u>	<u>18</u>	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15</u> )				
1. <u><i>Fraxinus pennsylvanica</i></u>	<u>5</u>	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>5</u>	=Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: <u>3</u>	<u>3</u>	<u>20</u>	<u>1</u>	
<b>Herb Stratum</b> (Plot size: <u>5</u> )				
1. <u><i>Galium aparine</i></u>	<u>10</u>	Yes	FACU	<b>Definitions of Four Vegetation Strata:</b> <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody Vine</b> – All woody vines greater than 3.28 ft in height.
2. <u><i>Viola sororia</i></u>	<u>5</u>	Yes	FAC	
3. <u><i>Dichanthelium clandestinum</i></u>	<u>5</u>	Yes	FAC	
4. <u><i>Toxicodendron radicans</i></u>	<u>3</u>	No	FAC	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
	<u>23</u>	=Total Cover		
50% of total cover: <u>12</u>	<u>12</u>	<u>20</u>	<u>5</u>	
<b>Woody Vine Stratum</b> (Plot size: <u>30</u> )				
1. <u><i>Lonicera japonica</i></u>	<u>5</u>	Yes	FACU	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2. <u><i>Toxicodendron radicans</i></u>	<u>5</u>	Yes	FAC	
3. _____				
4. _____				
5. _____				
	<u>10</u>	=Total Cover		
50% of total cover: <u>5</u>	<u>5</u>	<u>20</u>	<u>2</u>	

Remarks: (Include photo numbers here or on a separate sheet.)  
 50.0% of dominant vegetation is FAC or wetter.



**SOIL**

Sampling Point: TP-8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0-3	7.5YR 3/3	100					Loamy/Clayey
3-20	7.5YR 3/4	100					Loamy/Clayey

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

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

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Mucky Mineral (F1) **(MLRA 136)**
- 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 122, 136)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147, 148)**

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

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present?    Yes \_\_\_\_\_    No X

**Remarks:**

This data form is revised from Eastern Mountains and Piedmont Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.  
 Indicators of hydric soils are not present.

**Appendix C**  
**Site Photographs**



Photograph 1: General view of SCA in the western portion of the Site



Photograph 2: General view of SCB in the western portion of the Site



Photograph 3: General view of SCC in the central portion of the Site



Photograph 4: General view of SCD in the central portion of the Site



Photograph 5: General view of SCE in the north-central portion of the Site



Photograph 6: General view of Rocky River in the southern portion of the Site



Photograph 7: General view of Wetland Area "A" in the western portion of the Site



Photograph 8: General view of Wetland Area "B" in the central portion of the Site



Photograph 9: General view of Wetland Area "C" in the north-central portion of the Site



Photograph 10: General view of Wetland Area "D" in the north-central portion of the Site



Photograph 11: General view of Wetland Area "E" in the east-central portion of the Site



Photograph 12: General view of Wetland Area "F" in the southeastern portion of the Site





Photograph 13: General view of Pond "A" in the north-central portion of the Site



Photograph 14: General view of upland area in the south-central portion of the Site



Photograph 15: Hydric soils observed in the central portion of the Site



Photograph 16: Upland soils observed throughout the Site