August 4, 2025

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

Re: Preliminary Jurisdictional Determination Request
Mountain Valley Pipeline, LLC
Snow Creek Permittee Responsible Mitigation Project
Franklin County, Virginia
Burns & McDonnell Project No.: 186472

Dear Mr. VanderPloeg:

Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) was retained by Mountain Valley Pipeline, LLC (client) to provide wetland delineation services for the Snow Creek Wetland Mitigation Project (Project). The following sections provide information on the proposed Project and summarize the completed wetland delineation.

INTRODUCTION

The client proposes implementing a Permittee Responsible Mitigation (PRM) site in Franklin County, Virginia (VA) to satisfy mitigation requirements related to proposed impacts in Virginia from the MVP Southgate Amendment Project. Activities associated with the Project will consist of excavating, filling, grading, and the enhancement, restoration, and creation of wetland resources. The Project is located 7.15 miles southeast of Snydorsville, VA, 1.75 miles northeast of the intersection at Sontag Road (VA Route 619) and Snow Creek Road (VA Route 890) and is accessed via Airport Road. A General Location Map illustrating the Project location has been included in Attachment A (Figure A-1).

The proposed Project has the potential to impact wetlands and other waterbodies in Virginia that may be under the jurisdiction of the U.S. Army Corps of Engineers (USACE) as designated by Section 404 of the Clean Water Act. In an effort to avoid and minimize potential impacts to regulated waterbodies, Burns & McDonnell conducted a wetland delineation within a 25-acre area encompassing the proposed PRM project (Survey Area). This report documents the findings of the delineation which determined the boundaries and extent of wetlands and other waterbodies within the Survey Area.

METHODS

The following discussions summarize the methods used to review existing data and conduct the wetland delineation.

Existing Data Review
Burns & McDonnell reviewed publicly available background information for the Survey Area prior to conducting a site visit. This background information included U.S. Geological Survey (USGS) 7.5-minute topographic maps, U.S. Fish & Wildlife Service (USFWS) National Wetland Inventory (NWI) maps, the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL), National Agricultural Imagery Program (NAIP) aerial photography (2023), USGS National Hydrography Dataset (NHD), and U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO) digital data for Franklin County, Virginia. Maps generated from this publicly available data are included as Figures A-2 and A-3 in Attachment A. The USACE Antecedent Precipitation Tool (APT) was reviewed to evaluate climatic conditions.

Wetland presence based only on background information, including NWI maps, cannot be assumed to be an accurate assessment of jurisdictional wetlands. Wetland identification criteria differ between the USFWS and the USACE. As a result, wetlands shown on an NWI map may not be under the jurisdiction of the USACE, and USACE-jurisdictional wetlands are not always included on the NWI maps. Therefore, a field visit is necessary to identify any wetlands, streams, or other waterbodies that may be present within the proposed Project area.

Wetland Delineation Field Survey
An onsite wetland delineation of the Survey Area was completed in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual* and the 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* (Regional Supplement). Sample plots were established at multiple locations, and Wetland Determination Data Forms from the Regional Supplement were completed to characterize the Survey Area (Attachment B). Vegetation, soil conditions, and hydrology indicators were recorded at each of these sample plots. Locations of sample plots and other identified features were surveyed using a sub-meter accurate global positioning system (GPS) unit. Natural color photographs were taken onsite and are included in Attachment C.

RESULTS
The following sections describe the results of the existing data review and the completed wetland delineation.

Existing Data Review
The existing USGS topographic map for Mountain Valley, Virginia (2022 Revision) was reviewed to familiarize Burns & McDonnell wetland personnel with the topography of the Survey Area and potential locations of wetlands and other waterbodies (Figure A-2). The USGS topographic map indicates the Survey Area is comprised of an open landscape with moderately sloping terrain to the east that gradually transitions to a floodplain area along the western bank of Snow Creek. The maps indicate that the Survey Area has approximately 30 feet of elevation change.

The 2008 NFHL provided by FEMA indicates that a regulated floodplain associated with Snow Creek is present along the eastern edge of the Survey Area (Figure A-2).

The USFWS NWI map indicates that one riverine wetland (R3UBH) intersects the eastern edge of the Survey Area (Figure A-2).

The NRCS SSURGO digital data indicates the Survey Area is underlain by Comus-Maggodee-Elsinboro complex, 0 to 4 percent slopes, Colescreek-Dalanco complex, 2 to 8 percent slopes, Minnieville loam, 8 to 15 percent slopes, Minnieville loam, 15 to 25 percent slopes, and Wintergreen loam, 8 to 15 percent slopes (Figure A-3). Neither of these soil units are considered hydric in Franklin County, Virginia.

The USACE APT was reviewed to evaluate whether normal climatic conditions were present for the region on the specified survey dates. The APT analysis showed that the Survey Area had experienced wetter than normal precipitation conditions from July 21 to 22, 2025. The results of the USACE Antecedent Precipitation Tool (APT) query are included in Attachment D.

Wetland Delineation Field Survey
On July 21 and 22, 2025, wetland scientists with Burns & McDonnell conducted a wetland delineation of the Survey Area to identify the presence of wetlands, streams, and other waterbodies. The Survey Area consisted of an existing maintained cattle pasture along an east facing slope that transitioned into a floodplain along the western bank of Snow Creek.

Vegetation: Woody species were generally absent from the Survey Area except for a narrow riparian strip along the western bank of Snow Creek. Typical woody species included American sycamore (*Platanus occidentalis*), tuliptree (*Liriodendron tulipifera*), and green ash (*Fraxinus pennsylvanica*) Typical herbaceous species within the Survey Area included beaked panic grass (*Coleataenia anceps*), tall fescue (*Schedonorus arundinaceus*), Virginia buttonweed (*Diodia virginiana*), dallisgrass (*Paspalum dilatatum*), Japanese stiltgrass (*Microstegium vimineum*), and hairy crabgrass (*Digitaria sanguinalis*).

Soils: Typical soils within the Survey Area ranged from yellowish red (2.5YR 4/6) to grayish brown (2.5Y 5/2) with a loam and/or sandy clay textures. Redoximorphic features were typically present occurring as concentrations within the matrix and pore lining.

Hydrology: The primary sources of hydrology within the Survey Area include surface runoff from precipitation and ground water. Indicators of hydrology included surface water, high water table, saturated soils, oxidized rhizospheres on living roots, geomorphic position, and a positive FAC Neutral Test.

Delineated Areas: Wetlands

Two potentially jurisdictional wetland features were identified within the Survey Area. The wetlands are described by type below, and their locations are shown on Figure A-4 in Attachment A. Sample plots were recorded in wetlands and adjacent uplands. Data forms and photographs of these sample plots are included in Attachment B and Attachment C, respectively.

Table 1 provides the type and size of each wetland delineated within the Survey Area.

Table 1: Type and Size of Wetlands Delineated within Survey Area

Feature Identification	Wetland Type[a]	Size (acres)
W-01	PEM	3.38
W-02	PEM	< 0.01
	Total:	**3.38**

a.) Palustrine Emergent Wetland = PEM

Wetland 01 (W-01) – Palustrine Emergent (PEM) – 3.38 acres: W-01 consisted of a 3.38-acre PEM wetland located within the center and eastern portions of the Survey Area. Dominant herbaceous species within the W-01 included, beaked panic grass, Virginia buttonweed, swamp smartweed (*Persicaria hydropiperoides*), small carpetgrass (*Arthraxon hispudus*), white clover (*Trifolium repens*), and Japanese stiltgrass. Observed indicators of wetland hydrology included surface water, high-water table, saturated soils, oxidized rhizospheres on living roots, geomorphic position, and a positive FAC neutral test. Soil colors typically ranged brown (7.5YR 5/2) to grayish brown (2.5Y 5/2) and contained redoximorphic features. Hydric soil was indicated by Indicator F3 (Depleted Matrix).

Wetland 02 (W-02) – PEM - <0.01-acre: W-02 consisted of a small pocket fringe wetland less than 0.01-acre along the western bank of Snow Creek (S-02). The feature was void of vegetation and received jurisdictional flow from S-02 during periods of high flows. Soils consisted of an unconsolidated sandy gravel mix.

Delineated Areas: Streams
One perennial stream was located within the Survey Area. Table 2 provides the classification and length of the stream delineated within the Survey Area.

Table 2: Classification and Length of Streams within Survey Area

Feature Identification	Classification	Length (linear feet)
S-01 (Snow Creek)	Perennial	1,115
	Total:	**1,115**

Stream 01 (S-01; Snow Creek) – Perennial – 1,115 linear feet: S-01 is a perennial segment of Snow Creek that flows from south to north along the eastern edge of the Survey Area. The average bank height observed was approximately 5 feet. The stream averaged 50 feet wide and 1 foot deep at the Ordinary High-Water Mark (OHWM). The stream was low gradient with moderate flow and maintained indicators of relatively permanent flow. The area abutting the western bank of S-01 was heavily impacted by cattle grazing and vegetation maintenance. Common tree species along the western bank riparian areas included American sycamore, tuliptree, and green ash.

SUMMARY
Burns & McDonnell conducted a wetland delineation of the Survey Area from July 21 to 22, 2025 to determine the presence of wetlands, stream channels, and other waterbodies. A total of 3.38 acres of PEM wetlands and 1,115 linear feet of perennial stream channel, were identified within the Survey Area. On behalf of Mountain Valley Pipeline, LLC, Burns & McDonnell respectfully requests a preliminary jurisdictional determination of the resources identified within the Survey Area from the USACE Norfolk District. We would appreciate the opportunity to meet onsite to present the findings of our fieldwork. A signed Preliminary Jurisdictional Determination Request Form has been provided in Attachment E. Please contact Patrick Meier with Burns & McDonnell at (804)-223-1470 or by email at pkmeier@burnsmcd.com to set up a confirmation visit or to discuss any questions regarding this delineation.

Sincerely,

Patrick K. Meier, PWS
Senior Wetland Scientist

Attachments:

Attachment A: Figures
Attachment B: Routine Wetland Determination Data Forms, Eastern Mountains & Piedmont Region
Attachment C: Site Photographs
Attachment D: USACE Antecedent Precipitation Tool Results
Attachment E: Preliminary Jurisdictional Determination Request Form (ENG Form 6247)

ATTACHMENT A – FIGURES

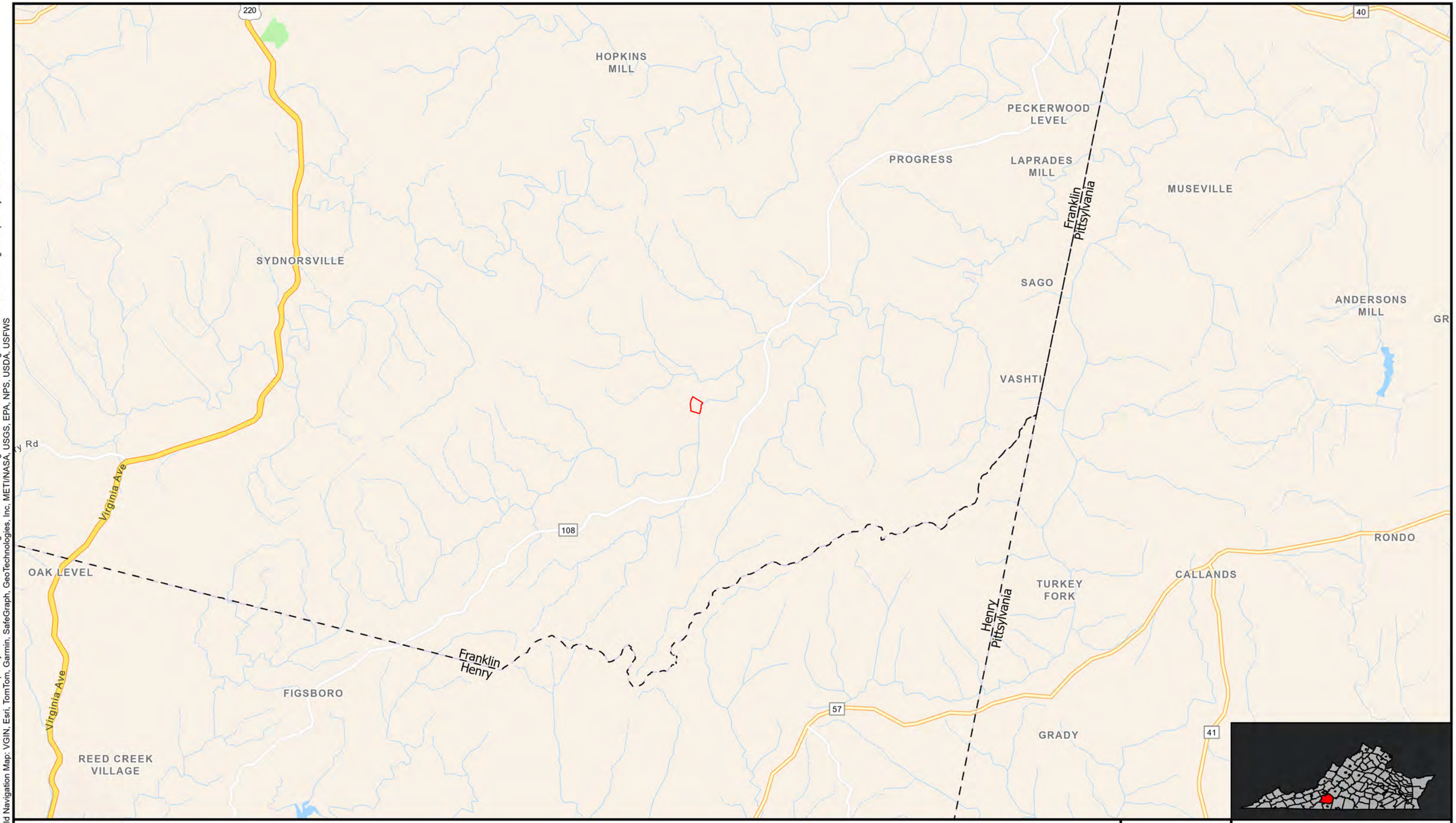

Figure A-1
General Location Map
Snow Creek Permittee Responsible Mitigation Project
Mountain Valley Pipeline, LLC
Franklin County, VA

Path: C:\Users\wjackson2\OneDrive - Burns & McDonnell\Desktop\Project stuff\MVP\Snow Creek Mitigation\Snow Creek Figures\MVP Snow Creek Figures.aprx wjackson2 8/4/2025
Service Layer Credits: World Navigation Map: VGIN, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, USFWS

Source: Mountain Valley Pipeline, LLC, Burns & McDonnell, ESRI

Issued: 8/4/2025

Snow Creek

840

820

980

NHD Stream

Survey Area

1% Chance Annual Flood Hazard

Wetland Classification

Freshwater Emergent Wetland

Riverine

NORTH

200 100 0 200

Scale in Feet

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Figure A-2
NHD, NWI, FEMA, and USGS Topographic Map
Snow Creek Permittee Responsible Mitigation Project
Mountain Valley Pipeline, LLC
Franklin County, VA

Issued: 8/4/2025

Source: Mountain Valley Pipeline, LLC, Burns & McDonnell, ESRI, USFWS, USGS, EPA, FEMA

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Mapunit Symbol	Mapunit Name	Hydric Rating
11A	Comus-Maggodee-Elsinboro complex, 0 to 4 percent slopes	No
10B	Colescreek-Delanco complex, 2 to 8 percent slopes, rarely flooded	No
27C	Minnieville loam, 8 to 15 percent slopes	No
27D	Minnieville loam, 15 to 25 percent slopes	No
39C	Wintergreen loam, 8 to 15 percent slopes	No

Survey Area

Non-Hydric Soil Unit

NORTH

200 100 0 200

Scale in Feet

BURNS McDONNELL

Figure A-3
NRCS Soils Map
Snow Creek Permittee Responsible Mitigation Project
Mountain Valley Pipeline, LLC
Franklin County, VA

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Service Layer Credits: World Imagery: Maxar, Microsoft

Source: Mountain Valley Pipeline, LLC, Burns & McDonnell, ESRI, USDA, NRCS

Issued: 8/4/2025

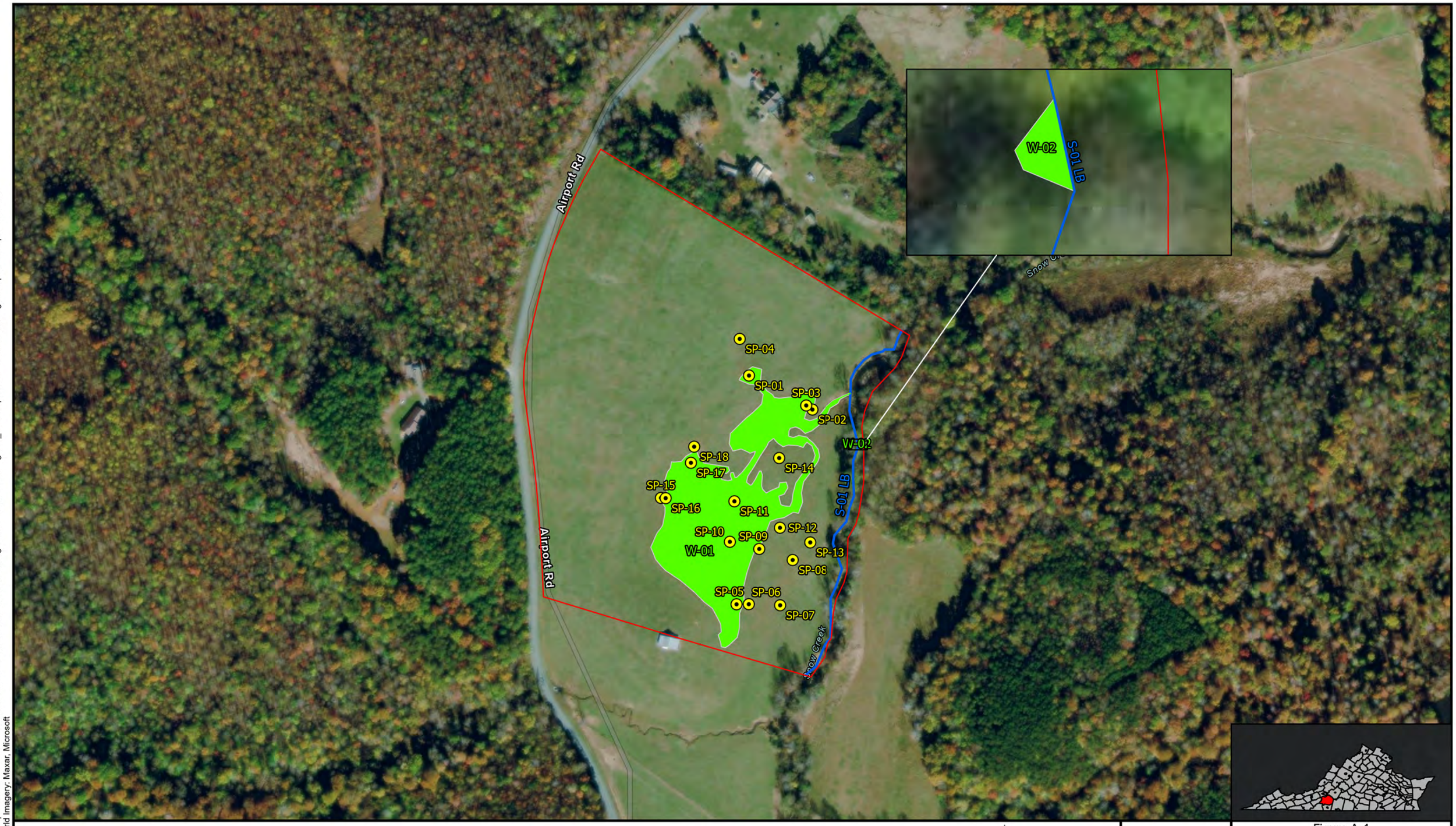

Figure A-4
Location Map of Wetlands and Other Waterbodies
Snow Creek Permittee Responsible Mitigation Project
Mountain Valley Pipeline, LLC
Franklin County, VA

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Service Layer Credits: World Imagery: Maxar, Microsoft

Source: Mountain Valley Pipeline, LLC, Burns & McDonnell, ESRI

Issued: 8/7/2025

ATTACHMENT B – ROUTINE WETLAND DETERMINATION DATA FORMS: EASTERN MOUNTAINS AND PIEDMONT REGION

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-07-22
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-01
Investigator(s): Patrick Meier, Wyatt Jackson, Lily Cooper Section, Township, Range:
Landform (hillside, terrace, etc.): Drainageway Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR or MLRA): P 136 Lat: 36.857644 Long: -79.743507 Datum: NAD83_2011
Soil Map Unit Name: 10B - Colescreek-Delanco complex, 2 to 8 percent slopes, rarely flooded NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Wetland sample plot within PEM W-01. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✔	Depth (inches): ____
Water Table Present?	Yes ✔	No ____	Depth (inches): 15
Saturation Present? (includes capillary fringe)	Yes ✔	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ____

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

Remarks:

Indicators D2 and D5 are present. Saturation present but not continuous throughout the soil column. Hydrology disturbed by ditching.

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

Sampling Point: SP-01

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5 ft r)			
1. Coleataenia anceps	65	✔	FAC
2. Schedonorus arundinaceus	15		FACU
3. Juncus tenuis	10		FAC
4. Persicaria hydropiperoides	5		OBL
5. Arthraxon hispidus	5		FAC
6. Diodia virginiana	5		FACW
7.			
8.			
9.			
10.			
11.			
	105 =Total Cover		
50% of total cover: 52.50	20% of total cover: 21.00		
Woody Vine Stratum (Plot size: 30 ft r)			
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: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	5	x 2 =	10
FAC species	80	x 3 =	240
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	105 (A)		315 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ✔ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ✔ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

Dominance test and prevalence index are passed. Vegetation disturbed by cattle grazing.

SOIL

Sampling Point: SP-01

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 2	10YR 4/2	97	7.5YR 5/8	3	C	M	Sandy Clay Loam	
2 - 20	7.5YR 4/4	90	7.5YR 5/6	10	C	M	Clay Loam	
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

Indicator F3 is present. Soils disturbed by cattle grazing.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-07-22
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-02
Investigator(s): Patrick Meier, Wyatt Jackson, Lily Cooper Section, Township, Range:
Landform (hillside, terrace, etc.): Terrace Local relief (concave, convex, none): Convex Slope (%): 1
Subregion (LRR or MLRA): P 136 Lat: 36.857384 Long: -79.742888 Datum: NAD83_2011
Soil Map Unit Name: 10B - Colescreek-Delanco complex, 2 to 8 percent slopes, rarely flooded NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ___ No ✔
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Upland sample plot adjacent to PEM W-01. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ___	No ✔	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✔	Depth (inches): ___

Wetland Hydrology Present? Yes ✔ No ___

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

Remarks:

Indicator C3 is present. Hydrology disturbed by ditching.

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

Sampling Point: SP-02

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:		20% of total cover:	

Herb Stratum (Plot size: 5 ft r)			
1. Paspalum dilatatum	30	✔	FAC
2. Schedonorus arundinaceus	20	✔	FACU
3. Kummerowia striata	20	✔	FACU
4. Coleataenia anceps	15		FAC
5. Juncus effusus	5		FACW
6. Arthraxon hispidus	5		FAC
7. Solanum carolinense	5		FACU
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50.00		20% of total cover: 20.00	

Woody Vine Stratum (Plot size: 30 ft r)			
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: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	50	x 3 =	150
FACU species	45	x 4 =	180
UPL species	0	x 5 =	0
Column Totals:	100 (A)		340 (B)

Prevalence Index = B/A = 3.40

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ___ **No** ✔

Remarks: (Include photo numbers here or on a separate sheet.)

No indicators are present. Vegetation disturbed by cattle grazing.

SOIL

Sampling Point: SP-02

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 2	10YR 5/2	85	10YR 5/8	15	C	PL / M	Sandy Clay Loam	
2 - 20	7.5YR 4/4	100					Sandy Loam	
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

Indicator F3 is present. Soils disturbed by cattle grazing.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-07-22
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-03
Investigator(s): Patrick Meier, Wyatt Jackson, Lily Cooper Section, Township, Range:
Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR or MLRA): P 136 Lat: 36.857415 Long: -79.742948 Datum: NAD83_2011
Soil Map Unit Name: 10B - Colescreek-Delanco complex, 2 to 8 percent slopes, rarely flooded NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ___ No ✔
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Wetland sample point within PEM W-01. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ✔	No ___	Depth (inches): 16
Saturation Present? (includes capillary fringe)	Yes ✔	No ___	Depth (inches): 16

Wetland Hydrology Present? Yes ✔ No ___

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

Remarks:

Indicators C3, D2 and D5 are present. Hydrology disturbed by ditching.

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

Sampling Point: SP-03

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:		20% of total cover:	

Herb Stratum (Plot size: 5 ft r)			
1. Coleataenia anceps	40	✔	FAC
2. Diodia virginiana	20	✔	FACW
3. Arthraxon hispidus	15		FAC
4. Persicaria hydropiperoides	10		OBL
5. Juncus effusus	10		FACW
6. Carex aureolensis	5		OBL
7.			
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50.00		20% of total cover: 20.00	

Woody Vine Stratum (Plot size: 30 ft r)			
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: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	30	x 2 =	60
FAC species	55	x 3 =	165
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		240 (B)

Prevalence Index = B/A = 2.40

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ✔ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

Dominance test is passed. Vegetation disturbed by cattle grazing.

SOIL

Sampling Point: SP-03

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 2	10YR 5/1	70	7.5YR 3/4	20	C	M	Clay Loam	
0 - 2			7.5YR 3/4	10	C	PL		
2 - 16	2.5Y 5/2	70	7.5YR 4/6	20	C	M	Sandy Clay	
2 - 16			7.5YR 4/6	10	C	PL		
16 - 20	5YR 5/4	90	7.5YR 5/3	10	D	M	Sandy Clay	
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

Indicator F3 is present. Soils disturbed by cattle grazing.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-07-22
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-04
Investigator(s): Patrick Meier, Wyatt Jackson, Lily Cooper Section, Township, Range:
Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, none): Convex Slope (%): 2
Subregion (LRR or MLRA): P 136 Lat: 36.857927 Long: -79.743601 Datum: NAD83_2011
Soil Map Unit Name: 10B - Colescreek-Delanco complex, 2 to 8 percent slopes, rarely flooded NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Upland sample plot adjacent to PEM W-01. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✔	Depth (inches): ____
Water Table Present?	Yes ____	No ✔	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✔	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✔

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

Remarks:

No indicators are present. Hydrology disturbed by ditching.

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

Sampling Point: SP-04

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:		20% of total cover:	

Herb Stratum (Plot size: 5 ft r)			
1. Digitaria sanguinalis	30	✔	FACU
2. Schedonorus arundinaceus	20	✔	FACU
3. Diodia virginiana	15	✔	FACW
4. Arthraxon hispidus	10		FAC
5. Juncus tenuis	10		FAC
6. Persicaria hydropiperoides	10		OBL
7. Solanum carolinense	5		FACU
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50.00		20% of total cover: 20.00	

Woody Vine Stratum (Plot size: 30 ft r)			
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: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	15	x 2 =	30
FAC species	20	x 3 =	60
FACU species	55	x 4 =	220
UPL species	0	x 5 =	0
Column Totals:	100 (A)		320 (B)

Prevalence Index = B/A = 3.20

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ___ **No** ✔

Remarks: (Include photo numbers here or on a separate sheet.)

No indicators are present. Vegetation disturbed by cattle grazing.

SOIL

Sampling Point: SP-04

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 20	5YR 4/6	100					Loam	
-								
-								
-								
-								
-								

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

[2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

No indicators are present. Soils disturbed by cattle grazing.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-07-22
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-05
Investigator(s): Patrick Meier, Wyatt Jackson, Lily Cooper Section, Township, Range:
Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR or MLRA): P 136 Lat: 36.855862 Long: -79.743598 Datum: NAD83_2011
Soil Map Unit Name: 10B - Colescreek-Delanco complex, 2 to 8 percent slopes, rarely flooded NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Wetland sample plot within PEM W-01. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✔	No ____	Depth (inches): .5
Water Table Present?	Yes ✔	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✔	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ____

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

Remarks:

Indicators A1, A2, A3, D2, and D5 are present. Hydrology disturbed by ditching.

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

Sampling Point: SP-05

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:		20% of total cover:	

Herb Stratum (Plot size: 5 ft r)			
1. Persicaria hydropiperoides	20	✔	OBL
2. Arthraxon hispidus	20	✔	FAC
3. Coleataenia anceps	15	✔	FAC
4. Juncus tenuis	10		FAC
5. Diodia virginiana	10		FACW
6. Paspalum dilatatum	10		FAC
7. Carex aureolensis	10		OBL
8. Solanum carolinense	5		FACU
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50.00		20% of total cover: 20.00	

Woody Vine Stratum (Plot size: 30 ft r)			
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: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	10	x 2 =	20
FAC species	55	x 3 =	165
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	100 (A)		235 (B)

Prevalence Index = B/A = 2.35

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ✔ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

Dominance test and prevalence index are met. Vegetation disturbed by cattle grazing.

SOIL

Sampling Point: SP-05

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 4	7.5YR 5/2	90	7.5YR 4/6	10	C	PL / M	Sandy Clay Loam	
4 - 20	10YR 4/4	80	7.5YR 4/6	20	C	M	Clay Loam	
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

Indicator F3 is present. Soils disturbed by cattle grazing.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-07-22
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-06
Investigator(s): Patrick Meier, Wyatt Jackson, Lily Cooper Section, Township, Range:
Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none): Convex Slope (%): 1
Subregion (LRR or MLRA): P 136 Lat: 36.855865 Long: -79.743481 Datum: NAD83_2011
Soil Map Unit Name: 10B - Colescreek-Delanco complex, 2 to 8 percent slopes, rarely flooded NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ___ No ✔
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Upland sample plot adjacent to PEM W-01. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ___	No ✔	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✔	Depth (inches): ___

Wetland Hydrology Present? Yes ✔ No ___

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

Remarks:

Indicator C3 is present. Hydrology disturbed by ditching.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: SP-06

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 5 ft r)			
1. Coleataenia anceps	35	✔	FAC
2. Paspalum dilatatum	35	✔	FAC
3. Arthraxon hispidus	10		FAC
4. Juncus tenuis	5		FAC
5. Diodia virginiana	5		FACW
6. Solanum carolinense	5		FACU
7.			
8.			
9.			
10.			
11.			
	95 =Total Cover		
50% of total cover: 47.50		20% of total cover: 19.00	
Woody Vine Stratum (Plot size: 30 ft r)			
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: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	85	x 3 =	255
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	95 (A)		285 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ✔ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

Dominance test is passed. Vegetation disturbed by cattle grazing.

SOIL

Sampling Point: SP-06

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 4	7.5YR 4/3	90	5YR 4/6	10	C	PL / M	Loam	
4 - 20	7.5YR 4/4	95	5YR 4/6	5	C	M	Sandy Clay Loam	
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

No indicators are present. Soils disturbed by cattle grazing.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-07-22
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-07
Investigator(s): Patrick Meier, Wyatt Jackson, Lily Cooper Section, Township, Range:
Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none): Convex Slope (%): 1
Subregion (LRR or MLRA): P 136 Lat: 36.855859 Long: -79.743176 Datum: NAD83_2011
Soil Map Unit Name: 11A - Comus-Maggodee-Elsinboro complex, 0 to 4 percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ___ No ✔
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Upland sample plot in floodplain east of PEM W-01. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ___	No ✔	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✔	Depth (inches): ___

Wetland Hydrology Present? Yes ✔ No ___

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

Remarks:

Indicator C3 is present. Hydrology disturbed by ditching.

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

Sampling Point: SP-07

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:		20% of total cover:	

Herb Stratum (Plot size: 5 ft r)			
1. Schedonorus arundinaceus	45	✔	FACU
2. Coleataenia anceps	15	✔	FAC
3. Setaria parviflora	10		FAC
4. Elephantopus carolinianus	10		FACU
5. Paspalum dilatatum	10		FAC
6. Ligustrum sinense	5		FACU
7. Solanum carolinense	5		FACU
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50.00		20% of total cover: 20.00	

Woody Vine Stratum (Plot size: 30 ft r)			
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: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	35	x 3 =	105
FACU species	65	x 4 =	260
UPL species	0	x 5 =	0
Column Totals:	100 (A)		365 (B)

Prevalence Index = B/A = 3.65

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ___ **No** ✔

Remarks: (Include photo numbers here or on a separate sheet.)

No indicators are present. Vegetation disturbed by cattle grazing.

SOIL

Sampling Point: SP-07

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 2	10YR 5/2	95	5YR 3/4	5	C	PL	Loam	
2 - 20	2.5YR 4/4	100					Sandy Loam	
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

Indicator F3 is present. Soils disturbed by cattle grazing.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-07-22
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-08
Investigator(s): Patrick Meier, Wyatt Jackson, Lily Cooper Section, Township, Range:
Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none): Convex Slope (%): 1
Subregion (LRR or MLRA): P 136 Lat: 36.856212 Long: -79.74306 Datum: NAD83_2011
Soil Map Unit Name: 11A - Comus-Maggodee-Elsinboro complex, 0 to 4 percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Upland sample plot in floodplain east of PEM W-01. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✔	Depth (inches): ____
Water Table Present?	Yes ____	No ✔	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✔	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✔

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

Remarks:

No indicators are present. Hydrology disturbed by ditching.

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

Sampling Point: SP-08

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:		20% of total cover:	

Herb Stratum (Plot size: 5 ft r)			
1. Schedonorus arundinaceus	35	✔	FACU
2. Coleataenia anceps	25	✔	FAC
3. Paspalum dilatatum	15		FAC
4. Arthraxon hispidus	10		FAC
5. Juncus tenuis	10		FAC
6. Solanum carolinense	5		FACU
7.			
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50.00		20% of total cover: 20.00	

Woody Vine Stratum (Plot size: 30 ft r)			
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: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	60	x 3 =	180
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals:	100 (A)		340 (B)

Prevalence Index = B/A = 3.40

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ___ **No** ✔

Remarks: (Include photo numbers here or on a separate sheet.)

No indicators are present. Vegetation disturbed by cattle grazing.

SOIL

Sampling Point: SP-08

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 4/3	95	7.5YR 4/4	5	C	M	Loam	
6 - 20	7.5YR 4/4	97	7.5YR 5/6	3	C	M	Sandy Loam	
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

No indicators are present. Soils disturbed by cattle grazing.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-07-22
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-09
Investigator(s): Patrick Meier, Wyatt Jackson, Lily Cooper Section, Township, Range:
Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none): Convex Slope (%): 1
Subregion (LRR or MLRA): P 136 Lat: 36.856295 Long: -79.743385 Datum: NAD83_2011
Soil Map Unit Name: 10B - Colescreek-Delanco complex, 2 to 8 percent slopes, rarely flooded NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ___ No ✔
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Upland sample plot in floodplain east of PEM W-01. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ___	No ✔	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✔	Depth (inches): ___

Wetland Hydrology Present? Yes ✔ No ___

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

Remarks:

Indicator C3 is present. Hydrology disturbed by ditching.

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

Sampling Point: SP-09

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:		20% of total cover:	

Herb Stratum (Plot size: 5 ft r)			
1. Schedonorus arundinaceus	40	✔	FACU
2. Coleataenia anceps	20	✔	FAC
3. Paspalum dilatatum	15		FAC
4. Diodia virginiana	10		FACW
5. Juncus tenuis	10		FAC
6. Solanum carolinense	5		FACU
7.			
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50.00		20% of total cover: 20.00	

Woody Vine Stratum (Plot size: 30 ft r)			
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: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	45	x 3 =	135
FACU species	45	x 4 =	180
UPL species	0	x 5 =	0
Column Totals:	100 (A)		335 (B)

Prevalence Index = B/A = 3.35

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ___ **No** ✔

Remarks: (Include photo numbers here or on a separate sheet.)

No indicators are present. Vegetation disturbed by cattle grazing.

SOIL

Sampling Point: SP-09

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 4	10YR 4/3	90	10YR 3/6	10	C	PL / M	Loam	
4 - 20	7.5YR 4/4	90	7.5YR 5/6	10	C	M	Sandy Clay Loam	
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

No indicators are present. Soils disturbed by cattle grazing.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-07-22
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-10
Investigator(s): Patrick Meier, Wyatt Jackson, Lily Cooper Section, Township, Range:
Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR or MLRA): P 136 Lat: 36.856348 Long: -79.743671 Datum: NAD83_2011
Soil Map Unit Name: 10B - Colescreek-Delanco complex, 2 to 8 percent slopes, rarely flooded NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Wetland sample plot within PEM W-01. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✔	Depth (inches): ____
Water Table Present?	Yes ____	No ✔	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✔	Depth (inches): ____

Wetland Hydrology Present? Yes ✔ No ____

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

Remarks:

Indicators C3, D2 and D5 are present. Hydrology disturbed by ditching.

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

Sampling Point: SP-10

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:		20% of total cover:	

Herb Stratum (Plot size: 5 ft r)			
1. Coleataenia anceps	55	✔	FAC
2. Diodia virginiana	15		FACW
3. Juncus tenuis	15		FAC
4. Schedonorus arundinaceus	10		FACU
5. Juncus effusus	5		FACW
6.			
7.			
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50.00		20% of total cover: 20.00	

Woody Vine Stratum (Plot size: 30 ft r)			
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: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	70	x 3 =	210
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	100 (A)		290 (B)

Prevalence Index = B/A = 2.90

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ✔ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ✔ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

Dominance test and prevalence index are met. Vegetation disturbed by cattle grazing.

SOIL

Sampling Point: SP-10

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 8	10YR 5/2	90	10YR 4/6	10	C	PL / M	Sandy Clay Loam	
8 - 20	7.5YR 4/4	80	10YR 3/2	20	D	M	Sandy Loam	
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

Indicator F3 is present. Soils disturbed by cattle grazing.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-07-22
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-11
Investigator(s): Patrick Meier, Wyatt Jackson, Lily Cooper Section, Township, Range:
Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR or MLRA): P 136 Lat: 36.856663 Long: -79.743632 Datum: NAD83_2011
Soil Map Unit Name: 10B - Colescreek-Delanco complex, 2 to 8 percent slopes, rarely flooded NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Wetland sample plot within PEM W-01. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✔	Depth (inches): ____
Water Table Present?	Yes ____	No ✔	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✔	Depth (inches): ____

Wetland Hydrology Present? Yes ✔ No ____

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

Remarks:

Indicators C3 and D2 are present. Hydrology disturbed by ditching.

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

Sampling Point: SP-11

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:		20% of total cover:	

Herb Stratum (Plot size: 5 ft r)			
1. Coleataenia anceps	30	✔	FAC
2. Juncus tenuis	15	✔	FAC
3. Diodia virginiana	10	✔	FACW
4. Paspalum dilatatum	10	✔	FAC
5. Trifolium repens	10	✔	FACU
6. Microstegium vimineum	10	✔	FAC
7. Arthraxon hispidus	5		FAC
8. Solanum carolinense	5		FACU
9.			
10.			
11.			
	95 =Total Cover		
50% of total cover: 47.50		20% of total cover: 19.00	

Woody Vine Stratum (Plot size: 30 ft r)			
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: 5 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	70	x 3 =	210
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	95 (A)		290 (B)

Prevalence Index = B/A = 3.05

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ✔ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

Dominance test is passed. Vegetation disturbed by cattle grazing.

SOIL

Sampling Point: SP-11

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 5/2	80	10YR 4/6	20	C	PL / M	Clay Loam	
6 - 20	10YR 5/2	70	10YR 4/6	30	C	PL / M	Sandy Clay Loam	
-								
-								
-								
-								

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

[2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

Indicator F3 is present. Soils disturbed by cattle grazing.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-07-22
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-12
Investigator(s): Patrick Meier, Wyatt Jackson, Lily Cooper Section, Township, Range:
Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none): Convex Slope (%): 1
Subregion (LRR or MLRA): P 136 Lat: 36.856462 Long: -79.743188 Datum: NAD83_2011
Soil Map Unit Name: 10B - Colescreek-Delanco complex, 2 to 8 percent slopes, rarely flooded NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Upland sample plot in floodplain east of PEM W-01. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✔	Depth (inches): ____
Water Table Present?	Yes ____	No ✔	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✔	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✔

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

Remarks:

No indicators are present. Hydrology disturbed by ditching.

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

Sampling Point: SP-12

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Herb Stratum (Plot size: 5 ft r)			
1. Schedonorus arundinaceus	30	✔	FACU
2. Coleataenia anceps	25	✔	FAC
3. Paspalum dilatatum	15		FAC
4. Solanum carolinense	15		FACU
5. Setaria parviflora	10		FAC
6. Arthraxon hispidus	5		FAC
7.			
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50.00	20% of total cover: 20.00		

Woody Vine Stratum (Plot size: 30 ft r)			
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: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	55	x 3 =	165
FACU species	45	x 4 =	180
UPL species	0	x 5 =	0
Column Totals:	100 (A)		345 (B)

Prevalence Index = B/A = 3.45

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ___ **No** ✔

Remarks: (Include photo numbers here or on a separate sheet.)

No indicators are present. Vegetation disturbed by cattle grazing.

SOIL

Sampling Point: SP-12

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 4	7.5YR 4/2	95	10YR 4/6	5	C	M	Sandy Loam	
4 - 20	7.5YR 4/4	100					Sandy Loam	
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

Indicator F3 is present. Soils disturbed by cattle grazing.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-07-22
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-13
Investigator(s): Patrick Meier, Wyatt Jackson, Lily Cooper Section, Township, Range:
Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none): Convex Slope (%): 1
Subregion (LRR or MLRA): P 136 Lat: 36.856351 Long: -79.742893 Datum: NAD83_2011
Soil Map Unit Name: 11A - Comus-Maggodee-Elsinboro complex, 0 to 4 percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ___ No ✔
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Upland sample plot adjacent to PEM W-01. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ___	No ✔	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✔	Depth (inches): ___

Wetland Hydrology Present? Yes ___ No ✔

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

Remarks:

No indicators are present. Hydrology disturbed by ditching.

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

Sampling Point: SP-13

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:		20% of total cover:	

Herb Stratum (Plot size: 5 ft r)			
1. Coleataenia anceps	35	✔	FAC
2. Schedonorus arundinaceus	30	✔	FACU
3. Paspalum dilatatum	15		FAC
4. Solanum carolinense	10		FACU
5. Setaria parviflora	10		FAC
6.			
7.			
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50.00		20% of total cover: 20.00	

Woody Vine Stratum (Plot size: 30 ft r)			
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: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	60	x 3 =	180
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals:	100 (A)		340 (B)

Prevalence Index = B/A = 3.40

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ___ **No** ✔

Remarks: (Include photo numbers here or on a separate sheet.)

No indicators are present. Vegetation disturbed by cattle grazing.

SOIL

Sampling Point: SP-13

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 2	10YR 4/3	100					Sandy Loam	
2 - 20	7.5YR 4/4	100					Sandy Loam	
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

No indicators are present. Soils disturbed by cattle grazing.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-07-22
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-14
Investigator(s): Patrick Meier, Wyatt Jackson, Lily Cooper Section, Township, Range:
Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none): Convex Slope (%): 1
Subregion (LRR or MLRA): P 136 Lat: 36.857001 Long: -79.743207 Datum: NAD83_2011
Soil Map Unit Name: 10B - Colescreek-Delanco complex, 2 to 8 percent slopes, rarely flooded NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ___ No ✔
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Sample point within upland island adjacent to PEM W-01. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ___	No ✔	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✔	Depth (inches): ___

Wetland Hydrology Present? Yes ___ No ✔

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

Remarks:

No indicators are present. Hydrology disturbed by ditching.

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

Sampling Point: SP-14

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:		20% of total cover:	

Herb Stratum (Plot size: 5 ft r)			
1. Coleataenia anceps	75	✔	FAC
2. Paspalum dilatatum	10		FAC
3. Schedonorus arundinaceus	10		FACU
4. Diodia virginiana	5		FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50.00		20% of total cover: 20.00	

Woody Vine Stratum (Plot size: 30 ft r)			
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: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	85	x 3 =	255
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	100 (A)		305 (B)

Prevalence Index = B/A = 3.05

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ✔ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

Dominance test is passed. Vegetation disturbed by cattle grazing.

SOIL

Sampling Point: SP-14

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 4	10YR 4/3	95	7.5YR 4/4	5	C	M	Sandy Clay Loam	
4 - 20	5YR 4/6	90	7.5YR 5/3	10	D	M	Sandy Clay	
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

No indicators are present. Soils disturbed by cattle grazing.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-08-06
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-15
Investigator(s): P.Meier Section, Township, Range:
Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, none): Concave Slope (%): 5
Subregion (LRR or MLRA): P 136 Lat: 36.8566901 Long: -79.7443457 Datum: NAD83_2011
Soil Map Unit Name: 27D - Minnieville loam, 15 to 25 percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Upland area along western edge of W-01 at toe of hillslope. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✔	Depth (inches): ____
Water Table Present?	Yes ____	No ✔	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✔	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✔

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

Remarks:

FAC-neutral test is met. Hydrology disturbed by drain tiles and ditching.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: SP-15

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5 ft r)			
1. Arthraxon hispidus	30	✔	FAC
2. Panicum anceps	20	✔	
3. Paspalum dilatatum	20	✔	FAC
4. Diodia virginiana	10		FACW
5. Juncus effusus	10		FACW
6. Setaria pumila	5		FAC
7. Solanum carolinense	5		FACU
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50.00	20% of total cover: 20.00		
Woody Vine Stratum (Plot size: 30 ft r)			
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: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	55	x 3 =	165
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	80 (A)		225 (B)

Prevalence Index = B/A = 2.81

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ✔ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

Dominance test and prevalence index are met. Vegetation disturbed by cattle grazing.

SOIL

Sampling Point: SP-15

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 2	7.5YR 4/3	100					Clay Loam	
2 - 20	2.5YR 4/6	100					Clay Loam	
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

No hydric soil indicators are met. Soils disturbed by cattle grazing.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-08-06
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-16
Investigator(s): P.MEIER Section, Township, Range:
Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR or MLRA): P 136 Lat: 36.8566875 Long: -79.7443005 Datum: NAD83_2011
Soil Map Unit Name: 27D - Minnieville loam, 15 to 25 percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

PEM W-01 along western edge of feature at the toe of adjacent hillslope. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✔	Depth (inches): ____
Water Table Present?	Yes ____	No ✔	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✔	Depth (inches): ____

Wetland Hydrology Present? Yes ✔ No ____

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

Remarks:

Wetland hydrology indicators C3, D2, and D5 are met. Hydrology disturbed by drain tiles and ditching.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: SP-16

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5 ft r)			
1. Juncus effusus	30	✔	FACW
2. Arthraxon hispidus	20	✔	FAC
3. Panicum anceps	15	✔	
4. Persicaria hydropiperoides	10		OBL
5. Microstegium vimineum	10		FAC
6. Diodia virginiana	10		FACW
7. Paspalum dilatatum	10		FAC
8. Vernonia noveboracensis	5		FACW
9.			
10.			
11.			
	110 =Total Cover		
50% of total cover: 55.00	20% of total cover: 22.00		
Woody Vine Stratum (Plot size: 30 ft r)			
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: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	45	x 2 =	90
FAC species	40	x 3 =	120
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		220 (B)

Prevalence Index = B/A = 2.31

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ✔ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

Dominance test and prevalence index are met. Vegetation disturbed by cattle grazing.

SOIL

Sampling Point: SP-16

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 8	10YR 5/2	80	7.5YR 4/4	20	C	PL / M	Clay Loam	
8 - 15	5YR 4/6	90	7.5YR 6/2	10	D	M	Clay Loam	
15 - 20	5YR 4/6	100					Clay Loam	
-								
-								
-								

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

[2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

Hydric soil indicator F3 is met. Soils disturbed by cattle grazing.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-08-06
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-17
Investigator(s): P.Meier Section, Township, Range:
Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR or MLRA): P 136 Lat: 36.856967 Long: -79.744061 Datum: NAD83_2011
Soil Map Unit Name: 27D - Minnieville loam, 15 to 25 percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Northwestern corner of PEM W-01 near drain tile outlets and dewatering ditch. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✔	Depth (inches): ____
Water Table Present?	Yes ✔	No ____	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes ✔	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ____

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

Remarks:

Wetland hydrology indicators A2, A3, and D5 are met.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: SP-17

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5 ft r)			
1. Carex lurida	30	✔	OBL
2. Arthraxon hispidus	20	✔	FAC
3. Juncus effusus	20	✔	FACW
4. Juncus tenuis	10		FAC
5. Panicum anceps	10		
6. Echinochloa muricata	5		FACW
7. Diodia virginiana	5		FACW
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50.00	20% of total cover: 20.00		
Woody Vine Stratum (Plot size: 30 ft r)			
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: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	30	x 2 =	60
FAC species	30	x 3 =	90
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		180 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ✔ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ✔ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

Dominance test and prevalence index are met. Vegetation disturbed by cattle grazing.

SOIL

Sampling Point: SP-17

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 8	10YR 4/1	95	7.5YR 4/6	5	C	M	Clay Loam	
8 - 16	10YR 3/1	60					Sandy Clay Loam	Co-Matrix
8 - 16	7.5YR 3/4	40					Sandy Clay Loam	Co-Matrix
16 - 20	5YR 4/3	100					Sandy Clay	
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

Hydric soil indicator F3 is met. Soils disturbed by cattle grazing.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-08-06
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-18
Investigator(s): P.Meier Section, Township, Range:
Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, none): Convex Slope (%): 5
Subregion (LRR or MLRA): P 136 Lat: 36.8570917 Long: -79.7440311 Datum: NAD83_2011
Soil Map Unit Name: 27D - Minnieville loam, 15 to 25 percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Upland area adjacent to northwest corner of PEM W-01 near drain tile outlets and dewatering ditch. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✔	Depth (inches): ____
Water Table Present?	Yes ____	No ✔	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✔	Depth (inches): ____

Wetland Hydrology Present? Yes ✔ No ____

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

Remarks:

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

Sampling Point: SP-18

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5 ft r)			
1. Arthraxon hispidus	30	✔	FAC
2. Paspalum dilatatum	20	✔	FAC
3. Juncus effusus	20	✔	FACW
4. Panicum anceps	10		
5. Diodia virginiana	10		FACW
6. Schedonorus arundinaceus	5		FACU
7. Setaria pumila	5		FAC
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50.00	20% of total cover: 20.00		
Woody Vine Stratum (Plot size: 30 ft r)			
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: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	55	x 3 =	165
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	90 (A)		245 (B)

Prevalence Index = B/A = 2.72

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ✔ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

Dominance test and prevalence index are met. Vegetation disturbed from cattle grazing.

SOIL

Sampling Point: SP-18

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 4	7.5YR 5/3	80	7.5YR 4/6	20	C	PL / M	Clay Loam	
4 - 20	5YR 4/4	90	7.5YR 5/2	10	D	M	Clay	
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

No hydric soil indicators are met. Soils disturbed by cattle grazing.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-08-06
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-15
Investigator(s): P.Meier Section, Township, Range:
Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, none): Concave Slope (%): 5
Subregion (LRR or MLRA): P 136 Lat: 36.8566901 Long: -79.7443457 Datum: NAD83_2011
Soil Map Unit Name: 27D - Minnieville loam, 15 to 25 percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Upland area along western edge of W-01 at toe of hillslope. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✔	Depth (inches): ____
Water Table Present?	Yes ____	No ✔	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✔	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✔

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

Remarks:

FAC-neutral test is met. Hydrology disturbed by drain tiles and ditching.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: SP-15

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5 ft r)			
1. Arthraxon hispidus	30	✔	FAC
2. Panicum anceps	20	✔	
3. Paspalum dilatatum	20	✔	FAC
4. Diodia virginiana	10		FACW
5. Juncus effusus	10		FACW
6. Setaria pumila	5		FAC
7. Solanum carolinense	5		FACU
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50.00	20% of total cover: 20.00		
Woody Vine Stratum (Plot size: 30 ft r)			
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: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	55	x 3 =	165
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	80 (A)		225 (B)

Prevalence Index = B/A = 2.81

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ✔ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

Dominance test and prevalence index are met. Vegetation disturbed by cattle grazing.

SOIL

Sampling Point: SP-15

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 2	7.5YR 4/3	100					Clay Loam	
2 - 20	2.5YR 4/6	100					Clay Loam	
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

No hydric soil indicators are met. Soils disturbed by cattle grazing.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-08-06
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-16
Investigator(s): P.MEIER Section, Township, Range:
Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR or MLRA): P 136 Lat: 36.8566875 Long: -79.7443005 Datum: NAD83_2011
Soil Map Unit Name: 27D - Minnieville loam, 15 to 25 percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

PEM W-01 along western edge of feature at the toe of adjacent hillslope. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✔	Depth (inches): ____
Water Table Present?	Yes ____	No ✔	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✔	Depth (inches): ____

Wetland Hydrology Present? Yes ✔ No ____

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

Remarks:

Wetland hydrology indicators C3, D2, and D5 are met. Hydrology disturbed by drain tiles and ditching.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: SP-16

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5 ft r)			
1. Juncus effusus	30	✔	FACW
2. Arthraxon hispidus	20	✔	FAC
3. Panicum anceps	15	✔	
4. Persicaria hydropiperoides	10		OBL
5. Microstegium vimineum	10		FAC
6. Diodia virginiana	10		FACW
7. Paspalum dilatatum	10		FAC
8. Vernonia noveboracensis	5		FACW
9.			
10.			
11.			
	110 =Total Cover		
50% of total cover: 55.00	20% of total cover: 22.00		
Woody Vine Stratum (Plot size: 30 ft r)			
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: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	45	x 2 =	90
FAC species	40	x 3 =	120
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		220 (B)

Prevalence Index = B/A = 2.31

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ✔ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

Dominance test and prevalence index are met. Vegetation disturbed by cattle grazing.

SOIL

Sampling Point: SP-16

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 8	10YR 5/2	80	7.5YR 4/4	20	C	PL / M	Clay Loam	
8 - 15	5YR 4/6	90	7.5YR 6/2	10	D	M	Clay Loam	
15 - 20	5YR 4/6	100					Clay Loam	
-								
-								
-								

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

[2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

Hydric soil indicator F3 is met. Soils disturbed by cattle grazing.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-08-06
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-17
Investigator(s): P.Meier Section, Township, Range:
Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR or MLRA): P 136 Lat: 36.856967 Long: -79.744061 Datum: NAD83_2011
Soil Map Unit Name: 27D - Minnieville loam, 15 to 25 percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Northwestern corner of PEM W-01 near drain tile outlets and dewatering ditch. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✔	Depth (inches): ____
Water Table Present?	Yes ✔	No ____	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes ✔	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ____

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

Remarks:

Wetland hydrology indicators A2, A3, and D5 are met.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: SP-17

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5 ft r)			
1. Carex lurida	30	✔	OBL
2. Arthraxon hispidus	20	✔	FAC
3. Juncus effusus	20	✔	FACW
4. Juncus tenuis	10		FAC
5. Panicum anceps	10		
6. Echinochloa muricata	5		FACW
7. Diodia virginiana	5		FACW
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50.00	20% of total cover: 20.00		
Woody Vine Stratum (Plot size: 30 ft r)			
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: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	30	x 2 =	60
FAC species	30	x 3 =	90
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		180 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ✔ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ✔ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

Dominance test and prevalence index are met. Vegetation disturbed by cattle grazing.

SOIL

Sampling Point: SP-17

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 8	10YR 4/1	95	7.5YR 4/6	5	C	M	Clay Loam	
8 - 16	10YR 3/1	60					Sandy Clay Loam	Co-Matrix
8 - 16	7.5YR 3/4	40					Sandy Clay Loam	Co-Matrix
16 - 20	5YR 4/3	100					Sandy Clay	
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

Hydric soil indicator F3 is met. Soils disturbed by cattle grazing.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Snow Creek Wetland Mitigation Project City/County: Franklin County Sampling Date: 2025-08-06
Applicant/Owner: Mountain Valley Pipeline, LLC State: Virginia Sampling Point: SP-18
Investigator(s): P.Meier Section, Township, Range:
Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, none): Convex Slope (%): 5
Subregion (LRR or MLRA): P 136 Lat: 36.8570917 Long: -79.7440311 Datum: NAD83_2011
Soil Map Unit Name: 27D - Minnieville loam, 15 to 25 percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✔ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ✔, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Upland area adjacent to northwest corner of PEM W-01 near drain tile outlets and dewatering ditch. Vegetation and soils significantly disturbed by cattle grazing. Hydrology significantly disturbed by ditching. The USACE Antecedent Precipitation Tool indicates wetter than normal conditions were present 3 months prior to survey.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✔	Depth (inches): ____
Water Table Present?	Yes ____	No ✔	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✔	Depth (inches): ____

Wetland Hydrology Present? Yes ✔ No ____

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

Remarks:

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

Sampling Point: SP-18

Tree Stratum (Plot size: 30 ft r)	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: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5 ft r)			
1. Arthraxon hispidus	30	✔	FAC
2. Paspalum dilatatum	20	✔	FAC
3. Juncus effusus	20	✔	FACW
4. Panicum anceps	10		
5. Diodia virginiana	10		FACW
6. Schedonorus arundinaceus	5		FACU
7. Setaria pumila	5		FAC
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50.00	20% of total cover: 20.00		
Woody Vine Stratum (Plot size: 30 ft r)			
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: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	55	x 3 =	165
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	90 (A)		245 (B)

Prevalence Index = B/A = 2.72

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** ✔ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

Dominance test and prevalence index are met. Vegetation disturbed from cattle grazing.

SOIL

Sampling Point: SP-18

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 4	7.5YR 5/3	80	7.5YR 4/6	20	C	PL / M	Clay Loam	
4 - 20	5YR 4/4	90	7.5YR 5/2	10	D	M	Clay	
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]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)
- ___ Iron Monosulfide (A18)
- ___ 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[3]:

- ___ 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)

[3]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:

No hydric soil indicators are met. Soils disturbed by cattle grazing.

ATTACHMENT C – SITE PHOTOGRAPHS

Photograph C-1: View of wetland sample plot (SP)-01 within PEM W-01, facing northwest.

Photograph C-2: View of wetland SP-01 within PEM W-01, facing southeast.

Photograph C-3: View of upland SP-02 adjacent to PEM W-01, facing north.

Photograph C-4: View of upland SP-02 adjacent to PEM W-01, facing south.

Photograph C-5: View of wetland SP-03 within PEM W-01, facing east.

Photograph C-6: View of wetland SP-03 within PEM W-01, facing northwest.

Photograph C-7: View of upland SP-04 adjacent to PEM W-01, facing northwest.

Photograph C-8: View of upland SP-04 adjacent to PEM W-01, facing southeast.

Photograph C-9: View of wetland SP-05 within PEM W-01, facing north.

Photograph C-10: View of wetland SP-05 within PEM W-01, facing south.

Photograph C-11: View of upland SP-06 adjacent to PEM W-01, facing north.

Photograph C-12: View of upland SP-06 adjacent to PEM W-01, facing south.

Photograph C-13: View of upland SP-07 in floodplain east of PEM W-01, facing east.

Photograph C-14: View of upland SP-07 in floodplain east of PEM W-01, facing west.

Photograph C-15: View of upland SP-08 in floodplain east of PEM W-01, facing north.

Photograph C-16: View of upland SP-08 in floodplain east of PEM W-01, facing south.

Photograph C-17: View of upland SP-09 adjacent to PEM W-01, facing northeast.

Photograph C-18: View of upland SP-09 adjacent to PEM W-01, facing southwest.

Photograph C-19: View of wetland SP-10 within PEM W-01, facing west.

Photograph C-20: View of wetland SP-10 within PEM W-01, facing east.

Photograph C-21: View of wetland SP-11 within PEM W-01, facing north.

Photograph C-22: View of wetland SP-11 within PEM W-01, facing south.

Photograph C-23: View of upland SP-12 adjacent to PEM W-01, facing east.

Photograph C-24: View of upland SP-12 adjacent to PEM W-01, facing west.

Photograph C-25: View of upland SP-13 in floodplain east of PEM W-01, facing north.

Photograph C-26: View of upland SP-13 in floodplain east of PEM W-01, facing south.

Photograph C-27: View of upland SP-14 adjacent to PEM W-01, facing north.

Photograph C-28: View of upland SP-14 adjacent to PEM W-01, facing south.

Photograph C-29: View of upland SP-15 adjacent to PEM W-01, facing north.

Photograph C-30: View of upland SP-15 adjacent to PEM W-01, facing south.

Photograph C-31: View of wetland SP-16 within PEM W-01, facing north.

Photograph C-32: View of wetland SP-16 within PEM W-01, facing south.

Photograph C-33: View of wetland SP-17 within PEM W-01, facing southeast.

Photograph C-34: View of wetland SP-17 within PEM W-01, facing west.

Photograph C-35: View of upland SP-18 adjacent to PEM W-01, facing east.

Photograph C-36: View of upland SP-18 adjacent to PEM W-01, facing west.

Photograph C-37: View of linear wetland portion of W-01, facing northeast.

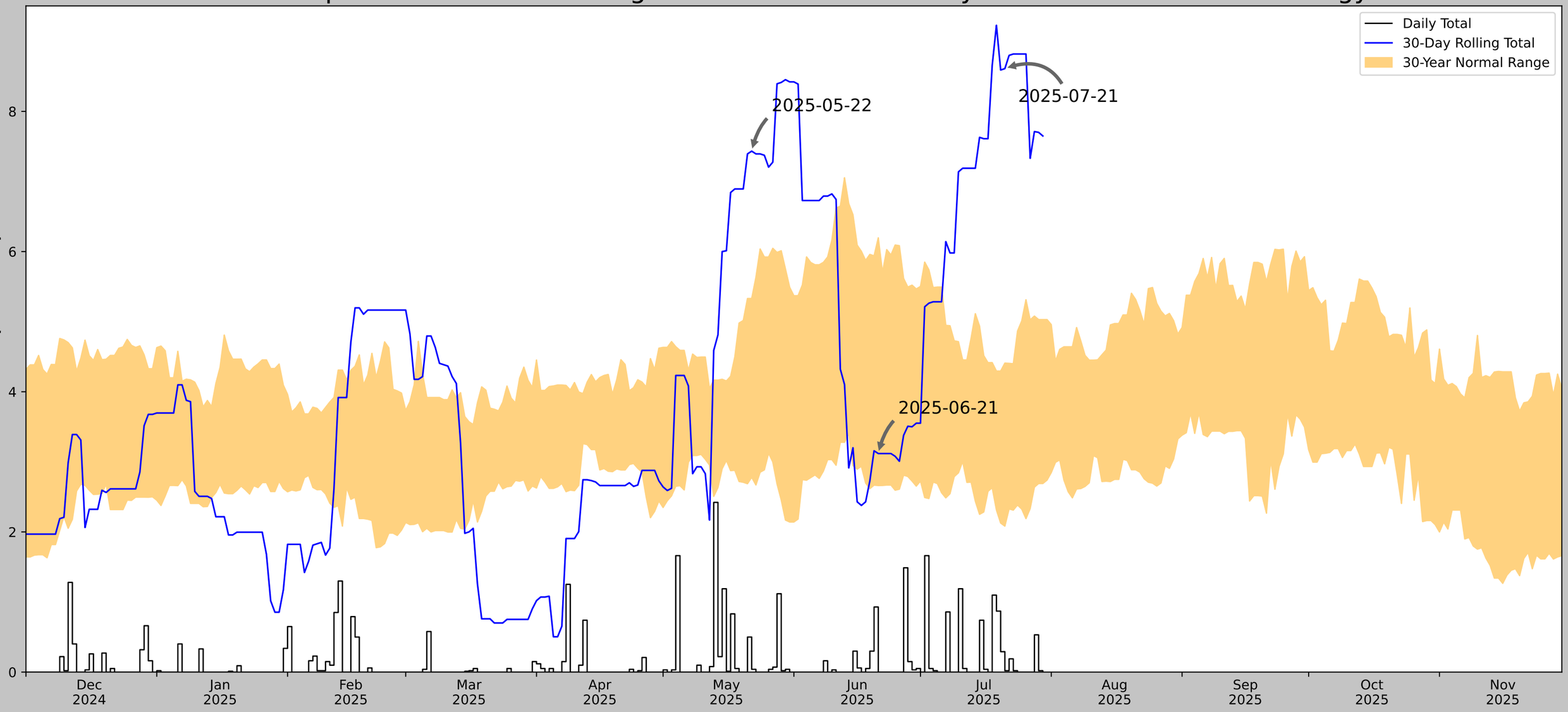
Photograph C-38: View of linear wetland portion of W-01, facing northwest.

Photograph C-39: View of perennial stream (S)-01 / Snow Creek, facing downstream/north.

Photograph C-40: View of perennial S-01 / Snow Creek, facing upstream/south.

ATTACHMENT D – USACE ANTECEDENT PRECIPITATION TOOL RESULTS

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



Coordinates	36.85764, -79.74351
Observation Date	2025-07-21
Elevation (ft)	820.525
Drought Index (PDSI)	Mild wetness (2025-06)
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2025-07-21	2.082284	4.408662	8.610236	Wet	3	3	9
2025-06-21	2.661417	6.196457	3.11811	Normal	2	2	4
2025-05-22	2.779528	5.330709	7.433071	Wet	3	1	3
Result							Wetter than Normal - 16

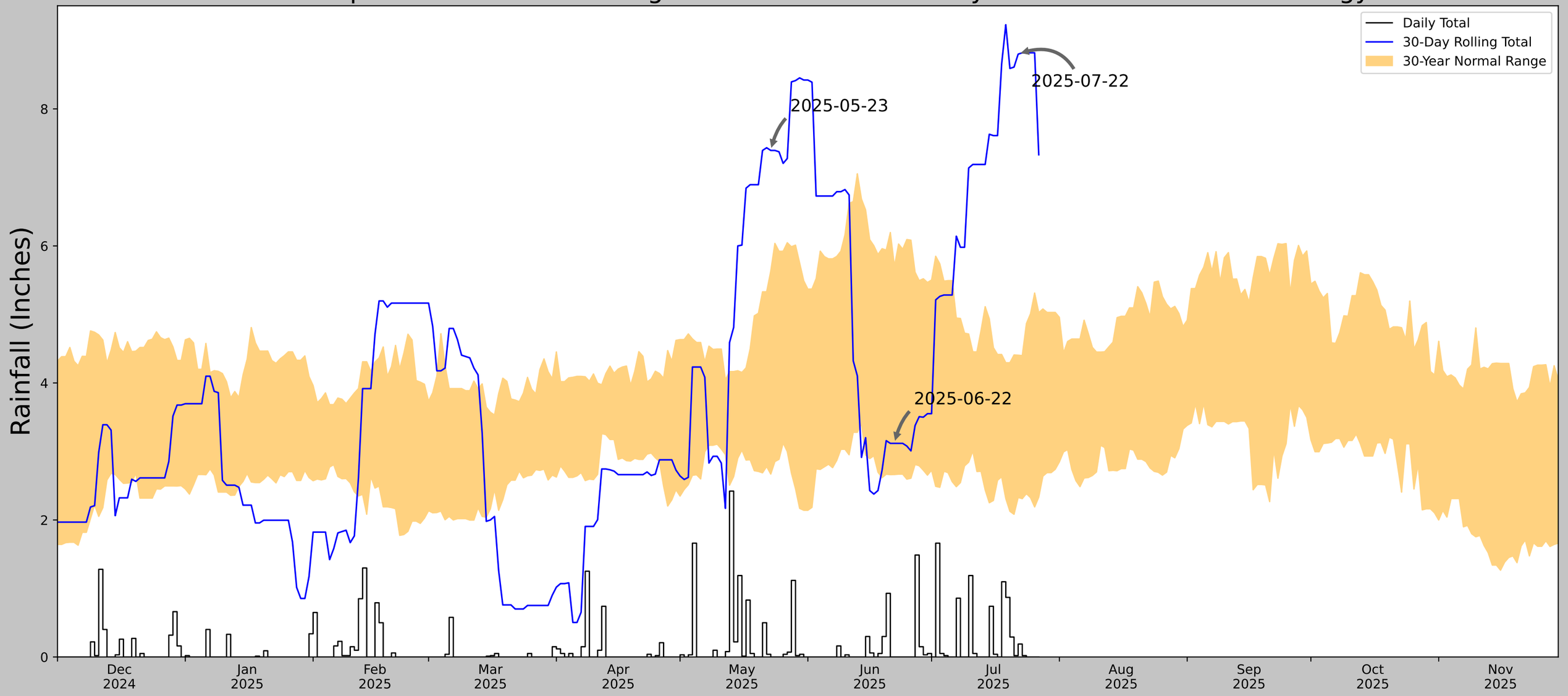
Figures and tables made by the
Antecedent Precipitation Tool
Version 3.0

US Army Corps of Engineers.
ERDC

Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and
Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
MARTINSVILLE FLTR PLT	36.7047, -79.8653	779.856	12.533	40.669	6.15	11294	88
MARTINSVILLE 0.4 WSW	36.6809, -79.8697	983.924	1.662	204.068	1.087	0	2
PHILPOTT DAM 2	36.7764, -80.0272	1123.032	10.242	343.176	8.124	56	0
EDEN	36.4742, -79.7433	678.15	17.305	101.706	9.547	3	0

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



Coordinates	36.85648, -79.74364
Observation Date	2025-07-22
Elevation (ft)	800.525
Drought Index (PDSI)	Mild wetness (2025-06)
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2025-07-22	2.327559	4.405118	8.799213	Wet	3	3	9
2025-06-22	2.662599	5.702756	3.11811	Normal	2	2	4
2025-05-23	2.669291	5.633858	7.393701	Wet	3	1	3
Result							Wetter than Normal - 16

Figures and tables made by the Antecedent Precipitation Tool Version 3.0

US Army Corps of Engineers.
ERDC

Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
MARTINSVILLE FLTR PLT	36.7047, -79.8653	779.856	12.462	20.669	5.866	11294	88
MARTINSVILLE 0.4 WSW	36.6809, -79.8697	983.924	1.662	204.068	1.087	0	2
PHILPOTT DAM 2	36.7764, -80.0272	1123.032	10.242	343.176	8.124	56	0
EDEN	36.4742, -79.7433	678.15	17.305	101.706	9.547	3	0

ATTACHMENT E – PRELIMINARY JURISDICTIONAL DETERMINATION REQUEST FORM (ENG FORM 6247)

U.S. Army Corps of Engineers (USACE)

REQUEST FOR JURISDICTIONAL DETERMINATION (JD)

For use of this form, see Sec 404 CWA, Sec 10 RHA, Sec 103 MPRSA; the proponent agency is CECW-COR.

Form Approved -
OMB No. 0710-0024
Expires 2027-09-30

DATA REQUIRED BY THE PRIVACY ACT OF 1974

Authority Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332.

Principal Purpose The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the review area that are or that may be subject to federal jurisdiction under the regulatory authorities referenced above.

Routine Uses This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice or FOIA request as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in any approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.

Disclosure Submission of requested information is voluntary, however, if the information is not provided there may be some delay in processing your request. Failure to provide this information will not result in an adverse action.
System of Record Notice (SORN): The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website:
http://dpcld.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx

The Agency Disclosure Notice (ADN)

The Public reporting burden for this collection of information, 0710-0024, is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. To (*District Name*): U.S. Army Corps of Engineers - Norfolk District

2. I am requesting a JD on property located at (*Street Address*): 1699-1655 Airport Road (GPIN 1090002401)

City/Township/Parish: Penhook County: Franklin State: Virginia

Acreage of Parcel/Review Area for JD: 25.0 acres

Section: Township: Range:

Latitude (*decimal degrees*): 36.856759 ° Longitude (*decimal degrees*): -79.745641 °

(*For linear projects, please include the center point of the proposed alignment.*)

3. Please attach a survey/plat map and vicinity map identifying location and review area for the JD.

4. ☐ I currently own this property. ☒ I plan to purchase this property.

☒ I am an agent/consultant acting on behalf of the requester.

☐ Other (*provide explanation*):

5. Reason for request: (*check as many as applicable*)

- ☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.
- ☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under Corps authority.
- ☒ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.
- ☒ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.
- ☐ I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.
- ☒ A Corps JD is required in order to obtain my local/state authorization.
- ☐ I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.
- ☐ I believe that the site may be comprised entirely of dry land.
- ☒ Other *(provide details below)*:

Implementation of Permittee Responsible Mitigation (PRM) solution

6. Type of determination being requested.

- ☐ I am requesting an approved JD.
- ☒ I am requesting a preliminary JD.
- ☐ I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.
- ☐ I am requesting a verification of an aquatic resources delineation but I am not requesting a JD.
- ☐ I am unclear as to which JD I would like to request and require additional information to inform my decision.

7. Typed or Printed Name: Paul Sherman Daytime Phone No.: 916-577-0659

Company Name: Burns & McDonnell Email Address: pasherman@burnsmcd.com

Address: 4480 Cox Road, Suite 300
Glen Allen, Virginia 23060

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property rights to request a JD on the subject property.

Signature: Paul Sherman Date: 2025-08-04

August 8, 2025

Frances Greenway
Virginia Department of Wildlife Resources
P.O. Box 90778
Henrico, VA 23228
Submitted via Email at ESSProjects@dwr.virginia.gov

Re: Threatened and Endangered Species Habitat Assessment and Request for Concurrence
Mountain Valley Pipeline, LLC
Snow Creek Permittee Responsible Mitigation Project
Franklin County, Virginia
Burns & McDonnell Project Number: 186472

Dear Ms. Greenway:

Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) was retained by Mountain Valley Pipeline, LLC (client) to assess potential impacts to protected species from implementation of the proposed Snow Creek Permittee Responsible Wetland Mitigation (PRM) project (Project) in Franklin County, Virginia (VA). The Project is located 7.15 miles southeast of Snydorsville, VA, 1.75 miles northeast of the intersection at Sontag Road (VA Route 619) and Snow Creek Road (VA Route 890) and is accessed via Airport Road. A General Location Map illustrating the Project location has been included in Attachment A (Figure A-1).

The following information is being provided to the Virginia Department of Wildlife Resources (VDWR), for review and concurrence under the Virginia State Threatened and Endangered Species Consultation requirements

INTRODUCTION

Activities associated with the Project will consist of excavating, filling, grading, and the enhancement, restoration, and creation of wetland resources. The habitat assessment was conducted within a 25-acre area encompassing the proposed Project (Survey Area; Appendix A; Figure A-4). The Survey Area consists of an existing maintained cattle pasture along an east facing slope that transitions into a floodplain along the western bank of Snow Creek. The Survey Area is bordered by a road on its western side and woodlands to the west, north and northeast. Snow Creek borders its eastern edge, and pastureland continues to the south. Woody vegetation was generally absent from the Survey Area except for a narrow riparian strip along the western bank of Snow Creek. Typical woody species within the Survey Area consisted of American sycamore (*Platanus occidentalis*), tuliptree (*Liriodendron tulipifera*), and green ash (*Fraxinus pennsylvanica*). The predominant herbaceous vegetation within the Survey Area consisted of beaked panic grass (*Coleataenia anceps*), tall fescue (*Schedonorus arundinaceus*), Virginia buttonweed (*Diodia virginiana*), dallisgrass (*Paspalum dilatatum*), Japanese stiltgrass (*Microstegium vimineum*), and hairy crabgrass (*Digitaria sanguinalis*).

HABITAT ASSESSMENT

In July 2025, Patrick Meier, Wyatt Jackson, and Lily Cooper, biologists with Burns & McDonnell, completed a pedestrian survey to evaluate the potential for State protected species habitat to occur within the Project area.

In addition to the pedestrian field survey, the Virginia Fish and Wildlife Information Service (VAFWIS) was reviewed, and an Initial Project Assessment (IPA) report was generated for the Project (Attachment B). The IPA identifies all critical resources within a 2-mile radius surrounding the Project location. The IPA listed 11 species of varying conservation status as potentially occurring in the Survey Area (Table 1). Additionally, a desktop review was performed using aerial imagery, USFWS National Wetlands Inventory (NWI) data, U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey for Franklin County, VA, and United States Geological Survey (USGS) National Hydrography Dataset (NHD) data. Figures depicting this data can be found in Attachment A.

Table 1: Protected Species with Potential to Occur in the Project Area

Species Name	Federal Status[a]	State Status[a]	Preferred Habitat	Impact
Mammals				
Northern long-eared bat (*Myotis septentrionalis*)	FT	ST	Suitable habitat consists of crevices underneath peeling bark and cavities in both live and dead trees, caves and mines, or other functionally similar structures such as barns or sheds.	Habitat *present* in Survey Area - *Not Likely to Adversely Affect*
Little brown bat (*Myotis lucifugus*)	N/A	SE	Suitable habitat consists of buildings and trees with cavities and crevices, as well as within rock and wood piles in forested areas near water, and caves and mines.	Habitat *present* in Survey Area - *Not Likely to Adversely Affect*
Tri-colored bat (*Perimyotis subflavus*)	FPE	SE	Suitable habitat consists of trees and buildings with cavities and crevices in areas with significant edge habitat with a preference for hardwood forests. They prefer having a proximity to open bodies of water and an open understory to feed in. This species also hibernates in caves and mines.	Habitat *present* in Survey Area - *Not Likely to Adversely Affect*

Species Name	Federal Status[a]	State Status[a]	Preferred Habitat	Impact
Birds				
Peregrine falcon (*Falco peregrinus*)	N/A	ST	Suitable habitat consists of high elevation cliffs and man-made structures (such as skyscrapers) adjacent to open landscapes. Usually found with proximity to rivers and coastlines, barrier islands, mudflats, lake edges, and mountainsides.	Habitat *not present* in Survey Area – *No Effect*
Loggerhead shrike (*Lanius ludovicianus*)	N/A	ST	Suitable habitat consists of open country within a matrix of scrub-shrub vegetation. This species needs thorny scrub or fence posts/utility poles to perch and impale prey. Often seen utilizing agricultural fields, cemeteries, pastures, orchards, riparian areas, savannas, prairies, and golf courses.	Habitat *not present* in Survey Area – *No Effect*
Migrant loggerhead shrike (*Lanius ludovicianus migrans*)	N/A	ST	Suitable habitat consists of open country within a matrix of scrub shrub vegetation. This species needs thorny scrub or fence posts/utility poles to perch and impale prey. Often seen utilizing agricultural fields, cemeteries, pastures, orchards, riparian areas, savannas, prairies, and golf courses.	Habitat *not present* in Survey Area – *No Effect*
Reptiles				
Bog turtle (*Gleptemys muhlenbergii*)	FT	SE	Suitable habitat consists of shallow, open, wetland habitats containing hummocky vegetation and varying microclimates.	Habitat *present* in Survey Area – *Not Likely to Adversely Affect*
Mussels				
James spinymussel (*Parvaspina collina*)	FE	SE	Suitable habitat includes riffle-run complexes in streams with clean, swift-flowing currents. Species prefers gravel, sand or cobble substrates.	Habitat *not present* in Survey Area – *No Effect*

Species Name	Federal Status[a]	State Status[a]	Preferred Habitat	Impact
Atlantic pigtoe (*Fusconaia masoni*)	FT	ST	Suitable habitat consists of small creeks to larger rivers with excellent water quality. This species prefers coarse sand and gravel, and water flow needs to be sufficient to maintain clean, silt-free substrates.	Habitat *not present* in Survey Area – *No Effect*
Fish				
Orangefin madtom (*Noturus gilberti*)	N/A	ST	Suitable habitat consists of medium to large streams with swift riffles with small cobble substrates, generally free of sedimentation, in the upper Roanoke, Dan, and James rivers.	Habitat *not present* in Survey Area – *No Effect*
Roanoke logperch (*Percina rex*)	FE	SE	Suitable habitat includes gravel and boulder runs of small to medium rivers. Typically found in warm, clear streams of medium to low gradient.	Habitat *not present* in Survey Area – *No Effect*

[a] F = Federal, S = State, T = Threatened, E = Endangered, P = Proposed
Source: Virginia Department of Game and Inland Fisheries (VDGIF) – https://services.dwr.virginia.gov/fwis/index.asp?Menu=Home, Accessed August 4th, 2025;

ANALYSIS BY SPECIES

This habitat assessment includes species under the jurisdiction of the United States Fish & Wildlife Service (USFWS) and the VDWR and protected by the ESA (16 U.S.C. 1531 et seq.) and Article 6 of Chapter 5 of Title 29.1 of the Code of Virginia. The VAFWIS IPA was used to identify protected species with potential to occur in the Project area (https://services.dwr.virginia.gov/fwis/index.asp?Menu=Home). An analysis of the habitat present on-site will be presented for each species in the sections below.

Mammals

The IPA listed three bat species as having potential to occur within the Survey Area. The listed bat species include the **northern long-eared bat**, the **little brown bat**, and the **tri-colored bat**. These species have similar habitat requirements. These bat species commonly roost underneath bark, or in cavities or crevices in live and dead trees. They may also be found roosting in caves and mines. Sometimes these species will roost in anthropogenic structures that contain crevices and cavities such as wooden barns, sheds, or culverts. The little brown bat is also known to utilize wood piles and crevices in large rocks for roosting. The Survey Area is mainly treeless, but there is a small

forested margin along the eastern limits of the Survey Area that may contain suitable summer roosting habitat for these bat species.

The forested edge habitat along Snow Creek and the eastern border of the Survey Area was comprised of American sycamore (*Platanus occidentalis*), tuliptree (*Liriodendron tulipifera*), and green ash (*Fraxinus pennsylvanica*), in relatively good condition. Few trees with cracking or peeling bark were observed. The forested strip abuts an open area and a stream, creating suitable hunting habitat for little brown bat. No tree clearing is currently planned for this Project. If any removal of woody vegetation occurs, it will be outside of the designated time of year restrictions (TOYR) (May 15 – July 31).

The VDWR's Northern Long-eared Bat, Tri-colored Bat, and Little Brown Bat Consultation Tool was reviewed to determine the presence of known maternity roosts, hibernacula, and capture locations in the Project vicinity (Attachment B). The Survey Area is not located within any consultation ranges. No known maternity roosts or hibernacula for any bat species were documented near the Project. The nearest recorded bat capture was a tricolored bat, captured approximately 14 miles northeast of the Survey Area. No northern long-eared bat or little brown bat captures were recorded in the Project vicinity.

While suitable summer roosting habitat for listed species was found within the Project Survey Area, no tree clearing is currently planned for this Project. If tree clearing occurs, it will be conducted outside of the applicable time of year restrictions (May 15 – July 31). If roosting bats or hibernacula are observed, Mountain Valley Pipeline, LLC will report the observation to state and federal agencies to prevent disturbance and remain in regulatory compliance. Based on available data and assessment methodologies, the Project is *not likely to adversely affect* the northern long-eared bat, tri-colored bat, or the little brown bat.

Birds

The IPA listed the **peregrine falcon** as having potential to occur within the Survey Area. The peregrine falcon prefers to nest at elevations that are high relative to the surrounding landscape. It is known to persist in urbanized environments and nest on ledges upon skyscrapers. The area within a 2-mile radius of the Survey Area is rural, with no large buildings, cliffs or abrupt elevation changes; the topography consists of rolling hills. No evidence of present or past inhabitation by peregrine falcons was observed during the habitat assessment. Based on available data and assessment methodologies, the Project will have *no effect* on the peregrine falcon.

The IPA lists both the **resident** and **migratory loggerhead shrike** as having potential to occur within the Survey Area. Both varieties have similar habitat needs that consist of open rangeland in a matrix of scrub-shrub vegetation with abundant perches and thorns or posts to impale prey. These birds are known to utilize anthropogenic structures such as powerline corridors, fences, roadsides, and golf courses. Though the Survey Area is generally open pastureland, the landscape matrix surrounding it is dense forest and mowed pastureland lacking the attributes preferred by the

Loggerhead Shrike. The thorny species preferred by this species were not present within the Survey Area, making it poor habitat. Based on available data and assessment methodologies, the Project will have *no effect* on these taxa.

Fish

The IPA listed the o**rangefin madtom** as having potential to occur within the Survey Area. This species prefers medium to large streams with swift riffles with small cobble substrates, generally free of sedimentation, in the upper Roanoke, Dan, and James Rivers. The section of Snow Creek within the Survey Area is heavily impacted by cattle grazing, and of relatively poor water quality. Therefore, no habitat is present for this species within the Survey Area. Based on available data and assessment methodologies, the Project will have *no effect* on the orangefin madtom.

The IPA listed the **Roanoke logperch** as having potential to occur within the Survey Area. This species prefers gravel and boulder runs of small to medium rivers. Typically found in warm, clear streams of medium to low gradient, its range is threatened by damming, grazing, and habitat loss. The section of Snow Creek within the Survey Area is heavily impacted by cattle grazing, and of relatively poor water quality. Therefore, no habitat is present for this species within the Survey Area. Based on available data and assessment methodologies, the Project will have *no effect* on the Roanoke logperch.

Mussels

The IPA listed the **James spinymussel** and the **Atlantic pigtoe** as having potential to occur within the Survey Area. Suitable habitat for these species shares similar characteristics. They prefer streams with swift flows, free of sedimentation, with sand to gravel substrates. Further, the James spinymussel prefers riffle-run complexes of excellent water quality and may inhabit streams with cobble substrates. The section of Snow Creek within the Survey Area is sedimented, heavily impacted by cattle grazing, and of relatively poor water quality. Therefore, no habitat is present for this species within the Survey Area. Based on available data and assessment methodologies, the Project will have *no effect* on the listed mussel species.

Reptiles

The IPA listed the **bog turtle** as having potential to occur within the Survey Area. The bog turtle prefers shallow, open, wetland habitats with hummocky vegetation. This species is semi-aquatic. Wet areas within cow pastures, riparian areas, and patches of sedges are used for cover, nesting, basking, and hibernation. The PEM wetland within the Survey Area contained flooded areas, hummocks, sedges, and plentiful open space, and the mosaic of riparian habitat nearby may provide suitable habitat for the bog turtle. However, no individuals or evidence of inhabitation were observed on site during pedestrian surveys. If bog turtles are found on site, appropriate measures and consultation with the VDWR will be taken to prevent incidental take or disturbance to the species. Based on available data and assessment methodologies, the Project is *not likely to adversely affect* the bog turtle.

Bald Eagle Nest Review

The Center for Conservation Biology's Bald Eagle Nest Locator application was reviewed to evaluate if any bald eagle (*Haliaeetus leucocdephalus*) nests were documented within the vicinity of the Survey Area. No nests were documented within a 2-mile radius (Appendix B). Based on the lack of active documented nests in the Project vicinity and a lack of suitable habitat within the Survey Area, the Project is not anticipated to have adverse effects on bald eagles. If impacts to nesting bald eagles are anticipated, it is recommended that construction should not occur during Virginia's Time of Year Restrictions (TOYR) guidelines for bald eagle nesting season (December 15 through July 15). No bald eagle stick nests or migratory bird nesting sites were observed in the Survey Area.

CONCLUSIONS

Based on the results of the habitat assessment, Burns & McDonnell has concluded that the proposed Project will have *no effect* on the peregrine falcon, loggerhead shrike and migrant variant, James spineymussel, Atlantic pigtoe, orangefin madtom, and Roanoke logperch and is *not likely to adversely affect* the northern long-eared bat, little brown bat, tri-colored bat, and bog turtle. We respectfully request your written concurrence with this determination. If you have any questions regarding the proposed Project or the contents of this habitat assessment report, please contact me at 716-489-0547 or by e-mail at wjackson2@burnsmcd.com at your convenience.

Sincerely,

Wyatt Jackson, PWS
Environmental Scientist

Attachments:

Attachment A - Figures
Attachment B - Environmental Database Reviews
Attachment C - Site Photographs

APPENDIX A -FIGURES

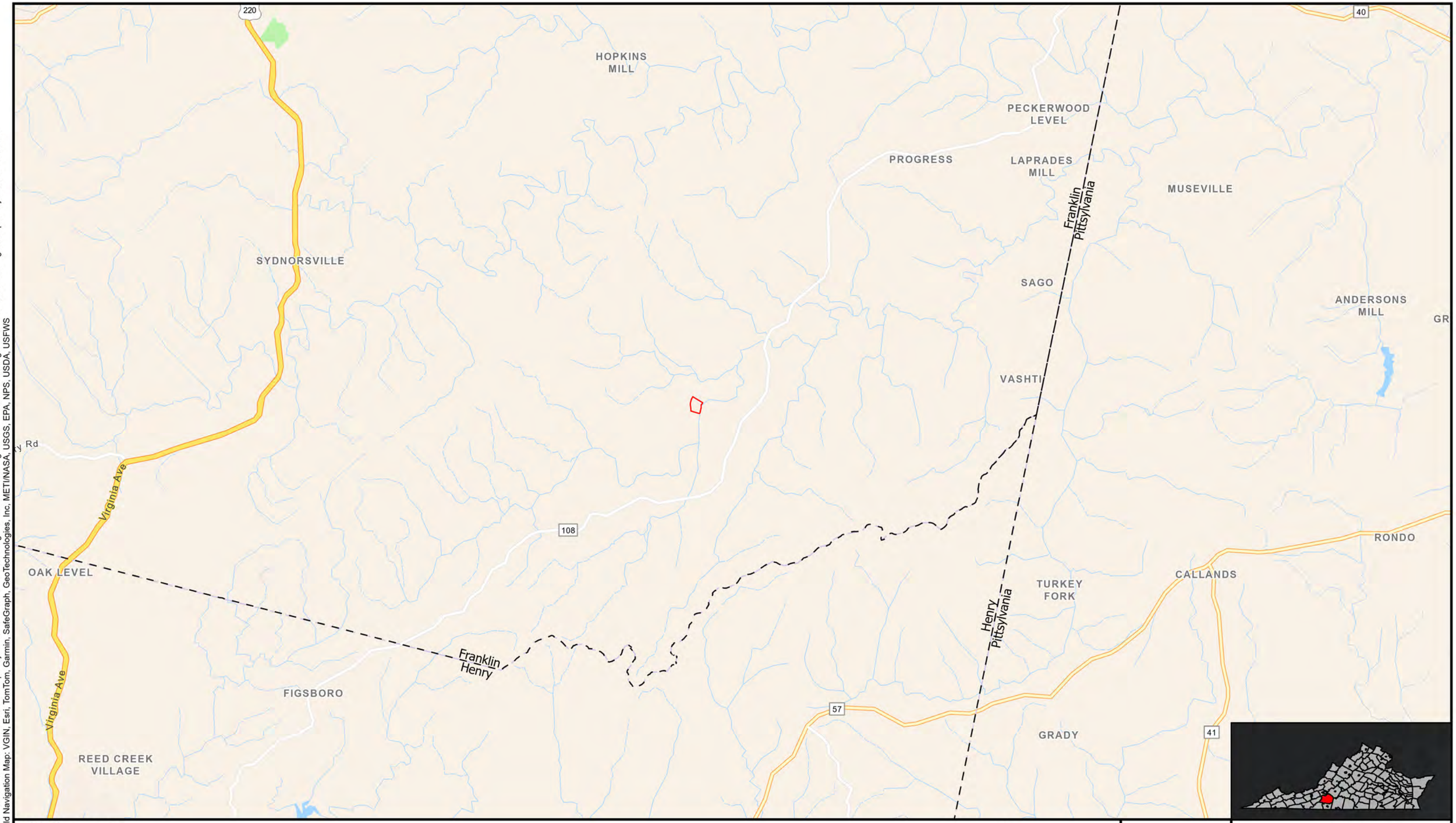


Figure A-1
General Location Map
Snow Creek Permittee Responsible Mitigation Project
Mountain Valley Pipeline, LLC
Franklin County, VA

Path: C:\Users\wjackson2\OneDrive - Burns & McDonnell\Desktop\Project stuff\MVP\Snow Creek Mitigation\Snow Creek Figures\MVP Snow Creek Figures.aprx wjackson2 8/4/2025
Service Layer Credits: World Navigation Map: VGIN, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, USFWS

Source: Mountain Valley Pipeline, LLC, Burns & McDonnell, ESRI

Issued: 8/4/2025

Snow Creek

840

820

980

NHD Stream

Survey Area

1% Chance Annual Flood Hazard

Wetland Classification

Freshwater Emergent Wetland

Riverine

NORTH

200 100 0 200

Scale in Feet

BURNS McDONNELL

Figure A-2
NHD, NWI, FEMA, and USGS Topographic Map
Snow Creek Permittee Responsible Mitigation Project
Mountain Valley Pipeline, LLC
Franklin County, VA

Issued: 8/4/2025

Source: Mountain Valley Pipeline, LLC, Burns & McDonnell, ESRI, USFWS, USGS, EPA, FEMA

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Mapunit Symbol	Mapunit Name	Hydric Rating
11A	Comus-Maggodee-Elsinboro complex, 0 to 4 percent slopes	No
10B	Colescreek-Delanco complex, 2 to 8 percent slopes, rarely flooded	No
27C	Minnieville loam, 8 to 15 percent slopes	No
27D	Minnieville loam, 15 to 25 percent slopes	No
39C	Wintergreen loam, 8 to 15 percent slopes	No

Survey Area

Non-Hydric Soil Unit

NORTH

200 100 0 200

Scale in Feet

BURNS McDONNELL

Figure A-3
NRCS Soils Map
Snow Creek Permittee Responsible Mitigation Project
Mountain Valley Pipeline, LLC
Franklin County, VA

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Service Layer Credits: World Imagery: Maxar, Microsoft

Source: Mountain Valley Pipeline, LLC, Burns & McDonnell, ESRI, USDA, NRCS

Issued: 8/4/2025

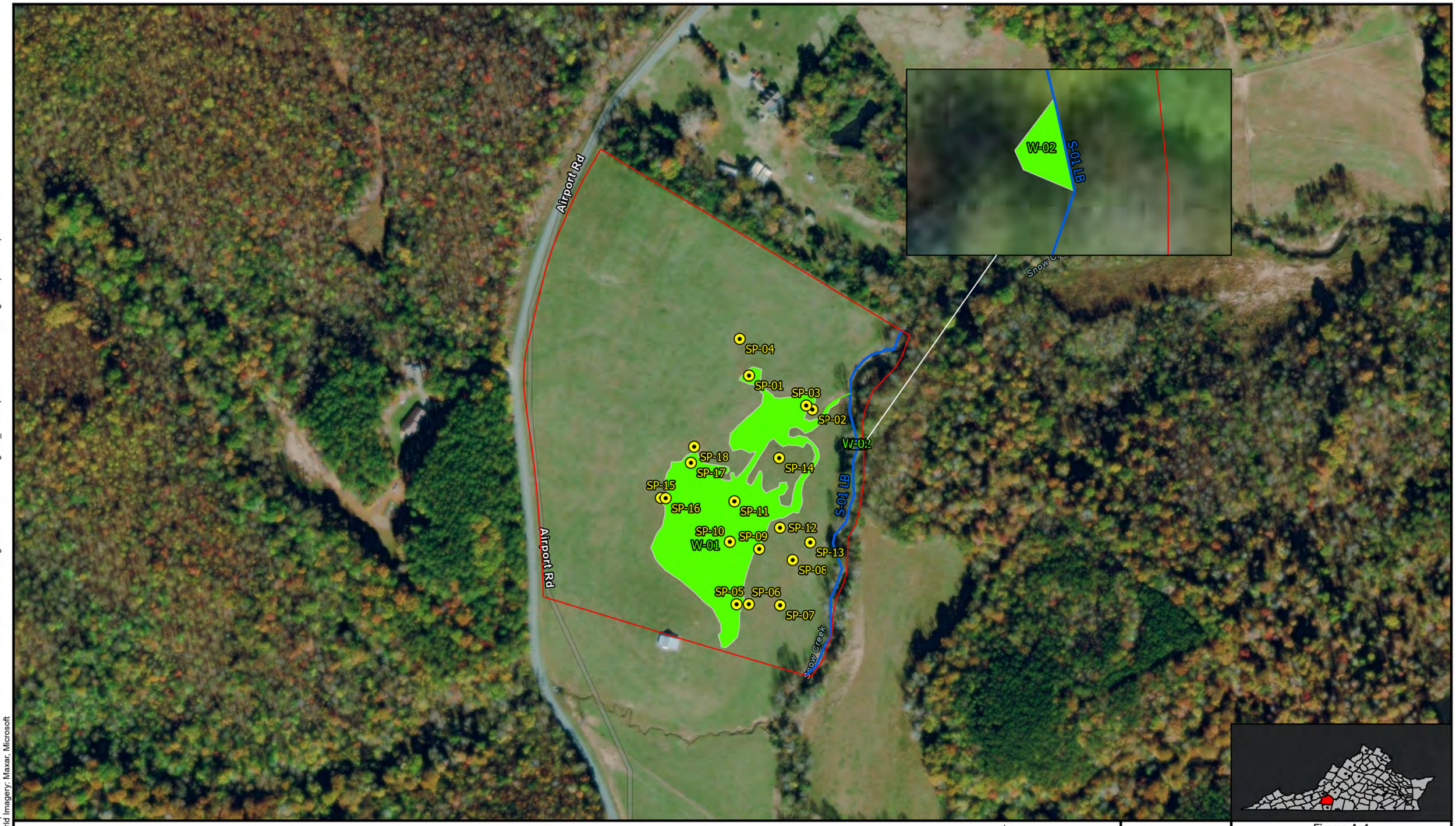

Figure A-4
Location Map of Wetlands and Other Waterbodies
Snow Creek Permittee Responsible Mitigation Project
Mountain Valley Pipeline, LLC
Franklin County, VA

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Service Layer Credits: World Imagery: Maxar, Microsoft
Source: Mountain Valley Pipeline, LLC, Burns & McDonnell, ESRI
Issued: 8/7/2025

ATTACHMENT B - ENVIRONMENTAL DATABASE REVIEWS

Visitor Options
Species Information
By Name
By Land Management
References
Geographic Search
By Map
By Coordinates
By Place Name
Help

Show This Page as Printer Friendly

VaFWIS Search Report Compiled on 8/4/2025, 2:29:45 PM

Help

Known or likely to occur within a **3 mile radius around point 36,51,24.4 -79,44,37.9** in **067 Franklin County, 089 Henry County, VA**

View Map of Site Location

462 Known or Likely Species ordered by Status Concern for Conservation (displaying first 22) (22 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name
050022	FESE	Ia	Bat, Northern Long-eared	Myotis septentrionalis
060017	FESE	Ia	Spinymussel, James	Parvaspina collina
030061	FTSE	Ia	Turtle, Bog	Glyptemys muhlenbergii
060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
050020	SE	Ia	Bat, little brown	Myotis lucifugus
050027	FPSE	Ia	Bat, Tricolored	Perimyotis subflavus
010214	SE	IIa	Roanoke Logperch	Percina rex
040096	ST	Ia	Falcon, peregrine	Falco peregrinus
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus
010127	ST	IIb	Madtom, orangefin	Noturus gilberti
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans
030012	CC	IVa	Rattlesnake, timber	Crotalus horridus
010174		Ia	Bass, Roanoke	Ambloplites cavifrons
010343		Ib	Ashy Darter	Etheostoma cinereum
010341		IIa	Logperch, blotchside	Percina burtoni
040052		IIa	Duck, American black	Anas rubripes
040036		IIa	Night-heron, yellow-crowned	Nyctanassa violacea violacea
040320		IIa	Warbler, cerulean	Setophaga cerulea
040140		IIa	Woodcock, American	Scolopax minor
060071		IIa	Lampmussel, yellow	Lampsilis cariosa
040203		IIb	Cuckoo, black-billed	Coccyzus erythropthalmus
040105		IIb	Rail, king	Rallus elegans

To view **All 462 species** View 462

*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; CC=Collection Concern

**I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need
Virginia Widlife Action Plan Conservation Opportunity Ranking:
a - On the ground management strategies/actions exist and can be feasibly implemented.; b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.; c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

Anadromous Fish Use Streams

N/A

Impediments to Fish Passage

N/A

Threatened and Endangered Waters (4 Reaches)

View Map of All Threatened and Endangered Waters

Stream Name	T&E Waters Species		View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name	

Snow Creek (0185280)	SE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes
		010214	SE	IIa	Roanoke Logperch	Percina rex	
Snow Creek (0194274)	SE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes
		010214	SE	IIa	Roanoke Logperch	Percina rex	
Snow Creek (0195973)	SE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes
		010214	SE	IIa	Roanoke Logperch	Percina rex	
Snow Creek (0199095)	SE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes
		010214	SE	IIa	Roanoke Logperch	Percina rex	

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Habitat Predicted for Aquatic WAP Tier I & II Species (4 Reaches)

View Map Combined Reaches from Below of Habitat Predicted for WAP Tier I & II Aquatic Species

Stream Name	Tier Species						View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name					
Crab Creek (30101011)	SE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes
		010214	SE	IIa	Roanoke Logperch	Percina rex	
Grassy Fork (30101011)	SE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes
		010214	SE	IIa	Roanoke Logperch	Percina rex	
Keaton Branch (30101011)	SE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes
		010214	SE	IIa	Roanoke Logperch	Percina rex	
Snow Creek (30101011)	SE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes
		010174		Ia	Bass, Roanoke	Ambloplites cavifrons	
		010214	SE	IIa	Roanoke Logperch	Percina rex	
Snow Creek (30101011)	SE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes
		010174		Ia	Bass, Roanoke	Ambloplites cavifrons	
		010214	SE	IIa	Roanoke Logperch	Percina rex	

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

Virginia Breeding Bird Atlas Blocks (1 records)

View Map of All Query Results
Virginia Breeding Bird Atlas Blocks

BBA ID	Atlas Quadrangle Block Name	Breeding Bird Atlas Species	View Map

		Different Species	Highest TE*	Highest Tier**	
32046	Gladehill, SE	56		III	Yes

Public Holdings: (1 names)

Name	Agency	Level
Turkeycock Mountain Wildlife Management Area	Va DGIF	

Summary of BOVA Species Associated with Cities and Counties of the Commonwealth of Virginia:

FIPS Code	City and County Name	Different Species	Highest TE	Highest Tier
067	Franklin	377	FESE	I
089	Henry	329	FESE	I

USGS 7.5' Quadrangles:
Snow Creek
Gladehill
Mtn. Valley
Penhook

USGS NRCS Watersheds in Virginia:

N/A

USGS National 6th Order Watersheds Summary of Wildlife Action Plan Tier I, II, III, and IV Species:

HU6 Code	USGS 6th Order Hydrologic Unit	Different Species	Highest TE	Highest Tier
RD27	Upper Leatherwood Creek	52	SE	I
RU31	Big Chestnut Creek	49	SE	I
RU32	Pigg River-Owens Creek	54	SE	I
RU33	Snow Creek-Crab Creek	51	SE	I
RU35	Snow Creek-Gourd Creek	55	SE	I

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Site Location

36,51,24.4 -79,44,37.9
is **the Search Point**

Show Position Rings
(•) Yes ( ) No
1 mile and 1/4 mile at the **Search Point**

Show Search Area
(•) Yes ( ) No
3 Search distance miles radius

Search Point is at map center

Base Map Choices
Topography

Map Overlay Choices
Current List: Position, Search, BECAR, BAEANests, TEWaters, TierII, Habitat, Trout, Anadromous

Map Overlay Legend

T & E Waters
Federal
State

Predicted Habitat WAP Tier I & II
Aquatic
Terrestrial

Trout Waters
Class I - IV
Class V - VI

Anadromous Fish Reach
Confirmed
Potential

Impediment

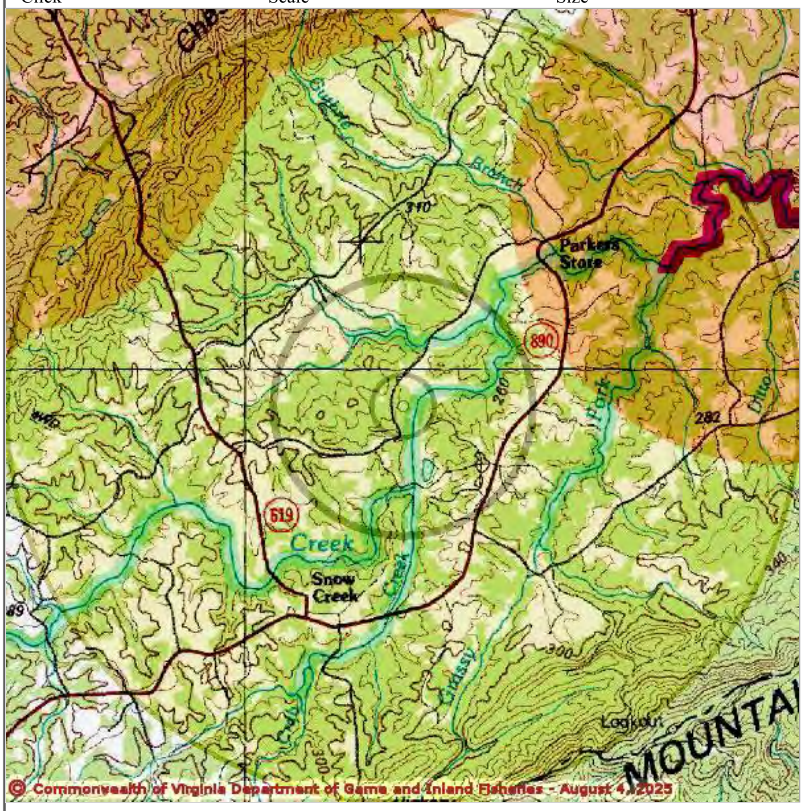
Position Rings 1 mile and 1/4 mile at the Search Point

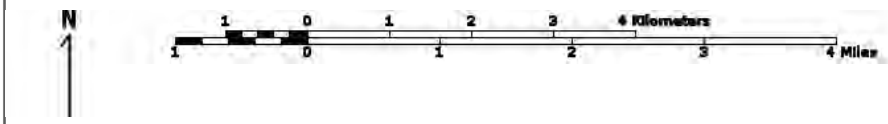
3 mile radius Search Area

Bald Eagle Concentration Areas and Roosts

back | Refresh Browser Page

Map Click Pan Id M | Map Scale In Zoom Out | Screen Size Small Size Big | Help





Point of Search 36,51,24.4 -79,44,37.9
Map Location 36,51,24.4 -79,44,37.9

Select **Coordinate System:**
(•) Degrees,Minutes,Seconds Latitude - Longitude
( ) Decimal Degrees Latitude - Longitude
( ) Meters UTM NAD83 East North Zone
( ) Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see Microsoft terraserver-usa.com for details)

Map projection is UTM Zone 17 NAD 1983 with left 607178 and top 4084521. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.

Topographic maps and Black and white aerial photography for year 1990+-
are from the United States Department of the Interior, United States Geological Survey.
Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network.
Shaded topographic maps are from TOPO! ©2006 National Geographic
http://www.national.geographic.com/topo
All other map products are from the Commonwealth of Virginia Department of Wildlife Resources.

map assembled 2025-08-04 14:31:54 (qa/qc March 21, 2016 12:20 - tn=3967973.0 dist=4828.032 Visitor)
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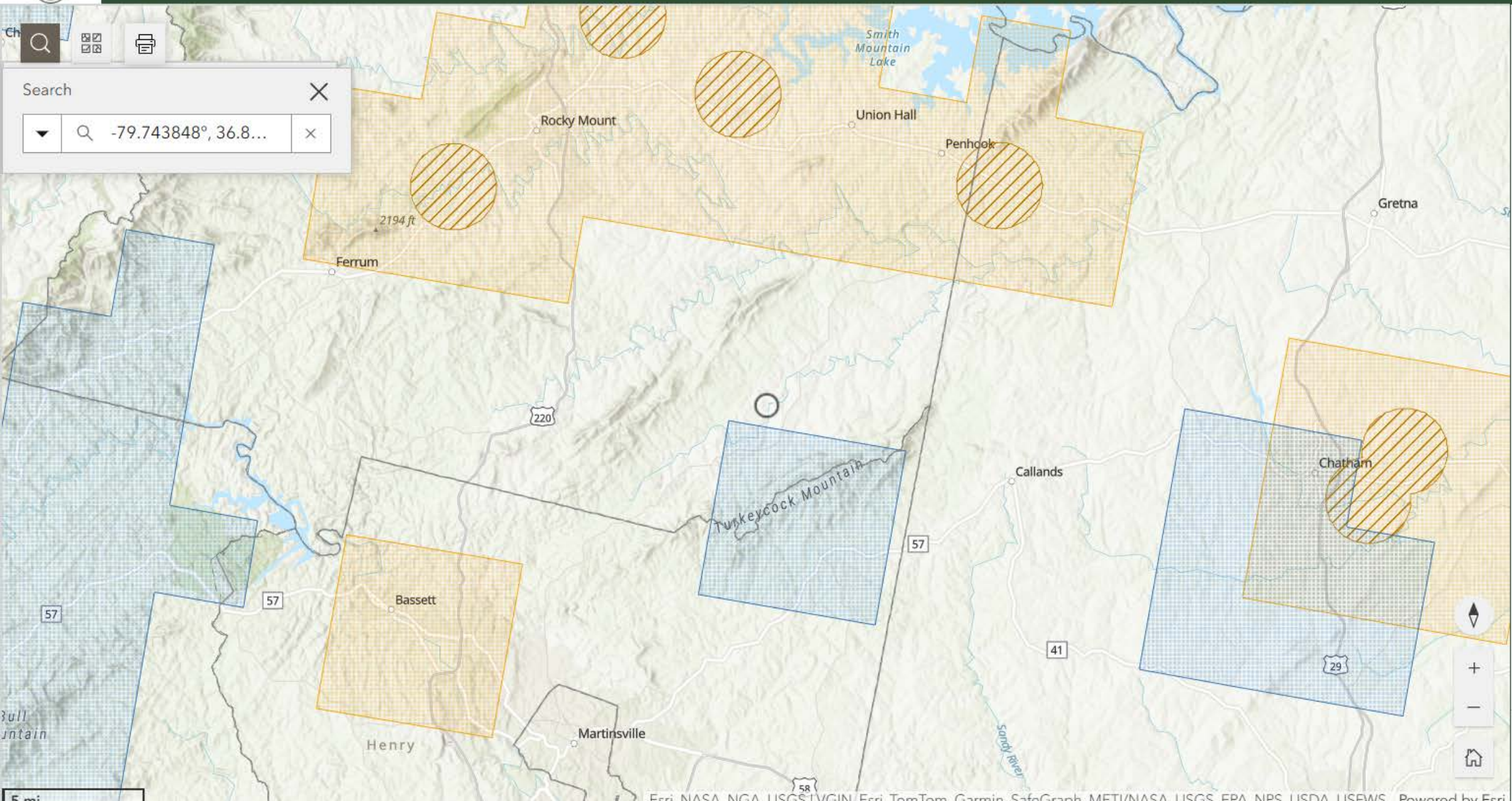
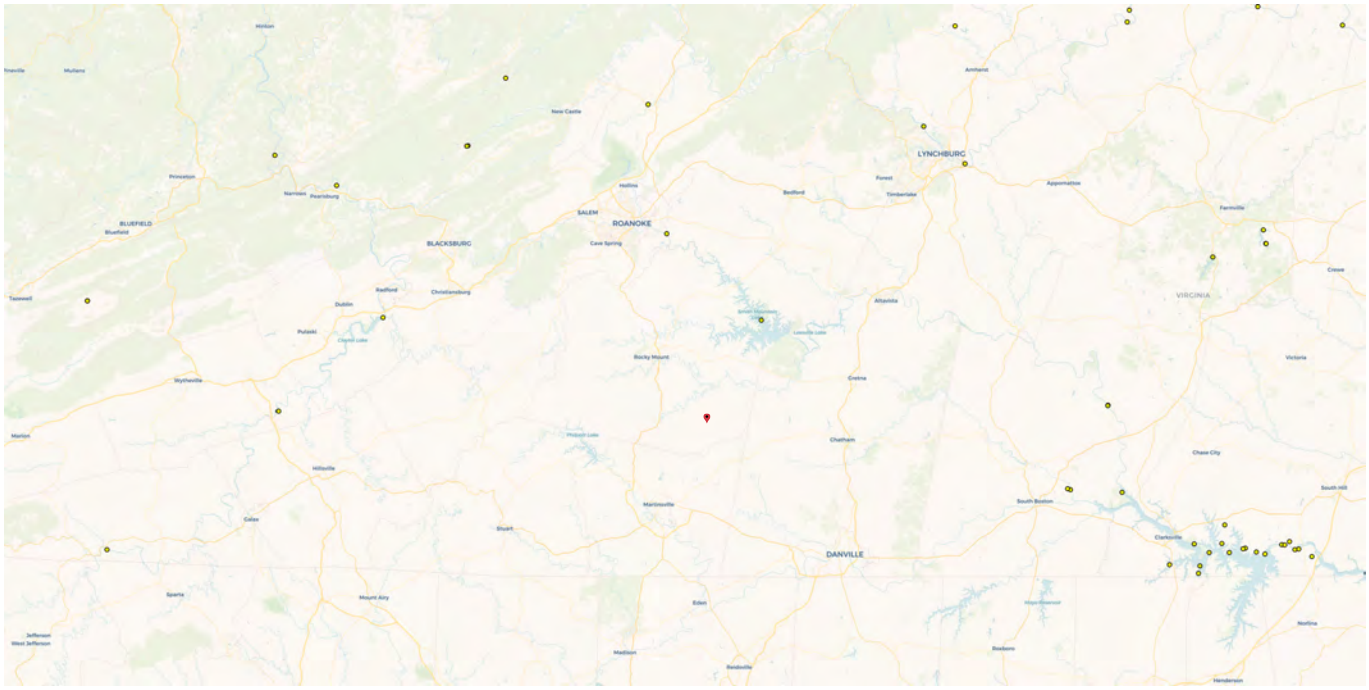
Virginia Department of Wildlife Resources

Threatened and Endangered Bats



CCB Mapping Portal



Layers: VA Eagle Nest Locator

Map Center [longitude, latitude]: [-79.71954345703125, 36.966352227940526]

Map Link:
https://ccbbirds.org/maps/#layer=VA+Eagle+Nest+Locator&zoom=10&lat=36.966352227940526&lng=-79.71954345703125&base=Street+Map+%28OSM%2FCarto%29

Report Generated On: 08/04/2025

ATTACHMENT C - SITE PHOTOGRAPHS

Photograph C-1: View of Palustrine Emergent (PEM) wetland (W)-01, facing northwest.

Photograph C-2: View of PEM W-01, facing southeast.

Photograph C-3: View of upland adjacent to PEM W-01, facing north.

Photograph C-4: View of upland adjacent to PEM W-01, facing south.

Photograph C-5: View of PEM W-01, facing east.

Photograph C-6: View of PEM W-01, facing northwest.

Photograph C-7: View of upland adjacent to PEM W-01, facing northwest.

Photograph C-8: View of upland adjacent to PEM W-01, facing southeast.

Photograph C-9: View of PEM W-01, facing north.

Photograph C-10: View of PEM W-01, facing south.

Photograph C-11: View of upland adjacent to PEM W-01, facing north.

Photograph C-12: View of upland adjacent to PEM W-01, facing south.

Photograph C-13: View of upland in floodplain east of PEM W-01, facing east.

Photograph C-14: View of upland in floodplain east of PEM W-01, facing west.

Photograph C-15: View of upland in floodplain east of PEM W-01, facing north.

Photograph C-16: View of upland in floodplain east of PEM W-01, facing south.

Photograph C-17: View of upland adjacent to PEM W-01, facing northeast.

Photograph C-18: View of upland adjacent to PEM W-01, facing southwest.

Photograph C-19: View of PEM W-01, facing west.

Photograph C-20: View of PEM W-01, facing east.

Photograph C-21: View of PEM W-01, facing north.

Photograph C-22: View of PEM W-01, facing south.

Photograph C-23: View of upland adjacent to PEM W-01, facing east.

Photograph C-24: View of upland adjacent to PEM W-01, facing west.

Photograph C-25: View of upland in floodplain east of PEM W-01, facing north.

Photograph C-26: View of upland in floodplain east of PEM W-01, facing south.

Photograph C-27: View of upland adjacent to PEM W-01, facing north.

Photograph C-28: View of upland adjacent to PEM W-01, facing south.

Photograph C-29: View of perennial stream (S)-01 / Snow Creek, facing downstream/north.

Photograph C-30: View of perennial S-01 / Snow Creek, facing upstream/south.

Photograph C-31: View of linear portion of PEM W-01, facing northeast.

Photograph C-32: View of linear portion of PEM W-01, facing northwest.