



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Field Office
6669 Short Lane
Gloucester, VA 23061



Date:

Self-Certification Letter

Project Name:

Dear Federal Action Agency:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By submitting this letter, in conjunction with your project review package to our office for review, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your determinations. From the date of receipt, our office has 60 days (50 CFR § 402.13(c)(2)) to review your project package. If we do not concur with the Section 7 determination(s) provided or if we have any questions/concerns regarding the information provided, you will be contacted. If you are not contacted during the 60-day review period, this letter and your project review package complete the review of your project in accordance with the Endangered Species Act (16 USC 1536), as amended (ESA). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 USC 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office by the Federal action agency or their officially designated non-federal representative (per 50 CFR 402.08) for this self-certification letter to be valid. This letter and the project review package will be maintained in our records.

The ESA Section 7 Determination Table in the enclosed project review package summarizes your ESA analyses and determinations. These analyses resulted in a “no effect” and/or a “may affect, not likely to adversely affect” determination for proposed/listed species and/or proposed/designated critical habitat.

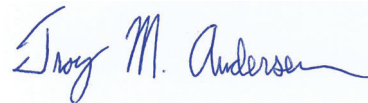
The use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package resulted in reaching the appropriate determinations. Therefore, we concur with the not likely to adversely affect determination(s) for proposed/listed species and proposed/designated critical habitat provided in the ESA Section 7 Determination Table.

Should project plans change, surveys expire, or information on the distribution or status of proposed/listed species and/or proposed/designated critical habitat become available/change, this letter is no longer valid and you must submit an updated project package.

Note that under 50 CFR 402.12(e) of the regulations implementing Section 7 of the ESA, the accuracy of official species lists should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available on our website (<https://www.fws.gov/office/virginia-ecological-services/virginia-field-office-online-review-process>). If you have any questions, please contact Troy Andersen of this office at (804) 728-0695.

Sincerely,

A handwritten signature in blue ink that reads "Troy M. Andersen". The signature is written in a cursive style with a long horizontal flourish at the end.

Troy Andersen
Acting Field Supervisor
Virginia Ecological Services

Enclosures - project review package

APPENDIX

9. VDWR

Correspondence



UNIVERSITY BOULEVARD EXTENSION PROJECT
PRINCE WILLIAM COUNTY
THREATENED AND ENDANGERED SPECIES
MEMO



August 2025

Prepared for:



Prepared by:



Table of Contents

Page #

Introduction.....	1
Project Area Description.....	2
Desktop Analysis Results.....	2
Conclusions and Next Steps.....	5
References.....	5

Appendices

APPENDIX A – Vicinity Map

APPENDIX B – Photo Log

APPENDIX C – Other Threatened and Endangered Species Coordination



1.0 Executive Summary

Prince William County, in coordination with the Virginia Department of Transportation (VDOT) and Federal Highway Administration (FHWA), as lead federal agency, is studying a connection of two existing sections of University Boulevard (Route 840) in Prince William County, Virginia. The purpose of the Project is to provide additional capacity to the roadway system to alleviate traffic congestion and to safely improve multimodal connection and accessibility between the western and eastern portions of Prince William County, as consistent with existing and planned local development and County plans and goals to support growth.

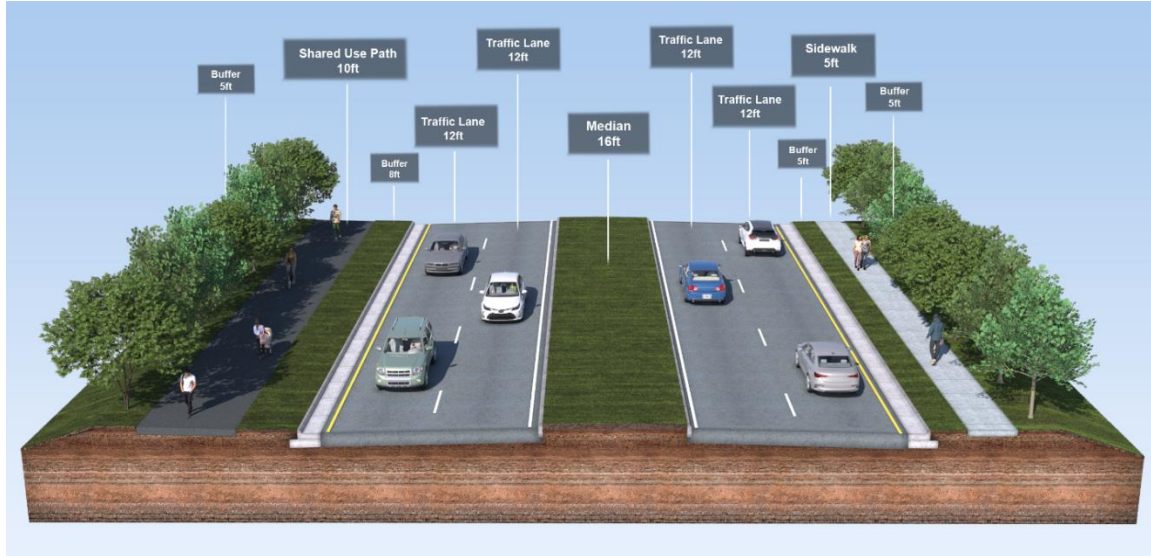
Pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended, an Environmental Assessment (EA) has been determined to be the appropriate level of documentation to analyze the potential social, economic, and environmental effects associated with the proposed University Boulevard Extension project (Project) between Devlin Road and Wellington Road and is currently underway. The Project is anticipated to be delivered through a design-build method which combines engineering services and construction services under one contract. The Project is funded for preliminary engineering (currently underway), right-of-way (anticipated FY 2028), and construction (anticipated FY 2029).

Coordination is ongoing for potential threatened and endangered species. Consultation with the U.S. Fish and Wildlife Service’s (USFWS) Virginia Field Office, the Virginia Department of Conservation and Recreation (VDCR), and the Virginia Department of Wildlife Resources has been initiated. Habitat assessments were completed on the three federal or state listed species, or species of concern, identified in the Virginia Fish and Wildlife Information Service (VaFWIS) Initial Project Assessment (IPA) as confirmed, which includes the Yellow lance (*Elliptio lanceolata*), Brook floater (*Alasmidonta varicosa*), and Wood turtle (*Glyptemys insculpta*).

2.0 Project Description

Prince William County Government is proposing a 2.5-mile extension of University Boulevard from Devlin Road to Wellington Road, as a four-lane divided highway with four 12’ travel lanes, 5’ sidewalk, a 10’ shared use path and one bridge over “Unnamed tributary,” which discharges into Bull Run. The typical right-of-way width to accommodate these improvements is approximately 128 feet along the proposed corridor. The proposed roadway is being designed for 50 mph and will be posted for 35 mph. Design year (2048) average daily traffic (ADT) volumes along the extension of University Boulevard are projected to vary between 36,960 vehicles at Rollins Ford Road and 43,230 at Wentworth Green Drive.

The extension project begins at the existing Devlin Road/University Boulevard intersection and extends westward approximately 13,200 feet, on new alignment, to the existing four-lane University Boulevard approximately 650 feet south of the existing Wellington Road/University Boulevard intersection. At the north end of the Project, which is developed, the existing two-lane portion of University Boulevard would be widened to four lanes between the Gainesville High School south entrance on existing University Boulevard to Wellington Road. The typical section is shown in the figure below.



Proposed Typical Section

The Project would also include construction of two bridges approximately 385 feet long to carry the south and northbound roadway along the new alignment. The total proposed width of the bridge typical section is anticipated to be approximately 89 feet wide.

3.0 Project Area

The project is located in the cities of Gainesville and Linton Hall in Prince William County, Virginia, between the intersection of Devlin Road/University Boulevard and Wellington Road (Latitude: 38°46'23.80"N, Longitude: 77°35'16.95"W). The United States Geologic Survey (USGS) shows the project study area is within the Middle Potomac-Anacostia-Occoquan 8-digit Hydrologic Unit Code (HUC) Watershed (02070010) (USGS 2025). Based on an assessment of the USGS topographic and aerial photography resources, the hydrology within the project study area discharges to Bull Run, a tributary which discharges to the Potomac River. **Appendix A: Vicinity Map** shows the environmental study area and the *Wetlands and Waters Map* shows the wetlands and streams delineated on the site. A photo log documenting the site is included in **Appendix B: Site Photo Log**.

The environmental study area footprint was developed based on the 30% design plans, using a buffer around the proposed typical section footprint and associated infrastructure as well as the areas required for construction including but not limited to construction access and grading (cut and/or fill limits). The environmental study area encompasses approximately 69 acres. Based on project survey information and current aerial imagery, it is estimated that approximately 19 acres of the environmental footprint currently has dense tree cover that connects to the larger forested areas currently surrounding the study area. Within the environmental study area, the limits of construction (including temporary easement) encompass approximately 48 acres total (approximately 14 acres of which has tree cover). Additionally, as part of the ongoing redevelopment in this area of the County, there are three sites directly adjacent to the proposed roadway that were rezoned to allow for the development of large data center campuses. One site is currently under construction and the other two sites are currently undeveloped and approved for development. Their construction would impact the majority of the adjacent undeveloped area along the proposed project corridor, including the currently wooded area north of Linton Hall Road to the proposed University



Boulevard corridor, and are in accordance with the Prince William County Comprehensive Plan and associated zoning.

4.0 Other Threatened and Endangered Species Coordination

WSP reviewed the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) and produced an Official Species List for the project study area. The Virginia Department of Conservation and Recreation (DCR) database was analyzed for the project area. Descriptions of each species are included below. Maps and reports can be found in **Appendix C: Other Threatened and Endangered Species Coordination**.

As of the submittal of this memorandum to the Virginia Department of Wildlife, species coordination with USFWS and DCR are both ongoing. Initial time of year restrictions (TOYR) under discussion between USFWS, VDOT, and Prince William County include avoiding tree clearing from April 1 to September 30 and avoiding any drilling/blasting operations from May 15 to July 31.

4.1 USFWS Official Species List (Project Study Area)

Northern Long-eared Bat (*Myotis septentrionalis*) – Federally & State Endangered

The northern long-eared bat (NLEB) is a mammal in the *Myotis* family. The NLEB is a medium-sized bat with a body length of 3-3.7 inches and a wingspan of 9-10 inches. Their fur color can be medium to dark brown on the back and tawny to pale on the underside. This bat species typically overwinters in caves and mines and spends the remainder of the year in forested habitats.

Tricolored Bat (*Perimyotis subflavus*) – Proposed Federally Endangered

The tricolored bat is a mammal in the *Perimyotis* family. The tricolored bat has a body length of 3-3.5 inches and a wingspan of 8-10 inches. During the spring, summer, and fall, tricolored bats primarily roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees. During the winter, tricolored bats hibernate in caves and mines; though where caves and mines are sparse, they often roost in road-associated culverts and trees.

Monarch Butterfly (*Danaus plexippus*) – Proposed Threatened

The monarch butterfly is a butterfly species in the *Danaus* family. They have bright orange and black markings which serve as a warning to predators. Monarchs obtain toxins called cardenolides by consuming milkweed plants. Whether it's a field, roadside area, wet area, or garden, milkweed and flowering plants are needed for monarch habitat.

4.2 DCR Species Identified

Brook Floater (*Alasmidonta varicosa*) – State Endangered

The brook floater is a mussel species in the *Alasmidonta* family. They have yellowish or greenish shells and grow to a maximum length of 3 inches. The brook floater depends on streams with clean, flowing water and substrates that they can anchor into while filter feeding. Evidence suggests they are sensitive to high water flows that can dislodge them from stream bottoms. Their habitat is vulnerable to pollution, development, invasive species, and changes in temperature and precipitation patterns resulting from climate change.

Small Whorled Pogonia (*Isotria medeoloides*) – State Endangered



Small whorled pogonia is a plant species in the *Isotria* family. The plant is named for the whorl of five or six leaves near the top of the stem and beneath the flower. This plant grows in older hardwood stands of beech, birch, maple, oak, and hickory that have an open understory. It prefers acidic soils with a thick layer of dead leaves, often on slopes near small streams.

Torrey’s Mountain Mint (*Pycnanthemum torreyi*) – State Threatened

Torey’s mountain mint is a plant species in the *Pycnanthemum* family. It has two leaves per node along the stem and the leaves are simple. The flowers are white and have five petals. It prefers intermediate light levels and tends to grow along forest edges.

5.0 Virginia Fish and Wildlife Information Service (VaFWIS) Initial Project Assessment

The VaFWIS search report was used to generate an Initial Project Assessment (IPA) within a 2-mile radius around the project area. The report confirmed three species of concern:

Yellow lance (*Elliptio lanceolata*) – State Threatened

Yellow lance is dependent on clean, moderate flowing fresh water, preferring coarse to medium sand at the downstream end of stable sand/gravel bars. Sometimes yellow lances are found near water's edge within inches of exposed substrate or migrating with shifting sands. Suitable habitat for yellow lance was not observed in the perennial water courses in the project area.

Brook floater (*Alasmidonta varicosa*) – State Endangered

Brook floaters are a species of clam that live in streams with clean, flowing water, anchoring themselves into substrate. Suitable habitat for brook floater was not observed in the perennial water courses in the project area.

Wood turtle (*Glyptemys insculpta*) – State Threatened

Wood turtles move between land and water and are found in streams or riparian uplands. They hibernate during the winter in forested streams that have deep pools with sand bottoms. They nest and forage in open grasslands, barrens and sandy shores, particularly during the spring. There may be potential suitable habitat for wood turtles in WC-1.

6.0 Next Steps

With this submission, Prince William County is requesting review of the enclosed findings and/or comments regarding potentially affected state protected species under DWR purview.

7.0 References

United States Fish and Wildlife Services (USFWS). Fact Sheets for rare, threatened, or endangered species. <https://www.fws.gov>. Last accessed April 2025.

USFWS. Information for Planning and Consultation (IPaC) Official Species List. <https://ipac.ecosphere.fws.gov/>. Last accessed July 2025.



REVIEW PACKAGE MEMORANDUM



USFWS. Environmental Conservation Online System Species Profile. <https://ecos.fws.gov/ecp/>. Last accessed August 2025.

Virginia Department of Conservation and Recreation. Natural Heritage Data Explorer. <https://www.dcr.virginia.gov/natural-heritage/nhdeinfo>. Last accessed April 2025.

Virginia Department of Wildlife Resources Fish and Wildlife Information. https://services.dwr.virginia.gov/fwis/?Menu=Home.__By+Map. Last Accessed April 2025.

Virginia Department of Wildlife Resources. Species Profiles Information: <https://dwr.virginia.gov/wildlife/wildlife-information/>. Last Accessed April 2025.


APPENDIX

A. VICINITY AND WETLAND DELINEATION MAP



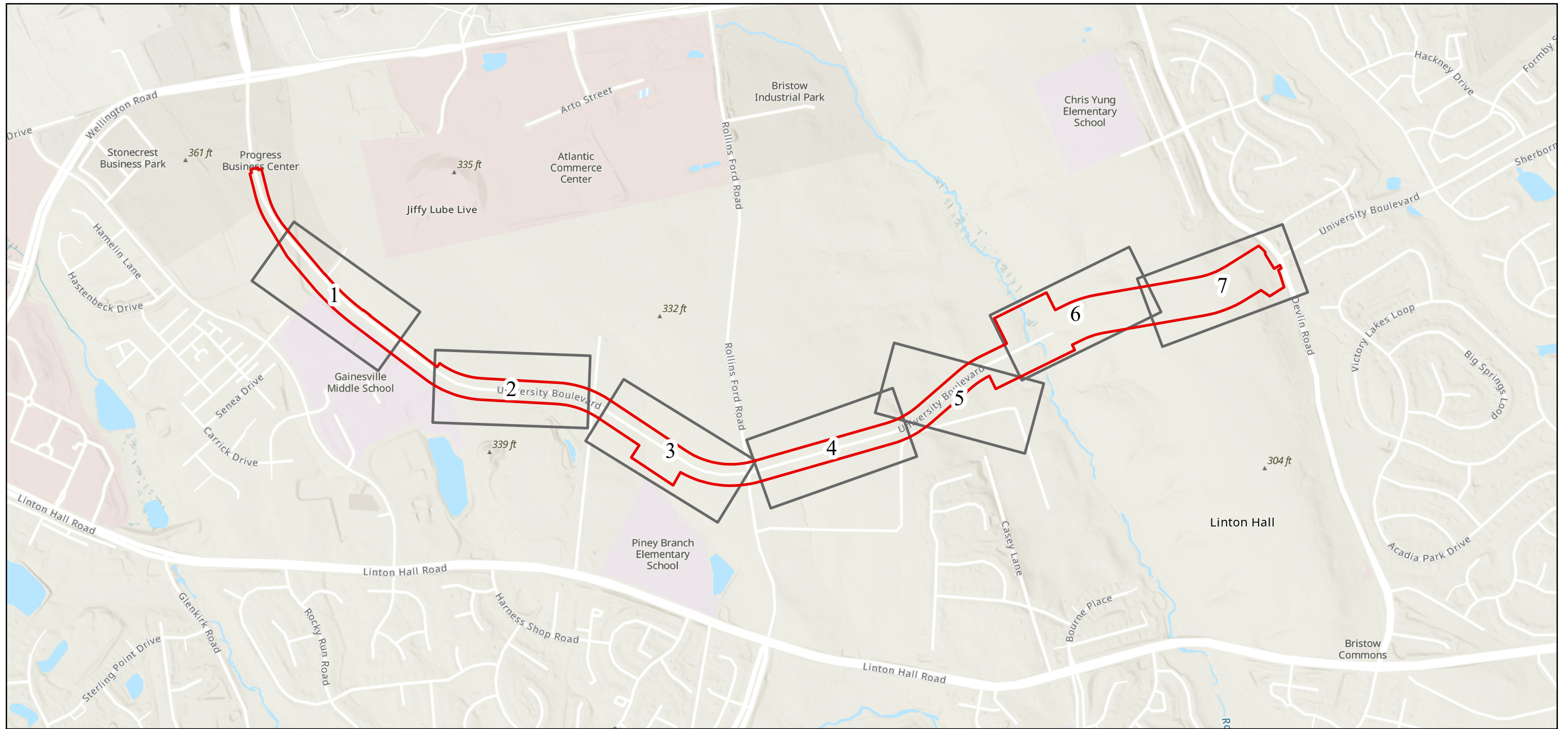


University Boulevard Extension

 Environmental Study Area

0 0.25 0.5 Miles

N



- Project Study Area
- Mapping Sheet Extents

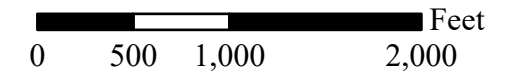
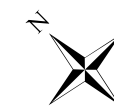
*No natural resources were present within the project study area located outside of the mapping sheet extents.

UNIVERSITY BOULEVARD EXTENSION PROJECT
PRINCE WILLIAM COUNTY, VA

APR 2025

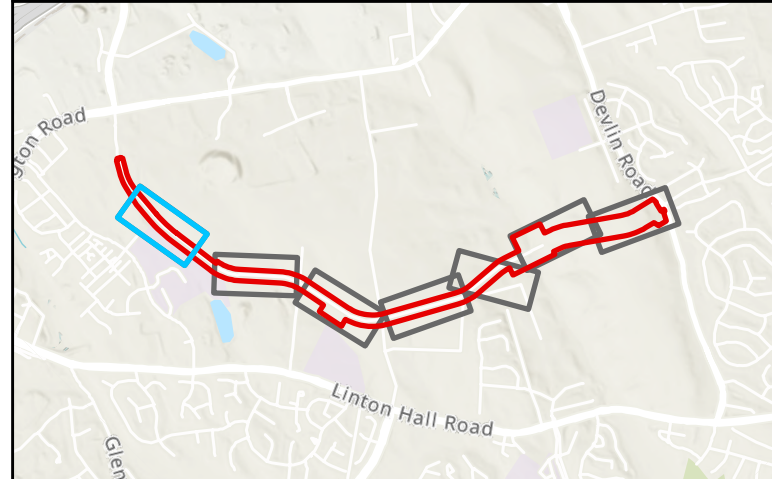
SCALE: 1" = 1,000'

COVER SHEET



NATURAL RESOURCES MAPPING



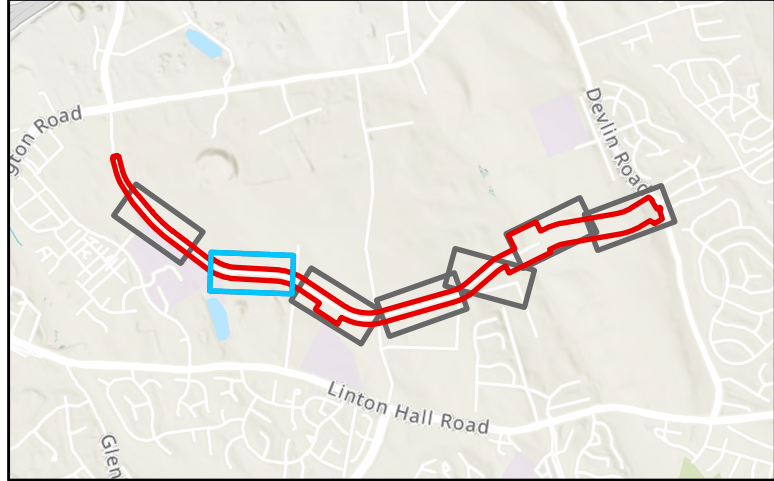


Project Study Area	Flowlines	Wetland Palustrine Emergent Palustrine Forested Palustrine Scrub Shrub
Resource Data Points	Drainage Ditch	
Wetland Data Point	Resource Protection Areas	
Watercourse Data Point	Waterbody	
Upland Data Point	Watercourse (OHWM < 5')	
Drain Data Point	Ephemeral	
General Data Point	Intermittent	
	Perennial	
	Watercourse (OHWM > 5')	
	Perennial	

UNIVERSITY BOULEVARD EXTENSION PROJECT
PRINCE WILLIAM COUNTY, VA

APR 2025	SCALE: 1" = 100'	SHEET 1 OF 7
----------	------------------	--------------

WETLAND AND WATERS MAPPING

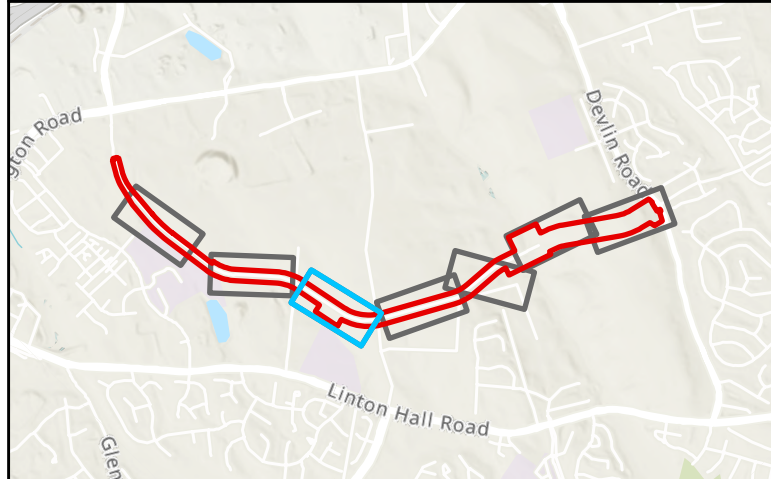
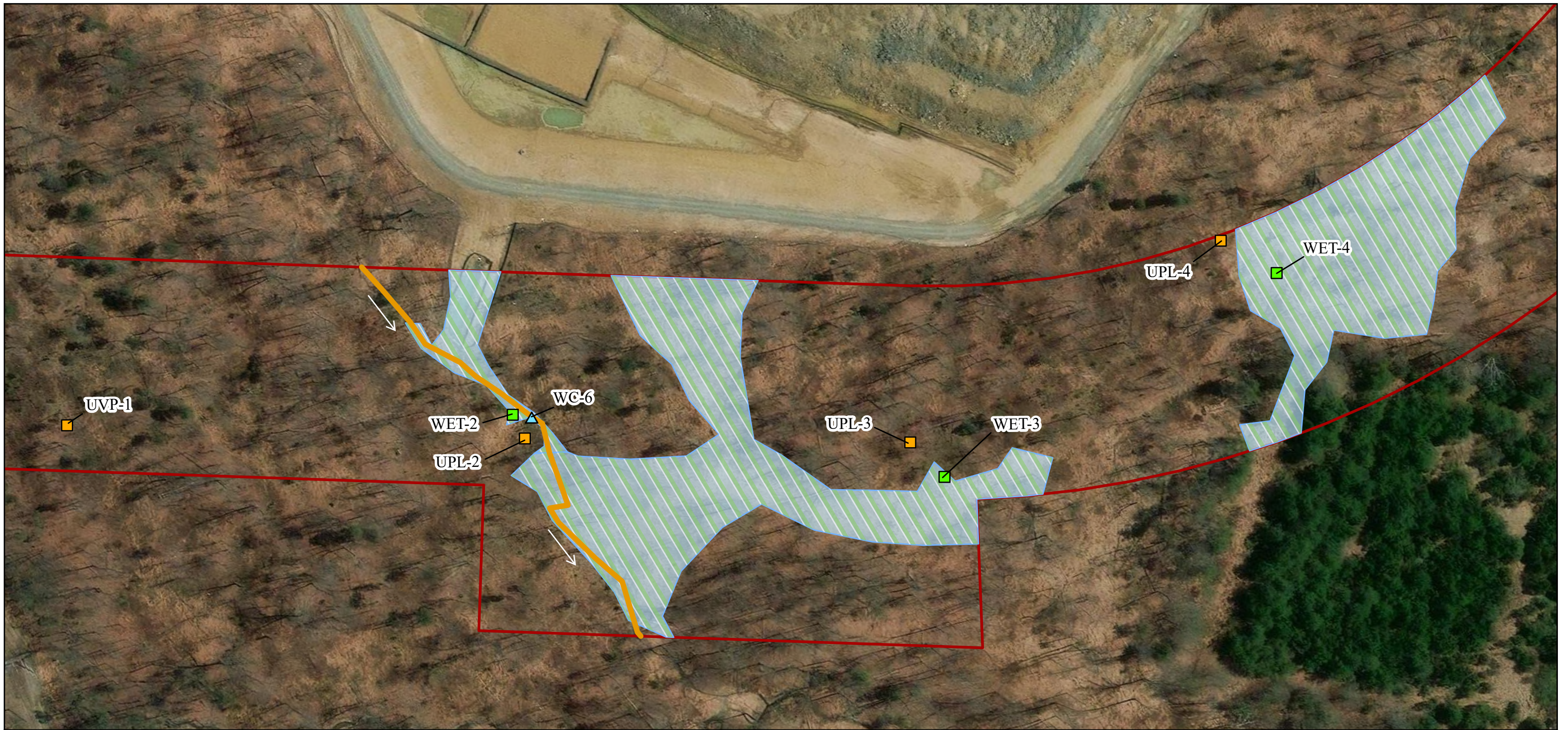


Project Study Area	Flowlines	Wetland
Resource Data Points	Drainage Ditch	
Wetland Data Point	Resource Protection Areas	Palustrine Emergent
Watercourse Data Point	Waterbody	Palustrine Forested
Upland Data Point	Watercourse (OHWM < 5')	Palustrine Scrub Shrub
Drain Data Point	Ephemeral	
General Data Point	Intermittent	
	Perennial	
	Watercourse (OHWM > 5')	
	Perennial	

**UNIVERSITY BOULEVARD EXTENSION PROJECT
PRINCE WILLIAM COUNTY, VA**

APR 2025	SCALE: 1" = 100'	SHEET 2 OF 7
----------	------------------	--------------

WETLAND AND WATERS MAPPING



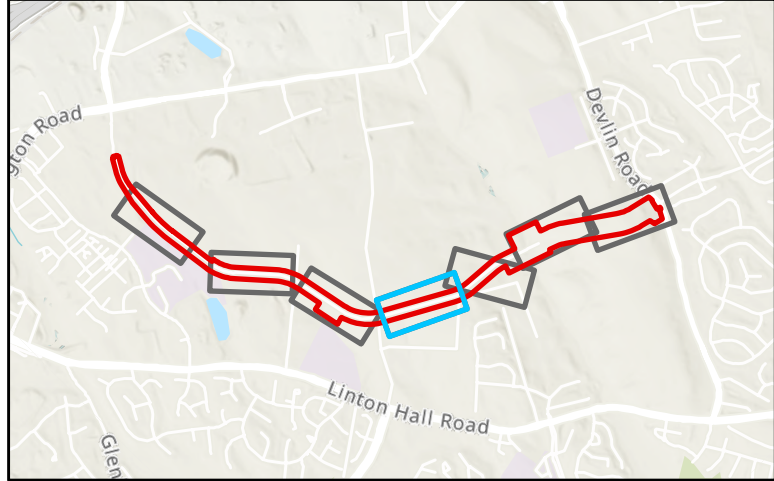
Project Study Area	Flowlines	Wetland
Resource Data Points	Drainage Ditch	
Wetland Data Point	Resource Protection Areas	Palustrine Emergent
Watercourse Data Point	Waterbody	Palustrine Forested
Upland Data Point	Watercourse (OHWM < 5')	Palustrine Scrub Shrub
Drain Data Point	Ephemeral	
General Data Point	Intermittent	
	Perennial	
	Watercourse (OHWM > 5')	
	Perennial	

UNIVERSITY BOULEVARD EXTENSION PROJECT
PRINCE WILLIAM COUNTY, VA

APR 2025	SCALE: 1" = 100'	SHEET 3 OF 7
----------	------------------	--------------

Feet
0 50 100 200

WETLAND AND WATERS MAPPING



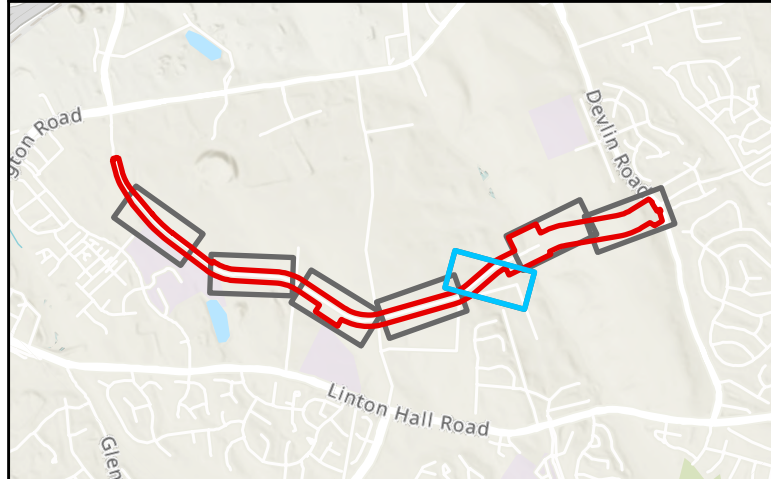
Project Study Area	Flowlines	Wetland
Resource Data Points	Drainage Ditch	
Wetland Data Point	Resource Protection Areas	
Watercourse Data Point	Waterbody	Palustrine Emergent
Upland Data Point	Watercourse (OHWM < 5')	Palustrine Forested
Drain Data Point	Ephemeral	Palustrine Scrub Shrub
General Data Point	Intermittent	
	Perennial	
	Watercourse (OHWM > 5')	
	Perennial	

UNIVERSITY BOULEVARD EXTENSION PROJECT
PRINCE WILLIAM COUNTY, VA

APR 2025	SCALE: 1" = 100'	SHEET 4 OF 7
----------	------------------	--------------

Feet
0 50 100 200

WETLAND AND WATERS MAPPING



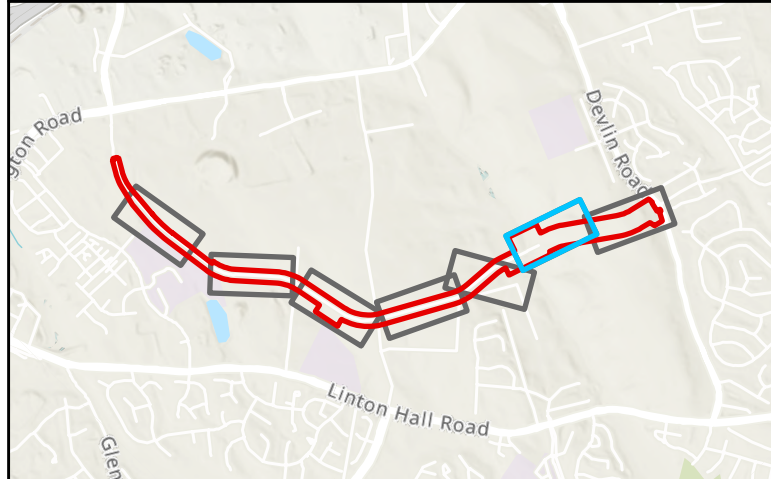
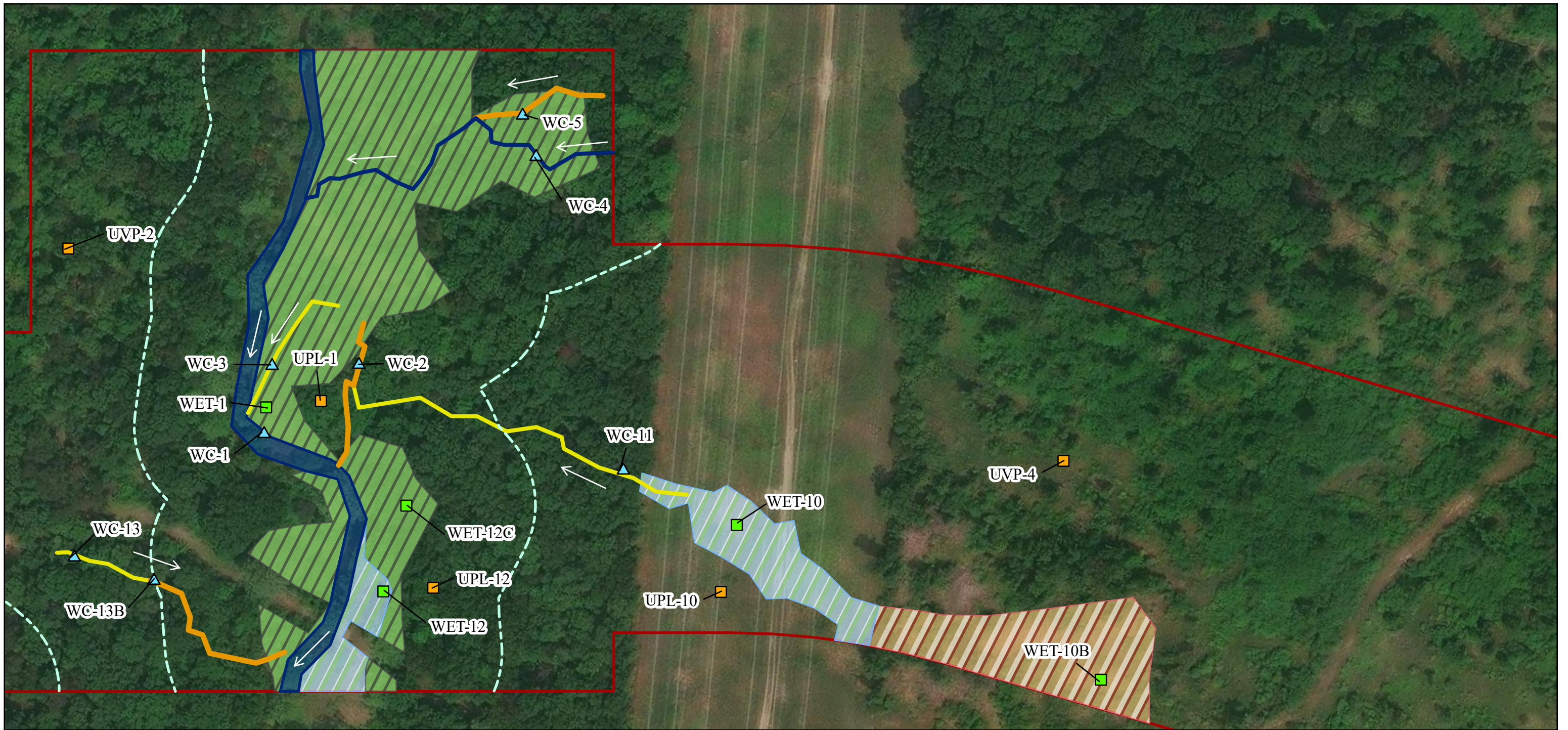
Project Study Area	Flowlines	Wetland
Resource Data Points	Drainage Ditch	Palustrine Emergent
Wetland Data Point	Resource Protection Areas	Palustrine Forested
Watercourse Data Point	Waterbody	Palustrine Scrub Shrub
Upland Data Point	Watercourse (OHWM < 5')	
Drain Data Point	Ephemeral	
General Data Point	Intermittent	
	Perennial	
	Watercourse (OHWM > 5')	
	Perennial	

UNIVERSITY BOULEVARD EXTENSION PROJECT
PRINCE WILLIAM COUNTY, VA

APR 2025	SCALE: 1" = 100'	SHEET 5 OF 7
----------	------------------	--------------

Feet
0 50 100 200

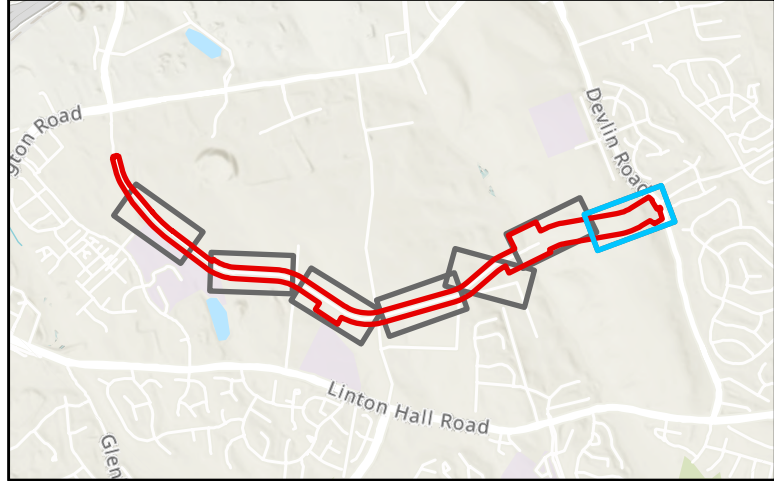
WETLAND AND WATERS MAPPING



<p>Resource Data Points</p> <ul style="list-style-type: none"> ■ Wetland Data Point ▲ Watercourse Data Point ■ Upland Data Point ■ Drain Data Point ★ General Data Point 	<p>Watercourse (OHWM < 5')</p> <ul style="list-style-type: none"> — Ephemeral — Intermittent — Perennial <p>Watercourse (OHWM > 5')</p> <ul style="list-style-type: none"> — Perennial 	<p>Wetland</p> <ul style="list-style-type: none"> ▭ Palustrine Emergent ▭ Palustrine Forested ▭ Palustrine Scrub Shrub
<p>▭ Project Study Area</p> <p>→ Flowlines</p> <p>— Drainage Ditch</p> <p>▭ Resource Protection Areas</p> <p>▭ Waterbody</p>	<p>Wetland</p>	

UNIVERSITY BOULEVARD EXTENSION PROJECT PRINCE WILLIAM COUNTY, VA		
APR 2025	SCALE: 1" = 100'	SHEET 6 OF 7
WETLAND AND WATERS MAPPING		





Project Study Area	Flowlines	Wetland
Resource Data Points	Drainage Ditch	Palustrine Emergent
Wetland Data Point	Resource Protection Areas	Palustrine Forested
Watercourse Data Point	Waterbody	Palustrine Scrub Shrub
Upland Data Point	Watercourse (OHWM < 5')	
Drain Data Point	Ephemeral	
General Data Point	Intermittent	
	Perennial	
	Watercourse (OHWM > 5')	
	Perennial	

**UNIVERSITY BOULEVARD EXTENSION PROJECT
PRINCE WILLIAM COUNTY, VA**

APR 2025	SCALE: 1" = 100'	SHEET 7 OF 7
----------	------------------	--------------

WETLAND AND WATERS MAPPING

APPENDIX

B. PHOTO LOG





University Boulevard
USFWS Review Package Photo Log

April 2025

WETLAND & UPLAND PHOTOS



WET-1, Overview, PFO



UPL-1, Overview



WET-2, Overview, PEM



UPL-2, Overview



WET-3, Overview, PEM



UPL-3, Overview



WET-4, Overview, PEM



UPL-4, Overview



WET-5, Overview, PSS



UPL-5, Overview



WET-6, Overview, PSS



UPL-6, Overview



WET-6C, Overview, PFO



WET-6C, Overview, PFO



Upland Verification Photos



UVP-1, Overview



UVP-2, Overview



UVP-4, Overview



UVP-5, Overview



UVP-6, Overview



Watercourse Photos



WC-1, Perennial, Upstream



WC-1, Perennial, Downstream



WC-2, Intermittent, Upstream



WC-2, Intermittent, Downstream



WC-3, Ephemeral, Upstream



WC-3, Ephemeral, Downstream



WC-4, Perennial, Upstream



WC-4, Perennial, Downstream



WC-5, Intermittent, Upstream



WC-5, Intermittent, Downstream



WC-6, Intermittent, Upstream



WC-6, Intermittent, Downstream



General Photos



G-1, Culvert outside Study Area



G-2, Man-made pool



G-2, Excavated material pile



G-3, Man-made pool



SWM Pond



SWM Pond

APPENDIX

C. OTHER THREATENED AND ENDANGERED SPECIES COORDINATION



USFWS OFFICIAL SPECIES LIST & DRAFT KEYS





United States Department of the Interior



FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694

In Reply Refer To:

07/10/2025 16:09:03 UTC

Project Code: 2025-0084023

Project Name: University Boulevard Extension Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see <https://www.fws.gov/program/migratory-bird-permit/what-we-do>.

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Project Code in the header of this

letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
(804) 693-6694

PROJECT SUMMARY

Project Code: 2025-0084023

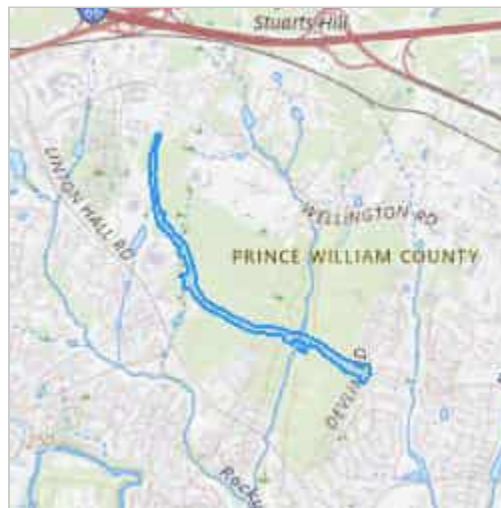
Project Name: University Boulevard Extension Project

Project Type: Road/Hwy - Maintenance/Modification

Project Description: Prince William County Government is proposing a 2.5-mile extension of University Boulevard from Devlin Road to Wellington Road, as a four-lane divided highway with four 12' travel lanes, 5' sidewalk, a 10' shared use path and one bridge over "Unnamed tributary." The extension project begins at the existing Devlin Road/University Boulevard intersection and extends westward approximately 13,200 feet, on new alignment, to the existing four-lane University Boulevard approximately 650 feet south of the existing Wellington Road/University Boulevard intersection.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.778128499999994,-77.59117873162403,14z>



Counties: Prince William County, Virginia

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

IPAC USER CONTACT INFORMATION

Agency: WSP USA Inc.
Name: korbyn gehlbach
Address: 1 east pratt st
Address Line 2: suite 300
City: baltimore
State: MD
Zip: 21202
Email: korbyn.gehlbach@wsp.com
Phone: 4107274608

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

Endangered Species Act Review

EVALUATING: FHWA, FRA, FTA PROGRAMMATIC CONSULTATION FOR TRANSPORTATION PROJECTS AFFECTING IBAT, NLEB, OR TCB

Qualification interview

The following questions will determine whether this key applies to your project and provide guidance to help you make appropriate determinations for the species covered by this key.

1. Which Federal Agency is the lead federal agency the action? 1.0

A) Federal Highway Administration (FHWA)

2. Does the Action Area intersect the species list area of the Northern long-eared bat? 1.1

Automatically answered
Yes

3. Does the Action Area intersect the species list area of the tricolored Bat (TCB)? 1.3

Automatically answered
Yes

4. Is any portion of the action area within a 0.5 mile radius of an entrance/opening to any known NLEB or TCB hibernacula? 1.8

Automatically answered
No

5. Does your project's activities include raising the road profile above the tree canopy in documented habitat for the Indiana bat, NLEB, or TCB? 1.9.4

Note: For the definition of documented habitat, refer to Appendix A: <https://www.fws.gov/media/users-guide-range-wide-programmatic-consultation-indiana-bat-and-northern-long-eared-bat>

No

6. Is your project located within a karst area? 1.9.5

No

7. Will the project include bridge, culvert, or structure removal, replacement, and/or alteration activities? 1.9.7

Note: For definitions of bridge, culvert, and structure, refer to Appendix A:

<https://www.fws.gov/media/users-guide-range-wide-programmatic-consultation-indiana-bat-and-northern-long-eared-bat>.

Yes

8. Do your project's activities involve tree removal/trimming, temporary lighting, new/additional permanent lighting, ground disturbance, percussives that involves noise/vibration above existing background levels, vibrations, or slash pile burning? 1.10

Yes

9. Is there suitable summer habitat for the Indiana bat, NLEB, or TCB within the project action area? 1.13.2

Note: See the Service's summer survey guidance for current definitions of suitable habitat

[<https://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html>].

Yes

10. Have P/A surveys for the Indiana bat, NLEB, or TCB been conducted within the suitable summer habitat located within your project action area? This refers to mist-netting or acoustic surveys, not bridge assessments. 1.14

Note: See the Service's survey guidance

<https://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html>

No

11. Will the project involve the removal or trimming of trees within suitable habitat for the Indiana bat, NLEB, or TCB? 1.24

Yes

12. Will any tree removal or trimming occur during the bat pup season? 1.29

Note: For more information about bat pup seasons please visit

https://www.fws.gov/sites/default/files/documents/2024-10/2024_usfws_rangewide_ibat-nleb_survey_guidelines.pdf

No

13. Will the removal or trimming of trees occur **within documented habitat** for the Indiana bat, NLEB, or TCB? 1.30.1

Note: For the definition of documented habitat, refer to Appendix A: <https://www.fws.gov/media/users-guide-range-wide-programmatic-consultation-indiana-bat-and-northern-long-eared-bat>

Yes

14. Will all tree removal or trimming occur within 100 feet of the road or rail surface? 1.30.2

No

15. Does your project include activities involving the temporary or permanent exclusion of Indiana bats, NLEBs, or TCBs from a bridge/culvert or structure? 1.33

Note: exclusion is conducted to deny bats' entry or reentry into a bridge/culvert or structure. To be effective and to avoid harming bats, it should be done according to established standards.

No

16. Does your project involve the use of temporary lighting within Indiana bat, NLEB, or TCB suitable habitat? 2.0

Note: For the definition of lighting, refer to Appendix A: <https://www.fws.gov/media/users-guide-range-wide-programmatic-consultation-indiana-bat-and-northern-long-eared-bat>

No

17. Will the project substantially increase baseline light conditions via the use of permanent lighting (replacement or new/additional) in suitable habitat. 2.3

No

18. Will your project include percussive activities? 3.1

Note: Refer to Stressor #2 Noise/Vibration on page 109 of the PBO/PCO.

Yes

19. Are the percussive activities only related to tree removal/trimming or bridge/culvert structural work? 3.2

No

20. Will the percussive activities involve noise/vibration above existing background levels? 3.3

Note: For example, pile driving, rock drilling, hoe ramming, jackhammering, and blasting are examples of percussive activities that cause noise/vibration above existing background levels

Yes

21. Will percussive activities that involve noise/vibration above existing background levels be conducted during the **bat active season**? 3.4

Yes

22. Will the percussive activities that involve noise/vibration above existing background levels be conducted **greater than 100 feet** from the road or rail surface? 3.5

No

23. Will the project include **bridge** removal, replacement, and/or alteration activities? 4.0

No

24. Does the project include **culvert** removal, replacement, and/or alteration activities? 5.0

Yes

25. Does the culvert equal or exceed 23 feet (7.0 meters) in length? 5.3

Yes

26. Are the interior dimensions of the culvert less than 3 ft. in diameter/height? 5.5

Yes

27. Does the project include **structure** removal, replacement, and/or alteration activities? 6.0

No

28. Will the project involve the removal or trimming of more than 20 acres of Indiana bat, NLEB, or TCB suitable habitat per 5-mile section of road/rail? 7.1

Yes

29. Has the local Service Field Office confirmed that the effects of the action do not exceed the impacts as anticipated in the PBO? 7.2

No

EVALUATION PROGRESS

Your project is outside the scope of the programmatic consultation for this key because your project will clear more than 20 acres of suitable habitat per 5-mile section of road/rail, and the local Service Field Office has not confirmed that the effects of the action do not exceed the impacts as anticipated in this PBO. Please contact the appropriate U.S. Fish and Wildlife Service office for additional assistance with your project.

Endangered Species Act Review

EVALUATING: NORTHERN LONG-EARED BAT AND TRICOLORED BAT RANGE-WIDE DETERMINATION KEY

Qualification interview

The following questions will determine whether this key applies to your project and provide guidance to help you make appropriate determinations for the species covered by this key.

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of listed bats or any other listed species? 1.1

Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

No

2. Is the action area wholly within Zone 2 of the year-round active area for northern long-eared bat and/or tricolored bat? 1.1.2

Automatically answered

No

3. Does the action area intersect Zone 1 of the year-round active area for northern long-eared bat and/or tricolored bat? 1.1.3

Automatically answered

No

4. Does any component of the action involve leasing, construction or operation of wind turbines? Answer 'yes' if the activities considered are conducted with the intention of gathering survey information to inform the leasing, construction, or operation of wind turbines. 1.2

Note: For federal actions (Action means all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas.

Examples include, but are not limited to:

(a) actions intended to conserve listed species or their habitat;

(b) the promulgation of regulations;

(c) the granting of licenses, contracts, leases, easements, rights-of-way, permits, or grants-in-aid;
or

(d) actions directly or indirectly causing modifications to the land, water, or air.

50 CFR 402.02 "Action" .), answer 'yes' if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

No

5. Is the proposed action (A federal action means all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas. Examples include, but are not limited to:

(a) actions intended to conserve listed species or their habitat;

(b) the promulgation of regulations;

(c) the granting of licenses, contracts, leases, easements, rights-of-way, permits, or grants-in-aid; or

(d) actions directly or indirectly causing modifications to the land, water, or air.

50 CFR 402.02 "Action".) authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

Yes

6. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

No

7. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative (Designated non-Federal representative refers to a person designated by the Federal agency as its representative to conduct informal consultation and/or to prepare any biological assessment. 50 CFR 402.02 "Designated non Federal representative" .) for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

Note: This key may be used for federal actions and for non-federal actions to facilitate section 7

consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

No

8. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part? 5.1

No

9. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)? 5.2

No

10. [Semantic] Is the action area located within 0.5 miles of a known bat hibernaculum? 6.3.1

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

Automatically answered

No

11. Does the action area contain any winter roosts or caves (or associated sinkholes, fissures (A narrow opening or crack of considerable length and depth usually occurring from some breaking or parting;), or other karst (An irregular limestone region with sinkholes, underground streams, and caverns.) features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating bats? 6.6

No

12. Will the action cause effects to a bridge? 8.0

Note: Covered bridges should be considered as bridges in this question.

No

13. Will the action result in effects to a culvert or tunnel at any time of year? 8.6

Yes

14. Does the culvert or tunnel equal or exceed 23 feet (7.0 meters) in length? 8.6.1

Yes

15. Do the interior dimensions of the culvert or tunnel **equal or exceed 3.0 feet (0.9 meters) in height (minimum height for tricolored bat)**? 8.7

No

16. Are trees present within 1000 feet of the action area? 8.11

Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

Yes

17. Does the action include the intentional exclusion of bats from a building or structure? 9.0

Note: Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats or tricolored bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local Ecological Services Field Office to help assess whether northern long-eared bats or tricolored bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures.

No

18. Does the action involve removal, modification, or maintenance of a human-made structure (barn, house, or other building) **known or suspected to contain roosting bats**? 9.1

No

19. Will the action cause construction of one or more new roads open to the public? 10.1

For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

Yes

20. Will any new road go through any area of contiguous forest that is greater than or equal to 10 acres in total extent? 10.1.1

Note: "Contiguous forest" of 10 acres or more may include areas where multiple forest patches are separated by less than 1,000 feet of non-forest if the forested patches, added together, comprise at least 10 acres.

Yes

21. For every 1,000 feet of new road that crosses between contiguous forest patches, will there be at least one place where bats could cross the road corridor by flying less than 33 feet (10 meters) between trees whose tops are at least 66 feet (20 meters) higher than the road surface? 10.3

No

22. Will the proposed Action involve the creation of a new water-borne contaminant source (e.g., leachate pond, pits containing chemicals that are not NSF/ANSI 60 (NSF/ANSI 60: Drinking Water Treatment Chemicals - Health Effects is an American National Standard that establishes the minimum health-effects requirements for the chemicals, chemical contaminants and impurities that are directly added to drinking water from drinking water treatment chemicals. This standard does not establish performance or taste and odor requirements for drinking water treatment chemicals.) compliant)? 11.0

Note: For information regarding NSF/ANSI 60 please visit <https://www.nsf.org/knowledge-library/nsf-ansi-standard-60-drinking-water-treatment-chemicals-health-effects>

No

23. Will the proposed action involve the creation of a new point source discharge from a facility other than a water treatment plant or storm water system? 11.1

No

24. Will the action include drilling or blasting? 13.0

Yes

25. Will the drilling or blasting produce noise or vibrations above existing background levels that will affect suitable summer habitat for northern long-eared bats and/or tricolored bats? 13.3

Note: Additional information defining suitable suitable summer habitat for the northern long-eared bat and/or tricolored bat, can be found in Appendix A in the USFWS' Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>

Yes

26. Will the action involve military training (e.g., smoke operations, obscurant operations, exploding munitions, artillery fire, range use, helicopter or fixed wing aircraft use)? 14.0

No

27. Will the proposed action involve the use of herbicides or other pesticides other than herbicides (e.g., fungicides, insecticides, or rodenticides)? 15.0

Yes

28. Will the action include or result in herbicide use that may affect suitable summer habitat for the northern long-eared bat or tricolored bat? 16.0

Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

Yes

29. Will all herbicide use that may affect suitable summer habitat for the northern long-eared bat or tricolored bat include only targeted application methods like hack-and-squirt, basal bark, injections, cut-stump, or spot-spraying (foliar spraying on individual herbaceous plants with no foliar spraying of deciduous tree leaves or Spanish moss)? 17.0

Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

Yes

30. Will the action include or cause the application or drift of pesticides (e.g., fungicides, insecticides, or rodenticides) into forested areas that are suitable summer habitat for the northern long-eared bat or tricolored bat? 18.0

Answer "Yes" if the application may result in transport (e.g., in water) or aerial drift of the pesticide into forested areas that are suitable summer habitat for the northern long-eared bat or tricolored bat.

Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

No

31. Will the action include or cause activities that are reasonably certain to cause chronic or intense nighttime noise (above current levels of ambient noise in the area) in suitable summer habitat for the northern long-eared bat or tricolored bat during the active season? 19.0

Chronic noise is noise that is continuous or occurs repeatedly again and again for a long time. Sources of chronic or intense noise that could cause adverse effects to bats may include, but are not limited to: road traffic; trains; aircraft; industrial activities; gas compressor stations; loud music; crowds; oil and gas extraction; construction; and mining.

Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and

Northern long-eared bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

No

32. Does the action include, or is it reasonably certain to cause, the use of permanent or temporary artificial lighting within 1000 feet of suitable northern long-eared bat or tricolored bat roosting habitat? 20.0

Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

No

33. Will the action include tree cutting or other means of knocking down or bringing down trees, tree topping, or tree trimming? 22.0

Yes

34. Will the proposed action occur exclusively in an already established and currently maintained utility right-of-way? 23.0

No

35. Does the action include emergency cutting or trimming of hazard trees in order to remove an imminent threat to human safety or property? See hazard tree note at the bottom of the key for text that will be added to response letters 39.0

Note: A "hazard tree" is a tree that is an immediate threat to lives, public health and safety, or improved property.

No

36. Does the project intersect with the 0- 9.9% forest density category? 60.0

Automatically answered

No

37. Does the project intersect with the 10.0- 19.9% forest density category map? 60.1

Automatically answered

No

38. Does the project intersect with the 20.0- 29.9% forest density category map? 60.2

Automatically answered

Yes

39. Does the project intersect with the 30.0- 100% forest density category map? 60.3

Automatically answered

No

40. Will the action cause trees to be cut, knocked down, or otherwise brought down across an area greater than 40 acres in total extent? 60.3.6

No

41. Will the proposed action result in the use of prescribed fire? 60.5

Note: If the prescribed fire action includes other activities than application of fire (e.g., tree cutting, fire line preparation) please consider impacts from those activities within the previous representative questions in the key. This set of questions only considers impacts from flame and smoke.

No

42. Does the action area intersect the northern long-eared bat species list area? 100.0_NLEB

Automatically answered

Yes

43. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats? 106.5.1

Automatically answered

No

44. [Semantic] Is the action area located within 150 feet of a documented northern long-eared bat roost site? 106.5.4

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

Automatically answered

No

45. Is suitable summer habitat for the northern long-eared bat present within 1000 feet of project activities? 106.12
If unsure, answer "Yes."

Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

Yes

46. Does the action area intersect the tricolored bat species list area? 200.0_TCB

Automatically answered

Yes

47. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats? 200.5

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

Automatically answered

No

48. Has a presence/probable absence bat survey targeting the tricolored bat and following the Service's Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines been conducted within the project area? 200.17

No

49. Is suitable summer habitat for the tricolored bat present within 1000 feet of project activities? 200.25
(If unsure, answer ""Yes."")

Note: If there are trees within the action area that may provide potential roosts for tricolored bats (e.g., clusters of leaves in live and dead deciduous trees, Spanish moss (*Tillandsia usneoides*), clusters of dead pine needles of large live pines) answer ""Yes."" For a complete definition of suitable summer habitat for the tricolored bat, please see Appendix A in the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines.

Yes

50. Do you have any documents that you want to include with this submission? 800.0_Letter

No

EVALUATION PROGRESS

You have reached a preliminary determination of may affect for species covered by this determination key.

**VAFWIS INITIAL
PROJECT
ASSESSMENT
(IPA) DATABASE
SEARCH RESULTS**





Virginia Department of Wildlife Resources

Search VA DWR

Fish and Wildlife Information Service

[Home](#) » [By Coordinates](#) » VaFWIS Report Search

- Options
- Species Information
 - [By Name](#)
 - [By Land Management](#)
 - [References](#)
- Geographic Search
 - [By Map](#)
 - [By Coordinates](#)
 - [By Place Name](#)
- Database Search
- Help
- Logout

[Show This Page as Printer Friendly](#)

VaFWIS Search Report Compiled on 7/21/2025, 3:33:02 PM

Known or likely to occur within a **2 mile radius around point 38.7736870 -77.5879038** in **153 Prince William County, VA** [View Map of Site Location](#)

550 Known or Likely Species ordered by Status Concern for Conservation

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
050022	FESE	Ia	Bat, Northern Long-eared	Myotis septentrionalis		BOVA
010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus		BOVA
060029	FTST	Ila	Lance, yellow	Elliptio lanceolata	Yes	BOVA,SppObs
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA
050027	FPSE	Ia	Bat, Tricolored	Perimyotis subflavus		BOVA
060006	SE	Ib	Floater, brook	Alasmodonta varicosa	Yes	BOVA,TEWaters,Habitat
030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Potential	Habitat
040096	ST	Ia	Falcon, peregrine	Falco peregrinus		BOVA
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
040379	ST	Ia	Sparrow, Henslow's	Centronyx henslowii		BOVA
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
100248	FP	Ia	Fritillary, Regal	Speyeria idalia idalia		BOVA
100079	FP	IIla	Butterfly, Monarch	Danaus plexippus		BOVA
030063	CC	IIla	Turtle, spotted	Clemmys guttata		BOVA
030012	CC	IVa	Rattlesnake, timber	Crotalus horridus		BOVA
010077		Ia	Shiner, bridle	Notropis bifrenatus		BOVA
040306		Ia	Warbler, golden-winged	Vermivora chrysoptera		BOVA
040213		Ic	Owl, northern saw-whet	Aegolius acadicus		BOVA
040052		Ila	Duck, American black	Anas rubripes		BOVA
040036		Ila	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040181		Ila	Tern, common	Sterna hirundo		BOVA
040320		Ila	Warbler, cerulean	Setophaga cerulea		BOVA
040140		Ila	Woodcock, American	Scolopax minor		BOVA
040203		Ilb	Cuckoo, black-billed	Coccyzus erythrophthalmus		BOVA
040105		Ilb	Rail, king	Rallus elegans		BOVA
010131		IIla	Eel, American	Anguilla rostrata		BOVA
030068		IIla	Turtle, woodland box	Terrapene carolina carolina	Yes	BOVA,SppObs
040037		IIla	Bittern, least	Ixobrychus exilis exilis		BOVA
040100		IIla	Bobwhite, northern	Colinus virginianus		BOVA
040202		IIla	Cuckoo, yellow-billed	Coccyzus americanus		BOVA

040099		IIIa	Grouse, ruffed	Bonasa umbellus		BOVA
040094		IIIa	Harrier, northern	Circus hudsonius		BOVA
040035		IIIa	Night-heron, black-crowned	Nycticorax nycticorax hoactii		BOVA
040204		IIIa	Owl, barn	Tyto alba pratincola		BOVA
040180		IIIa	Tern, Forster's	Sterna forsteri		BOVA
040333		IIIa	Warbler, Kentucky	Geothlypis formosa		BOVA
040215		IIIa	Whip-poor-will, Eastern	Antrostomus vociferus		BOVA
040220		IIIb	Kingfisher, belted	Megaceryle alcyon		BOVA
040372		IIIc	Crossbill, red	Loxia curvirostra		BOVA
040247		IIIc	Swallow, bank	Riparia riparia		BOVA
100150		IIIc	Butterfly, mottled duskywing	Erynnis martialis		BOVA
010038		IVa	Alewife	Alosa pseudoharengus		BOVA
010045		IVa	Herring, blueback	Alosa aestivalis		BOVA
010040		IVa	Shad, American	Alosa sapidissima		BOVA
010052		IVa	Trout, brook	Salvelinus fontinalis		BOVA
020069		IVa	Salamander, eastern mud	Pseudotriton montanus montanus		BOVA
020058		IVa	Siren, greater	Siren lacertina		BOVA
030033		IVa	Queensnake	Regina septemvittata		BOVA
030045		IVa	Ribbonsnake, common	Thamnophis saurita saurita		BOVA
030017		IVa	Scarletsnake, northern	Cemophora coccinea copei		BOVA
030065		IVa	Turtle, northern map	Graptemys geographica		BOVA
040272		IVa	Catbird, gray	Dumetella carolinensis		BOVA
040337		IVa	Chat, yellow-breasted	Icteria virens virens		BOVA
040142		IVa	Dowitcher, short-billed	Limnodromus griseus		BOVA
040173		IVa	Gull, laughing	Leucophaeus atricilla		BOVA
040229		IVa	Kingbird, eastern	Tyrannus tyrannus		BOVA
040344		IVa	Meadowlark, eastern	Sturnella magna		BOVA
040054		IVa	Pintail, northern	Anas acuta		BOVA
040065		IVa	Scaup, greater	Aythya marila		BOVA
040391		IVa	Sparrow, field	Spizella pusilla		BOVA
040378		IVa	Sparrow, grasshopper	Ammodramus savannarum pratensis		BOVA
040273		IVa	Thrasher, brown	Toxostoma rufum		BOVA
040375		IVa	Towhee, eastern	Pipilo erythrophthalmus		BOVA
040302		IVa	Warbler, black-and-white	Mniotilta varia		BOVA
040269		IVa	Wren, marsh	Cistothorus palustris		BOVA
050029		IVa	Bat, eastern red	Lasiurus borealis		BOVA
050030		IVa	Bat, hoary	Lasiurus cinereus		BOVA
050025		IVa	Bat, silver-haired	Lasionycteris noctivagans		BOVA
060137		IVa	Creepers	Strophitus undulatus	Yes	BOVA,SppObs
060005		IVa	Mussel, triangle floater	Alasmidonta undulata	Yes	BOVA,SppObs
030050		IVb	Turtle, snapping	Chelydra serpentina		BOVA
040349		IVb	Blackbird, rusty	Euphagus carolinus		BOVA
040221		IVb	Flicker, northern	Colaptes auratus		BOVA
040028		IVb	Heron, green	Butorides virescens		BOVA
040217		IVb	Swift, chimney	Chaetura pelagica		BOVA
040277		IVb	Thrush, wood	Hylocichla mustelina		BOVA
040340		IVb	Warbler, Canada	Cardellina canadensis		BOVA
040243		IVb	Wood-Pewee, Eastern	Contopus virens		BOVA
060184		IVb	Mussel, northern lance	Elliptio fisheriana	Yes	BOVA,SppObs
010359		IVc	Lamprey, American brook	Lethenteron appendix		BOVA
010001		IVc	Lamprey, least brook	Lampetra aepyptera		BOVA
020061		IVc	Spadefoot, eastern	Scaphiopus holbrookii		BOVA
030024		IVc	Snake, eastern hog-nosed	Heterodon platirhinos		BOVA
040248		IVc	Swallow, northern rough-winged	Stelgidopteryx serripennis		BOVA
060159		IVc	Lance, Carolina	Elliptio angustata		BOVA
060176		IVc	Spike, Atlantic	Elliptio producta		BOVA
070104		IVc	Crayfish, Allegheny	Faxonius obscurus		BOVA
100223		IVc	Butterfly, frosted elfin	Callophrys irus		BOVA
010049			Anchovy, bay	Anchoa mitchilli		BOVA
010188			Bass, largemouth	Micropterus nigricans		BOVA

010186		Bass, smallmouth	Micropterus dolomieu	Yes	BOVA,SppObs
010187		Bass, spotted	Micropterus punctulatus		BOVA
010168		Bass, striped	Morone saxatilis		BOVA
010167		Bass, white	Morone chrysops		BOVA
010183		Bluegill	Lepomis macrochirus		BOVA
010121		Bullhead, black	Ameiurus melas		BOVA
010123		Bullhead, brown	Ameiurus nebulosus		BOVA
010122		Bullhead, yellow	Ameiurus natalis		BOVA
010062		Carp, common	Cyprinus carpio		BOVA
010390		Catfish, blue	Ictalurus furcatus		BOVA
010125		Catfish, channel	Ictalurus punctatus	Yes	BOVA,SppObs
010130		Catfish, flathead	Pylodictis olivaris		BOVA
010120		Catfish, white	Ameiurus catus		BOVA
010103		Chub, creek	Semotilus atromaculatus		BOVA
010067		Chub, river	Nocomis micropogon		BOVA
010190		Crappie, black	Pomoxis nigromaculatus		BOVA
010189		Crappie, white	Pomoxis annularis		BOVA
010250		Croaker, Atlantic	Micropogonias undulatus		BOVA
010063		Cutlip Minnow	Exoglossum maxillingua		BOVA
010101		Dace, blacknose	Rhinichthys atratulus		BOVA
010102		Dace, longnose	Rhinichthys cataractae		BOVA
010060		Dace, mountain redbelly	Chrosomus oreas		BOVA
010366		Dace, rosyside	Clinostomus funduloides		BOVA
010193		Darter, fantail	Etheostoma flabellare		BOVA
010191		Darter, greenside	Etheostoma blennioides		BOVA
010192		Darter, rainbow	Etheostoma caeruleum		BOVA
010213		Darter, shield	Percina peltata		BOVA
010211		Darter, stripeback	Percina notogramma		BOVA
010397		Darter, tessellated	Etheostoma olmstedii		BOVA
010106		Eastern Creek Chubsucker	Erimyzon oblongus		BOVA
010104		Fallfish	Semotilus corporalis		BOVA
010033		Gar, longnose	Lepisosteus osseus		BOVA
010059		Goldfish	Carassius auratus		BOVA
010312		Hogchoker	Trinectes maculatus		BOVA
010143		Killifish, banded	Fundulus diaphanus		BOVA
010002		Lamprey, sea	Petromyzon marinus		BOVA
010129		Madtom, margined	Noturus insignis		BOVA
010099		Minnow, bluntnose	Pimephales notatus		BOVA
010408		Minnow, eastern silvery	Hybognathus regius		BOVA
010100		Minnow, fathead	Pimephales promelas		BOVA
010148		Mosquitofish, eastern	Gambusia holbrooki		BOVA
010054		Mudminnow, eastern	Umbra pygmaea		BOVA
010144		Mummichog	Fundulus heteroclitus		BOVA
010166		Perch, white	Morone americana		BOVA
010206		Perch, yellow	Perca flavescens		BOVA
010056		Pickereel, chain	Esox niger		BOVA
010055		Pickereel, redbfin	Esox americanus americanus		BOVA
010364		Pike, northern	Esox lucius		BOVA
010182		Pumpkinseed	Lepomis gibbosus		BOVA
010441		pumpkinseed x green sunfish	Lepomis gibbosus x cyanellus		BOVA
010114		Redhorse, golden	Moxostoma erythrum		BOVA
010283		Sculpin, mottled	Cottus bairdii		BOVA
010407		Sculpin, Potomac	Cottus girardi		BOVA
010041		Shad, gizzard	Dorosoma cepedianum		BOVA
010042		Shad, threadfin	Dorosoma petenense		BOVA
010072		Shiner, comely	Notropis amoenus		BOVA
010080		Shiner, common	Luxilus cornutus		BOVA
010068		Shiner, golden	Notemigonus crysoleucas		BOVA
010466		shiner, rosyface	Notropis rubellus		BOVA
010073		Shiner, satinfin	Cyprinella analostana		BOVA

010091		Shiner, spotfin	Cyprinella spiloptera		BOVA
010082		Shiner, spottail	Hudsonius hudsonius		BOVA
010086		Shiner, swallowtail	Miniellus proce		BOVA
010303		Silverside, Atlantic	Menidia menidia		BOVA
010302		Silverside, inland	Menidia beryllina		BOVA
010458		Snakehead, northern	Channa argus		BOVA
010246		Spot	Leiostomus xanthurus		BOVA
010058		Stoneroller, central	Campostoma anomalum		BOVA
010108		Sucker, northern hog	Hypentelium nigricans		BOVA
010105		Sucker, white	Catostomus commersonii		BOVA
010178		Sunfish, bluespotted	Enneacanthus gloriosus		BOVA
010181		Sunfish, green	Lepomis cyanellus		BOVA
010180		Sunfish, redbreast	Lepomis auritus	Yes	BOVA,SppObs
010185		Sunfish, redear	Lepomis microlophus		BOVA
010177		Warmouth	Lepomis gulosus		BOVA
020004		Bullfrog, American	Lithobates catesbeianus		BOVA
020016		Frog, Coastal Plains leopard	Lithobates sphenoccephalus utricularius		BOVA
020012		Frog, eastern cricket	Acris crepitans		BOVA
020008		Frog, green	Lithobates clamitans		BOVA
020013		Frog, pickerel	Lithobates palustris		BOVA
020018		Frog, upland chorus	Pseudacris feriarum	Yes	BOVA,SppObs
020019		Frog, wood	Lithobates sylvaticus		BOVA
020065		Newt, red-spotted	Notophthalmus viridescens viridescens		BOVA
020071		Peeper, spring	Pseudacris crucifer		BOVA
020043		Salamander, eastern red-backed	Plethodon cinereus		BOVA
020029		Salamander, four-toed	Hemidactylium scutatum		BOVA
020035		Salamander, marbled	Ambystoma opacum		BOVA
020038		Salamander, northern dusky	Desmognathus fuscus		BOVA
020070		Salamander, northern red	Pseudotriton ruber ruber		BOVA
020053		Salamander, northern two-lined	Eurycea bislineata		BOVA
020049		Salamander, spotted	Ambystoma maculatum		BOVA
020051		Salamander, three-lined	Eurycea guttolineata		BOVA
020080		Salamander, white-spotted slimy	Plethodon cylindraceus		BOVA
020059		Toad, eastern American	Anaxyrus americanus americanus	Yes	BOVA,SppObs
020062		Toad, Fowler's	Anaxyrus fowleri		BOVA
020006		Treefrog, Cope's gray	Hyla chrysoscelis		BOVA
020007		Treefrog, gray	Hyla versicolor		BOVA
020009		Treefrog, green	Hyla cinerea		BOVA
030041		Brownsnake, Dekay's	Storeria dekayi		BOVA
030059		Cooter, eastern river	Pseudemys concinna concinna		BOVA
030057		Cooter, northern red-bellied	Pseudemys rubriventris		BOVA
030016		Copperhead, eastern	Agkistrodon contortrix	Yes	BOVA,SppObs
030022		Cornsake, red	Pantherophis guttatus		BOVA
030049		Earthsake, eastern smooth	Virginia valeriae valeriae		BOVA
030044		Gartersnake, eastern	Thamnophis sirtalis sirtalis		BOVA
030038		Greensnake, northern rough	Opheodrys aestivus aestivus		BOVA
030026		Kingsnake, eastern	Lampropeltis getula		BOVA
030027		Kingsnake, northern mole	Lampropeltis rhombomaculata	Yes	BOVA,SppObs
030002		Lizard, eastern fence	Sceloporus undulatus		BOVA
030029		Milksnake, eastern	Lampropeltis triangulum		BOVA
030018		Racer, northern black	Coluber constrictor constrictor		BOVA
030008		Racerunner, eastern six-lined	Aspidoscelis sexlineata sexlineata		BOVA
030023		Ratsnake, eastern	Pantherophis alleghaniensis		BOVA
030006		Skink, broad-headed	Plestiodon laticeps		BOVA
030004		Skink, common five-lined	Plestiodon fasciatus		BOVA
030007		Skink, little brown	Scincella lateralis		BOVA
030005		Skink, southeastern five-lined	Plestiodon inexpectatus		BOVA
030077		Slider, red-eared	Trachemys scripta elegans		BOVA
030042		Snake, northern red-bellied	Storeria occipitomaculata occipitomaculata		BOVA
030020		Snake, northern ring-necked	Diadophis punctatus edwardsii		BOVA

030052		Turtle, eastern musk	Sternotherus odoratus		BOVA
030060		Turtle, eastern painted	Chrysemys picta picta		BOVA
030051		Turtle, southeastern mud	Kinosternon subrubrum subrubrum		BOVA
030034		Watersnake, northern	Nerodia sipedon sipedon		BOVA
030019		Wormsnake, eastern	Carphophis amoenus amoenus		BOVA
040346		Blackbird, red-winged	Agelaius phoeniceus		BOVA
040282		Bluebird, eastern	Sialia sialis		BOVA
040343		Bobolink	Dolichonyx oryzivorus		BOVA
040068		Bufflehead	Bucephala albeola		BOVA
040361		Bunting, indigo	Passerina cyanea		BOVA
040401		Bunting, snow	Plectrophenax nivalis nivalis		BOVA
040064		Canvasback	Aythya valisineria		BOVA
040357		Cardinal, northern	Cardinalis cardinalis		BOVA
040258		Chickadee, Carolina	Poecile carolinensis		BOVA
040214		Chuck-will's-widow	Antrostomus carolinensis		BOVA
040113		Coot, American	Fulica americana		BOVA
040024		Cormorant, double-crested	Phalacrocorax auritus		BOVA
040023		Cormorant, great	Phalacrocorax carbo		BOVA
040353		Cowbird, brown-headed	Molothrus ater		BOVA
040264		Creeper, brown	Certhia americana		BOVA
040373		Crossbill, white-winged	Loxia leucoptera		BOVA
040255		Crow, American	Corvus brachyrhynchos		BOVA
040256		Crow, fish	Corvus ossifragus		BOVA
040364		Dickcissel	Spiza americana		BOVA
040198		Dove, mourning	Zenaida macroura carolinensis		BOVA
040069		Duck, long-tailed	Clangula hyemalis		BOVA
040076		Duck, ruddy	Oxyura jamaicensis		BOVA
040061		Duck, wood	Aix sponsa		BOVA
040093		Eagle, bald	Haliaeetus leucocephalus	Yes	BOVA,BAEANests
040030		Egret, cattle	Bubulcus ibis		BOVA
040032		Egret, great	Ardea alba egretta		BOVA
040367		Finch, house	Haemorhous mexicanus		BOVA
040366		Finch, purple	Haemorhous purpureus		BOVA
040239		Flycatcher, Acadian	Empidonax virescens		BOVA
040234		Flycatcher, great crested	Myiarchus crinitus		BOVA
040240		Flycatcher, willow	Empidonax traillii		BOVA
040053		Gadwall	Mareca strepera		BOVA
040284		Gnatcatcher, blue-gray	Poliptila caerulea		BOVA
040371		Goldfinch, American	Spinus tristis		BOVA
040045		Goose, Canada	Branta canadensis		BOVA
040049		Goose, lesser snow	Chen caerulescens caerulescens		BOVA
040410		Goose, snow	Chen caerulescens		BOVA
040352		Grackle, common	Quiscalus quiscula		BOVA
040008		Grebe, pied-billed	Podilymbus podiceps		BOVA
040360		Grosbeak, blue	Passerina caerulea		BOVA
040365		Grosbeak, evening	Coccothraustes vespertinus		BOVA
040165		Gull, great black-backed	Larus marinus		BOVA
040167		Gull, herring	Larus argentatus		BOVA
040170		Gull, ring-billed	Larus delawarensis		BOVA
040089		Hawk, broad-winged	Buteo platypterus		BOVA
040086		Hawk, Cooper's	Accipiter cooperii		BOVA
040088		Hawk, red-shouldered	Buteo lineatus lineatus		BOVA
040087		Hawk, red-tailed	Buteo jamaicensis		BOVA
040090		Hawk, rough-legged	Buteo lagopus johannis		BOVA
040085		Hawk, sharp-shinned	Accipiter striatus velox		BOVA
040027		Heron, great blue	Ardea herodias herodias		BOVA
040218		Hummingbird, ruby-throated	Archilochus colubris		BOVA
040252		Jay, blue	Cyanocitta cristata		BOVA
040387		Junco, dark-eyed	Junco hyemalis		BOVA
040098		Kestrel, American	Falco sparverius sparverius		BOVA

040119		Killdeer	Charadrius vociferus		BOVA
040285		Kinglet, golden-crowned	Regulus satrapa		BOVA
040286		Kinglet, ruby-crowned	Regulus calendula		BOVA
040245		Lark, horned	Eremophila alpestris		BOVA
040051		Mallard	Anas platyrhynchos		BOVA
040251		Martin, purple	Progne subis		BOVA
040078		Merganser, common	Mergus merganser americanus		BOVA
040077		Merganser, hooded	Lophodytes cucullatus		BOVA
040079		Merganser, red-breasted	Mergus serrator serrator		BOVA
040097		Merlin	Falco columbarius		BOVA
040271		Mockingbird, northern	Mimus polyglottos		BOVA
040112		Moorhen, common	Gallinula chloropus cachinnans		BOVA
040216		Nighthawk, common	Chordeiles minor		BOVA
040262		Nuthatch, red-breasted	Sitta canadensis		BOVA
040261		Nuthatch, white-breasted	Sitta carolinensis		BOVA
040348		Oriole, Baltimore	Icterus galbula		BOVA
040347		Oriole, orchard	Icterus spurius		BOVA
040095		Osprey	Pandion haliaetus carolinensis		BOVA
040330		Ovenbird	Seiurus aurocapilla		BOVA
040209		Owl, barred	Strix varia		BOVA
040206		Owl, great horned	Bubo virginianus		BOVA
040210		Owl, long-eared	Asio otus		BOVA
040211		Owl, short-eared	Asio flammeus		BOVA
040312		Parula, northern	Setophaga americana		BOVA
040101		Pheasant, ring-necked	Phasianus colchicus		BOVA
040236		Phoebe, eastern	Sayornis phoebe		BOVA
040197		Pigeon, rock	Columba livia		BOVA
040287		Pipit, American	Anthus rubescens		BOVA
040254		Raven, common	Corvus corax		BOVA
040341		Redstart, American	Setophaga ruticilla		BOVA
040275		Robin, American	Turdus migratorius		BOVA
040132		Sandpiper, solitary	Tringa solitaria		BOVA
040134		Sandpiper, spotted	Actitis macularia		BOVA
040129		Sandpiper, upland	Bartramia longicauda		BOVA
040225		Sapsucker, yellow-bellied	Sphyrapicus varius		BOVA
040066		Scaup, lesser	Aythya affinis		BOVA
040075		Scoter, black	Melanitta americana		BOVA
040205		Screech-owl, eastern	Megascops asio		BOVA
040060		Shoveler, northern	Anas clypeata		BOVA
040370		Siskin, pine	Spinus pinus		BOVA
040141		Snipe, Wilson's	Gallinago delicata		BOVA
040388		Sparrow, American tree	Spizelloides arborea		BOVA
040389		Sparrow, chipping	Spizella passerina		BOVA
040395		Sparrow, fox	Passerella iliaca		BOVA
040342		Sparrow, house	Passer domesticus		BOVA
040396		Sparrow, Lincoln's	Melospiza lincolni		BOVA
040377		Sparrow, savannah	Passerculus sandwichensis		BOVA
040398		Sparrow, song	Melospiza melodia		BOVA
040397		Sparrow, swamp	Melospiza georgiana		BOVA
040383		Sparrow, vesper	Poocetes gramineus		BOVA
040393		Sparrow, white-crowned	Zonotrichia leucophrys		BOVA
040394		Sparrow, white-throated	Zonotrichia albicollis		BOVA
040294		Starling, European	Sturnus vulgaris		BOVA
040249		Swallow, barn	Hirundo rustica		BOVA
040246		Swallow, tree	Tachycineta bicolor		BOVA
040043		Swan, mute	Cygnus olor		BOVA
040044		Swan, tundra	Cygnus columbianus columbianus		BOVA
040355		Tanager, scarlet	Piranga olivacea		BOVA
040356		Tanager, summer	Piranga rubra		BOVA
040057		Teal, blue-winged	Spatula discors		BOVA

040056		Teal, green-winged	Anas crecca carolinensis		BOVA
040189		Tern, Caspian	Hydroprogne caspia		BOVA
040280		Thrush, gray-cheeked	Catharus minimus		BOVA
040278		Thrush, hermit	Catharus guttatus		BOVA
040279		Thrush, Swainson's	Catharus ustulatus		BOVA
040260		Titmouse, tufted	Baeolophus bicolor		BOVA
040102		Turkey, wild	Meleagris gallopavo silvestris		BOVA
040281		Veery	Catharus fuscescens		BOVA
040298		Vireo, blue-headed	Vireo solitarius		BOVA
040300		Vireo, Philadelphia	Vireo philadelphicus		BOVA
040299		Vireo, red-eyed	Vireo olivaceus		BOVA
040301		Vireo, warbling	Vireo gilvus gilvus		BOVA
040295		Vireo, white-eyed	Vireo griseus		BOVA
040297		Vireo, yellow-throated	Vireo flavifrons		BOVA
040081		Vulture, black	Coragyps atratus		BOVA
040080		Vulture, turkey	Cathartes aura		BOVA
040316		Warbler, black-throated blue	Setophaga caerulescens		BOVA
040319		Warbler, black-throated green	Setophaga virens		BOVA
040325		Warbler, blackpoll	Setophaga striata		BOVA
040307		Warbler, blue-winged	Vermivora cyanoptera		BOVA
040323		Warbler, chestnut-sided	Setophaga pensylvanica		BOVA
040338		Warbler, hooded	Setophaga citrina		BOVA
040314		Warbler, magnolia	Setophaga magnolia		BOVA
040311		Warbler, Nashville	Leiothlypis ruficapilla		BOVA
040329		Warbler, palm	Setophaga palmarum		BOVA
040326		Warbler, pine	Setophaga pinus		BOVA
040328		Warbler, prairie	Setophaga discolor		BOVA
040303		Warbler, prothonotary	Protonotaria citrea		BOVA
040339		Warbler, Wilson's	Cardellina pusilla		BOVA
040305		Warbler, worm-eating	Helmitheros vermivorus		BOVA
040313		Warbler, yellow	Setophaga petechia		BOVA
040317		Warbler, yellow-rumped	Setophaga coronata		BOVA
040322		Warbler, yellow-throated	Setophaga dominica		BOVA
040332		Waterthrush, Louisiana	Parkesia motacilla		BOVA
040331		Waterthrush, northern	Parkesia noveboracensis		BOVA
040290		Waxwing, cedar	Bombycilla cedrorum		BOVA
040059		Wigeon, American	Mareca americana		BOVA
040058		Wigeon, Eurasian	Mareca penelope		BOVA
040227		Woodpecker, downy	Dryobates pubescens		BOVA
040226		Woodpecker, hairy	Dryobates villosus		BOVA
040222		Woodpecker, pileated	Dryocopus pileatus		BOVA
040223		Woodpecker, red-bellied	Melanerpes carolinus		BOVA
040224		Woodpecker, red-headed	Melanerpes erythrocephalus		BOVA
040266		Wren, Appalachian Winter	Troglodytes hiemalis		BOVA
040268		Wren, Carolina	Thryothorus ludovicianus		BOVA
040265		Wren, house	Troglodytes aedon		BOVA
040270		Wren, sedge	Cistothorus platensis		BOVA
040336		Yellowthroat, common	Geothlypis trichas		BOVA
050028		Bat, big brown	Eptesicus fuscus		BOVA
050033		Bat, evening	Nycticeius humeralis		BOVA
050037		Bear, American black	Ursus americanus		BOVA
050069		Beaver, American	Castor canadensis		BOVA
050051		Bobcat	Lynx rufus rufus		BOVA
050056		Chipmunk, common eastern	Tamias striatus striatus		BOVA
050055		Chipmunk, Fisher's eastern	Tamias striatus fisheri		BOVA
050103		Cottontail, Eastern	Sylvilagus floridanus mallurus		BOVA
050125		Coyote	Canis latrans		BOVA
050108		Deer, white-tailed	Odocoileus virginianus		BOVA
050050		Fox, common gray	Urocyon cinereoargenteus cinereoargenteus		BOVA
050049		Fox, red	Vulpes vulpes fulva		BOVA

050085		Lemming, Stone's southern bog.	Synaptomys cooperi stonei		BOVA
050042		Mink, common.	Neogale vison mink		BOVA
050017		Mole, eastern.	Scalopus aquaticus aquaticus		BOVA
050019		Mole, star-nosed.	Condylura cristata cristata		BOVA
050071		Mouse, eastern harvest.	Reithrodontomys humulis virginianus		BOVA
050077		Mouse, Golden.	Ochrotomys nuttalli aureolus		BOVA
050098		Mouse, house.	Mus musculus musculus		BOVA
050099		Mouse, meadow jumping.	Zapus hudsonius americanus		BOVA
050073		Mouse, northern white-footed.	Peromyscus leucopus noveboracensis		BOVA
050124		Mouse, prairie deer.	Peromyscus maniculatus bairdii		BOVA
050074		Mouse, White-footed.	Peromyscus leucopus leucopus		BOVA
050093		Muskrat, large-toothed.	Ondatra zibethicus macrodon		BOVA
050001		Opossum, Virginia.	Didelphis virginiana virginiana		BOVA
050045		Otter, northern river.	Lontra canadensis lataxina		BOVA
050038		Raccoon.	Procyon lotor lotor		BOVA
050079		Rat, hispid cotton.	Sigmodon hispidus virginianus		BOVA
050078		Rat, marsh rice.	Oryzomys palustris palustris		BOVA
050095		Rat, Norway.	Rattus norvegicus norvegicus		BOVA
050010		Shrew, American pygmy.	Sorex hoyi		BOVA
050014		Shrew, Dismal Swamp short-tailed.	Blarina brevicauda telmalestes		BOVA
050015		Shrew, least.	Cryptotis parva		BOVA
050013		Shrew, northern short-tailed.	Blarina brevicauda kirtlandi		BOVA
050007		Shrew, southeastern.	Sorex longirostris longirostris		BOVA
050047		Skunk, striped.	Mephitis mephitis nigra		BOVA
050048		Skunk, striped.	Mephitis mephitis mephitis		BOVA
050063		Squirrel, eastern fox.	Sciurus niger vulpinus		BOVA
050058		Squirrel, northern gray.	Sciurus carolinensis pennsylvanicus		BOVA
050065		Squirrel, Small Eastern Flying.	Glaucomys volans volans		BOVA
050059		Squirrel, talkative red.	Tamiasciurus hudsonicus loquax		BOVA
050082		Vole, Meadow.	Microtus pennsylvanicus		BOVA
050091		Vole, pine.	Microtus pinetorum scalopsoides		BOVA
050087		Vole, Southern Red-backed.	Myodes gapperi		BOVA
050040		Weasel, least.	Mustela nivalis allegheniensis		BOVA
050041		Weasel, long-tailed.	Neogale frenata noveboracensis		BOVA
050054		Woodchuck.	Marmota monax monax		BOVA
060016		Campeloma, pointed.	Campeloma decisum		BOVA
060127		Clam, Atlantic rangia.	Rangia cuneata		BOVA
060177		Clam, Chinese Basket.	Corbicula fluminea	Yes	BOVA, SppObs
060225		Clam, Unknown Fingernail - Genus = Sphaerium.	Sphaerium sp.		BOVA
060223		Elliptio complex.	Elliptio sp.		BOVA
060012		Floater, eastern.	Pyganodon cataracta		BOVA
060224		lanceolate Elliptio.	Elliptio sp.		BOVA
060025		Mussel, eastern elliptio.	Elliptio complanata	Yes	BOVA, SppObs
060013		Mussel, paper pondshell.	Utterbackia imbecillis	Yes	BOVA, SppObs
060077		Mussel, plain pocketbook.	Lampsilis cardium		BOVA
060095		Physa, Wandering.	Physella acuta		BOVA
060063		Snail, ash gyro.	Gyraulus parvus		BOVA
060065		Snail, marsh rams-horn.	Planorbella trivolvis		BOVA
060009		Snail, mud amnicola.	Amnicola limosus		BOVA
060061		Snail, Piedmont elimia.	Elimia virginica		BOVA
070095		Crawfish, Devil.	Lacunicambarus diogenes		BOVA
070099		Crayfish.	Fallicambarus uhleri		BOVA
070102		Crayfish, Common.	Cambarus bartonii bartonii		BOVA
070126		Crayfish, Digger.	Creaserinus fodiens		BOVA
070094		Crayfish, no common name.	Cambarus acuminatus		BOVA
070098		Crayfish, spiny cheek.	Faxonius limosus		BOVA
070120		Crayfish, White River.	Procambarus acutus		BOVA
100043		Armyworm.	Pseudaletia unipuncta		BOVA
100041		Borer, European corn.	Ostrinia nubilatis		BOVA
100220		Butterfly, American copper.	Lycaena phlaeas		BOVA

100262		Butterfly, American lady	Vanessa virginiensis		BOVA
100245		Butterfly, American snout	Libytheana carinenta		BOVA
100274		Butterfly, Appalachian brown	Satyrodes appalachia		BOVA
100232		Butterfly, banded hairstreak	Satyrrium calanus		BOVA
100092		Butterfly, black swallowtail	Papilio polyxenes asterius		BOVA
100137		Butterfly, brown elfin	Callophrys augustinus		BOVA
100205		Butterfly, cabbage white	Pieris rapae		BOVA
100167		Butterfly, carus skipper	Polites carus		BOVA
100159		Butterfly, clouded skipper	Lerema accius		BOVA
100094		Butterfly, clouded sulphur	Colias philodice		BOVA
100165		Butterfly, cobweb skipper	Hesperia metea		BOVA
100265		Butterfly, common buckeye	Junonia coenia		BOVA
100157		Butterfly, common sootywing	Pholisora catullus		BOVA
100277		Butterfly, common wood-nymph	Cercyonis pegala		BOVA
100230		Butterfly, coral hairstreak	Satyrrium titus		BOVA
100168		Butterfly, crossline skipper	Polites origenes		BOVA
100184		Butterfly, Dion skipper	Euphyes dion		BOVA
100147		Butterfly, dreamy duskywing	Erynnis icelus		BOVA
100185		Butterfly, Dun skipper	Euphyes vestris		BOVA
100188		Butterfly, dusted skipper	Atrytonopsis hianna		BOVA
100258		Butterfly, eastern comma	Polygonia comma		BOVA
100225		Butterfly, eastern pine elfin	Callophrys niphon		BOVA
100238		Butterfly, eastern tailed-blue	Everes comyntas		BOVA
100093		Butterfly, eastern tiger swallowtail	Papilio glaucus		BOVA
100161		Butterfly, European skipper	Thymelicus lineola		BOVA
100209		Butterfly, falcate orange tip	Anthocharis midea		BOVA
100162		Butterfly, fiery skipper	Hylephila phyleus		BOVA
100139		Butterfly, golden-banded skipper	Autochton cellus		BOVA
100228		Butterfly, gray hairstreak	Strymon melinus		BOVA
100249		Butterfly, great spangled fritillary	Speyeria cybele		BOVA
100270		Butterfly, hackberry emperor	Asterocampa celtis		BOVA
100145		Butterfly, Hayhurst's scallopwing	Staphylus hayhurstii		BOVA
100224		Butterfly, Henry's elfin	Callophrys henrici		BOVA
100141		Butterfly, hoary edge	Achalarus lyciades		BOVA
100149		Butterfly, Horace's duskywing	Erynnis horatius		BOVA
100148		Butterfly, Juvenal's duskywing	Erynnis juvenalis		BOVA
100160		Butterfly, least skipper	Ancyloxypha numitor		BOVA
100163		Butterfly, Leonard's skipper	Hesperia leonardus		BOVA
100175		Butterfly, little glassywing	Pompeius verna		BOVA
100279		Butterfly, little wood-satyr	Megisto cymela		BOVA
100252		Butterfly, meadow fritillary	Boloria bellona		BOVA
100090		Butterfly, mourning cloak	Nymphalis antiopa		BOVA
100173		Butterfly, northern broken dash	Wallengrenia egeremet		BOVA
100143		Butterfly, northern cloudywing	Thorybes pylades		BOVA
100272		Butterfly, northern pearly-eye	Enodia anthedon		BOVA
100197		Butterfly, Ocola skipper	Panoquina ocola		BOVA
100236		Butterfly, olive juniper hairstreak	Callophrys gryneus gryneus		BOVA
100211		Butterfly, orange sulphur	Colias eurytheme		BOVA
100257		Butterfly, pearl crescent	Phyciodes tharos		BOVA
100359		Butterfly, Peck's skipper	Polites peckius		BOVA
100200		Butterfly, pipevine swallowtail	Battus philenor		BOVA
100259		Butterfly, question mark	Polygonia interrogationis		BOVA
100264		Butterfly, red admiral	Vanessa atalanta		BOVA
100235		Butterfly, red-banded hairstreak	Calycopis cecrops		BOVA
100268		Butterfly, red-spotted purple	Limenitis arthemis astyanax		BOVA
100174		Butterfly, sagem	Atalopedes campestris		BOVA
100082		Butterfly, silver-spotted skipper	Epargyreus clarus		BOVA
100255		Butterfly, silvery checkerspot	Chlosyne nycteis		BOVA
100146		Butterfly, sleepy duskywing	Erynnis brizo		BOVA
100142		Butterfly, southern cloudywing	Thorybes bathyllus		BOVA

100202		Butterfly, spicebush swallowtail	Papilio troilus		BOVA
100239		Butterfly, spring azure	Celastrina ladon		BOVA
100234		Butterfly, striped hairstreak	Satyrrium liparops		BOVA
100158		Butterfly, swarthy skipper	Nastra lherminier		BOVA
100169		Butterfly, tawny-edged skipper	Polites themistocles		BOVA
100247		Butterfly, variegated fritillary	Euptoieta claudia		BOVA
100266		Butterfly, viceroy	Limenitis archippus		BOVA
100227		Butterfly, white M hairstreak	Parrhasius m-album		BOVA
100153		Butterfly, wild indigo duskywing	Erynnis baptisiae		BOVA
100180		Butterfly, Zabulon skipper	Poanes zabulon		BOVA
100204		Butterfly, zebra swallowtail	Eurytides marcellus		BOVA
100026		Deerfly	Chrysops vittatus vittatus		BOVA
100042		Earworm, corn	Heliathis zea		BOVA
100290		Moth, buck	Hemileuca maia		BOVA
100295		Moth, Carolina sphinx	Manduca sexta		BOVA
100100		Moth, catalpa sphinx	Ceratonia catalpae		BOVA
100040		Moth, codling	Cydia pomonella		BOVA
100296		Moth, Five-spotted hawk	Manduca quinquemaculata		BOVA
100047		Moth, gypsy	Lymantria dispar		BOVA
100312		Moth, hummingbird clearwing	Hemeris thysbe		BOVA
100283		Moth, imperial	Eacles imperialis		BOVA
100096		Moth, io	Automeris io		BOVA
100095		Moth, Luna	Actias luna		BOVA
100289		Moth, pinkstriped oakworm	Anisota virginensis		BOVA
100098		Moth, Polyphemus	Antheraea polyphemus		BOVA
100284		Moth, regal	Citheronia regalis		BOVA
100286		Moth, rosy maple	Dryocampa rubicunda		BOVA
100310		Moth, small-eyed sphinx	Paonias myops		BOVA
100101		Moth, snowberry clearwing	Hemeris diffinis		BOVA
100307		Moth, Southern pine sphinx	Lapara coniferarum		BOVA
100287		Moth, spiny oakworm	Anisota stigma		BOVA
100311		Moth, walnut sphinx	Laotloe juglandis		BOVA
100300		Moth, waved shinx	Ceratonia undulosa		BOVA
100294		Moth, whitelined sphinx	Hyles lineata		BOVA
100193		Roadside-skipper, common	Amblyscirtes vialis		BOVA
110230		Tick, American dog	Dermacentor variabilis		BOVA
110232		Tick, brown dog	Rhipicephalus sanguineus		BOVA
110228		Tick, lone star	Amblyomma americanum		BOVA
110231		Tick, rabbit	Haemaphysalis leporispalustris		BOVA
110229		Tick, winter	Dermacentor albipictus		BOVA

*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 - Very High Conservation Need; Virginia Wildlife 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.

Compiled on 7/21/2025, 3:33:02 PM 19947097.0 report=1 searchType=R dist= 3218 poi= 38.7736870 -77.5879038
PixelSize=64, Anadromous=0.043195, BECAR=0.038408, Bats=0.034899, Buffer=0.091739, County=0.093064, Impediments=0.036269, Init=0.171413, PublicLands=0.055583, SppObs=0.406628, TEWaters=0.057724, TierReaches=0.120777, TierTerrestrial=0.046066, Total=1.708641, Tracking_BOVA=0.554345, Trout=0.043547

VDCR DATABASE SEARCH RESULTS

WSP

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Subwatershed (12 digit HUC)	Statewide Occurrences	Virginia Coastal Zone
Northern Virginia BIVALVIA (MUSSELS)									
Brook Floater	Alasmidonta varicosa	Alasmidonta varicosa	G3	S1	None	LE		13	Y
VASCULAR PLANTS									
Small Whorled Pogonia	Isotria medeoloides	Isotria medeoloides	G2G3	S2	LT	LE		70	Y
Torrey's Mountain-mint	Pycnanthemum torreyi	Pycnanthemum torreyi	G2	S2	SOC	LT		21	Y

Note: On-line queries provide basic information from DCR's databases at the time of the request. They are NOT to be substituted for a project review or for on-site surveys required for environmental assessments of specific project areas.

For Additional Information on locations of Natural Heritage Resources please submit an [information request](#).

To Contribute information on locations of natural heritage resources, please fill out and submit a [rare species sighting form](#).

NOAA SEARCH RESULTS

WWSIP

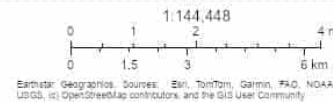
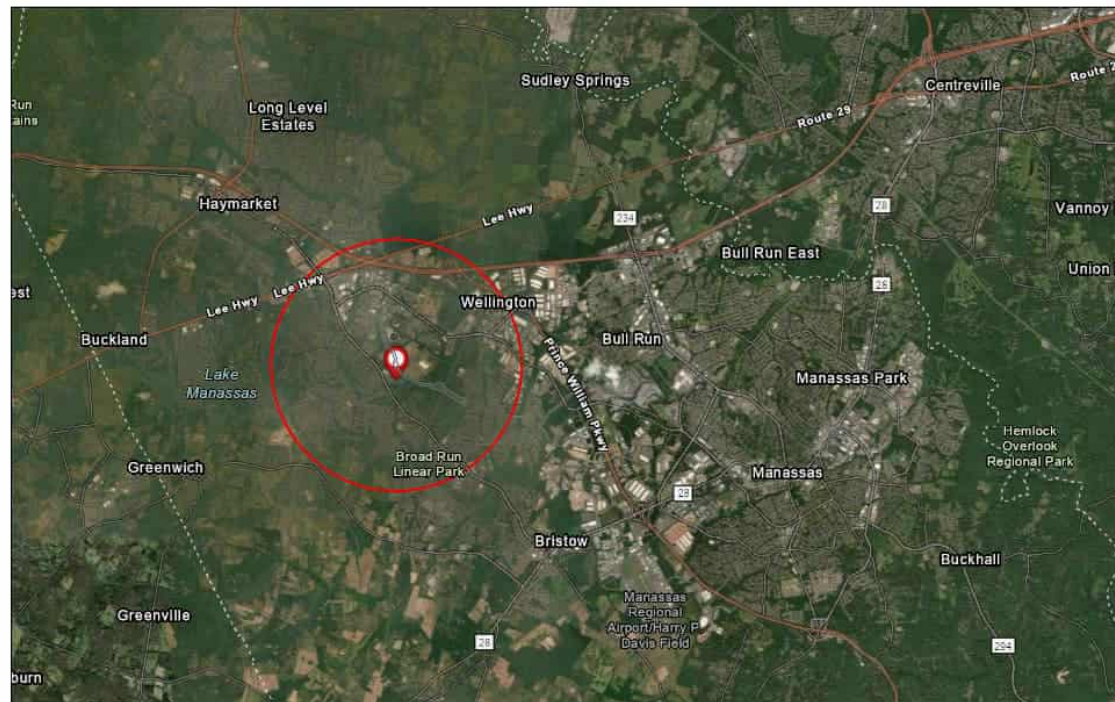


Drawn Action Area & Overlapping S7 Consultation Areas

Area of Interest (AOI) Information

Area : 8,039.7 acres

Apr 16 2025 10:28:58 Eastern Daylight Time



Summary

Name	Count	Area(acres)	Length(mi)
Study_Area_Polygon	1	77.06	N/A
Atlantic Sturgeon	0	0	N/A
Shortnose Sturgeon	0	0	N/A
Atlantic Salmon	0	0	N/A
Sea Turtles	0	0	N/A
Atlantic Large Whales	0	0	N/A
In or Near Critical Habitat	0	0	N/A

Study_Area_Polygon

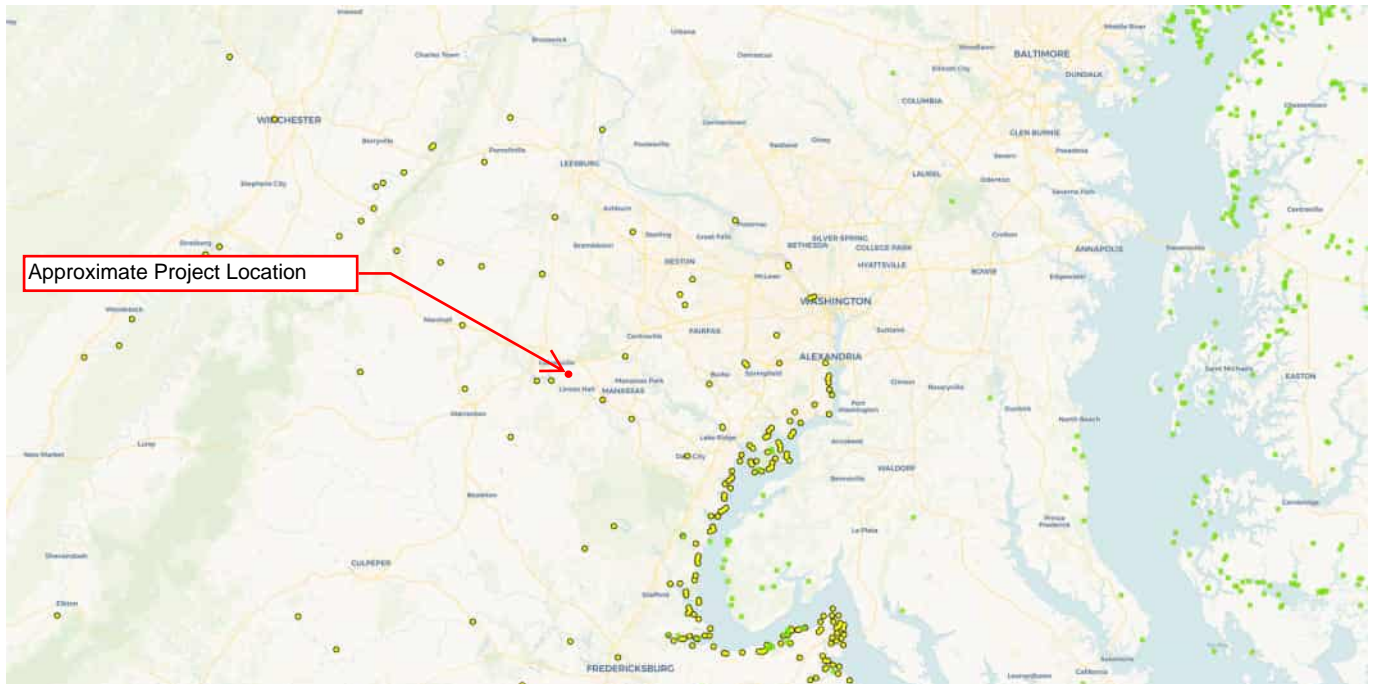
#	FID	Id	Area(acres)
---	-----	----	-------------

CCB EAGLE NEST AND ROOST LOCATOR MAP





CCB Mapping Portal



Layers: VA Eagle Nest Locator, VA Eagle Nest Buffers, Eagle Roosts, Eagle Roost Polygons, Eagle Roost Buffers

Map Center [longitude, latitude]: [-77.39730834960938, 38.74605072069108]

Map Link:

[https://ccbbirds.org/maps/#layer=VA+Eagle+Nest+Locator&layer=VA+Eagle+Nest+Buffers&layer=Eagle+Roosts
&layer=Eagle+Roost+Polygons&layer=Eagle+Roost+Buffers&zoom=10&lat=38.74605072069108&lng=-77.3973
0834960938&base=Street+Map+%28OSM%2FCarto%29](https://ccbbirds.org/maps/#layer=VA+Eagle+Nest+Locator&layer=VA+Eagle+Nest+Buffers&layer=Eagle+Roosts&layer=Eagle+Roost+Polygons&layer=Eagle+Roost+Buffers&zoom=10&lat=38.74605072069108&lng=-77.39730834960938&base=Street+Map+%28OSM%2FCarto%29)

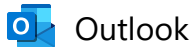
Report Generated On: 04/16/2025

The Center for Conservation Biology (CCB) provides certain data online as a free service to the public and the regulatory sector. CCB encourages the use of its data sets in wildlife conservation and management applications. These data are protected by intellectual property laws. All users are reminded to view the [Data Use Agreement](#), to ensure compliance with our data use policies. For additional data access questions, view our [Data Distribution Policy](#), or contact our Data Manager, Marie Pitts, at mlpitts@wm.edu or 757-221-7503.

Report generated by [The Center for Conservation Biology Mapping Portal](#).

To learn more about CCB visit ccbbirds.org or contact us at info@ccbbirds.org

Note: Project area is approximately 2-miles away from the closest eagle nest.



Re: ESSLog #40637_PW County_University Boulevard Extension project Prince William County_DWR_TMD20250904

From Li, Gary <GLi@pwcgov.org>
Date Wed 9/10/2025 9:14 AM
To Tiernan, Christine <Christine.Tiernan@wsp.com>
Cc Adam, Elnour M. <emadam@pwcgov.org>; Morris, Robert <Robert.Morris@wsp.com>; Gallagher, Bridget <Bridey.Gallagher@wsp.com>; Kleinman, Jenny <Jenny.Kleinman@wsp.com>

Good morning, Christine

The County concurs with your assessment that this should be addressed as a provision for the DB team.

Thanks,

Gary Li

D: [703.930.2568](tel:703.930.2568) | O: [703.792.5537](tel:703.792.5537)

From: Tiernan, Christine <Christine.Tiernan@wsp.com>
Sent: Tuesday, September 9, 2025 4:12 PM
To: Li, Gary <GLi@pwcgov.org>
Cc: Adam, Elnour M. <EMAdam@pwcgov.org>; Morris, Robert <robert.morris@wsp.com>; Gallagher, Bridget <Bridey.Gallagher@wsp.com>; Kleinman, Jenny <Jenny.Kleinman@wsp.com>
Subject: RE: ESSLog #40637_PW County_University Boulevard Extension project Prince William County_DWR_TMD20250904

This email is from an EXTERNAL source. Use caution when replying or clicking embedded links.

Adding Robert, Bridey and Jenny.

Hi Gary, thanks for DWR comments.

In a nutshell, we will document this correspondence/comments in the EA (when we next revise based on County, VDOT, FHWA comments). However the actual survey needs to take place no more than 6 months prior to the start of construction, so we (WSP) all agree that this should be something that is written into the technical provisions for the design builder to handle within 6 months prior to construction.

With regard to their comment on coordination with USFWS re: the two bats, that is ongoing.

We can certainly discuss further.

Thanks,
Christine.

From: Li, Gary <GLi@pwcgov.org>
Sent: Tuesday, September 9, 2025 9:08 AM
To: Tiernan, Christine <Christine.Tiernan@wsp.com>
Cc: Adam, Elnour M. <emadam@pwcgov.org>
Subject: Re: ESSLog #40637_PW County_University Boulevard Extension project Prince William County_DWR_TMD20250904

Good morning, Christine

Just wanted to follow up with you on the DWR comments. Thanks!
Gary Li

D: [703.930.2568](tel:703.930.2568) | O: [703.792.5537](tel:703.792.5537)

From: Tiernan, Christine <Christine.Tiernan@wsp.com>
Sent: Thursday, September 4, 2025 3:01 PM
To: Li, Gary <GLi@pwcgov.org>; Gallagher, Bridget <Bridey.Gallagher@wsp.com>
Cc: Adam, Elnour M. <EMAdam@pwcgov.org>; Ankers, Mary <MAnkers@pwcgov.org>; Morris, Robert <robert.morris@wsp.com>; Kleinman, Jenny <Jenny.Kleinman@wsp.com>
Subject: RE: ESSLog #40637_PW County_University Boulevard Extension project Prince William County_DWR_TMD20250904

This email is from an EXTERNAL source. Use caution when replying or clicking embedded links.

Thank you Gary. We are planning on submitting the Draft EA later today or tomorrow morning for your review, so we won't have any of these comments incorporated into the EA (if they need to be). I haven't had a chance to give it a thorough review, but will after we make submission and will let you know what I think next steps shall be.

Thanks,
Christine.

From: Li, Gary <GLi@pwcgov.org>
Sent: Thursday, September 4, 2025 2:12 PM
To: Tiernan, Christine <Christine.Tiernan@wsp.com>; Gallagher, Bridget <Bridey.Gallagher@wsp.com>
Cc: Adam, Elnour M. <emadam@pwcgov.org>; mankers <mankers@pwcgov.org>; Morris, Robert <Robert.Morris@wsp.com>; Kleinman, Jenny <Jenny.Kleinman@wsp.com>
Subject: Fw: ESSLog #40637_PW County_University Boulevard Extension project Prince William County_DWR_TMD20250904

Good afternoon, Christine

Please see comments from DWR below and let me know if we need to reach out to Tamara for a meeting.

Thanks,
Gary Li

D: [703.930.2568](tel:703.930.2568) | O: [703.792.5537](tel:703.792.5537)

From: Doucette, Tamara (DWR) <Tamara.Doucette@dwr.virginia.gov>
Sent: Thursday, September 4, 2025 11:34 AM
To: Li, Gary <GLi@pwcgov.org>
Cc: Strawderman, Nicole (DWR) <Nicole.Strawderman@dwr.virginia.gov>; Watson, Brian (DWR) <Brian.Watson@dwr.virginia.gov>
Subject: ESSLog #40637_PW County_University Boulevard Extension project Prince William County_DWR_TMD20250904

This email is from an EXTERNAL source. Use caution when replying or clicking embedded links.

Gary,

We have reviewed updated University Boulevard Extension project in Prince William County. We document federal Threatened Yellow Lances from the project area. Broad Run, located downstream of this project site, has been designated a Threatened and Endangered Species Water due to the presence of this species and state Endangered Brook Floaters.

It appears that there is suitable mussel habitat in stream WC-1. We recommend that a mussel survey be performed from 100 meters upstream through 400 meters downstream of impact areas. This survey should be performed by a qualified, permitted biologist, preferably no more than six months prior to the start of construction. If mussel relocations are necessary, they should be coordinated with Brian Watson, DWR Region II Aquatic Resources Biologist at 434-525-7522 or Brian.Watson@dwr.virginia.gov, and no federally listed species should be relocated without first coordinating with the USFWS (804-693-6694). All survey and relocation activities should adhere to the attached guidance. In addition, we recommend a time of year restriction on all instream work in perennial streams (not including any mussel surveys) from April 15 through June 15 and August 15 through September 30 of any year.

Survey results should be made available to Tamara Doucette and Brian Watson at Brian.Watson@dwr.virginia.gov. Upon review of the results, we will make final recommendations regarding the protection of listed species known from the area. All survey reports should reference the five-digit ESSLog# displayed in the subject line of this email.

If the applicant prefers, they may provide us with good, representative photographs of the impact area(s) for our review. The photos should clearly depict the size of the stream, the substrate type, and the banks up and downstream of the site. Upon review of the photos, we may be able to rule out the need for a mussel survey based on the habitat available on site.

We recommend the following to best protect listed mussels known from nearby waters:

1. We recommend maintaining undisturbed naturally vegetated buffers of at least 100 feet in width around all on-site wetlands and on both sides of all perennial and intermittent streams. We recommend maintaining undisturbed naturally vegetated buffers of at least 200 feet in width on all perennial tributaries to Threatened and Endangered Species Waters. We recommend maintaining undisturbed naturally vegetated buffers of at least 300 ft on both sides of Threatened and Endangered Species Waters.
2. We recommend that the stormwater controls for this project be designed to replicate and maintain the hydrographic condition of the site prior to the change in landscape. This should include, but not be limited to, utilizing bioretention areas, and minimizing the use of curb and gutter in favor of grassed swales. Bioretention areas (also called rain gardens) and grass swales are components of Low Impact Development (LID). They are designed to capture stormwater runoff as close to the source as possible and allow it to

slowly infiltrate into the surrounding soil. They benefit natural resources by filtering pollutants and decreasing downstream runoff volumes.

3. We recommend conducting any in-stream activities during low or no-flow conditions, using non-erodible cofferdams or turbidity curtains to isolate the construction area, blocking no more than 50% of the streamflow at any given time (minimal overlap of construction footprint notwithstanding), stockpiling excavated material in a manner that prevents reentry into the stream, restoring original streambed and streambank contours, revegetating barren areas with native vegetation, and implementing strict erosion and sediment control measures. We recommend that instream work be designed and performed in a manner that minimizes impacts upon natural streamflow and movement of resident aquatic species. To minimize potential wildlife entanglements resulting from use of synthetic/plastic erosion and sediment control matting, we recommend use of matting made from natural/organic materials such as coir fiber, jute, and/or burlap. To minimize harm to the aquatic environment and its residents resulting from use of the Tremie method to install concrete, installation of grout bags, and traditional pouring of concrete, we recommend that such activities occur only in the dry, allowing all concrete to harden prior to contact with open water. Due to future maintenance costs associated with culverts, and the loss of riparian and aquatic habitat, we prefer stream crossings to be constructed via clear-span bridges. However, if this is not possible, we recommend countersinking any culverts below the streambed at least 6 inches, or the use of bottomless culverts, to allow passage of aquatic organisms. We also recommend the installation of floodplain culverts to carry bankfull discharges.

To minimize the adverse impacts of linear utility/road project development on wildlife resources, we offer the following general recommendations: avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable; maintain naturally vegetated buffers of at least 100 feet in width around wetlands and on both sides of perennial and intermittent streams, where practicable; conduct significant tree removal and ground clearing activities outside of the primary songbird nesting season of March 15 through August 15; and, implement and maintain appropriate erosion and sediment controls throughout project construction and site restoration. To minimize potential wildlife entanglements resulting from use of synthetic/plastic erosion and sediment control matting, we recommend use of matting made from natural/organic materials such as coir fiber, jute, and/or burlap. We understand that adherence to these general recommendations may be infeasible in some situations. We are happy to work with the applicant to develop project-specific measures as necessary to minimize project impacts upon the Commonwealth's wildlife resources.

This project lies within the consultation range of the Federally Endangered Northern Long-eared Bat and the Federally Proposed Tri-colored Bat. We recommend coordination with the USFWS regarding potential impacts to these species.

In addition to the listed species and wildlife resources mentioned above, a number of species designated as Species of Greatest Conservation Need in Virginia's Wildlife Action Plan are likely to occur, if suitable habitat exists, in and around the project area. We recommend that the Virginia Wildlife Action Plan (available through www.bewildvirginia.gov) be reviewed to determine what threats are known to these species, what constitutes suitable habitat for these species, and how to best protect them and their habitats from harm.

Thank you,

Tamara



Tamara Doucette

Environmental Services Biologist

Wildlife Information and Environmental Services

P 804.367.8364

Department of Wildlife Resources

CONSERVE. CONNECT. PROTECT.

A 7870 Villa Park Drive, P.O. Box 90778, Henrico, VA 23228

www.VirginiaWildlife.gov

NOTICE: This communication and any attachments ("this message") may contain information which is privileged, confidential, proprietary or otherwise subject to restricted disclosure under applicable law. This message is for the sole use of the intended recipient(s). Any unauthorized use, disclosure, viewing, copying, alteration, dissemination or distribution of, or reliance on, this message is strictly prohibited. If you have received this message in error, or you are not an authorized or intended recipient, please notify the sender immediately by replying to this message, delete this message and all copies from your e-mail system and destroy any printed copies.

-LAEmHhHzdJzBITWfa4Hgs7pbKI

APPENDIX

10. WETLAND AND WATERWAY DELINEATION MEMO



**UNIVERSITY BOULEVARD EXTENSION PROJECT
PRINCE WILLIAM COUNTY
WETLAND AND WATERWAY DELINEATION
REPORT**



August 2025

Prepared for:



Prepared by:





1.0 Executive Summary

Prince William County is proposing a 2.5-mile extension of University Boulevard from Devlin Road to Wellington Road, as a four-lane divided highway with four 12’ travel lanes, 5’ sidewalk, a 10’ shared use path and one bridge over an unnamed tributary to Rocky Branch. The extension project begins at the existing Devlin Road/University Boulevard intersection and extends westward approximately 13,200 feet, on new alignment, to the existing four-lane University Boulevard approximately 650 feet south of the existing Wellington Road/University Boulevard intersection. WSP environmental scientists conducted a wetland and waterway delineation of the project study area in March 2025 and July 2025. A total of twenty-one (21) wetlands were delineated in the project area, including nine (9) palustrine emergent, five (5) palustrine scrub shrub, and seven (7) palustrine forested wetlands. Additionally, seventeen (17) waterways were recorded, including six (6) perennial, five (6) intermittent, and five (5) ephemeral watercourses. Six (6) non-jurisdictional ditches and three (3) excavated ponds were recorded. This report summarizes the results of the routine wetland and waterway delineations within the study area.

Table 1. Wetland Summary

Cowardin Class	Palustrine Emergent (PEM)	Palustrine Scrub Shrub (PSS)	Palustrine Forested (PFO)	Total
Number of Features	9	5	7	21
Acreeage in Study Area	3.59 acres	3.84 acres	1.98 acres	9.41 acres

Table 2. Waterway Summary

Type	Perennial	Intermittent	Total
Number of Features	6	6	12
Linear Feet in Study Area	2,996.34 LF	1,710.10 LF	4,706.22 LF

Table 3. Waterbody Summary

Type	Stormwater Management Ponds	Excavated Ponds	Total
Number of Features	1	2	3
Square Feet in Study Area	3,801.31 sq ft	245 sq ft	4,046.31 sq ft



2.0 Project Area Description

The project is located in the cities of Gainesville and Linton Hall in Prince William County, Virginia, between the intersection of Devlin Road/University Boulevard and Wellington Road. The United States Geologic Survey (USGS) shows the project study area is within the Middle Potomac-Anacostia-Occoquan 8-digit Hydrologic Unit Code (HUC) Watershed (02070010) (USGS 2025). Based on an assessment of the USGS topographic and aerial photography resources, the hydrology within the project study area discharges to Bull Run, a tributary outfalling to the Potomac River. **Appendix A: Vicinity Map** shows the project study area and its location.

Methodology

A routine wetland and waterway determination was performed in accordance with the *1987 Corps of Engineers Wetland Delineation Manual* and the *Regional Supplement to the U.S. Army Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region, Version 2.0* (2012; Regional Supplement). A combination of a desktop assessment and field investigation were employed as part of determination efforts. The desktop analysis included a review of the following:

- The United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS) for Prince William County, VA
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM)
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Geographic Information System (GIS) data
- Virginia Department of Environmental Quality (VDEQ) GIS Data
- Prince William County (PWC) GIS Mapper
- Prince William County Department of Public Works Environmental Management
- North Carolina Division of Water Quality (DWQ) Methodology for Identification of Intermittent and Perennial Streams and Their Origins

After the desktop assessment, field surveys were performed by qualified WSP staff in March 2025 and July 2025. Wetland and watercourse boundaries were flagged and geolocated using a handheld Global Navigation Satellite System (GNSS) receiver capable of submeter accuracy. Wetlands were identified and delineated in accordance with the USACE Delineation Manual and the Eastern Mountains and Piedmont Regional Supplement (USACE, 2012). This approach requires the interpretation and identification of hydrology, vegetation, and soil indicators that signal the presence of a wetland. All identified wetlands and waterways were classified according to the *Cowardin Classification of Wetland and Deepwater Habitats in the United States* (Cowardin, 1979). The wetland indicator status of all observed vegetation was discerned using the *National Wetland Plant List (NWPL)* (USACE, 2022).



3.0 Desktop Analysis Results

3.1 Soils

The USDA NRCS identified eleven soil types within the project study area, with one being designated as hydric: Waxpool silt loam, 0 to 2 percent slopes. The soil survey mapping is included in **Appendix B**. All soils within the project area are included in Table 4.

Table 4. *USDA NRCS Soils*

Map Unit Symbol	Map Unit Name	Percent in Project Study Area	Acres in Project Study Area	Hydric Percentage	Hydric Rating
4B	Arcola silt loam, 2 to 7 percent slopes	5.9%	4.0	5%	Not Hydric
13B	Catlett-Sycoline complex, 2 to 7 percent slopes	3.0%	2.1	3%	Not Hydric
13C	Catlett-Sycoline complex, 7 to 15 percent slopes	3.8%	2.6	3%	Not Hydric
30B	Jackland silt loam, 2 to 7 percent slopes	21.5%	14.7	0%	Not Hydric
31B	Jackland-Haymarket complex, 2 to 7 percent slopes	4.7%	3.2	0%	Not Hydric
31C	Jackland-Haymarket complex, 7 to 15% slopes	6.1%	4.2	0%	Not Hydric
35B	Manassas silt loam, 2 to 7% slopes	1.5%	1.0	3%	Not Hydric
40B	Montalto silty clay loam, 2 to 7% slopes	0.5%	0.3	0%	Not Hydric
49A	Rowland silt loam, 0 to 2% slopes	1.0%	0.7	0%	Not Hydric
53B	Sycoline-Kelly complex, 2 to 7% slopes	10.8%	7.4	0%	Not Hydric
56A	Waxpool silt loam, 0 to 2% slopes	41.2%	28.2	80%	Hydric

3.2 Wetlands and Watercourses

The USFWS NWI mapping shows six wetlands in the project area: one (1) Palustrine Emergent, Persistent, Seasonally Flooded (PEM1C); one (1) Palustrine Unconsolidated Bottom, Semi-permanently Flooded, Beaver (PUBFb); one (1) Palustrine Forested, Persistent, Seasonally Flooded (PFO1B); one (1) Palustrine Forested, Broad-Leaved Deciduous, Temporarily Flooded (PFO1A); one (1) Palustrine Forested, Broad-Leaved Deciduous/Needle-Leaved Evergreen, Seasonally Saturated (PFO1/4B); and one (1) Palustrine Forested, Broad-Leaved Deciduous/Needle-Leaved Evergreen, Temporarily Flooded (PFO1/4A). The NWI also predicted



three (3) Riverine, Intermittent, Streambed, Seasonally Flooded (R4SBC); three (3) Riverine, Intermittent, Streambed, Temporarily Flooded (R4SBA); and (1) Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded (R2UBH) waterways within the project area. Refer to **Appendix B** for the desktop review maps.

3.3 Resource Protection Areas (RPAs)

In accordance with the Chesapeake Bay Preservation Act, the Chesapeake Bay Preservation Areas Designation and Management Regulations, Locality Ordinances, and subsequent guidance provided by the Virginia Department of Conservation & Recreation, this Resource Protection Area (RPA) Determination provides a site-specific determination of the presence and extent of RPA features within the Site. Proposed RPA features include:

1. Tidal Wetlands;
2. Nontidal wetlands connected by surface flow and contiguous to tidal wetlands or water bodies with perennial flow;
3. Tidal shores;
4. Such other lands considered by the local government to have an intrinsic water quality value and are determined to be necessary to protect the quality of state waters and;
5. A buffer area not less than 100 feet in width located adjacent to and landward of the components listed above, and along both sides of any water body with perennial flow.

WSP utilized the North Carolina Division of Water Resources (NC DWR) Methodology for Identification of Intermittent and Perennial Streams and Their Origins (Version 4.11) to determine flow regimes of streams within the project area. This widely used method scores streams based on geomorphic, hydrologic, and biological features, and classifies streams as ephemeral, intermittent, or perennial. Using the NC DWR Methodology, a stream is generally considered to have an ephemeral flow regime with a score between 0-18, intermittent flow regime with a score of 19-29 and perennial flow regime with a score of ≥ 30 . Scores of each stream within the project area are in *Table 6 – Field Delineated Watercourses*. The location of the proposed 100-foot RPA-buffer is shown in **Appendix B**.

3.4 Floodplains

A review of the FEMA FIRM (Map Number 51153C0089D) reveals that a portion of the project area is within a 100-year FEMA Floodplain, including a Zone AE Regulatory Floodway (1% annual chance of flooding). The National Flood Hazard Layer FIRM map is in **Appendix B**.

4.0 Field Investigation Results

The field investigations revealed a total of nine (9) emergent, five (5) scrub shrub, and seven (7) forested wetlands, and six (6) perennial, six (6) intermittent, and five (5) ephemeral watercourses, and three (3) waterbodies in the project area. **Appendix C** contains wetland and waterway delineation maps. **Appendix D** contains a photolog of wetlands, waterways, and waterbodies. **Appendix E** contains the wetland datasheets and watercourse datasheets.



4.1 Wetlands

Summaries of the field delineated wetlands (WET) can be found in Table 5 below. Additional details for each wetland are included in the photolog and datasheets in **Appendix D** and **E**, respectively.



WETLAND AND WATERWAY DELINEATION MEMO



Table 5. Field Delineated Wetlands

Wetland ID	Cowardin Classification	Hydrological Indicators	Dominant Hydric Vegetation	Hydric Soil Indicator	Hydrologic Connection to Perennial Stream (Yes/No)	Acreeage in Study Area
WET-01	PFO1E	Drift deposits; Water-stained leaves; Drainage patterns; Geomorphic position; FAC-Neutral Test	<i>Platanus occidentalis, Salix nigra, Onoclea sensibilis, Microstegium vimenium</i>	Depleted Matrix	Yes	1.55 acres
WET-02	PEM1G	Surface water; Aquatic fauna; Oxidized rhizospheres on living roots; Drainage patterns; Geomorphic position; FAC-Neutral Test	<i>Salix nigra, Microstegium vimenium, Typha angustifolia, Scirpus cyperinus</i>	Depleted Matrix	No	0.09 acres
WET-03	PEM1C	Surface water; Geomorphic position; FAC-Neutral Test	<i>Scirpus cyperinus, Microstegium vimenium, Agrostis scabra</i>	Depleted Matrix	No	1.37 acres
WET-04	PEM1C	Surface water; High water table; Saturation; Drainage patterns; Shallow aquitard; FAC-Neutral Test	<i>Scirpus cyperinus, Microstegium vimenium, Panicum clandestinum, Juncus effusus</i>	Depleted Matrix	No	1.14 acres
WET-05	PSS1E	Surface water; High water table; Presence of reduced iron; Drainage patterns; Geomorphic position; FAC-Neutral Test	<i>Platanus occidentalis, Salix nigra, Typha angustifolia, Microstegium vimenium</i>	Depleted Matrix	No	0.14 acres
WET-06	PSS1C	Oxidized rhizospheres on living roots; Drainage patterns; Geomorphic position; FAC-Neutral Test	<i>Platanus occidentalis, Salix nigra, Microstegium vimenium, Typha angustifolia</i>	Depleted Matrix	Yes	4.23 acres
WET-06C	PFO6C	Drainage patterns; Geomorphic position; FAC-Neutral Test	<i>Acer rubrum, Carpinus caroliniana, Microstegium vimenium, Smilax rotundifolia</i>	Depleted Matrix	Yes	



WETLAND AND WATERWAY DELINEATION MEMO



Wetland ID	Cowardin Classification	Hydrological Indicators	Dominant Hydric Vegetation	Hydric Soil Indicator	Hydrologic Connection to Perennial Stream (Yes/No)	Acreage in Study Area
WET-07	PSS1C	Water marks; Presence of reduced iron; Drainage patterns; Geomorphic position; FAC-Neutral Test	<i>Platanus occidentalis, Salix nigra, Microstegium vimenium, Scirpus cyperinus</i>	Depleted Matrix	No	0.09 acres
WET-08	PSS6C	Presence of reduced iron; Drainage patterns; Geomorphic position; FAC-Neutral Test	<i>Scirpus cyperinus, Microstegium vimenium</i>	Depleted Matrix	No	0.53 acres
WET-09	PEM1A	Presence of reduced iron; Drainage patterns; Geomorphic position; FAC-Neutral Test	<i>Scirpus cyperinus, Eupatorium perfoliatum, Microstegium vimenium</i>	Depleted Matrix	No	0.24 acres
WET-10	PEM1C	Oxidized rhizospheres on living roots; Drainage patterns; Geomorphic position; FAC-Neutral Test	<i>Onoclea sensibilis, Microstegium vimenium, Euthamia graminifolia, Phalaris arundinacea</i>	Depleted Matrix	No	0.88 acres
WET-10C	PSS1C	Drainage patterns; Geomorphic position; FAC-Neutral Test	<i>Platanus occidentalis, Salix nigra, Microstegium vimenium, Carex lacustris, Eupatorium perfoliatum</i>	Depleted Matrix	No	
WET-11	PEM1E	Surface water; Presence of reduced iron; Drainage patterns; Geomorphic position	<i>Carex lurida, Microstegium vimenium, Scirpus cyperinus, Eupatorium perfoliatum</i>	Depleted Matrix	No	0.16 acres
WET-12C	PFO1C	High water table; Saturation; Drainage patterns; Geomorphic position; FAC-Neutral Test	<i>Carpinus caroliniana, Acer rubrum, Carex pendunculata, Smilax rotundifolia</i>	Depleted Matrix	Yes	0.16 acres



WETLAND AND WATERWAY DELINEATION MEMO



Wetland ID	Cowardin Classification	Hydrological Indicators	Dominant Hydric Vegetation	Hydric Soil Indicator	Hydrologic Connection to Perennial Stream (Yes/No)	Acreage in Study Area
WET-13	PFO1C	Oxidized rhizospheres on living roots; Drainage patterns; Geomorphic position; FAC-Neutral Test	<i>Microstegium vimenium</i> , <i>Carex lurida</i> , <i>Platanus occidentalis</i>	Depleted Matrix	Yes	1.46 acres
WET-13A	PEM1E	Surface water; Oxidized rhizospheres on living roots; Drainage patterns; Geomorphic position; FAC-Neutral Test	<i>Scirpus cyperinus</i> , <i>Microstegium vimenium</i> , <i>Typha angustifolia</i>	Depleted Dark Surface	Yes	
WET-14	PFO1/4A	Oxidized rhizospheres on living roots; Geomorphic position	<i>Typha angustifolia</i> , <i>Cinna arundinacea</i> , <i>Carex lurida</i> , <i>Juncus effusus</i>	Depleted Matrix	No	0.24 acres
WET-15	PEM1A/B	Surface water; High water table; Saturation; Oxidized rhizospheres on living roots; Geomorphic position; FAC-Neutral Test	<i>Typha angustifolia</i>	Depleted Matrix	No	0.13 acres
WET-16	PFO1A	Water-Stained Leaves, Drainage Patterns, Geomorphic Position, FAC-Neutral Test	<i>Ulmus americana</i> , <i>Microstegium vimenium</i> , <i>Arthraxon hispidus</i>	Redox Dark Surface	Yes	0.20 acres
WET-17	PFO1A	Water-Stained Leaves, Drainage Patterns, Geomorphic Position, FAC-Neutral Test	<i>Ulmus americana</i> , <i>Microstegium vimenium</i> , <i>Arthraxon hispidus</i>	Redox Dark Surface	Yes	0.05 acres
WET-18	PFO1C	Geomorphic Position, FAC-Neutral Test	<i>Acer rubrum</i> , <i>Carpinus caroliniana</i> , <i>Amphicarpaea bracteata</i> , <i>Microstegium vimineum</i> , <i>Onoclea sensibilis</i>	Depleted Matrix	Yes	0.05 acres



The field delineated Cowardin classifications are defined below:

- **PEM1G:** Palustrine Emergent, Persistent, Intermittently Flooded
- **PEM1C:** Palustrine Emergent, Persistent, Seasonally Flooded
- **PEM1E:** Palustrine Emergent, Persistent, Seasonally Flooded/Saturated
- **PEM1A:** Palustrine Emergent, Persistent, Temporarily Flooded
- **PEM1A/B:** Palustrine Emergent, Persistent, Temporarily Flooded/Seasonally Saturated
- **PSS1C:** Palustrine Scrub Shrub, Broad-Leaved Deciduous, Seasonally Flooded
- **PSS1E:** Palustrine Scrub Shrub, Broad-Leaved Deciduous, Seasonally Flooded/Saturated
- **PSS6C:** Palustrine Scrub-Shrub, Deciduous, Seasonally Flooded
- **PFO1E:** Palustrine Forested, Broad-Leaved Deciduous, Seasonally Flooded/Saturated
- **PFO6C:** Palustrine Forested, Deciduous, Seasonally Flooded
- **PFO1C:** Palustrine Forested, Broad-Leaved Deciduous, Seasonally Flooded/Saturated
- **PFO1A:** Palustrine Forested, Broad-Leaved Deciduous, Temporarily Flooded
- **PFO1/4A:** Palustrine Forested, Broad-Leaved Deciduous/Needle-Leaved Evergreen, Temporarily Flooded

4.2 Watercourses

Summaries of field delineated watercourse (WC) can be found in Table 6. Additional details for each watercourse can be found in the photo log and datasheets within **Appendix D** and **E**, respectively.

The meaning of each North Carolina DWQ score is outlined below:

- <19 = Ephemeral
- ≥19 = Intermittent
- ≥30 = Perennial

Table 6. Field Delineated Watercourses

Waterway ID	Cowardin Classification	Channel Characteristics	Substrate	NC DWQ Score	Hydrologic Connection	Linear Feet in Study Area
WC-1	R2SBH	Sinuuous, natural perennial channel	Bedrock, cobble, gravel, sand, organic	40.25	Rocky Branch to Broad Run to TNW Occoquan	830.18 LF
WC-2	R4UBH	Intermittent. Natural channel, no signs of human alteration	Gravel, sand	20.75	WC-1 to Rocky Branch to Broad Run to TNW Occoquan	167.13 LF
WC-3	R5	Natural ephemeral channel	Sand, mud, vegetation	9.0	WC-1 to Rocky Branch to Broad Run to TNW Occoquan	159.89 LF



WETLAND AND WATERWAY DELINEATION MEMO



Waterway ID	Cowardin Classification	Channel Characteristics	Substrate	NC DWQ Score	Hydrologic Connection	Linear Feet in Study Area
WC-4	R2UBH	Natural perennial channel flowing through WET-10	Cobble, gravel, sand	30.75	WC-1 to Rocky Branch to Broad Run to TNW Occoquan	412 LF
WC-5	R4UBH	Natural intermittent channel	Sand, mud, organic, vegetation	23.5	WC-4 to WC-1 to Rocky Branch to Broad Run to TNW Occoquan	141 LF
WC-6	R4UBH	Natural intermittent channel	Sand, mud, organic, vegetation	27.0	Rocky Branch to Broad Run to TNW Occoquan	578.43 LF
WC-7	R5	Natural ephemeral channel adjacent to wetland	Mud	N/A	N/A	29.14 LF
WC-8	R2UBH	Natural perennial channel flowing through WET-6	Sand, mud, organic	33.75	Rocky Branch to Broad Run to TNW Occoquan	702.32 LF
WC-9	R4UBH	Intermittent channel fed by a culvert	Gravel, sand, mud	21.0	Rocky Branch to Broad Run to TNW Occoquan	559.82 LF
WC-10	R2UBH	Natural perennial channel flowing through a wetland	Sand, mud, organic, vegetation	30.75	WC-1 to Rocky Branch to Broad Run to TNW Occoquan	419.87 LF
WC-11	R5	Natural ephemeral channel receiving overland flow from WET-10	Cobble, sand, mud	N/A	WC-2 to WC-1 to Rocky Branch to Broad Run to TNW Occoquan	393.81 LF
WC-12-EPH	R5	Natural ephemeral	Mud, organic, vegetation	N/A	WC-12 to Rocky Branch to Broad Run to TNW Occoquan	292 LF
WC-12-PER	R2SBH	Natural perennial channel draining WET-13	Cobble, Gravel, Sand, Mud	24.75	Rocky Branch to Broad Run to TNW Occoquan	81.32 LF
WC-13-EPH	R5	Natural ephemeral channel	Cobble, sand, mud, organic	N/A	WC-13-INT to WC-1 to Rocky Branch to Broad Run to TNW Occoquan	292.15 LF
WC-13-INT	R4UBF	Natural intermittent channel	Cobble, sand, mud, organic	20.5	WC-1 to Rocky Branch to Broad Run to TNW Occoquan	189.41 LF



Waterway ID	Cowardin Classification	Channel Characteristics	Substrate	NC DWQ Score	Hydrologic Connection	Linear Feet in Study Area
WC-14	R2UB1	Man-altered perennial stream receiving flow from two culverts and groundwater	Cobble, sand, mud	35.25	Rocky Branch to Broad Run to TNW Occoquan	550.65 LF
WC-15	R4SB5	Man-altered intermittent channel flowing into WC-14	Sand, mud, vegetation	23.5	WC-14 to Rocky Branch to Broad Run to TNW Occoquan	74.22 LF

The field delineated Cowardin classifications are defined below:

- **R2SBH:** Riverine, Lower Perennial, Stream Bed, Permanently Flooded
- **R4UBH:** Riverine, Intermittent, Unconsolidated Bottom, Permanently Flooded
- **R5:** Riverine, Ephemeral
- **R2UB1:** Riverine, Lower Perennial, Unconsolidated Bottom, Cobble-Gravel
- **R2UBH:** Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded
- **R2UB1:** Riverine, Lower Perennial, Unconsolidated Bottom, Cobble-Gravel
- **R4SB5:** Riverine, Intermittent, Streambed, Mud

4.3 Waterbodies

A total of three waterbodies were delineated within the project study area. One (1) stormwater management (SWM) pond and two (2) man-made pools. The SWM pond was recently constructed along Devlin Road as part of an existing roadway construction project. The man-made pools are situated in the middle of the study area between the substation and high school parking lot. Both man-made pools were delineated as General Points (G-2 and G-3). G-2 is located in the RPA of WET-13A while G-3 is located outside of the RPA just to the west. Both man-made pools were holding water outside of a 48-hour rain event. Excavated material was observed piled adjacent to each pool. Additional details for each waterbody can be found in the photo log in **Appendix D**.

5.0 Conclusions and Next Steps

A total of 21 wetlands (totaling 9.41 acres within the study area), 17 waterways (totaling 5,873.34 linear feet within the study area), and 3 waterbodies (4,046.31 sqft within the study area) were identified during the March 2025 and July 2025 field delineations. Any impacts to jurisdictional features, as determined by the USACE and VDEQ, will require prior authorization.



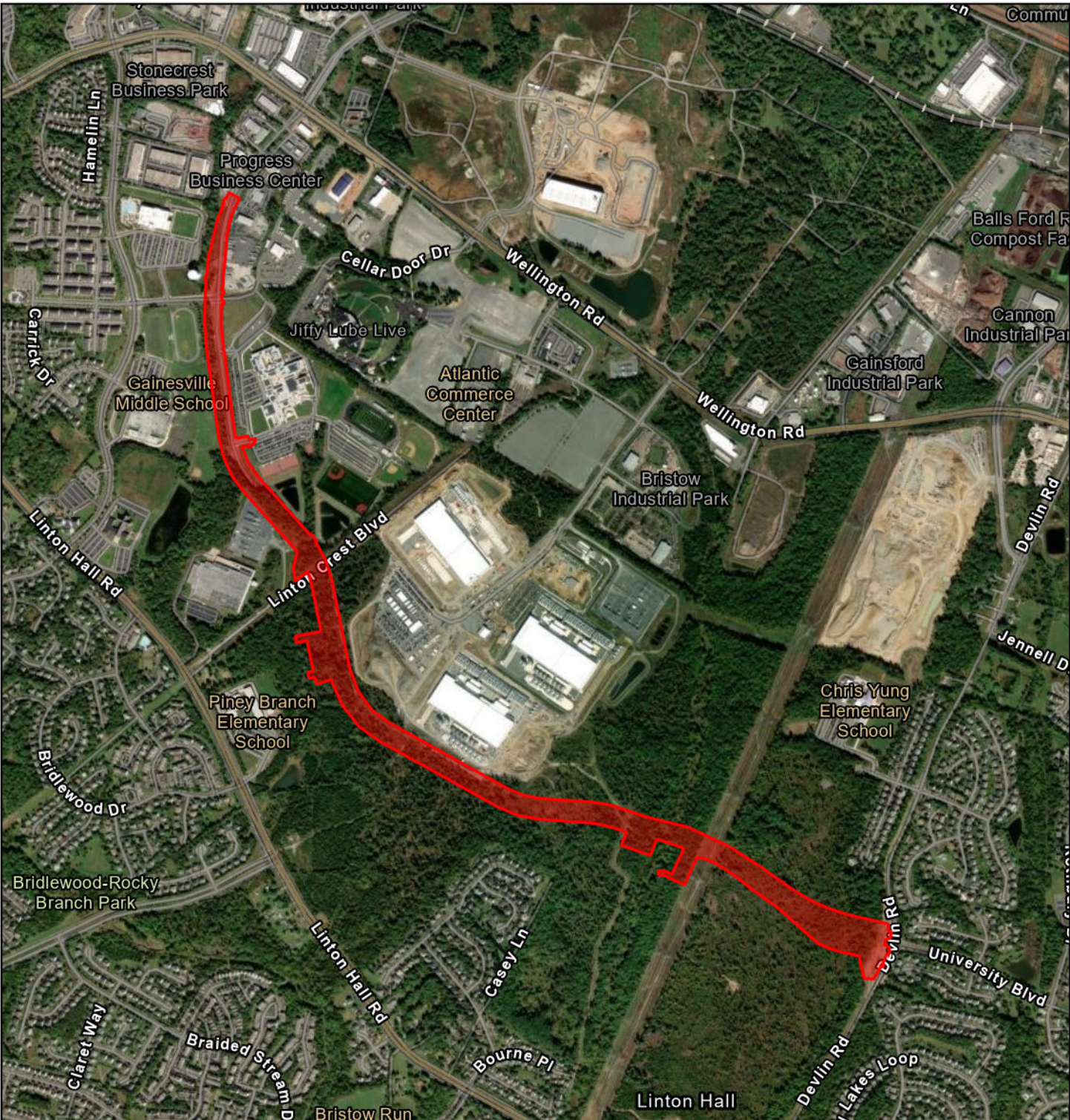
References

- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of wetlands and deep-water habitats of the United States*. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Emergency Management Agency (FEMA). 2006. FEMA Flood Map Service Center: Search By Address. Department of Homeland Security. <https://msc.fema.gov/>. Accessed 03/19/2025.
- Munsell. 1975. *Munsell Soil Color Charts*. MacBeth Division of Kollmorgen Instruments Corporation, Baltimore, Maryland.
- NC Division of Water Quality. 2010. *Methodology for Identification of Intermittent and Perennial Streams and their Origins*, Version 4.11. North Carolina Department of Environment and Natural Resources, Division of Water Quality. Raleigh, NC.
- Prince William County GIS Data Portal. 2019. Hydrological Features. https://gisdata-pwcgov.opendata.arcgis.com/datasets/7d0098c603bc407699f358a19e078571_18/explore. Accessed 04/01/2025.
- Prince William County GIS Data Portal. 2023. Resource Protection Areas. https://gisdata-pwcgov.opendata.arcgis.com/datasets/962b024b26854020a9879001c08e9d1b_73/explore. Accessed 04/01/2025.
- Prince William County GIS Data Portal. 2022. Stream Data. https://gisdata-pwcgov.opendata.arcgis.com/datasets/edee2bb6022b406f85c5e27629d708a6_17/explore. Accessed 04/01/2025.
- Prince William County Department of Public Works (DPW). 2025. Resource Protection Areas. <https://www.pwcva.gov/department/environmental-services/resource-protection-areas>
- U.S. Army Corps of Engineers. (2023). 2022 National Wetland Plant List, version 3.6. U.S. Army Engineer Research and Development Center, Vicksburg, MS. <http://wetland-plants.usace.army.mil/>
- U.S. Army Corps of Engineers (USACE). 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont, Version 2.0*. U.S. Army Engineer Research and Development Center. Vicksburg, MS. Report# ERDC/EL TR-12-9.
- USACE. 1987. *Corps of Engineers Wetland Delineation Manual*. U.S. Army Corps of Engineers Waterway Experiment Station. Vicksburg, MS. Technical Report Y-87-1.
- United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). 2024. *Web Soil Survey*. <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>. Accessed 03/19/2025.
- United States Fish and Wildlife Service (USFWS). 2025. *National Wetlands Inventory (NWI)*. <https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper> Accessed 01/29/2025.
- United States Geological Survey (USGS). 2025. *The National Map Viewer*. USGS. <https://apps.nationalmap.gov/viewer/>. <https://apps.nationalmap.gov/viewer/>

APPENDIX

A VICINITY MAP





Legend

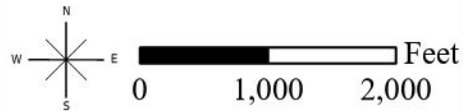
Project Study Area

**UNIVERSITY BOULEVARD
EXTENSION**

PRINCE WILLIAM COUNTY, VIRGINIA

SCALE: 1" = 1,000'

AUG 2025



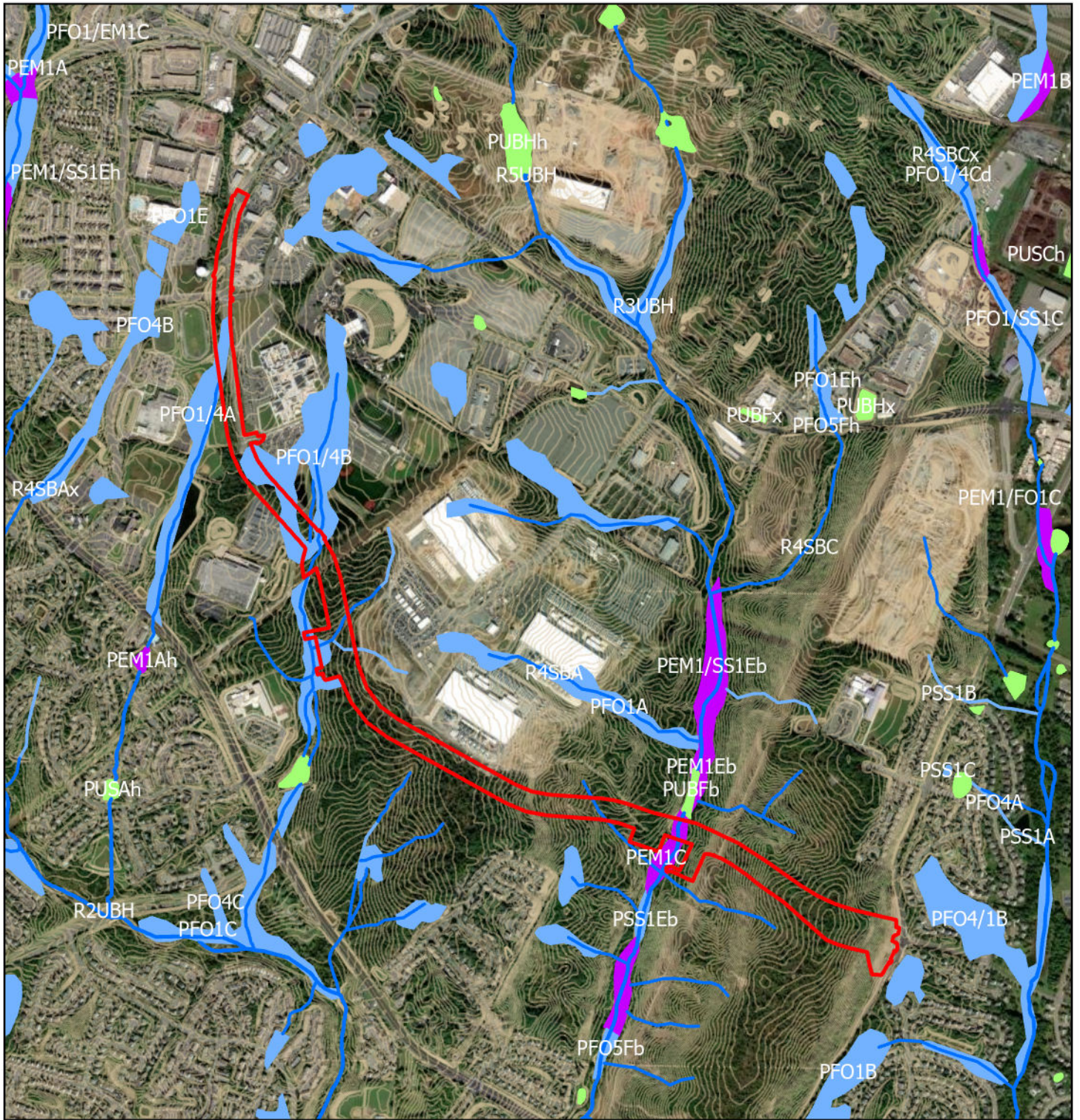
VICINITY MAP



APPENDIX

B PRELIMINARY DESKTOP REVIEW OF READILY AVAILABLE DATA





Legend

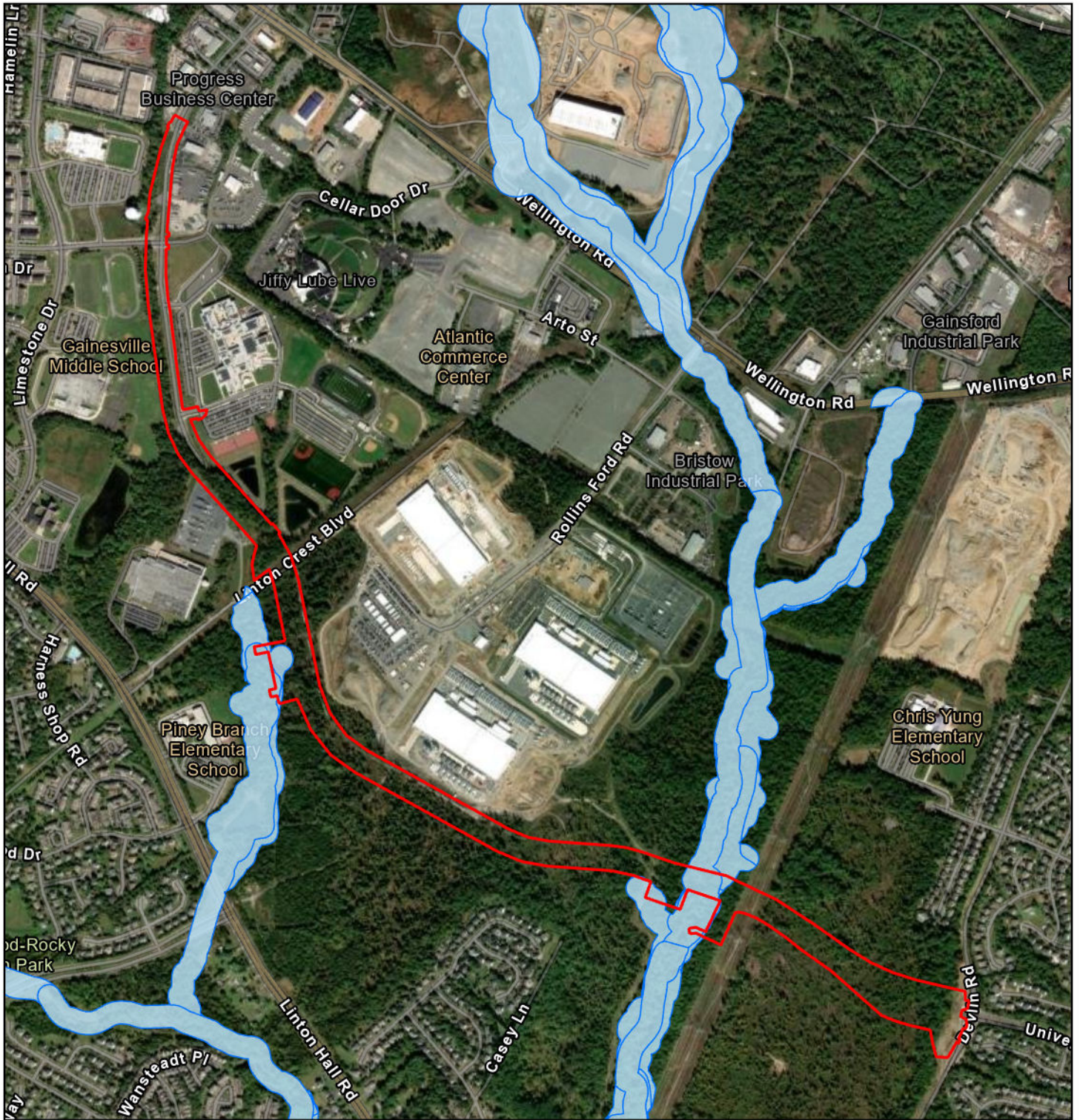
- Project Study Area
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

UNIVERSITY BOULEVARD EXTENSION

PRINCE WILLIAM COUNTY, VIRGINIA

SCALE: 1" = 2,000' AUG 2025

NATIONAL WETLAND INVENTORY MAP



Legend

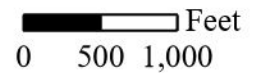
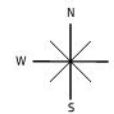
- Project Study Area
- Resource Protection Areas (RPA)

UNIVERSITY BOULEVARD EXTENSION

PRINCE WILLIAM COUNTY, VIRGINIA

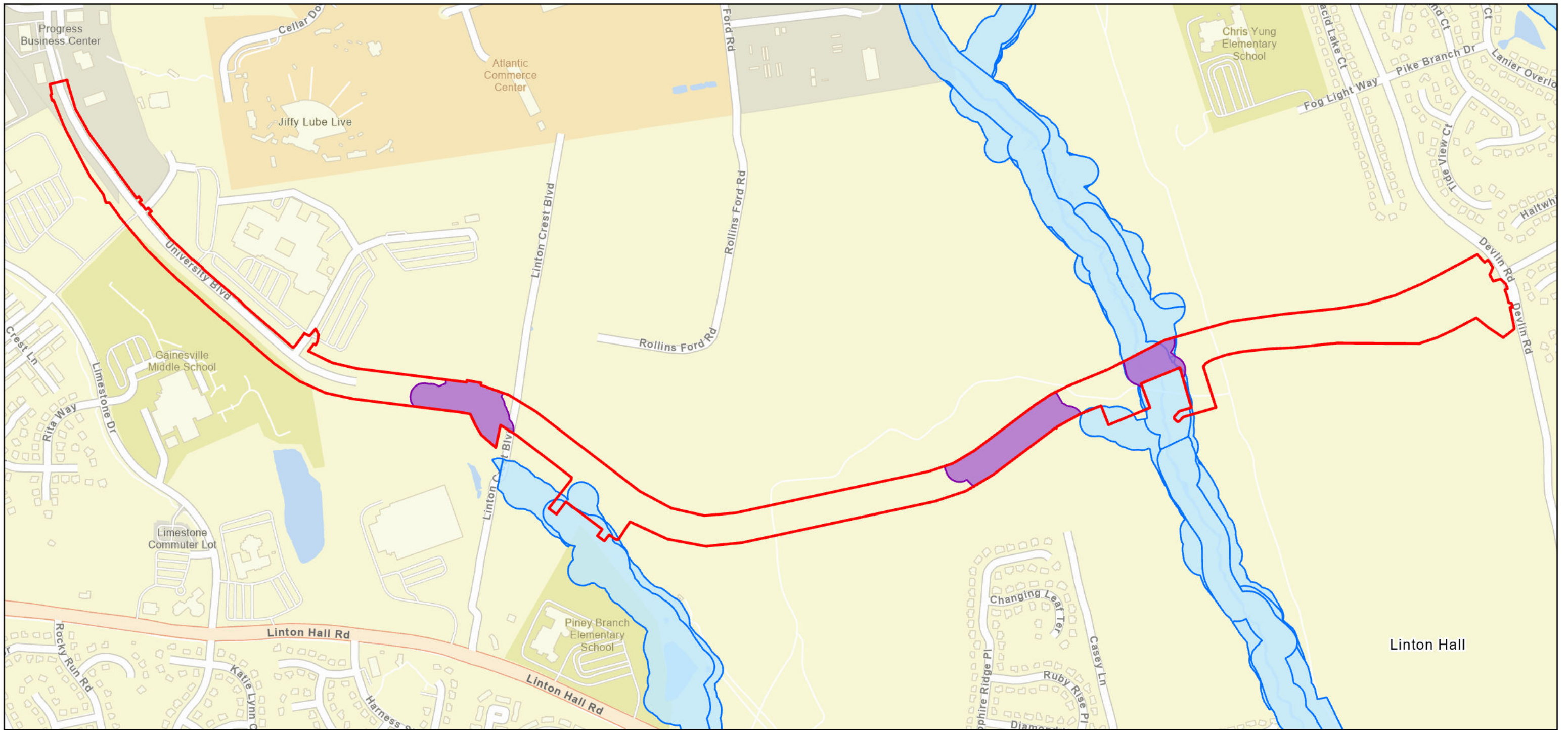
SCALE: 1" = 1,000'

AUG 2025



RESOURCE PROTECTION AREAS MAP





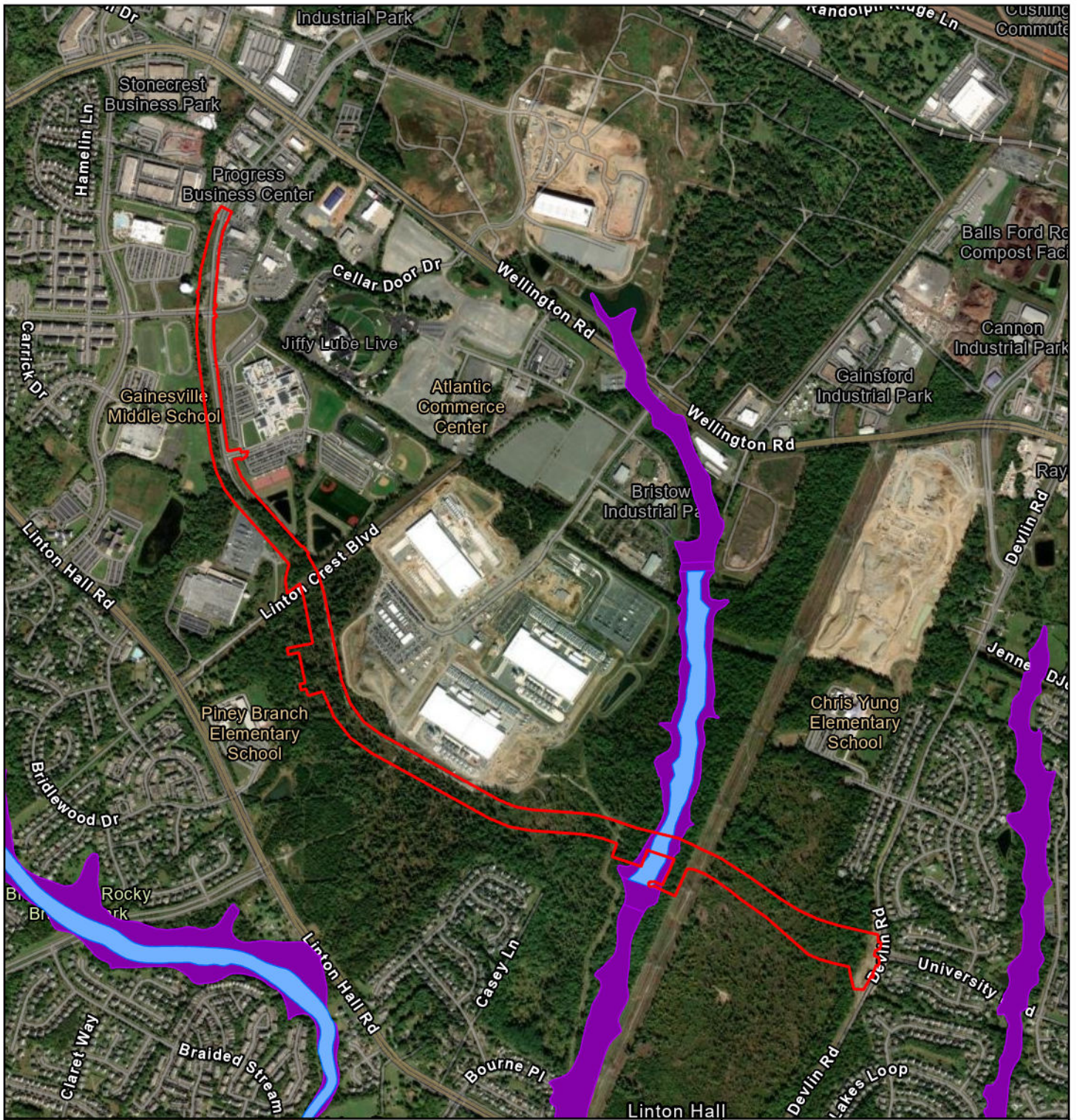
Legend

- Project Study Area
- Delineated Resource Protection Areas
- Resource Protection Areas (RPA)

UNIVERSITY BOULEVARD EXTENSION PRINCE WILLIAM COUNTY, VIRGINIA

SCALE: 1" = 700' AUGUST 2025





Legend

- Project Study Area
- 1% Annual Flood Chance Hazard
- Regulatory Floodway

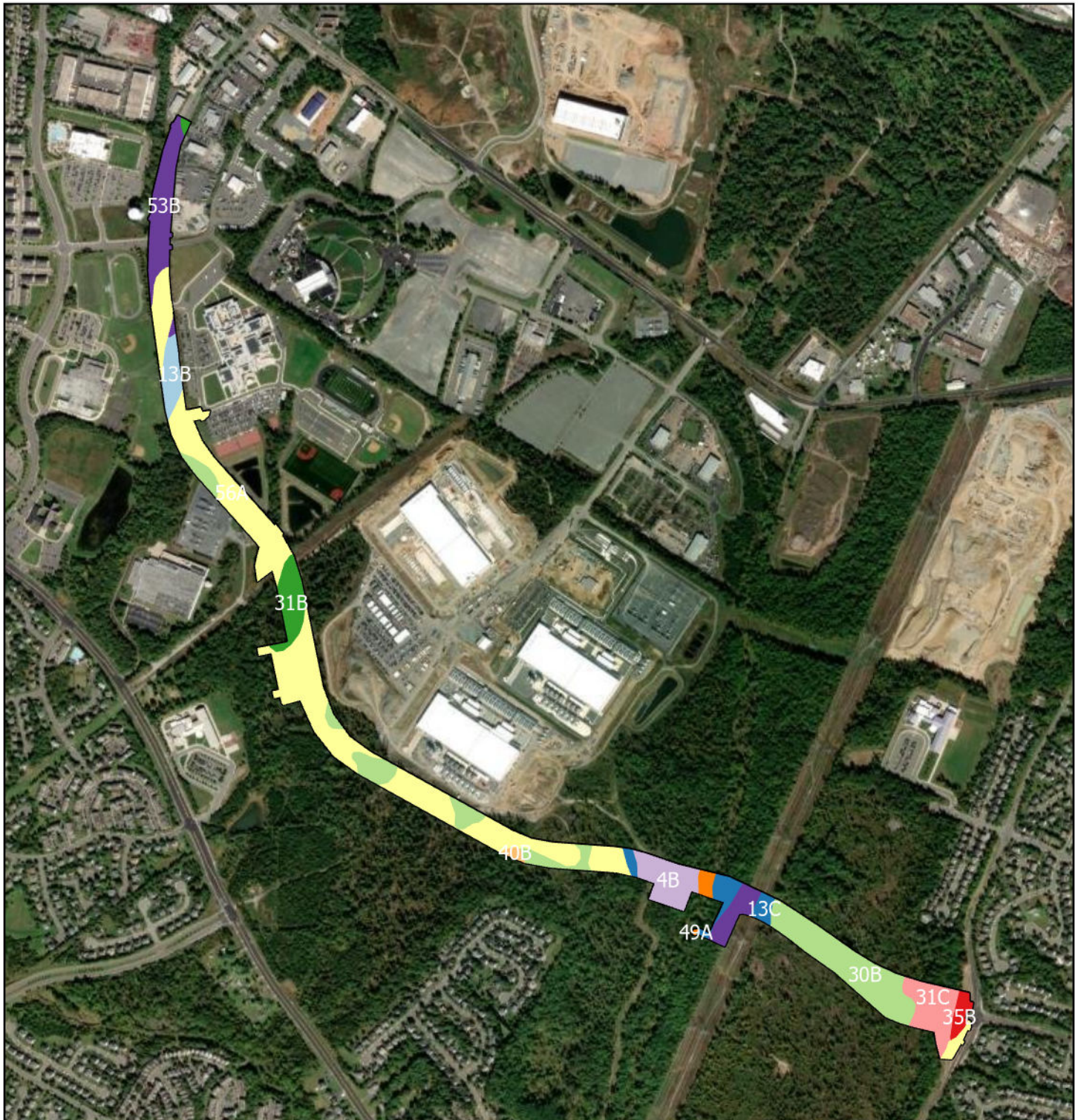
UNIVERSITY BOULEVARD EXTENSION

PRINCE WILLIAM COUNTY, VIRGINIA

SCALE: 1" = 2,000'	AUG 2025
--------------------	----------

0 1,000 2,000 Feet

FEMA FLOODPLAINS MAP



Legend

Project Study Area

Soil Series Unit Codes

- 13B Cattlet-Sycoline complex, 2 to 7% slopes (13B)
- 13C Cattlet-Sycoline complex, 7 to 15% slopes (13C)
- 30B Jackland silt loam, 2 to 7% slopes (30B)
- 31B Jackland-Haymarket complex, 2 to 7% slopes (31B)
- 31C Jackland-Haymarket complex, 7 to 15% slopes (31C)
- 35B Manassas silt loam, 2 to 7% slopes (35B)
- 40B Montalto silty clay loam, 2 to 7% slopes (40B)
- 49A Rowland silt loam, 0 to 2% slopes (49A)
- 4B Arcola silt loam, 2 to 7% slopes (4B)
- 53B Sycoline-Kelly complex, 2 to 7% slopes (53B)
- 56A Waxpool silt loam, 0 to 2% slopes (56A)

**UNIVERSITY BOULEVARD
EXTENSION**

PRINCE WILLIAM COUNTY, VIRGINIA

SCALE: 1" = 1,000' AUG 2025

USDA WEB SOIL SURVEY MAP



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Prince William County, Virginia

University Blvd Extension Project



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface	2
How Soil Surveys Are Made	5
Soil Map	8
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	11
Map Unit Descriptions.....	11
Prince William County, Virginia.....	14
4B—Arcola silt loam, 2 to 7 percent slopes.....	14
13B—Catlett-Sycoline complex, 2 to 7 percent slopes.....	15
13C—Catlett-Sycoline complex, 7 to 15 percent slopes.....	17
30B—Jackland silt loam, 2 to 7 percent slopes.....	19
31B—Jackland-Haymarket complex, 2 to 7 percent slopes.....	20
31C—Jackland-Haymarket complex, 7 to 15 percent slopes.....	21
35B—Manassas silt loam, 2 to 7 percent slopes.....	23
40B—Montalto silty clay loam, 2 to 7 percent slopes.....	24
49A—Rowland silt loam, 0 to 2 percent slopes.....	25
53B—Sycoline-Kelly complex, 2 to 7 percent slopes.....	26
56A—Waxpool silt loam, 0 to 2 percent slopes.....	28
References	30

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

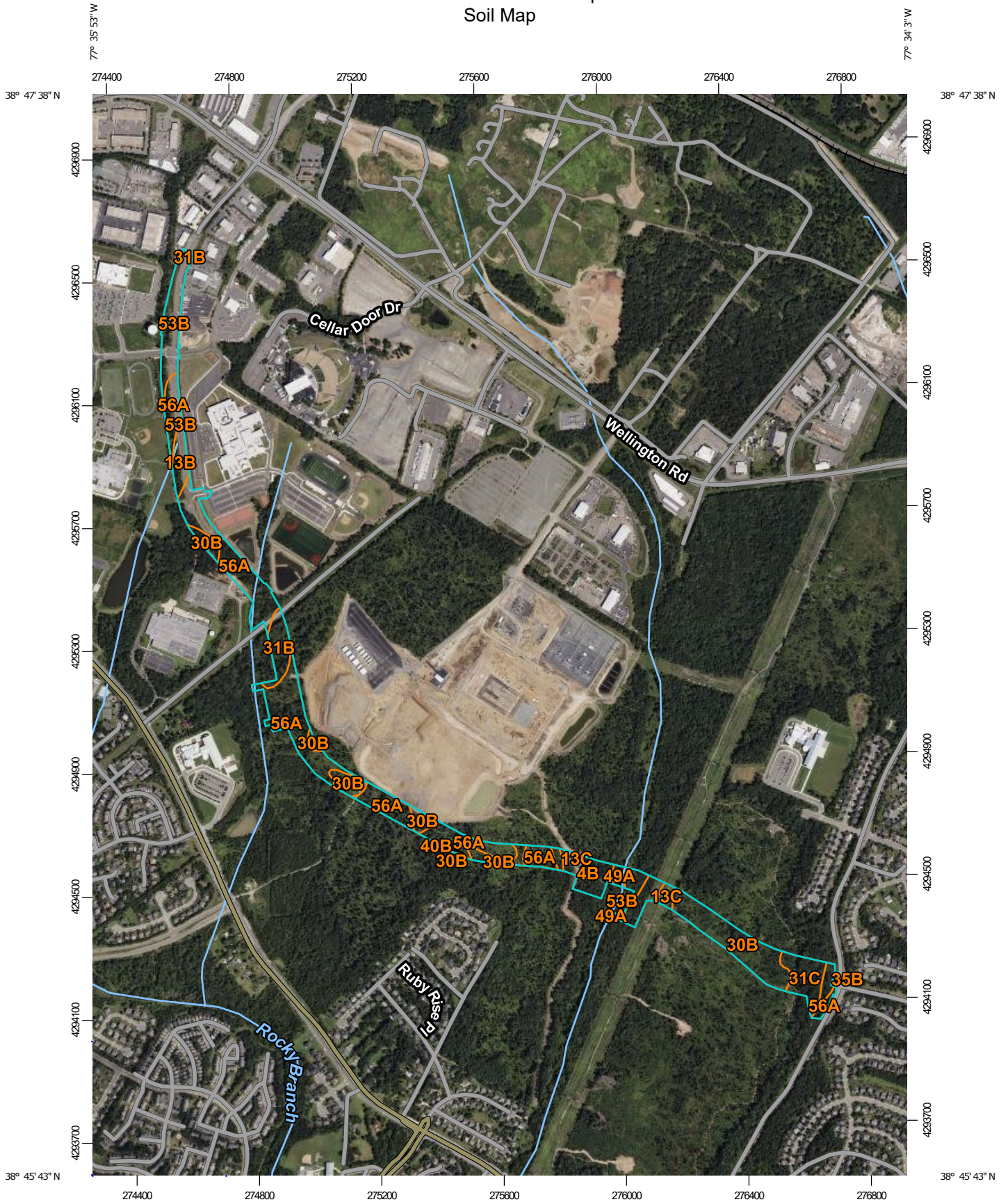
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

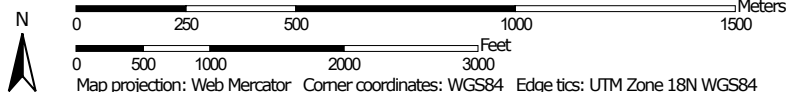
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map




Map Scale: 1:17,200 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge ticks: UTM Zone 18N WGS84


MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)




















Soils







 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features


Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

Soil Survey Area: Prince William County, Virginia
 Survey Area Data: Version 21, Aug 28, 2024

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

Date(s) aerial images were photographed: Jun 30, 2022—Oct 6, 2022

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
4B	Arcola silt loam, 2 to 7 percent slopes	4.0	5.9%
13B	Catlett-Sycoline complex, 2 to 7 percent slopes	2.1	3.0%
13C	Catlett-Sycoline complex, 7 to 15 percent slopes	2.6	3.8%
30B	Jackland silt loam, 2 to 7 percent slopes	14.7	21.5%
31B	Jackland-Haymarket complex, 2 to 7 percent slopes	3.2	4.7%
31C	Jackland-Haymarket complex, 7 to 15 percent slopes	4.2	6.1%
35B	Manassas silt loam, 2 to 7 percent slopes	1.0	1.5%
40B	Montalto silty clay loam, 2 to 7 percent slopes	0.3	0.5%
49A	Rowland silt loam, 0 to 2 percent slopes	0.7	1.0%
53B	Sycoline-Kelly complex, 2 to 7 percent slopes	7.4	10.8%
56A	Waxpool silt loam, 0 to 2 percent slopes	28.2	41.2%
Totals for Area of Interest		68.5	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called

Custom Soil Resource Report

noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can

Custom Soil Resource Report

be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Prince William County, Virginia

4B—Arcola silt loam, 2 to 7 percent slopes

Map Unit Setting

National map unit symbol: khcb
Elevation: 300 to 800 feet
Mean annual precipitation: 19 to 50 inches
Mean annual air temperature: 46 to 69 degrees F
Frost-free period: 168 to 211 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Arcola and similar soils: 80 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Arcola

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Triassic residuum

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 22 inches: gravelly silt loam
H3 - 22 to 28 inches: very gravelly silt loam
H4 - 28 to 48 inches: bedrock
H5 - 48 to 58 inches: bedrock

Properties and qualities

Slope: 2 to 7 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock; 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F148XY025PA - Moist, Triassic, Upland, Mixed Oak - Hardwood - Conifer Forest
Hydric soil rating: No

Minor Components

Albano

Percent of map unit: 5 percent
Landform: Depressions
Landform position (three-dimensional): Head slope
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

13B—Catlett-Sycoline complex, 2 to 7 percent slopes

Map Unit Setting

National map unit symbol: kh95
Elevation: 200 to 800 feet
Mean annual precipitation: 19 to 50 inches
Mean annual air temperature: 46 to 69 degrees F
Frost-free period: 168 to 211 days
Farmland classification: Not prime farmland

Map Unit Composition

Catlett and similar soils: 41 percent
Sycoline and similar soils: 39 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Catlett

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Triassic residuum

Typical profile

H1 - 0 to 6 inches: gravelly silt loam
H2 - 6 to 12 inches: very gravelly silt loam
H3 - 12 to 17 inches: extremely gravelly silt loam
H4 - 17 to 26 inches: bedrock
H5 - 26 to 36 inches: bedrock

Properties and qualities

Slope: 2 to 7 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high

Custom Soil Resource Report

Capacity of the most limiting layer to transmit water (Ksat): Very low to low (0.00 to 0.01 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: D

Ecological site: F148XY022PA - Dry, Triassic, Upland, Mixed Oak Heath / Oak-Pine Woodland

Hydric soil rating: No

Description of Sycoline

Setting

Landform: Hillslopes

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluve

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Triassic residuum

Typical profile

H1 - 0 to 9 inches: silt loam

H2 - 9 to 26 inches: silty clay loam

H3 - 26 to 33 inches: silt loam

H4 - 33 to 37 inches: bedrock

Properties and qualities

Slope: 2 to 7 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Moderately well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)

Depth to water table: About 18 to 36 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 5.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C

Ecological site: F148XY025PA - Moist, Triassic, Upland, Mixed Oak - Hardwood - Conifer Forest

Hydric soil rating: No

Minor Components

Albano

Percent of map unit: 3 percent

Landform: Depressions

Landform position (three-dimensional): Head slope

Down-slope shape: Linear

Custom Soil Resource Report

Across-slope shape: Concave
Hydric soil rating: Yes

13C—Catlett-Sycoline complex, 7 to 15 percent slopes

Map Unit Setting

National map unit symbol: kh96
Elevation: 0 to 800 feet
Mean annual precipitation: 19 to 50 inches
Mean annual air temperature: 46 to 69 degrees F
Frost-free period: 168 to 211 days
Farmland classification: Not prime farmland

Map Unit Composition

Catlett and similar soils: 41 percent
Sycoline and similar soils: 39 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Catlett

Setting

Landform: Hillslopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Triassic residuum

Typical profile

H1 - 0 to 6 inches: gravelly silt loam
H2 - 6 to 12 inches: very gravelly silt loam
H3 - 12 to 17 inches: extremely gravelly silt loam
H4 - 17 to 26 inches: bedrock
H5 - 26 to 36 inches: bedrock

Properties and qualities

Slope: 7 to 15 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to low (0.00 to 0.01 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Custom Soil Resource Report

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: D

Ecological site: F148XY022PA - Dry, Triassic, Upland, Mixed Oak Heath / Oak-Pine Woodland

Hydric soil rating: No

Description of Sycoline

Setting

Landform: Hillslopes

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Interfluve

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Triassic residuum

Typical profile

H1 - 0 to 9 inches: silt loam

H2 - 9 to 26 inches: silty clay loam

H3 - 26 to 33 inches: silt loam

H4 - 33 to 37 inches: bedrock

Properties and qualities

Slope: 7 to 15 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Moderately well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)

Depth to water table: About 18 to 36 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 5.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

Ecological site: F148XY025PA - Moist, Triassic, Upland, Mixed Oak - Hardwood - Conifer Forest

Hydric soil rating: No

Minor Components

Albano

Percent of map unit: 3 percent

Landform: Depressions

Landform position (three-dimensional): Head slope

Down-slope shape: Linear

Across-slope shape: Concave

Hydric soil rating: Yes

30B—Jackland silt loam, 2 to 7 percent slopes

Map Unit Setting

National map unit symbol: khb6
Elevation: 350 to 1,000 feet
Mean annual precipitation: 19 to 50 inches
Mean annual air temperature: 46 to 69 degrees F
Frost-free period: 168 to 211 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Jackland and similar soils: 80 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Jackland

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Mixed mafic residuum

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 15 inches: silt loam
H3 - 15 to 38 inches: clay
H4 - 38 to 60 inches: loam

Properties and qualities

Slope: 2 to 7 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: D
Ecological site: F148XY026PA - Moist, High Base-Saturation, Upland, Mixed Oak
- Hickory - Conifer Forest
Hydric soil rating: No

31B—Jackland-Haymarket complex, 2 to 7 percent slopes

Map Unit Setting

National map unit symbol: khb7
Elevation: 0 to 1,000 feet
Mean annual precipitation: 19 to 50 inches
Mean annual air temperature: 46 to 69 degrees F
Frost-free period: 168 to 211 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Jackland and similar soils: 50 percent
Haymarket and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Jackland

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Mixed mafic residuum

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 15 inches: silt loam
H3 - 15 to 38 inches: clay
H4 - 38 to 60 inches: loam

Properties and qualities

Slope: 2 to 7 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: D
Ecological site: F148XY026PA - Moist, High Base-Saturation, Upland, Mixed Oak
- Hickory - Conifer Forest
Hydric soil rating: No

Description of Haymarket

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Mixed mafic residuum

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 13 inches: silt loam
H3 - 13 to 38 inches: clay
H4 - 38 to 46 inches: silty clay loam
H5 - 46 to 72 inches: loam

Properties and qualities

Slope: 2 to 7 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F148XY026PA - Moist, High Base-Saturation, Upland, Mixed Oak
- Hickory - Conifer Forest
Hydric soil rating: No

31C—Jackland-Haymarket complex, 7 to 15 percent slopes

Map Unit Setting

National map unit symbol: khb8
Elevation: 0 to 1,000 feet
Mean annual precipitation: 19 to 50 inches
Mean annual air temperature: 46 to 69 degrees F
Frost-free period: 168 to 211 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Jackland and similar soils: 50 percent
Haymarket and similar soils: 30 percent

Custom Soil Resource Report

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Jackland

Setting

Landform: Hillslopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Mixed mafic residuum

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 15 inches: silt loam
H3 - 15 to 38 inches: clay
H4 - 38 to 60 inches: loam

Properties and qualities

Slope: 7 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: F148XY026PA - Moist, High Base-Saturation, Upland, Mixed Oak
- Hickory - Conifer Forest
Hydric soil rating: No

Description of Haymarket

Setting

Landform: Hillslopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Mixed mafic residuum

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 13 inches: silt loam
H3 - 13 to 38 inches: clay
H4 - 38 to 46 inches: silty clay loam
H5 - 46 to 72 inches: loam

Properties and qualities

Slope: 7 to 15 percent
Depth to restrictive feature: More than 80 inches

Custom Soil Resource Report

Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: F148XY026PA - Moist, High Base-Saturation, Upland, Mixed Oak
- Hickory - Conifer Forest
Hydric soil rating: No

35B—Manassas silt loam, 2 to 7 percent slopes

Map Unit Setting

National map unit symbol: khbj
Elevation: 400 to 800 feet
Mean annual precipitation: 19 to 50 inches
Mean annual air temperature: 46 to 69 degrees F
Frost-free period: 168 to 211 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Manassas and similar soils: 85 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Manassas

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Triassic residuum

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 43 inches: silt loam
H3 - 43 to 49 inches: channery sandy loam
H4 - 49 to 60 inches: bedrock

Properties and qualities

Slope: 2 to 7 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock

Custom Soil Resource Report

Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 24 to 36 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F148XY025PA - Moist, Triassic, Upland, Mixed Oak - Hardwood - Conifer Forest
Hydric soil rating: No

Minor Components

Albano

Percent of map unit: 3 percent
Landform: Depressions
Landform position (three-dimensional): Head slope
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

40B—Montalto silty clay loam, 2 to 7 percent slopes

Map Unit Setting

National map unit symbol: khbs
Elevation: 80 to 2,000 feet
Mean annual precipitation: 19 to 50 inches
Mean annual air temperature: 46 to 69 degrees F
Frost-free period: 168 to 211 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Montalto and similar soils: 80 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Montalto

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Mixed mafic residuum

Typical profile

H1 - 0 to 7 inches: silty clay loam
H2 - 7 to 35 inches: clay
H3 - 35 to 45 inches: cobbly clay
H4 - 45 to 62 inches: cobbly loam
H5 - 62 to 66 inches: bedrock

Properties and qualities

Slope: 2 to 7 percent
Depth to restrictive feature: 60 to 120 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F148XY026PA - Moist, High Base-Saturation, Upland, Mixed Oak - Hickory - Conifer Forest
Hydric soil rating: No

49A—Rowland silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: khc9
Elevation: 300 to 600 feet
Mean annual precipitation: 19 to 50 inches
Mean annual air temperature: 46 to 69 degrees F
Frost-free period: 168 to 211 days
Farmland classification: Not prime farmland

Map Unit Composition

Rowland and similar soils: 80 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rowland

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 11 inches: silt loam

Custom Soil Resource Report

H2 - 11 to 28 inches: silt loam
H3 - 28 to 48 inches: channery silty clay loam
H4 - 48 to 65 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 1.98 in/hr)
Depth to water table: About 12 to 36 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C
Ecological site: F148XY028PA - Moist, Triassic, Riparian Zone, Ecotonal
Meadow-Shrub-Forest
Hydric soil rating: No

53B—Sycoline-Kelly complex, 2 to 7 percent slopes

Map Unit Setting

National map unit symbol: khck
Elevation: 0 to 480 feet
Mean annual precipitation: 19 to 50 inches
Mean annual air temperature: 46 to 69 degrees F
Frost-free period: 168 to 211 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Sycoline and similar soils: 50 percent
Kelly and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sycoline

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Triassic residuum

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 17 inches: silty clay loam

Custom Soil Resource Report

H3 - 17 to 28 inches: silt loam

H4 - 28 to 38 inches: bedrock

Properties and qualities

Slope: 2 to 7 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Moderately well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)

Depth to water table: About 18 to 36 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: D

*Ecological site: F148XY025PA - Moist, Triassic, Upland, Mixed Oak - Hardwood -
Conifer Forest*

Hydric soil rating: No

Description of Kelly

Setting

Landform: Hillslopes

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluve

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Triassic residuum

Typical profile

H1 - 0 to 9 inches: silt loam

H2 - 9 to 38 inches: clay

H3 - 38 to 41 inches: gravelly silty clay

H4 - 41 to 45 inches: bedrock

H5 - 45 to 55 inches: bedrock

Properties and qualities

Slope: 2 to 7 percent

*Depth to restrictive feature: 40 to 60 inches to lithic bedrock; 40 to 60 inches to
paralithic bedrock*

Drainage class: Moderately well drained

Runoff class: Very high

*Capacity of the most limiting layer to transmit water (Ksat): Very low to low (0.00 to
0.01 in/hr)*

Depth to water table: About 18 to 30 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4w

Hydrologic Soil Group: D

Custom Soil Resource Report

Ecological site: F148XY026PA - Moist, High Base-Saturation, Upland, Mixed Oak
- Hickory - Conifer Forest
Hydric soil rating: No

56A—Waxpool silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: khcq
Elevation: 400 to 800 feet
Mean annual precipitation: 19 to 50 inches
Mean annual air temperature: 46 to 69 degrees F
Frost-free period: 168 to 211 days
Farmland classification: Not prime farmland

Map Unit Composition

Waxpool and similar soils: 80 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Waxpool

Setting

Landform: Flats
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed mafic residuum

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 12 inches: clay loam
H3 - 12 to 35 inches: clay
H4 - 35 to 43 inches: clay loam
H5 - 43 to 72 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D

Custom Soil Resource Report

Ecological site: F148XY032PA - Hydric, High Base-Saturation, Riparian Zone,
Swamp Meadow-Shrub-Forest

Hydric soil rating: Yes

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

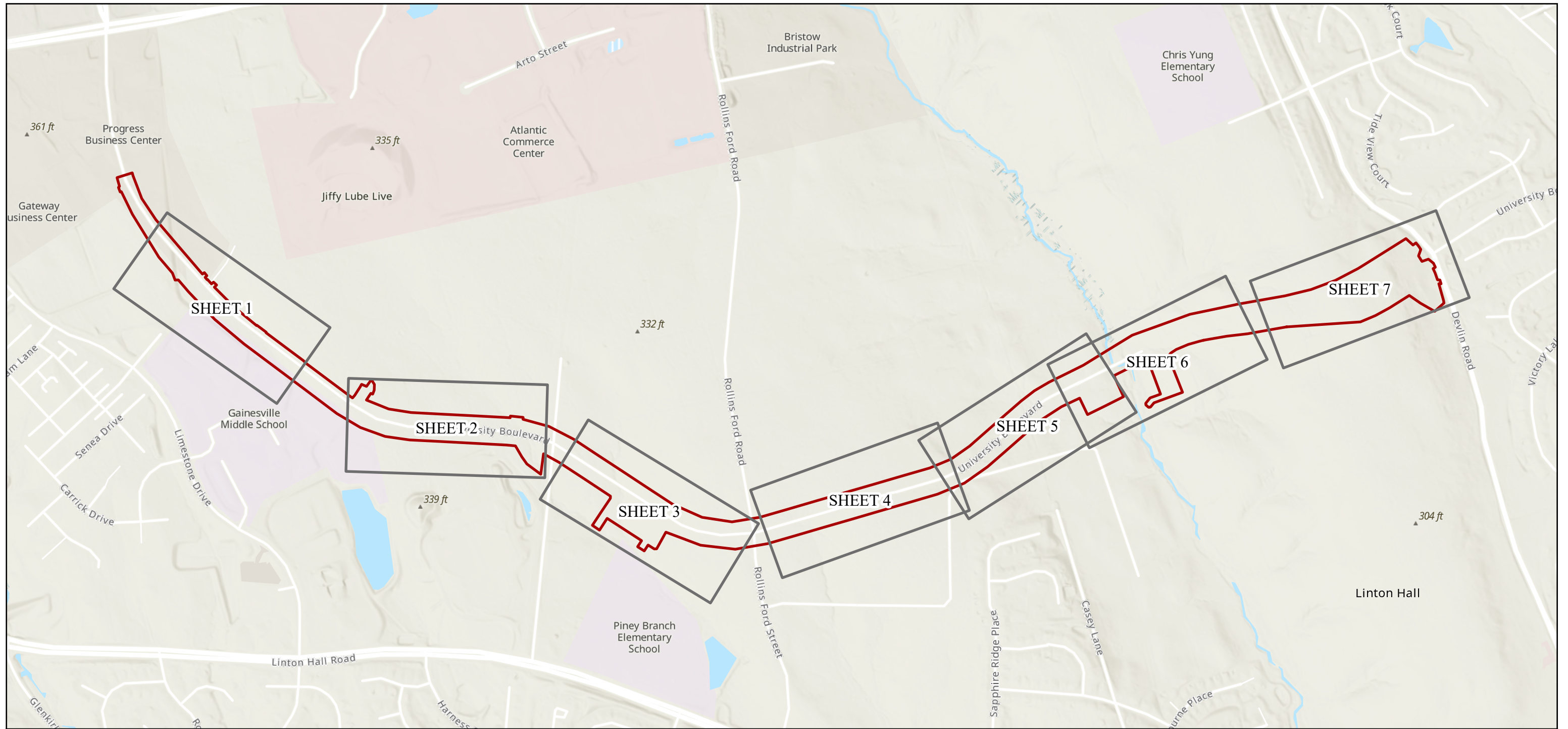
United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

APPENDIX

C NATURAL RESOURCES DELINEATION MAP





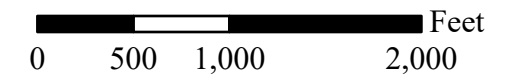
- Project Study Area
- Index Sheet Extents

**UNIVERSITY BOULEVARD EXTENSION PROJECT
PRINCE WILLIAM COUNTY, VA**

AUG 2025

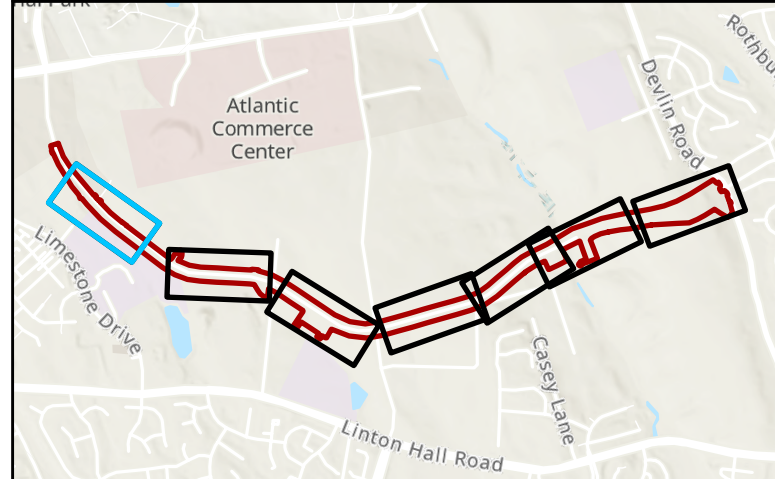
SCALE: 1" = 1,000'

COVER SHEET



NATURAL RESOURCES MAPPING





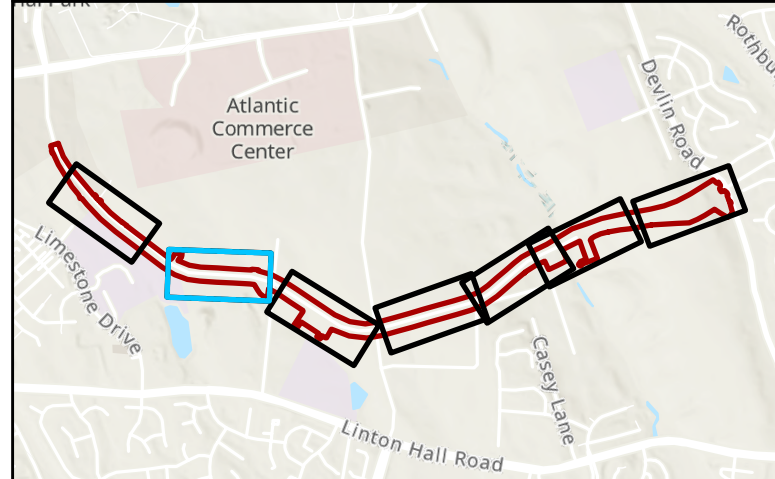
Project Study Area	Drainage Ditch	Flow Lines
Wetland Data Points	Resource Protection Areas	Stormwater Pond
Watercourse Data Points	Watercourse (OHWM < 5')	Wetland
Upland Data Points	Ephemeral	Palustrine Emergent
Drain Data Points	Intermittent	Palustrine Forested
General Data Points	Perennial	Palustrine Scrub Shrub
	Watercourse (OHWM > 5')	
	Perennial	

UNIVERSITY BOULEVARD EXTENSION PROJECT
PRINCE WILLIAM COUNTY, VA

AUG 2025	SCALE: 1" = 100'	SHEET 1 OF 7
----------	------------------	--------------

Feet
0 50 100 200

NATURAL RESOURCES MAPPING



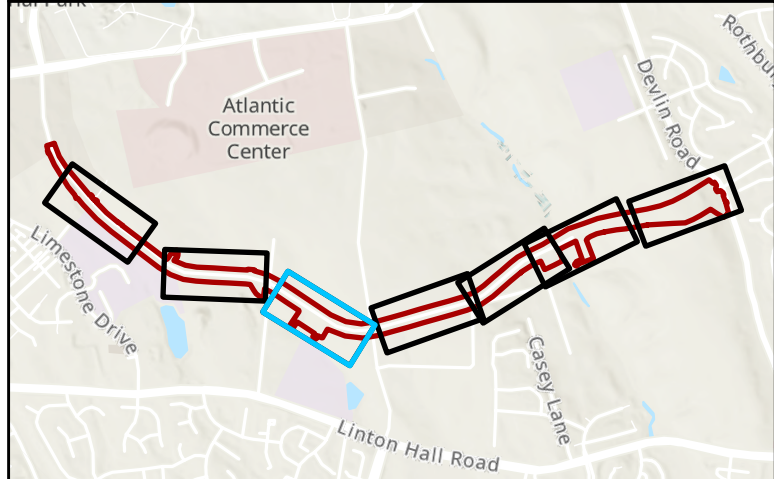
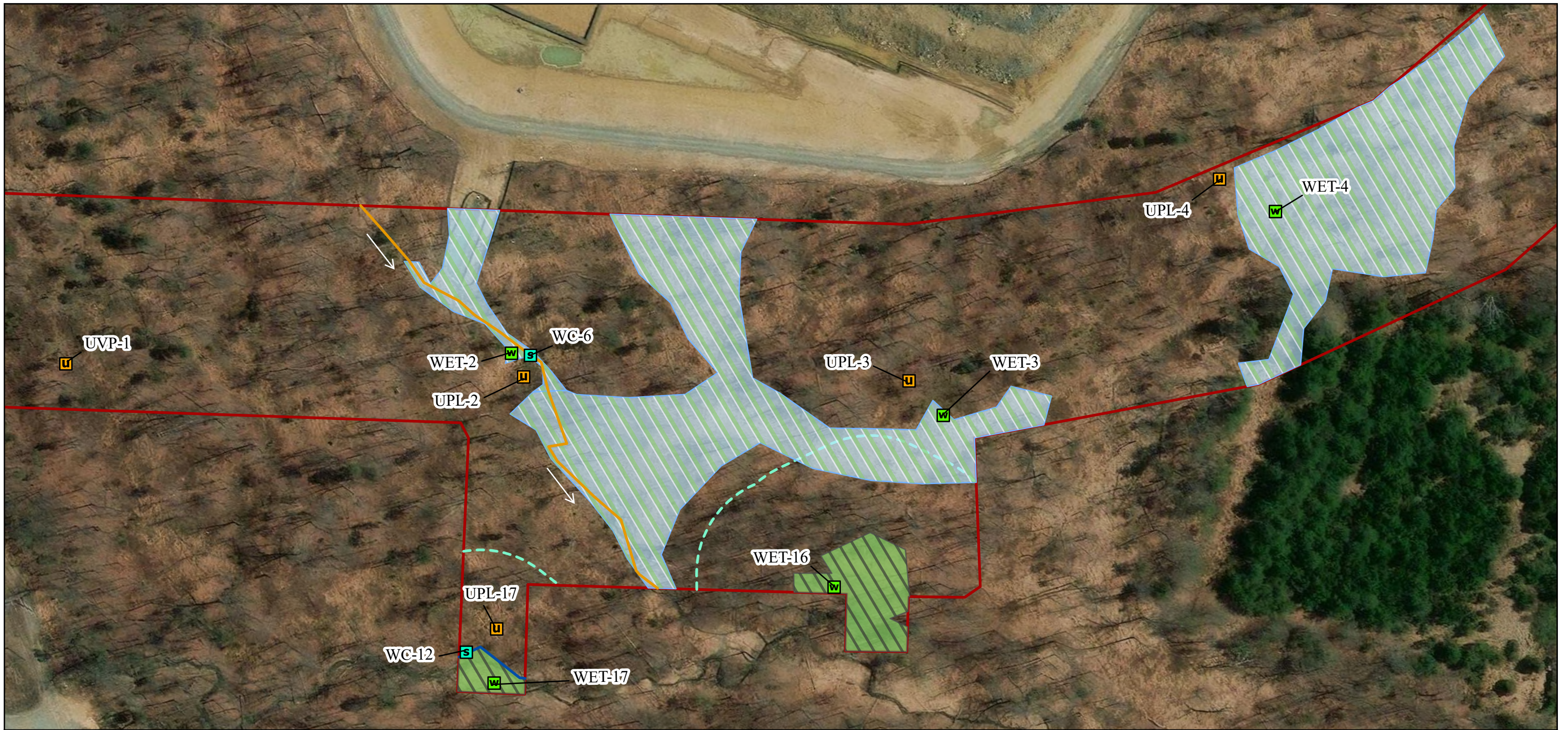
Project Study Area	Drainage Ditch	Flow Lines
Wetland Data Points	Resource Protection Areas	Stormwater Pond
Watercourse Data Points	Watercourse (OHWM < 5')	Wetland
Upland Data Points	Ephemeral	Palustrine Emergent
Drain Data Points	Intermittent	Palustrine Forested
General Data Points	Perennial	Palustrine Scrub Shrub
	Watercourse (OHWM > 5')	
	Perennial	

UNIVERSITY BOULEVARD EXTENSION PROJECT
PRINCE WILLIAM COUNTY, VA

AUG 2025	SCALE: 1" = 100'	SHEET 2 OF 7
----------	------------------	--------------

Feet
0 50 100 200

NATURAL RESOURCES MAPPING



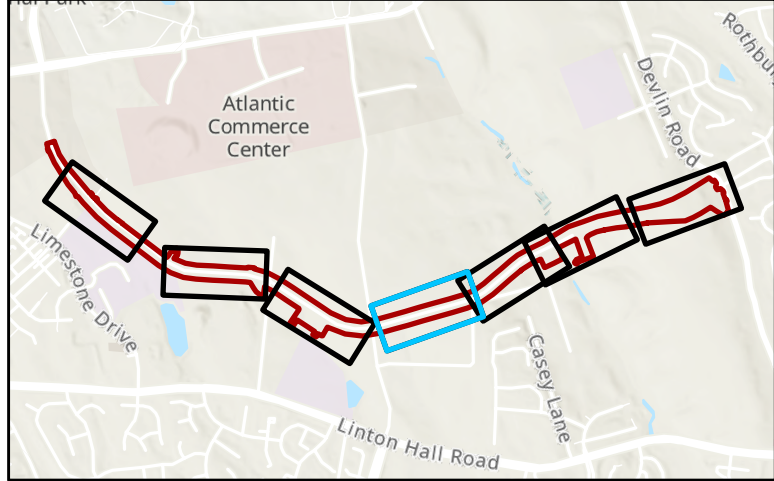
Project Study Area	Drainage Ditch	Flow Lines
Wetland Data Points	Resource Protection Areas	Stormwater Pond
Watercourse Data Points	Watercourse (OHWM < 5')	Wetland
Upland Data Points	Ephemeral	Palustrine Emergent
Drain Data Points	Intermittent	Palustrine Forested
General Data Points	Perennial	Palustrine Scrub Shrub
	Watercourse (OHWM > 5')	
	Perennial	

UNIVERSITY BOULEVARD EXTENSION PROJECT
PRINCE WILLIAM COUNTY, VA

AUG 2025	SCALE: 1" = 100'	SHEET 3 OF 7
----------	------------------	--------------

Feet
0 50 100 200

NATURAL RESOURCES MAPPING



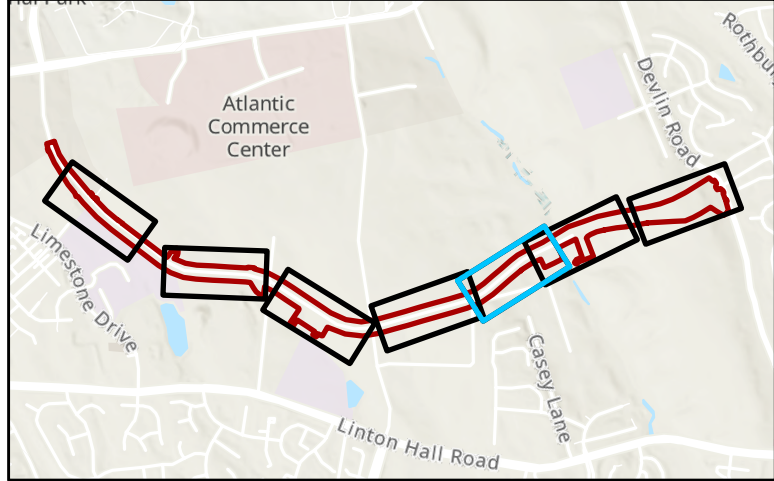
Project Study Area	Drainage Ditch	Flow Lines
Wetland Data Points	Resource Protection Areas	Stormwater Pond
Watercourse Data Points	Watercourse (OHWM < 5')	Wetland
Upland Data Points	Ephemeral	Palustrine Emergent
Drain Data Points	Intermittent	Palustrine Forested
General Data Points	Perennial	Palustrine Scrub Shrub
	Watercourse (OHWM > 5')	
	Perennial	

UNIVERSITY BOULEVARD EXTENSION PROJECT
PRINCE WILLIAM COUNTY, VA

AUG 2025	SCALE: 1" = 100'	SHEET 4 OF 7
----------	------------------	--------------

Feet
0 50 100 200

NATURAL RESOURCES MAPPING



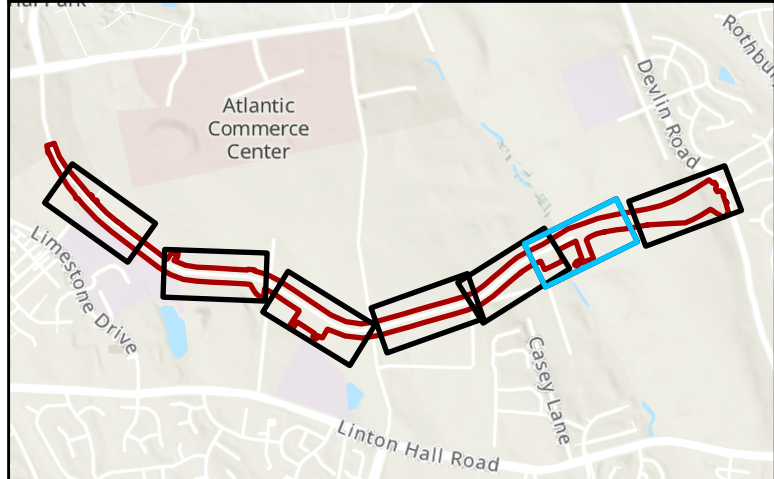
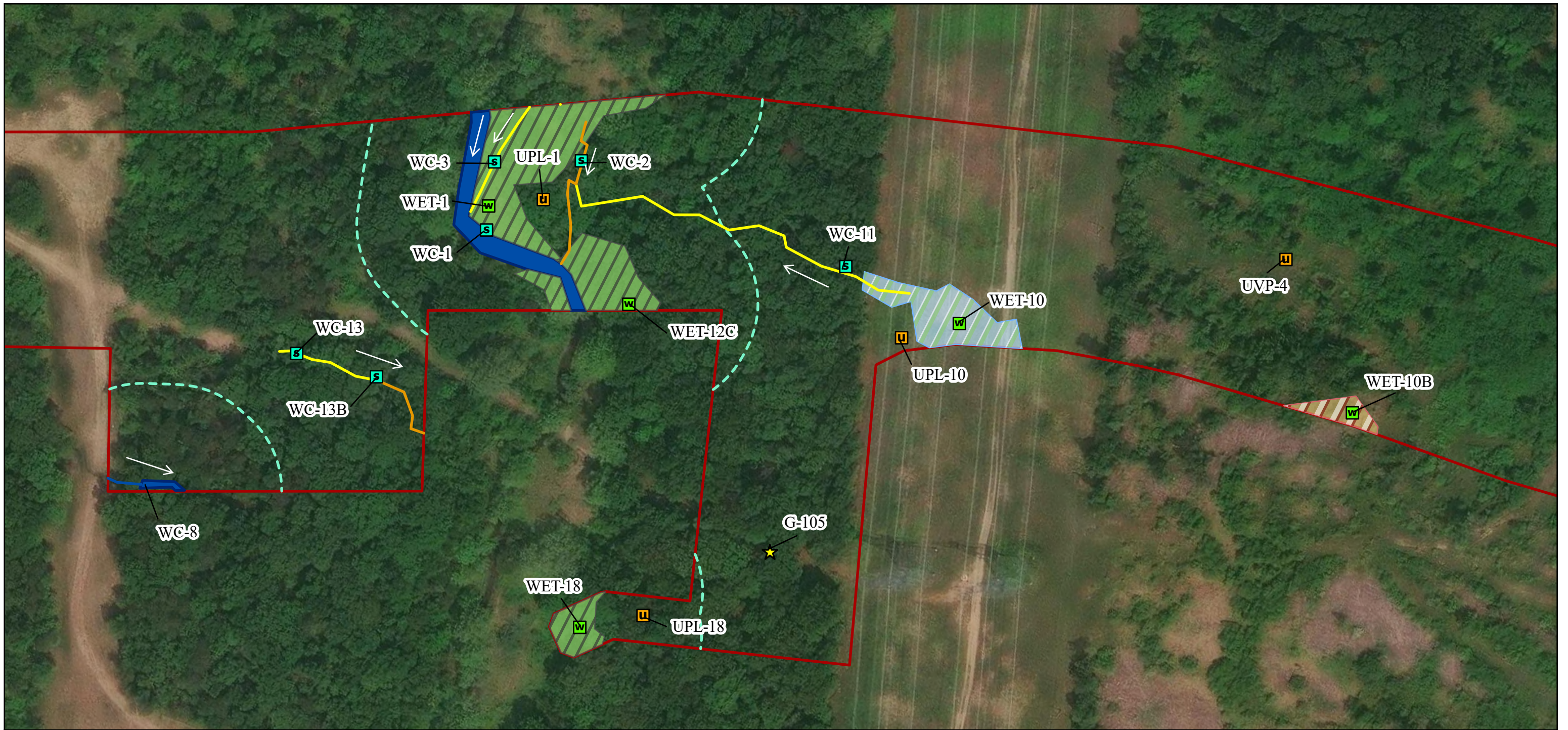
Project Study Area	Drainage Ditch	Flow Lines
Wetland Data Points	Resource Protection Areas	Stormwater Pond
Watercourse Data Points	Watercourse (OHWM < 5')	Wetland
Upland Data Points	Ephemeral	Palustrine Emergent
Drain Data Points	Intermittent	Palustrine Forested
General Data Points	Perennial	Palustrine Scrub Shrub
	Watercourse (OHWM > 5')	
	Perennial	

UNIVERSITY BOULEVARD EXTENSION PROJECT
PRINCE WILLIAM COUNTY, VA

AUG 2025	SCALE: 1" = 100'	SHEET 5 OF 7
----------	------------------	--------------

Feet
0 50 100 200

NATURAL RESOURCES MAPPING



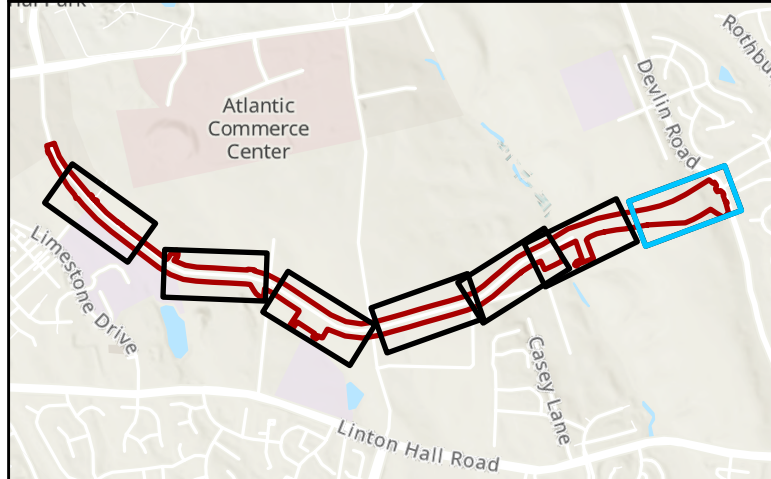
Project Study Area	Drainage Ditch	Flow Lines
Wetland Data Points	Resource Protection Areas	Stormwater Pond
Watercourse Data Points	Watercourse (OHWM < 5')	Wetland
Upland Data Points	Ephemeral	Palustrine Emergent
Drain Data Points	Intermittent	Palustrine Forested
General Data Points	Watercourse (OHWM > 5')	Palustrine Scrub Shrub
	Perennial	
	Perennial	

UNIVERSITY BOULEVARD EXTENSION PROJECT
PRINCE WILLIAM COUNTY, VA

AUG 2025	SCALE: 1" = 100'	SHEET 6 OF 7
----------	------------------	--------------

Feet
0 50 100 200

NATURAL RESOURCES MAPPING



Project Study Area	Drainage Ditch	Flow Lines
Wetland Data Points	Resource Protection Areas	Stormwater Pond
Watercourse Data Points	Watercourse (OHWM < 5')	Wetland
Upland Data Points	Ephemeral	Palustrine Emergent
Drain Data Points	Intermittent	Palustrine Forested
General Data Points	Perennial	Palustrine Scrub Shrub
	Watercourse (OHWM > 5')	
	Perennial	

UNIVERSITY BOULEVARD EXTENSION PROJECT
PRINCE WILLIAM COUNTY, VA

AUG 2025	SCALE: 1" = 100'	SHEET 7 OF 7
----------	------------------	--------------

Feet
0 50 100 200

NATURAL RESOURCES MAPPING

APPENDIX

D PHOTO LOG





University Boulevard
Natural Resource Delineation Photo Log

April 2025

WETLAND & UPLAND PHOTOS



WET-1, Overview, PFO



UPL-1, Overview



WET-2, Overview, PEM



UPL-2, Overview



WET-3, Overview, PEM



UPL-3, Overview



WET-4, Overview, PEM



UPL-4, Overview



WET-5, Overview, PSS



UPL-5, Overview



WET-6, Overview, PSS



UPL-6, Overview



WET-6C, Overview, PFO



WET-6C, Overview, PFO



WET-7, Overview, PSS



UPL-7, Overview



WET-8, Overview, PSS



UPL-8, Overview



WET-9, Overview, PEM



UPL-9, Overview



WET-10, Overview, PEM



UPL-10, Overview



WET-10B, Overview, PSS



UPL-10, Overview



WET-11, Overview, PEM



UPL-11, Overview



WET-12C, Overview, PFO



UPL-12, Overview



WET-13, Overview, PFO



UPL-13, Overview



WET-13A, Overview, PEM



UPL-13, Overview



WET-13B, Overview, PFO



UPL-13B, Overview



WET-14, Overview, PEM



UPL-14, Overview



WET-15, Overview, PEM



UPL-15, Overview



WET-16, Overview, PFO



WET-17, Overview, PFO



UPL-17, Overview



WET-18, Overview, PFO



UPL-18, Overview



Upland Verification Photos



UVP-1, Overview



UVP-2, Overview



UVP-4, Overview



UVP-5, Overview



UVP-6, Overview



Watercourse Photos



WC-1, Perennial, Upstream



WC-1, Perennial, Downstream



WC-2, Intermittent, Upstream



WC-2, Intermittent, Downstream



WC-3, Ephemeral, Upstream



WC-3, Ephemeral, Downstream



WC-6, Intermittent, Upstream



WC-6, Intermittent, Downstream



WC-8, Perennial, Upstream



WC-8, Perennial, Downstream



WC-9, Intermittent, Upstream



WC-9, Intermittent, Downstream



WC-9, Intermittent, Upstream



WC-9, Intermittent, Downstream



WC-10, Perennial, Upstream



WC-10, Perennial, Downstream



WC-11, Ephemeral, Upstream



WC-11, Ephemeral, Downstream



WC-12, Perennial, Upstream



WC-12, Perennial, Downstream



WC-13, Ephemeral, Upstream



WC-13, Ephemeral, Downstream



WC-13B, Intermittent, Upstream



WC-13B, Intermittent, Downstream



WC-14, Perennial, Upstream



WC-14, Perennial, Downstream



WC-15, Intermittent, Upstream



WC-15, Intermittent, Downstream



Drain Photos



D-001, Upstream



D-001, Downstream



D-002, Upstream



D-002, Downstream



D-003, Overview



D-004, Overview



D-005, Upstream



D-005, Downstream



D-006, Upstream



D-006, Downstream



General Photos



G-1, Culvert outside Study Area



G-2, Man-made pool



G-2, Excavated material pile



G-3, Man-made pool



G-100, LOD Extension Area, Upland



G-101, LOD Extension Area, Upland



G-102, LOD Extension Area, Upland



G-103, LOD Extension Area, Upland



G-104, SWM Pond



G-104, SWM Pond



G-105, LOD Extension Area, Upland Forest

APPENDIX

E WATERCOURSE AND WETLAND DATASHEETS



Site Name: University Blvd Stream ID: WC-1 Date: 3/6/25

Watercourse Datasheet

HUC Code: 02070010 Latitude: 38.7709446 Longitude: -77.5784527

Observers: CH, SL, SH, KG Current Weather: Cloudy City/State: Gainesville VA

Flow Type:

Ephemeral Intermittent Perennial Cowardin Class: R2SBH

Justification: Classified as R2UBH by Virginia DEQ. Streambed material as substrate.

Channel Characteristics: Sinuuous, perennial channel

Natural Artificial (Man-made) Manipulated (Man-altered)

Channel Gradient: (%) 5 **Avg Bank Slope:** Vertical 2:1 3:1 4:1 or greater

Channel OHWM and Banks (check all that apply):

Bed and Banks

OHWM

- clear, natural line impressed on the bank
- changes in character of soil
- shelving
- vegetation matted down, bent, or absent
- leaf litter disturbed or washed away
- sediment deposition
- water staining
- destruction of terrestrial vegetation
- presence of wrack line
- sediment sorting
- scour
- multiple observed or predicted flow events
- abrupt change in plant community
- the presence of litter and debris

Channel Flow: Perceptible Flow? (Yes/No) Yes Flow Direction: SE

Average channel measurements:

OHWM Width: 11 Bankful Width: 13 Bank Height: 3 Water Depth: 0.5-2

Hydrological Connectivity:

Upstream Connection: Wetland Downstream Connection: Wetland Adjacent/Abutting: Wetland

Substrate: Bedrock Rubble Cobble Gravel Sand Mud
 Organic Vegetation Other: _____

Bank Erosion: LB: Severe Moderate Minor Describe: Exposed bank/scour

RB: Severe Moderate Minor Describe: Exposed bank scour

Riparian Zone / Adjacent Ecological Communities: (forest, residential community, wetland, etc.)

LB: Describe: Delineated wetland

Buffer Width (LB): > 100' % Shading by Woody Species (LB) 25

RB: Describe: Delineated wetland

Buffer Width (RB): > 100' % Shading by Woody Species (RB) 35

Stream Mesohabitat: % Riffle: 20 % Run: 30 % Pool: 50

Wildlife Observations: Mollusks in channel

Connection to TNW: WC1 to Rocky Branch to Broad Run - eventually flowing into TNW Occoquan

Other Comments: River

RPA score: 40.25. Mapped NWI Stream (R2UBH).

Site Name: University Blvd Stream ID: WC-2 Date: 3/6/25

Watercourse Datasheet

HUC Code: 02070010 Latitude: 38.7710449 Longitude: -77.5780485

Observers: CH, KG Current Weather: CLOUDY City/State: GAINESVILLE VA

Flow Type:

Ephemeral Intermittent Perennial Cowardin Class: R4UBH

Justification: Rained within 48 hours - most likely receives some flow from groundwater

Channel Characteristics: Natural channel no signs of human alteration

Natural Artificial (Man-made) Manipulated (Man-altered)

Channel Gradient: (%): 3 **Avg Bank Slope:** Vertical 2:1 3:1 4:1 or greater

Channel OHWM and Banks (check all that apply):

Bed and Banks

OHWM

- | | |
|--|---|
| <input type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> destruction of terrestrial vegetation |
| <input type="checkbox"/> changes in character of soil | <input type="checkbox"/> presence of wrack line |
| <input type="checkbox"/> shelving | <input type="checkbox"/> sediment sorting |
| <input type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> scour |
| <input type="checkbox"/> leaf litter disturbed or washed away | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> sediment deposition | <input type="checkbox"/> abrupt change in plant community |
| <input type="checkbox"/> water staining | <input type="checkbox"/> the presence of litter and debris |

Channel Flow: Perceptible Flow? (Yes/No) Yes Flow Direction: SW

Average channel measurements:

OHWM Width: 3' Bankful Width: 4' Bank Height: 2' Water Depth: 3"

Hydrological Connectivity:

Upstream Connection: Wetland Downstream Connection: WC1 Adjacent/Abutting: Wetland

Substrate: Bedrock Rubble Cobble Gravel Sand Mud
 Organic Vegetation Other: _____

Bank Erosion: LB: Severe Moderate Minor Describe: _____

RB: Severe Moderate Minor Describe: _____

Riparian Zone / Adjacent Ecological Communities: (forest, residential community, wetland, etc.)

LB: Describe: Upland forest/Wetland

Buffer Width (LB): >100' % Shading by Woody Species (LB) 50

RB: Describe: Wetland/Upland Forest

Buffer Width (RB): >100' % Shading by Woody Species (RB) 40

Stream Mesohabitat: % Riffle: 0 % Run: 100 % Pool: 0

Wildlife Observations: N/A

Connection to TNW: WC1 to Rocky Branch to Broad Run to TNW Occoquan River

Other Comments: _____

Stream originates from seep within WET1. Flows into WC1. DWQ Score of 20.75.

Site Name: University Blvd Stream ID: WC-3 Date: 3/6/25

Watercourse Datasheet

HUC Code: 02070010 Latitude: 38.7711200 Longitude: -77.5783473

Observers: KG, CH Current Weather: Cloudy City/State: Gainesville, VA

Flow Type:

Ephemeral Intermittent Perennial Cowardin Class: R6

Justification: No observed flow with standing water in deep areas. Large rain event yesterday

Channel Characteristics: _____

Natural Artificial (Man-made) Manipulated (Man-altered)

Channel Gradient: (%) 2 Avg Bank Slope: Vertical 2:1 3:1 4:1 or greater

Channel OHWM and Banks (check all that apply):

Bed and Banks

OHWM

- | | |
|--|---|
| <input type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> destruction of terrestrial vegetation |
| <input type="checkbox"/> changes in character of soil | <input type="checkbox"/> presence of wrack line |
| <input type="checkbox"/> shelving | <input type="checkbox"/> sediment sorting |
| <input type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> scour |
| <input type="checkbox"/> leaf litter disturbed or washed away | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> sediment deposition | <input type="checkbox"/> abrupt change in plant community |
| <input type="checkbox"/> water staining | <input type="checkbox"/> the presence of litter and debris |

Channel Flow: Perceptible Flow? (Yes/No) No Flow Direction: SW

Average channel measurements:

OHWM Width: 2 ft Bankful Width: 5 ft Bank Height: 3 ft Water Depth: 3 in

Hydrological Connectivity:

Upstream Connection: Yes Downstream Connection: Yes Adjacent/Abutting: Wetland

Substrate: Bedrock Rubble Cobble Gravel Sand Mud
 Organic Vegetation Other: _____

Bank Erosion: LB: Severe Moderate Minor Describe: Small areas near large roots

RB: Severe Moderate Minor Describe: Small areas near large roots

Riparian Zone / Adjacent Ecological Communities: (forest, residential community, wetland, etc.)

LB: Describe: Forest, wetland, stream

Buffer Width (LB): >100 ft % Shading by Woody Species (LB) 60

RB: Describe: Forest, wetland, stream

Buffer Width (RB): > 100 ft % Shading by Woody Species (RB) 60

Stream Mesohabitat: % Riffle: _____ % Run: 100 % Pool: _____

Wildlife Observations: Birds, deer

Connection to TNW: WC1 to Rocky Branch to Broad Run to TNW Occoquan River

Other Comments: _____

Short ephemeral stream located within WET1. No observed flow but has areas of standing water and clear bed and bank. Channel looks to flow into WC1.

Site Name: University Blvd Stream ID: WC-4 Date: 3/6/25

Watercourse Datasheet

HUC Code: 02070010 Latitude: 38.7714388 Longitude: -77.5772240

Observers: KG, CH Current Weather: Cloudy City/State: Gainesville, VA

Flow Type:

Ephemeral Intermittent Perennial Cowardin Class: R5

Justification: Groundwater and observed flow through wetlands

Channel Characteristics: _____

Natural Artificial (Man-made) Manipulated (Man-altered)

Channel Gradient: (%) 4 Avg Bank Slope: Vertical 2:1 3:1 4:1 or greater

Channel OHWM and Banks (check all that apply):

Bed and Banks

OHWM

- | | |
|--|---|
| <input type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> destruction of terrestrial vegetation |
| <input type="checkbox"/> changes in character of soil | <input type="checkbox"/> presence of wrack line |
| <input type="checkbox"/> shelving | <input type="checkbox"/> sediment sorting |
| <input type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> scour |
| <input type="checkbox"/> leaf litter disturbed or washed away | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> sediment deposition | <input type="checkbox"/> abrupt change in plant community |
| <input type="checkbox"/> water staining | <input type="checkbox"/> the presence of litter and debris |

Channel Flow: Perceptible Flow? (Yes/No) Yes Flow Direction: West

Average channel measurements:

OHWM Width: 4 ft Bankful Width: 6 ft Bank Height: 1 ft Water Depth: 2 in

Hydrological Connectivity:

Upstream Connection: Wetland Downstream Connection: WC1 Adjacent/Abutting: Wetland

Substrate: Bedrock Rubble Cobble Gravel Sand Mud
 Organic Vegetation Other: _____

Bank Erosion: LB: Severe Moderate Minor Describe: Small scour parts and eroded banks

RB: Severe Moderate Minor Describe: High flow degrades banks

Riparian Zone / Adjacent Ecological Communities: (forest, residential community, wetland, etc.)

LB: Describe: Wetland, forest

Buffer Width (LB): > 100 ft % Shading by Woody Species (LB) 80

RB: Describe: Wetland, forest

Buffer Width (RB): > 100 ft % Shading by Woody Species (RB) 80

Stream Mesohabitat: % Riffle: 60 % Run: 30 % Pool: 10

Wildlife Observations: Birds, deer

Connection to TNW: WC1 to Rocky Branch to Broad Run to Occoquan River

Other Comments: _____

Stream flows from outside study boundary. Flows into WC1 and goes through WET1. DWQ score of 30.75.

Site Name: University Blvd Stream ID: WC-5 Date: 3/6/25

Watercourse Datasheet

HUC Code: 02070010 Latitude: 38.7715604 Longitude: -77.5771925

Observers: SL Current Weather: Cloudy City/State: Gainesville, VA

Flow Type:

Ephemeral Intermittent Perennial Cowardin Class: R4UBH

Justification: Groundwater seep and minor flow.

Channel Characteristics: Leaf litter, depressional in wetland

Natural Artificial (Man-made) Manipulated (Man-altered)

Channel Gradient: (%): 5 **Avg Bank Slope:** Vertical 2:1 3:1 4:1 or greater

Channel OHWM and Banks (check all that apply):

Bed and Banks

OHWM

- | | |
|--|---|
| <input type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> destruction of terrestrial vegetation |
| <input type="checkbox"/> changes in character of soil | <input type="checkbox"/> presence of wrack line |
| <input type="checkbox"/> shelving | <input type="checkbox"/> sediment sorting |
| <input type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> scour |
| <input type="checkbox"/> leaf litter disturbed or washed away | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> sediment deposition | <input type="checkbox"/> abrupt change in plant community |
| <input type="checkbox"/> water staining | <input type="checkbox"/> the presence of litter and debris |

Channel Flow: Perceptible Flow? (Yes/No) Yes Flow Direction: West

Average channel measurements:

OHWM Width: 5 Bankful Width: 6 Bank Height: 0.5-1.5 Water Depth: 0.3-0.5

Hydrological Connectivity:

Upstream Connection: Wetland Downstream Connection: WC-1 Adjacent/Abutting: Wetland

Substrate: Bedrock Rubble Cobble Gravel Sand Mud
 Organic Vegetation Other: _____

Bank Erosion: LB: Severe Moderate Minor Describe: No

RB: Severe Moderate Minor Describe: No

Riparian Zone / Adjacent Ecological Communities: (forest, residential community, wetland, etc.)

LB: Describe: Forested wetland

Buffer Width (LB): > 100 ft % Shading by Woody Species (LB) 80

RB: Describe: Forested wetland

Buffer Width (RB): > 100 ft % Shading by Woody Species (RB) 80

Stream Mesohabitat: % Riffle: 0 % Run: 100 % Pool: 0

Wildlife Observations: No

Connection to TNW: WC-4 to WC-1 to Rocky Branch to Broad Run to Occoquan River

Other Comments: _____

Within WET-1 flows towards WC-1. DWQ score of 23.50.

Site Name: University Blvd Stream ID: WC-6 Date: 3/7/25

Watercourse Datasheet

HUC Code: 02070010 Latitude: 38.7765951 Longitude: -77.5909048

Observers: CH, LJK Current Weather: Sunny City/State: Gainesville, VA

Flow Type:

Ephemeral Intermittent Perennial Cowardin Class: R4UBH

Justification: Groundwater through wetland.

Channel Characteristics: _____

Natural Artificial (Man-made) Manipulated (Man-altered)

Channel Gradient: (%) 2 Avg Bank Slope: Vertical 2:1 3:1 4:1 or greater

Channel OHWM and Banks (check all that apply):

Bed and Banks

OHWM

- | | |
|--|---|
| <input type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> destruction of terrestrial vegetation |
| <input type="checkbox"/> changes in character of soil | <input type="checkbox"/> presence of wrack line |
| <input type="checkbox"/> shelving | <input type="checkbox"/> sediment sorting |
| <input type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> scour |
| <input type="checkbox"/> leaf litter disturbed or washed away | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> sediment deposition | <input type="checkbox"/> abrupt change in plant community |
| <input type="checkbox"/> water staining | <input type="checkbox"/> the presence of litter and debris |

Channel Flow: Perceptible Flow? (Yes/No) Yes Flow Direction: SW

Average channel measurements:

OHWM Width: 1 ft Bankful Width: 4 ft Bank Height: 0.5 ft Water Depth: 4 in

Hydrological Connectivity:

Upstream Connection: Waterway Downstream Connection: Waterway Adjacent/Abutting: Wetland

Substrate: Bedrock Rubble Cobble Gravel Sand Mud
 Organic Vegetation Other: _____

Bank Erosion: LB: Severe Moderate Minor Describe: Little flow, vegetated

RB: Severe Moderate Minor Describe: Little flow, vegetated

Riparian Zone / Adjacent Ecological Communities: (forest, residential community, wetland, etc.)

LB: Describe: Wetland, forest

Buffer Width (LB): > 100 ft % Shading by Woody Species (LB) 20

RB: Describe: Wetland, forest

Buffer Width (RB): 60 ft % Shading by Woody Species (RB) 50

Stream Mesohabitat: % Riffle: 0 % Run: 80 % Pool: 20

Wildlife Observations: Spotted salamander, deer

Connection to TNW: Most likely flows to Rocky Branch to Broad Run to Occoquan River

Other Comments: _____

Stream starts outside of study area and flows outside of study areas. DWQ score of 27.

Site Name: University Blvd Stream ID: WC-7 Date: 3/11/25

Watercourse Datasheet

HUC Code: 02070010 Latitude: 38.7731990 Longitude: -77.5877167

Observers: LJK, KG Current Weather: Clear City/State: Gainesville, VA

Flow Type:

Ephemeral Intermittent Perennial Cowardin Class: R6

Justification: Recent rain, no flow observed. Faint bank line, channel is full of leaf litter.

Channel Characteristics: No observed culverting or man altering

Natural Artificial (Man-made) Manipulated (Man-altered)

Channel Gradient: (%) 5 **Avg Bank Slope:** Vertical 2:1 3:1 4:1 or greater

Channel OHWM and Banks (check all that apply):

Bed and Banks

OHWM

- clear, natural line impressed on the bank
- changes in character of soil
- shelving
- vegetation matted down, bent, or absent
- leaf litter disturbed or washed away
- sediment deposition
- water staining
- destruction of terrestrial vegetation
- presence of wrack line
- sediment sorting
- scour
- multiple observed or predicted flow events
- abrupt change in plant community
- the presence of litter and debris

Channel Flow: Perceptible Flow? (Yes/No) No Flow Direction: SW

Average channel measurements:

OHWM Width: 2 Bankful Width: 3 Bank Height: .5 Water Depth: 0

Hydrological Connectivity:

Upstream Connection: WET-9 Downstream Connection: WET-7 Adjacent/Abutting: WET-7

Substrate: Bedrock Rubble Cobble Gravel Sand Mud
 Organic Vegetation Other: _____

Bank Erosion: LB: Severe Moderate Minor Describe: No

RB: Severe Moderate Minor Describe: No

Riparian Zone / Adjacent Ecological Communities: (forest, residential community, wetland, etc.)

LB: Describe: Forest

Buffer Width (LB): > 100' % Shading by Woody Species (LB) 20

RB: Describe: Upland foresf

Buffer Width (RB): > 100' % Shading by Woody Species (RB) 20

Stream Mesohabitat: % Riffle: 0 % Run: 0 % Pool: 0

Wildlife Observations: N/A

Connection to TNW: N/A

Other Comments: _____

Ephemeral drainage pattern adjacent to wetland.

Site Name: University Blvd Stream ID: WC-8 Date: 3/11/25

Watercourse Datasheet

HUC Code: 02070010 Latitude: 38.7713246 Longitude: -77.5810547

Observers: CH, SH Current Weather: Sunny City/State: Gainesville, VA

Flow Type:

Ephemeral Intermittent Perennial Cowardin Class: R2UBH

Justification: Classified by NWI - R4SBA. Flowing through wetland. No rain within 48 hours.

Channel Characteristics: Flows through WET-6

Natural Artificial (Man-made) Manipulated (Man-altered)

Channel Gradient: (%) 3 **Avg Bank Slope:** Vertical 2:1 3:1 4:1 or greater

Channel OHWM and Banks (check all that apply):

Bed and Banks

OHWM

- | | |
|--|---|
| <input type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> destruction of terrestrial vegetation |
| <input type="checkbox"/> changes in character of soil | <input type="checkbox"/> presence of wrack line |
| <input type="checkbox"/> shelving | <input type="checkbox"/> sediment sorting |
| <input type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> scour |
| <input type="checkbox"/> leaf litter disturbed or washed away | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> sediment deposition | <input type="checkbox"/> abrupt change in plant community |
| <input type="checkbox"/> water staining | <input type="checkbox"/> the presence of litter and debris |

Channel Flow: Perceptible Flow? (Yes/No) Yes Flow Direction: South

Average channel measurements:

OHWM Width: 3 Bankful Width: 6 Bank Height: 0.3-0.8 Water Depth: 0.3-0.4

Hydrological Connectivity:

Upstream Connection: Wetland Downstream Connection: Wetland Adjacent/Abutting: Wetland

Substrate: Bedrock Rubble Cobble Gravel Sand Mud
 Organic Vegetation Other: _____

Bank Erosion: LB: Severe Moderate Minor Describe: No

RB: Severe Moderate Minor Describe: No

Riparian Zone / Adjacent Ecological Communities: (forest, residential community, wetland, etc.)

LB: Describe: PSS Wetland

Buffer Width (LB): > 100' % Shading by Woody Species (LB) 40

RB: Describe: PSS Wetland

Buffer Width (RB): > 100' % Shading by Woody Species (RB) 40

Stream Mesohabitat: % Riffle: 0 % Run: 30 % Pool: 70

Wildlife Observations: Frogs

Connection to TNW: Rocky Branch to Broad Run to Occoquan River

Other Comments: _____

Perennial stream flows though PSS wetland (WET-6). Flows through both ends of project study area.

DWQ score of 33.75.

Site Name: University Blvd Stream ID: WC-9 Date: 3/21/25

Watercourse Datasheet

HUC Code: 02070010 Latitude: 38.7847181 Longitude: -77.5953982

Observers: KG, LK, SH Current Weather: CLEAR City/State: VA

Flow Type:

Ephemeral Intermittent Perennial Cowardin Class: R4UBH

Justification: Recent rain, flow observed.. fed by culvert

Channel Characteristics: _____

Natural Artificial (Man-made) Manipulated (Man-altered)

Channel Gradient: (%) 5 Avg Bank Slope: Vertical 2:1 3:1 4:1 or greater

Channel OHWM and Banks (check all that apply):

Bed and Banks

OHWM

- | | |
|--|---|
| <input type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> destruction of terrestrial vegetation |
| <input type="checkbox"/> changes in character of soil | <input type="checkbox"/> presence of wrack line |
| <input type="checkbox"/> shelving | <input type="checkbox"/> sediment sorting |
| <input type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> scour |
| <input type="checkbox"/> leaf litter disturbed or washed away | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> sediment deposition | <input type="checkbox"/> abrupt change in plant community |
| <input type="checkbox"/> water staining | <input type="checkbox"/> the presence of litter and debris |

Channel Flow: Perceptible Flow? (Yes/No) Yes Flow Direction: S

Average channel measurements:

OHWM Width: 2 Bankful Width: 3 Bank Height: 1 Water Depth: 3"

Hydrological Connectivity:

Upstream Connection: Culvert Downstream Connection: Culvert Adjacent/Abutting: Wetland

Substrate: Bedrock Rubble Cobble Gravel Sand Mud
 Organic Vegetation Other: _____

Bank Erosion: LB: Severe Moderate Minor Describe: No

RB: Severe Moderate Minor Describe: No

Riparian Zone / Adjacent Ecological Communities: (forest, residential community, wetland, etc.)

LB: Describe: Forest

Buffer Width (LB): 60 % Shading by Woody Species (LB) 20

RB: Describe: Field

Buffer Width (RB): 100 % Shading by Woody Species (RB) 50

Stream Mesohabitat: % Riffle: 0 % Run: 100 % Pool: 0

Wildlife Observations: No

Connection to TNW: Rocky Branch to Broad Run to TNC Occoquan

Other Comments: Fed by culvert, PEM wetland adjacent connection. DWQ score of 21.

Site Name: University Blvd Stream ID: WC-10 Date: 3/11/25

Watercourse Datasheet

HUC Code: 02070010 Latitude: 38.771588 Longitude: -77.5819929

Observers: CH, SH Current Weather: Clear City/State: Gainesville, VA

Flow Type:

Ephemeral Intermittent Perennial Cowardin Class: R2UBH

Justification: Flows through wetland. Observed flow no rain within 48 hours.

Channel Characteristics: Flows through wetland

Natural Artificial (Man-made) Manipulated (Man-altered)

Channel Gradient (%): 3 **Avg Bank Slope:** Vertical 2:1 3:1 4:1 or greater

Channel OHWM and Banks (check all that apply):

Bed and Banks

OHWM

- | | |
|--|---|
| <input type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> destruction of terrestrial vegetation |
| <input type="checkbox"/> changes in character of soil | <input type="checkbox"/> presence of wrack line |
| <input type="checkbox"/> shelving | <input type="checkbox"/> sediment sorting |
| <input type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> scour |
| <input type="checkbox"/> leaf litter disturbed or washed away | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> sediment deposition | <input type="checkbox"/> abrupt change in plant community |
| <input type="checkbox"/> water staining | <input type="checkbox"/> the presence of litter and debris |

Channel Flow: Perceptible Flow? (Yes/No) Yes Flow Direction: South

Average channel measurements:

OHWM Width: 3 Bankful Width: 5 Bank Height: 0.3-0.5 Water Depth: 0.3-0.5

Hydrological Connectivity:

Upstream Connection: Wetland Downstream Connection: Wetland Adjacent/Abutting: Wetland

Substrate: Bedrock Rubble Cobble Gravel Sand Mud
 Organic Vegetation Other: _____

Bank Erosion: LB: Severe Moderate Minor Describe: No

RB: Severe Moderate Minor Describe: No

Riparian Zone / Adjacent Ecological Communities: (forest, residential community, wetland, etc.)

LB: Describe: Wetland

Buffer Width (LB): > 100' % Shading by Woody Species (LB) 10

RB: Describe: Wetland

Buffer Width (RB): > 100' % Shading by Woody Species (RB) 10

Stream Mesohabitat: % Riffle: 0 % Run: 20 % Pool: 80

Wildlife Observations: Frogs

Connection to TNW: Most likely drains into WC1 to Rocky Branch to Broad Run to Occoquan River.

Other Comments: _____

Flows through WET-6 and into WC-8. DWQ score of 30.75.

Site Name: University Blvd Stream ID: WC-11 Date: 3/11/25

Watercourse Datasheet

HUC Code: 02070010 Latitude: 38.7705240 Longitude: -77.5772638

Observers: LJK, KG Current Weather: Clear City/State: Gainesville, VA

Flow Type:

Ephemeral Intermittent Perennial Cowardin Class: R6

Justification: Recent rain, no flow observed. Faint bank line, channel is full of leaf litter.

Channel Characteristics: No observed culverting or man altering

Natural Artificial (Man-made) Manipulated (Man-altered)

Channel Gradient: (%) 5 Avg Bank Slope: Vertical 2:1 3:1 4:1 or greater

Channel OHWM and Banks (check all that apply):

Bed and Banks

OHWM

- | | |
|--|---|
| <input type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> destruction of terrestrial vegetation |
| <input type="checkbox"/> changes in character of soil | <input type="checkbox"/> presence of wrack line |
| <input type="checkbox"/> shelving | <input type="checkbox"/> sediment sorting |
| <input type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> scour |
| <input type="checkbox"/> leaf litter disturbed or washed away | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> sediment deposition | <input type="checkbox"/> abrupt change in plant community |
| <input type="checkbox"/> water staining | <input type="checkbox"/> the presence of litter and debris |

Channel Flow: Perceptible Flow? (Yes/No) No Flow Direction: NW

Average channel measurements:

OHWM Width: 3 Bankful Width: 5 Bank Height: 2 Water Depth: 0

Hydrological Connectivity:

Upstream Connection: WET-10 Downstream Connection: WC-2 Adjacent/Abutting: Upland

Substrate: Bedrock Rubble Cobble Gravel Sand Mud
 Organic Vegetation Other: _____

Bank Erosion: LB: Severe Moderate Minor Describe: Some minor erosion observed

RB: Severe Moderate Minor Describe: Some minor erosion observed

Riparian Zone / Adjacent Ecological Communities: (forest, residential community, wetland, etc.)

LB: Describe: Forest

Buffer Width (LB): > 100' % Shading by Woody Species (LB) 75

RB: Describe: Upland forest

Buffer Width (RB): > 100' % Shading by Woody Species (RB) 65

Stream Mesohabitat: % Riffle: 0 % Run: 100 % Pool: 0

Wildlife Observations: N/A

Connection to TNW: WC-2 to WC-1 to Rocky Branch to Broad Run to Occoquan River

Other Comments: _____

Receives hydrology from overland flow from WET-10.

Watercourse Datasheet

HUC Code: 02070010 Latitude: 38.7709917 Longitude: -77.5804389

Observers: KG, SH, LJK, Current Weather: Cloudy City/State: Gainesville, VA

Flow Type:

Ephemeral Intermittent Perennial Cowardin Class: R5

Justification: Light scouring, perceptible bed and bank but no flow. Channel floor covered with

Channel Characteristics: Established bank that quickly disappears as it moves upstream, light

Natural Artificial (Man-made) Manipulated (Man-altered)

Channel Gradient: (%): 5 **Avg Bank Slope:** Vertical 2:1 3:1 4:1 or greater

Channel OHWM and Banks (check all that apply):

Bed and Banks

OHWM

- clear, natural line impressed on the bank
- changes in character of soil
- shelving
- vegetation matted down, bent, or absent
- leaf litter disturbed or washed away
- sediment deposition
- water staining
- destruction of terrestrial vegetation
- presence of wrack line
- sediment sorting
- scour
- multiple observed or predicted flow events
- abrupt change in plant community
- the presence of litter and debris

Channel Flow: Perceptible Flow? (Yes/No) No Flow Direction: SE

Average channel measurements:

OHWM Width: 3.5 Bankful Width: 5 Bank Height: 2 Water Depth: 0

Hydrological Connectivity:

Upstream Connection: Wetland Downstream Connection: WC-06 Adjacent/Abutting: WC-12

Substrate: Bedrock Rubble Cobble Gravel Sand Mud
 Organic Vegetation Other: _____

Bank Erosion: LB: Severe Moderate Minor Describe: Very light scouring exposing

RB: Severe Moderate Minor Describe: Very minor scouring exposing

Riparian Zone / Adjacent Ecological Communities: (forest, residential community, wetland, etc.)

LB: Describe: Forest

Buffer Width (LB): >100 ft % Shading by Woody Species (LB) 65

RB: Describe: Adjacent to WET-06b and WC-06

Buffer Width (RB): >100 ft % Shading by Woody Species (RB) 70

Stream Mesohabitat: % Riffle: 0 % Run: 0 % Pool: 0

Wildlife Observations: None

Connection to TNW: WC-8 to WC-1 to Rocky Branch to Broad Run to Occoquan River

Other Comments: _____

Drainage feature from adjacent wetland (WET-6)

Site Name: University Blvd Stream ID: WC-12 Date: 7/30/25

Watercourse Datasheet

HUC Code: 02070010 Latitude: 38.7765722 Longitude: -77.5920012

Observers: SH, IW Current Weather: Sunny City/State: Gainesville, VA

Flow Type:

Ephemeral Intermittent Perennial Cowardin Class: R2SBH

Justification: Perennial watercourse with observable low gradient flow. Streambed substrate.

Channel Characteristics: Situated within and adjacent to PFO wetland

Natural Artificial (Man-made) Manipulated (Man-altered)

Channel Gradient (%): 5 **Avg Bank Slope:** Vertical 2:1 3:1 4:1 or greater

Channel OHWM and Banks (check all that apply):

Bed and Banks

OHWM

- | | |
|--|---|
| <input type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> destruction of terrestrial vegetation |
| <input type="checkbox"/> changes in character of soil | <input type="checkbox"/> presence of wrack line |
| <input type="checkbox"/> shelving | <input type="checkbox"/> sediment sorting |
| <input type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> scour |
| <input type="checkbox"/> leaf litter disturbed or washed away | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> sediment deposition | <input type="checkbox"/> abrupt change in plant community |
| <input type="checkbox"/> water staining | <input type="checkbox"/> the presence of litter and debris |

Channel Flow: Perceptible Flow? (Yes/No) Yes Flow Direction: Southeast

Average channel measurements:

OHWM Width: 4.5 Bankful Width: 7 Bank Height: 2-4' Water Depth: 0.5-1'

Hydrological Connectivity:

Upstream Connection: Wetland Downstream Connection: Rocky Branch Adjacent/Abutting: Wetland

Substrate: Bedrock Rubble Cobble Gravel Sand Mud
 Organic Vegetation Other: _____

Bank Erosion: LB: Severe Moderate Minor Describe: Higher elevation, scour

RB: Severe Moderate Minor Describe: Lower elevation, more floodplain

Riparian Zone / Adjacent Ecological Communities: (forest, residential community, wetland, etc.)

LB: Describe: forest

Buffer Width (LB): >100 ft % Shading by Woody Species (LB) 60

RB: Describe: forested wetland

Buffer Width (RB): >100 ft % Shading by Woody Species (RB) 75

Stream Mesohabitat: % Riffle: 40 % Run: 50 % Pool: 10

Wildlife Observations: _____

Connection to TNW: Drains into Rocky Branch

Other Comments: _____

For the small section this stream is in the LOD the banks are high on left bank (upland forest) and right bank is more floodplain with wetland vegetation.

Site Name: University Blvd Stream ID: WC-13 Date: 3/14/25

Watercourse Datasheet

HUC Code: 02070010 Latitude: 38.7707841 Longitude: -77.5792447

Observers: SH, KG Current Weather: Cloudy City/State: Gainesville, VA

Flow Type:

Ephemeral Intermittent Perennial Cowardin Class: R6

Justification: Receives hydrology from overland flow

Channel Characteristics: _____

Natural Artificial (Man-made) Manipulated (Man-altered)

Channel Gradient (%): 7 Avg Bank Slope: Vertical 2:1 3:1 4:1 or greater

Channel OHWM and Banks (check all that apply):

Bed and Banks

OHWM

- | | |
|--|---|
| <input type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> destruction of terrestrial vegetation |
| <input type="checkbox"/> changes in character of soil | <input type="checkbox"/> presence of wrack line |
| <input type="checkbox"/> shelving | <input type="checkbox"/> sediment sorting |
| <input type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> scour |
| <input type="checkbox"/> leaf litter disturbed or washed away | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> sediment deposition | <input type="checkbox"/> abrupt change in plant community |
| <input type="checkbox"/> water staining | <input type="checkbox"/> the presence of litter and debris |

Channel Flow: Perceptible Flow? (Yes/No) No Flow Direction: Southeast

Average channel measurements:

OHWM Width: 4 Bankful Width: 6 Bank Height: 1.5 Water Depth: 0

Hydrological Connectivity:

Upstream Connection: No Downstream Connection: Wetland Adjacent/Abutting: No

Substrate: Bedrock Rubble Cobble Gravel Sand Mud
 Organic Vegetation Other: _____

Bank Erosion: LB: Severe Moderate Minor Describe: No

RB: Severe Moderate Minor Describe: No

Riparian Zone / Adjacent Ecological Communities: (forest, residential community, wetland, etc.)

LB: Describe: Upland Forest

Buffer Width (LB): > 100' % Shading by Woody Species (LB) 70

RB: Describe: Upland Forest

Buffer Width (RB): > 100' % Shading by Woody Species (RB) 70

Stream Mesohabitat: % Riffle: 0 % Run: 100 % Pool: 0

Wildlife Observations: No

Connection to TNW: Turns intermittent and then flows into WC1 to Rocky Branch to Broad Run to

Other Comments: TNW

Ephemeral ditch that takes overland flow from road and elevation northwest.

Watercourse Datasheet

HUC Code: 02070010 Latitude: 38.7706500 Longitude: -77.5789984

Observers: SH, KG Current Weather: Cloudy City/State: VA

Flow Type:

Ephemeral Intermittent Perennial Cowardin Class: R4UBF

Justification: Groundwater intercept

Channel Characteristics: _____

Natural Artificial (Man-made) Manipulated (Man-altered)

Channel Gradient: (%) 7 Avg Bank Slope: Vertical 2:1 3:1 4:1 or greater

Channel OHWM and Banks (check all that apply):

Bed and Banks

OHWM

- | | |
|--|---|
| <input type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> destruction of terrestrial vegetation |
| <input type="checkbox"/> changes in character of soil | <input type="checkbox"/> presence of wrack line |
| <input type="checkbox"/> shelving | <input type="checkbox"/> sediment sorting |
| <input type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> scour |
| <input type="checkbox"/> leaf litter disturbed or washed away | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> sediment deposition | <input type="checkbox"/> abrupt change in plant community |
| <input type="checkbox"/> water staining | <input type="checkbox"/> the presence of litter and debris |

Channel Flow: Perceptible Flow? (Yes/No) No Flow Direction: Southeast

Average channel measurements:

OHWM Width: 4 Bankful Width: 6 Bank Height: 1.5 Water Depth: 0.5"

Hydrological Connectivity:

Upstream Connection: No Downstream Connection: Yes Adjacent/Abutting: No

Substrate: Bedrock Rubble Cobble Gravel Sand Mud
 Organic Vegetation Other: _____

Bank Erosion: LB: Severe Moderate Minor Describe: No

RB: Severe Moderate Minor Describe: No

Riparian Zone / Adjacent Ecological Communities: (forest, residential community, wetland, etc.)

LB: Describe: Upland forest

Buffer Width (LB): >100' % Shading by Woody Species (LB) 35

RB: Describe: Upland forest

Buffer Width (RB): >100' % Shading by Woody Species (RB) 50

Stream Mesohabitat: % Riffle: 0 % Run: 100 % Pool: 0

Wildlife Observations: No

Connection to TNW: Flows into WC-1 to Rocky Branch to Broad Run to Occoquan River.

Other Comments: _____

Ephemeral ditch intercepts groundwater downstream and becomes intermittent at flag 006. DWQ score of 20.5.

Watercourse Datasheet

HUC Code: 02070010 Latitude: 38.7790044 Longitude: -77.5916938

Observers: KG, LJK, SH Current Weather: CLEAR City/State: VA

Flow Type:

Ephemeral Intermittent Perennial Cowardin Class: R2UB1

Justification: Receiving flow from 2 culverts and groundwater

Channel Characteristics: Culverts

Natural Artificial (Man-made) Manipulated (Man-altered)

Channel Gradient: (%): 5 **Avg Bank Slope:** Vertical 2:1 3:1 4:1 or greater

Channel OHWM and Banks (check all that apply):

- Bed and Banks
- OHWM
 - clear, natural line impressed on the bank
 - changes in character of soil
 - shelving
 - vegetation matted down, bent, or absent
 - leaf litter disturbed or washed away
 - sediment deposition
 - water staining
 - destruction of terrestrial vegetation
 - presence of wrack line
 - sediment sorting
 - scour
 - multiple observed or predicted flow events
 - abrupt change in plant community
 - the presence of litter and debris

Channel Flow: Perceptible Flow? (Yes/No) Yes Flow Direction: N

Average channel measurements:

OHWM Width: 4 Bankful Width: 6 Bank Height: 1.5 Water Depth: 2"

Hydrological Connectivity:

Upstream Connection: Unknown Downstream Connection: Unknown Adjacent/Abutting: wetlands

Substrate: Bedrock Rubble Cobble Gravel Sand Mud
 Organic Vegetation Other: _____

Bank Erosion: LB: Severe Moderate Minor Describe: No

RB: Severe Moderate Minor Describe: No

Riparian Zone / Adjacent Ecological Communities: (forest, residential community, wetland, etc.)

LB: Describe: Wetland forest

Buffer Width (LB): >100' % Shading by Woody Species (LB) 30

RB: Describe: Upland and wetland forest

Buffer Width (RB): 50' % Shading by Woody Species (RB) 30

Stream Mesohabitat: % Riffle: 0 % Run: 100 % Pool: 0

Wildlife Observations: No

Connection to TNW: Rocky Branch to Broad Run to TNW Occoquan

Other Comments: Large, well established perennial stream surrounded by a wetland complex. Stream braids due to multiple culverts feeding into it.

Watercourse Datasheet

HUC Code: 02070010 Latitude: 38.7793422 Longitude: -77.5914918

Observers: KG, LJK, SH Current Weather: CLEAR City/State: VA

Flow Type:

Ephemeral Intermittent Perennial Cowardin Class: R4SB5

Justification: Perceivable flow and change in substrate, hydric soils

Channel Characteristics: Culverted

Natural Artificial (Man-made) Manipulated (Man-altered)

Channel Gradient: (%): 3 **Avg Bank Slope:** Vertical 2:1 3:1 4:1 or greater

Channel OHWM and Banks (check all that apply):

- Bed and Banks
- OHWM
 - clear, natural line impressed on the bank
 - destruction of terrestrial vegetation
 - changes in character of soil
 - presence of wrack line
 - shelving
 - sediment sorting
 - vegetation matted down, bent, or absent
 - scour
 - leaf litter disturbed or washed away
 - multiple observed or predicted flow events
 - sediment deposition
 - abrupt change in plant community
 - water staining
 - the presence of litter and debris

Channel Flow: Perceptible Flow? (Yes/No) Yes Flow Direction: W

Average channel measurements:

OHWM Width: 2 Bankful Width: 2 Bank Height: 0.25' Water Depth: 1"

Hydrological Connectivity:

Upstream Connection: Culvert Downstream Connection: WET-13 Adjacent/Abutting: WET-13

Substrate: Bedrock Rubble Cobble Gravel Sand Mud
 Organic Vegetation Other: _____

Bank Erosion: LB: Severe Moderate Minor Describe: No

RB: Severe Moderate Minor Describe: No

Riparian Zone / Adjacent Ecological Communities: (forest, residential community, wetland, etc.)

LB: Describe: WET-13

Buffer Width (LB): >100' % Shading by Woody Species (LB) 10

RB: Describe: Upland and wetland

Buffer Width (RB): >100 % Shading by Woody Species (RB) 20

Stream Mesohabitat: % Riffle: 0 % Run: 100 % Pool: 0

Wildlife Observations: No

Connection to TNW: WC-14 to Rocky branch to Broad Run to Occoquan

Other Comments: Fed by a culvert. Surrounded by a large wetland complex.

NC DWQ Stream Identification Form Version 4.11

Sampling Reach ID: WC-1

Date: 03/07/2025	Project/Site: University Blvd	Latitude: 38.770952
Evaluator: CH, SH, KG, SL	County: Prince William County	Longitude: -77.578455
Total Points: Stream is at least intermittent 40.25 if ≥ 19 or perennial if ≥ 30*	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other e.g. Quad Name:

A. Geomorphology (Subtotal = 17.5 _____)	Absent	Weak	Moderate	Strong
1 ^a . Continuity of channel bed and bank	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
2. Sinuosity of channel along thalweg	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
4. Particle size of stream substrate	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
5. Active/relict floodplain	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
6. Depositional bars or benches	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
7. Recent alluvial deposits	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
8. Headcuts	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
9. Grade control	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
10. Natural valley	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
11. Second or greater order channel	No = 0 <input type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

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

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

C. Biology (Subtotal = 14.75 _____)	Absent	Weak	Moderate	Strong
18. Fibrous roots in streambed	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
19. Rooted upland plants in streambed	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
20. Macroinvertebrates (note diversity and abundance)	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
21. Aquatic Mollusks	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
22. Fish	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
23. Crayfish	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
24. Amphibians	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
25. Algae	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5; Other = 0			

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

Notes:

Sketch:

NC DWQ Stream Identification Form Version 4.11

Sampling Reach ID: WC-2

Date: 03/07/2025	Project/Site: University Blvd	Latitude: 38.771053
Evaluator: KG, CH	County: Prince William County	Longitude: -77.578051
Total Points: Stream is at least intermittent 20.75 if ≥ 19 or perennial if $\geq 30^*$	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other e.g. Quad Name:

A. Geomorphology (Subtotal = 10.5 _____)	Absent	Weak	Moderate	Strong
1 ^a . Continuity of channel bed and bank	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
2. Sinuosity of channel along thalweg	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
4. Particle size of stream substrate	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
5. Active/relict floodplain	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
6. Depositional bars or benches	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
7. Recent alluvial deposits	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
8. Headcuts	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
9. Grade control	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
10. Natural valley	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
11. Second or greater order channel	No = 0 <input type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

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

B. Hydrology (Subtotal = 6 _____)	Absent	Weak	Moderate	Strong
12. Presence of Baseflow	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
13. Iron oxidizing bacteria	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
14. Leaf litter	1.5 <input type="checkbox"/>	1 <input type="checkbox"/>	0.5 <input type="checkbox"/>	0 <input type="checkbox"/>
15. Sediment on plants or debris	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
16. Organic debris lines or piles	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
17. Soil-based evidence of high water table?	No = 0 <input type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

C. Biology (Subtotal = 4.25 _____)	Absent	Weak	Moderate	Strong
18. Fibrous roots in streambed	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
19. Rooted upland plants in streambed	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
20. Macroinvertebrates (note diversity and abundance)	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
21. Aquatic Mollusks	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
22. Fish	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
23. Crayfish	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
24. Amphibians	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
25. Algae	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5; Other = 0			

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

Notes:
Stream begins at a seep located within WET-1

Sketch:

NC DWQ Stream Identification Form Version 4.11

Sampling Reach ID: WC-4

Date: 03/07/2025	Project/Site: University Blvd	Latitude: 38.77144
Evaluator: KG, CH	County: Prince William County	Longitude: -77.577226
Total Points: Stream is at least intermittent 30.75 if ≥ 19 or perennial if $\geq 30^*$	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other e.g. Quad Name:

A. Geomorphology (Subtotal = 17.5 _____)	Absent	Weak	Moderate	Strong
1 ^a . Continuity of channel bed and bank	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
2. Sinuosity of channel along thalweg	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
4. Particle size of stream substrate	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
5. Active/relict floodplain	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
6. Depositional bars or benches	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
7. Recent alluvial deposits	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
8. Headcuts	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
9. Grade control	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
10. Natural valley	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
11. Second or greater order channel	No = 0 <input type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

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

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

C. Biology (Subtotal = 5.75 _____)	Absent	Weak	Moderate	Strong
18. Fibrous roots in streambed	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
19. Rooted upland plants in streambed	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
20. Macroinvertebrates (note diversity and abundance)	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
21. Aquatic Mollusks	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
22. Fish	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
23. Crayfish	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
24. Amphibians	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
25. Algae	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5; Other = 0			

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

Notes:

Sketch:

NC DWQ Stream Identification Form Version 4.11

Sampling Reach ID: WC-5

Date: 03/07/2025	Project/Site: University Blvd	Latitude: 38.771568
Evaluator: KG, CH, SH	County: Prince William County	Longitude: -77.577195
Total Points: <i>Stream is at least intermittent if ≥ 19 or perennial if $\geq 30^*$</i> 23.50	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other <i>e.g. Quad Name:</i>

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

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

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

C. Biology (Subtotal = 4.5 _____)	Absent	Weak	Moderate	Strong
18. Fibrous roots in streambed	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
19. Rooted upland plants in streambed	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
20. Macroinvertebrates (note diversity and abundance)	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
21. Aquatic Mollusks	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
22. Fish	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
23. Crayfish	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
24. Amphibians	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
25. Algae	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5; Other = 0			

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

Notes:

Sketch:

NC DWQ Stream Identification Form Version 4.11

Sampling Reach ID: WC-6

Date: 03/07/2025	Project/Site: University Blvd	Latitude: 38.776603
Evaluator: LJK, CH	County: Prince William County	Longitude: -77.590907
Total Points: <i>Stream is at least intermittent</i> 27 <i>if ≥ 19 or perennial if ≥ 30*</i>	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other <i>e.g. Quad Name:</i>

A. Geomorphology (Subtotal = <u>11.5</u>)	Absent	Weak	Moderate	Strong
1 ^a . Continuity of channel bed and bank	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
2. Sinuosity of channel along thalweg	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
4. Particle size of stream substrate	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
5. Active/relict floodplain	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
6. Depositional bars or benches	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
7. Recent alluvial deposits	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
8. Headcuts	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
9. Grade control	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
10. Natural valley	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
11. Second or greater order channel	No = 0 <input type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

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

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

C. Biology (Subtotal = <u>7.5</u>)	Absent	Weak	Moderate	Strong
18. Fibrous roots in streambed	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
19. Rooted upland plants in streambed	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
20. Macroinvertebrates (note diversity and abundance)	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
21. Aquatic Mollusks	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
22. Fish	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
23. Crayfish	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
24. Amphibians	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
25. Algae	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5; Other = 0			

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

Notes:

Sketch:

NC DWQ Stream Identification Form Version 4.11

Sampling Reach ID: WC-8

Date: 03-11-2025	Project/Site: University Blvd	Latitude: 38.7713246
Evaluator: CH, SH	County: Prince William County	Longitude: -77.5810547
Total Points: Stream is at least intermittent if ≥ 19 or perennial if $\geq 30^*$ 33.75	Stream Determination (circle one) Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial <input type="checkbox"/>	Other e.g. Quad Name:

A. Geomorphology (Subtotal = 20 _____)	Absent	Weak	Moderate	Strong
1 ^a . Continuity of channel bed and bank	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
2. Sinuosity of channel along thalweg	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
4. Particle size of stream substrate	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
5. Active/relict floodplain	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
6. Depositional bars or benches	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
7. Recent alluvial deposits	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
8. Headcuts	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
9. Grade control	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
10. Natural valley	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
11. Second or greater order channel	No = 0 <input type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

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

B. Hydrology (Subtotal = 6.5 _____)	Absent	Weak	Moderate	Strong
12. Presence of Baseflow	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
13. Iron oxidizing bacteria	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
14. Leaf litter	1.5 <input type="checkbox"/>	1 <input type="checkbox"/>	0.5 <input type="checkbox"/>	0 <input type="checkbox"/>
15. Sediment on plants or debris	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
16. Organic debris lines or piles	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
17. Soil-based evidence of high water table?	No = 0 <input type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

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

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

Notes:

Perennial stream flows through PSS wetland (WET-6). Flows through both ends of project study area.

Sketch:

NC DWQ Stream Identification Form Version 4.11

Sampling Reach ID: WC-9

Date: 3/21/2025	Project/Site: University blvd	Latitude: 38.7847181
Evaluator: SH, KG, LJK	County: Prince William Cty	Longitude: -77.5953982
Total Points: <i>Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*</i> 21	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other e.g. Quad Name:

A. Geomorphology (Subtotal = 6.5 _____)	Absent	Weak	Moderate	Strong
1 ^a . Continuity of channel bed and bank	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
2. Sinuosity of channel along thalweg	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
4. Particle size of stream substrate	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
5. Active/relict floodplain	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
6. Depositional bars or benches	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
7. Recent alluvial deposits	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
8. Headcuts	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
9. Grade control	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
10. Natural valley	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
11. Second or greater order channel	No = 0 <input type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

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

B. Hydrology (Subtotal = 6 _____)	Absent	Weak	Moderate	Strong
12. Presence of Baseflow	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
13. Iron oxidizing bacteria	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
14. Leaf litter	1.5 <input type="checkbox"/>	1 <input type="checkbox"/>	0.5 <input type="checkbox"/>	0 <input type="checkbox"/>
15. Sediment on plants or debris	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
16. Organic debris lines or piles	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
17. Soil-based evidence of high water table?	No = 0 <input type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

C. Biology (Subtotal = 8.5 _____)	Absent	Weak	Moderate	Strong
18. Fibrous roots in streambed	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
19. Rooted upland plants in streambed	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
20. Macroinvertebrates (note diversity and abundance)	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
21. Aquatic Mollusks	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
22. Fish	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
23. Crayfish	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
24. Amphibians	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
25. Algae	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5; Other = 0			

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

Notes:

Sketch:

NC DWQ Stream Identification Form Version 4.11

Sampling Reach ID: WC-10

Date: 3-11-2025	Project/Site: University Blvd	Latitude: 38.771588
Evaluator: CH, SH	County: PW	Longitude: -77.5819929
Total Points: <i>Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*</i> 30.75	Stream Determination (circle one) Ephemeral Intermittent Perennial <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Other e.g. Quad Name:

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

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

B. Hydrology (Subtotal = 9.5 _____)	Absent	Weak	Moderate	Strong
12. Presence of Baseflow	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
13. Iron oxidizing bacteria	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
14. Leaf litter	1.5 <input type="checkbox"/>	1 <input type="checkbox"/>	0.5 <input type="checkbox"/>	0 <input type="checkbox"/>
15. Sediment on plants or debris	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
16. Organic debris lines or piles	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
17. Soil-based evidence of high water table?	No = 0 <input type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

C. Biology (Subtotal = 9.25 _____)	Absent	Weak	Moderate	Strong
18. Fibrous roots in streambed	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
19. Rooted upland plants in streambed	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
20. Macroinvertebrates (note diversity and abundance)	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
21. Aquatic Mollusks	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
22. Fish	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
23. Crayfish	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
24. Amphibians	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
25. Algae	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5; Other = 0			

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

Notes:
Flows through WET-6 and into WC-8.

Sketch:

NC DWQ Stream Identification Form Version 4.11

Sampling Reach ID: WC-13

Date: 03/14/2025	Project/Site: University Blvd	Latitude: 38.7706500
Evaluator: CH, SH, LJK, KG	County: Prince William County	Longitude: -77.5789984
Total Points: <i>Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*</i> 20.5	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other e.g. Quad Name:

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

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

B. Hydrology (Subtotal = 6 _____)	Absent	Weak	Moderate	Strong
12. Presence of Baseflow	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
13. Iron oxidizing bacteria	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
14. Leaf litter	1.5 <input type="checkbox"/>	1 <input type="checkbox"/>	0.5 <input type="checkbox"/>	0 <input type="checkbox"/>
15. Sediment on plants or debris	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
16. Organic debris lines or piles	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
17. Soil-based evidence of high water table?	No = 0 <input type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

C. Biology (Subtotal = 2.5 _____)	Absent	Weak	Moderate	Strong
18. Fibrous roots in streambed	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
19. Rooted upland plants in streambed	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
20. Macroinvertebrates (note diversity and abundance)	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
21. Aquatic Mollusks	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
22. Fish	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
23. Crayfish	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
24. Amphibians	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
25. Algae	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5; Other = 0			

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

Notes:
Stream has an intermittent status downstream of ephemeral section. Flows into WC-1

Sketch:

NC DWQ Stream Identification Form Version 4.11

Sampling Reach ID: WC-14

Date: 03/21/2025	Project/Site: University Blvd	Latitude: 38.7790044
Evaluator: KG, LJK, SH	County: Prince Williams Cty	Longitude: -77.5916938
Total Points: <i>Stream is at least intermittent</i> 35.25 <i>if ≥ 19 or perennial if ≥ 30*</i>	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other <i>e.g. Quad Name:</i>

A. Geomorphology (Subtotal = 17 _____)	Absent	Weak	Moderate	Strong
1 ^a . Continuity of channel bed and bank	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
2. Sinuosity of channel along thalweg	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
4. Particle size of stream substrate	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
5. Active/relict floodplain	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
6. Depositional bars or benches	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
7. Recent alluvial deposits	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
8. Headcuts	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
9. Grade control	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
10. Natural valley	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
11. Second or greater order channel	No = 0 <input type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

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

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

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

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

Notes:

Sketch:

NC DWQ Stream Identification Form Version 4.11

Sampling Reach ID: WC-15

Date: 03-21-2025	Project/Site: University Blvd	Latitude: 38.779350
Evaluator: KG, LJK, SH	County: Prince William county	Longitude: -77.591494
Total Points: Stream is at least intermittent 23.5 if ≥ 19 or perennial if $\geq 30^*$	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other e.g. Quad Name:

A. Geomorphology (Subtotal = 8.5 _____)	Absent	Weak	Moderate	Strong
1 ^a . Continuity of channel bed and bank	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
2. Sinuosity of channel along thalweg	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
4. Particle size of stream substrate	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
5. Active/relict floodplain	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
6. Depositional bars or benches	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
7. Recent alluvial deposits	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
8. Headcuts	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
9. Grade control	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
10. Natural valley	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
11. Second or greater order channel	No = 0 <input type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

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

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

C. Biology (Subtotal = 7.5 _____)	Absent	Weak	Moderate	Strong
18. Fibrous roots in streambed	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
19. Rooted upland plants in streambed	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
20. Macroinvertebrates (note diversity and abundance)	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
21. Aquatic Mollusks	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
22. Fish	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
23. Crayfish	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
24. Amphibians	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
25. Algae	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5; Other = 0			

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

Notes:

Sketch:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: WET-1
 Investigator(s): SH, LS Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depressional Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.771015 Long: -77.578420 Datum: NAD83
 Soil Map Unit Name: Rowland silt loam. 0 to 2 percent slopes NWI classification: PEM1C

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks:	

HYDROLOGY

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

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

Sampling Point: WET-1

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>Platanus occidentalis</u>	<u>25</u>	<u>YES</u>	<u>FACW</u>	
2. _____	_____	-	-	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
<u>25</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>5</u> x 1 = <u>5</u> FACW species <u>45</u> x 2 = <u>90</u> FAC species <u>50</u> x 3 = <u>150</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>5</u> x 5 = <u>25</u> Column Totals: <u>125</u> (A) <u>350</u> (B) Prevalence Index = B/A = <u>2.8</u>
1. <u>Acer rubrum</u>	<u>5</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Asimina triloba</u>	<u>5</u>	<u>YES</u>	<u>FAC</u>	
3. <u>Platanus occidentalis</u>	<u>10</u>	<u>YES</u>	<u>FACW</u>	
4. <u>Salix nigra</u>	<u>5</u>	<u>YES</u>	<u>OBL</u>	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
9. _____	_____	-	-	
10. _____	_____	-	-	
<u>25</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Elymus canadensis</u>	<u>20</u>	<u>NO</u>	<u>FACU</u>	
2. <u>Elymus hystrix</u>	<u>5</u>	<u>NO</u>	<u>UPL</u>	
3. <u>Microstegium vimineum</u>	<u>40</u>	<u>YES</u>	<u>FAC</u>	
4. <u>Onoclea sensibilis</u>	<u>10</u>	<u>NO</u>	<u>FACW</u>	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
9. _____	_____	-	-	
10. _____	_____	-	-	
11. _____	_____	-	-	
12. _____	_____	-	-	
<u>75</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>5</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. _____	_____	-	-	
2. _____	_____	-	-	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____

SOIL

Sampling Point: WET-1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	10YR 3/3	100					Loam	
7-18	10YR 4/1	70	2.5YR 4/6	30	C	M	Loamy Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (**LRR N**)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (**LRR N, MLRA 147, 148**)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (**MLRA 147, 148**)
- Thin Dark Surface (S9) (**MLRA 147, 148**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
- Umbric Surface (F13) (**MLRA 136, 122**)
- Piedmont Floodplain Soils (F19) (**MLRA 148**)
- Red Parent Material (F21) (**MLRA 127, 147**)

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: UPL-1
 Investigator(s): SL, SH Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 2
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.770983 Long: -77.578226 Datum: NAD83
 Soil Map Unit Name: Rowland silt loam, 0 to 2 percent slopes NWI classification: N/A

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 _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: <u>Upland point for WET-1</u>	

HYDROLOGY

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

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

Sampling Point: UPL-1

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
1. <u>Juniperus virginiana</u>	<u>30</u>	<u>YES</u>	<u>FACU</u>															
2. <u>Fagus grandifolia</u>	<u>20</u>	<u>NO</u>	<u>FACU</u>															
3. <u>Platanus occidentalis</u>	<u>5</u>	<u>NO</u>	<u>FACW</u>															
4. _____	-	-	-															
5. _____	-	-	-															
6. _____	-	-	-															
7. _____	-	-	-															
8. _____	-	-	-															
<u>55</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>70</u></td> <td>x 4 = <u>280</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>80</u> (A)</td> <td><u>310</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.88</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>70</u>	x 4 = <u>280</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>80</u> (A)	<u>310</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>70</u>	x 4 = <u>280</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>80</u> (A)	<u>310</u> (B)																	
1. <u>Fagus grandifolia</u>	<u>20</u>	<u>YES</u>	<u>FACU</u>															
2. <u>Asimina triloba</u>	<u>10</u>	<u>NO</u>	<u>FAC</u>															
3. _____	-	-	-															
4. _____	-	-	-															
5. _____	-	-	-															
6. _____	-	-	-															
7. _____	-	-	-															
8. _____	-	-	-															
9. _____	-	-	-															
10. _____	-	-	-															
<u>30</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Berberis thunbergii</u>	<u>10</u>	<u>YES</u>	<u>FACU</u>															
2. <u>Carex spp.</u>	<u>5</u>	<u>NO</u>	<u>NI</u>															
3. _____	-	-	-															
4. _____	-	-	-															
5. _____	-	-	-															
6. _____	-	-	-															
7. _____	-	-	-															
8. _____	-	-	-															
9. _____	-	-	-															
10. _____	-	-	-															
11. _____	-	-	-															
12. _____	-	-	-															
<u>15</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>10</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. _____	-	-	-															
2. _____	-	-	-															
3. _____	-	-	-															
4. _____	-	-	-															
5. _____	-	-	-															
6. _____	-	-	-															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

Hydrophytic Vegetation Present? Yes _____ No _____

SOIL

Sampling Point: UPL-1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 3/2	100					Silty Clay Loam	
2-18	10YR 3/4	100					Silty Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: WET-2
 Investigator(s): CH, LJK Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.776656 Long: -77.590916 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: PEM1G

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 _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: Portion of wetland has been disturbed by the creation of a power line corridor. Cowardin classified as PEM wetland.	

HYDROLOGY

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

Field Observations: Surface Water Present? Yes _____ No _____ Depth (inches): <u>2</u> Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No _____
--	--

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

Remarks:

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

Sampling Point: WET-2

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30 ft</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u>Juniperus virginiana</u>	<u>5</u>	<u>YES</u>	<u>FACU</u>	
2. _____	_____	-	-	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
<u>5</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>65</u> x 1 = <u>65</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>80</u> x 3 = <u>240</u> FACU species <u>15</u> x 4 = <u>60</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>160</u> (A) <u>365</u> (B) Prevalence Index = B/A = <u>2.28</u>
Sapling/Shrub Stratum (Plot size: <u>20</u>)				
1. <u>Salix nigra</u>	<u>15</u>	<u>YES</u>	<u>OBL</u>	
2. <u>Pinus virginiana</u>	<u>10</u>	<u>NO</u>	<u>NI</u>	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
9. _____	_____	-	-	
10. _____	_____	-	-	
<u>25</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Microstegium vimineum</u>	<u>70</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Typha angustifolia</u>	<u>20</u>	<u>NO</u>	<u>OBL</u>	
3. <u>Scirpus cyperinus</u>	<u>20</u>	<u>NO</u>	<u>OBL</u>	
4. <u>Euthamia graminifolia</u>	<u>10</u>	<u>NO</u>	<u>FAC</u>	
5. <u>Juncus effusus</u>	<u>10</u>	<u>NO</u>	<u>OBL</u>	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
9. _____	_____	-	-	
10. _____	_____	-	-	
11. _____	_____	-	-	
12. _____	_____	-	-	
<u>130</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>5</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. <u>Lonicera japonica</u>	<u>10</u>	<u>YES</u>	<u>FACU</u>	
2. _____	_____	-	-	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
<u>10</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: UPL-2
 Investigator(s): LJK, CH Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 3
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.776607 Long: -77.590989 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: N/A

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 _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: Upland point associated with WET-02	

HYDROLOGY

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

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

Sampling Point: UPL-2

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)																		
1. <u>Carya glabra</u>	10	NO	FACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
2. <u>Quercus alba</u>	20	YES	FACU															
3. _____		-	-															
4. _____		-	-															
5. _____		-	-															
6. _____		-	-															
7. _____		-	-															
8. _____		-	-															
	30	= Total Cover																
Sapling/Shrub Stratum (Plot size: <u>20</u>)																		
1. <u>Pinus virginiana</u>	25	YES	UPL	Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:right;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>110</u></td> <td>x 4 = <u>440</u></td> </tr> <tr> <td>UPL species <u>25</u></td> <td>x 5 = <u>125</u></td> </tr> <tr> <td>Column Totals: <u>155</u> (A)</td> <td><u>625</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.03</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>110</u>	x 4 = <u>440</u>	UPL species <u>25</u>	x 5 = <u>125</u>	Column Totals: <u>155</u> (A)	<u>625</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>20</u>	x 3 = <u>60</u>																	
FACU species <u>110</u>	x 4 = <u>440</u>																	
UPL species <u>25</u>	x 5 = <u>125</u>																	
Column Totals: <u>155</u> (A)	<u>625</u> (B)																	
2. <u>Juniperus virginiana</u>	5	NO	FACU															
3. _____		-	-															
4. _____		-	-															
5. _____		-	-															
6. _____		-	-															
7. _____		-	-															
8. _____		-	-															
9. _____		-	-															
10. _____		-	-															
	30	= Total Cover																
Herb Stratum (Plot size: <u>5</u>)																		
1. <u>Rosa multiflora</u>	50	YES	FACU	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. <u>Microstegium vimineum</u>	15	NO	FAC															
3. <u>Smilax rotundifolia</u>	5	NO	FAC															
4. _____		-	-															
5. _____		-	-															
6. _____		-	-															
7. _____		-	-															
8. _____		-	-															
9. _____		-	-															
10. _____		-	-															
11. _____		-	-															
12. _____		-	-															
	70	= Total Cover																
Woody Vine Stratum (Plot size: <u>10</u>)																		
1. <u>Lonicera japonica</u>	25	YES	FACU	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
2. _____		-	-															
3. _____		-	-															
4. _____		-	-															
5. _____		-	-															
6. _____		-	-															
	25	= Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.)																		
				Hydrophytic Vegetation Present? Yes _____ No _____														

SOIL

Sampling Point: UPL-2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 6/3	100					Clay loam	
4-18	2.5Y 6/3	95	2.5Y 6/6	5	C	M	Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: WET-3
 Investigator(s): KG, SH Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.775428 Long: -77.590764 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: PEM1C

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: Cowardin classified as PEM Wetland	

HYDROLOGY

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

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>
--	--

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

Remarks:

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

Sampling Point: WET-3

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)														
1. _____	_____	-	-															
2. _____	_____	-	-															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
<u>0</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: right;">Multiply by:</td> </tr> <tr> <td>OBL species <u>20</u></td> <td>x 1 = <u>20</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>65</u></td> <td>x 3 = <u>195</u></td> </tr> <tr> <td>FACU species <u>35</u></td> <td>x 4 = <u>140</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>120</u> (A)</td> <td><u>355</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.95</u>	Total % Cover of:	Multiply by:	OBL species <u>20</u>	x 1 = <u>20</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>65</u>	x 3 = <u>195</u>	FACU species <u>35</u>	x 4 = <u>140</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>120</u> (A)	<u>355</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>20</u>	x 1 = <u>20</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>65</u>	x 3 = <u>195</u>																	
FACU species <u>35</u>	x 4 = <u>140</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>120</u> (A)	<u>355</u> (B)																	
1. <u>Quercus alba</u>	<u>5</u>	YES	FACU															
2. _____	_____	-	-															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
9. _____	_____	-	-															
10. _____	_____	-	-															
<u>5</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Scripus cyperinus</u>	<u>15</u>	NO	OBL															
2. <u>Microstegeum vimineum</u>	<u>30</u>	YES	FAC															
3. <u>Solidago rugosa</u>	<u>15</u>	NO	FAC															
4. <u>Andropogon virginicus</u>	<u>15</u>	NO	FACU															
5. <u>Juncus effusus</u>	<u>5</u>	NO	OBL															
6. <u>Agrostis scabra</u>	<u>20</u>	YES	FAC															
7. _____	_____	-	-															
8. _____	_____	-	-															
9. _____	_____	-	-															
10. _____	_____	-	-															
11. _____	_____	-	-															
12. _____	_____	-	-															
<u>100</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>5</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. <u>Rosa multiflora</u>	<u>15</u>	YES	FACU															
2. _____	_____	-	-															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
<u>15</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____														

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: UPL-3
 Investigator(s): KG, SH Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 3
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.775546 Long: -77.590672 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: N/A

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: Upland point associated with WET-3. Rained in the past 48 hours.	

HYDROLOGY

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

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

Sampling Point: UPL-3

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. <u>Quercus alba</u>	<u>30</u>	<u>YES</u>	<u>FACU</u>	
2. _____	_____	-	-	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
<u>30</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>78</u> x 4 = <u>312</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>78</u> (A) <u>312</u> (B) Prevalence Index = B/A = <u>4.0</u>
1. <u>Quercus alba</u>	<u>10</u>	<u>YES</u>	<u>FACU</u>	
2. <u>Carya glabra</u>	<u>10</u>	<u>YES</u>	<u>FACU</u>	
3. <u>Juniperus virginiana</u>	<u>3</u>	<u>NO</u>	<u>FACU</u>	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
9. _____	_____	-	-	
10. _____	_____	-	-	
<u>23</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Andropogon virginicus</u>	<u>10</u>	<u>YES</u>	<u>FACU</u>	
2. _____	_____	-	-	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
9. _____	_____	-	-	
10. _____	_____	-	-	
11. _____	_____	-	-	
12. _____	_____	-	-	
<u>10</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. <u>Rosa multiflora</u>	<u>15</u>	<u>YES</u>	<u>FACU</u>	
2. _____	_____	-	-	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
<u>15</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____

SOIL

Sampling Point: UPL-3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	2.5Y 4/3	100					Clay loam	
3-18	2.5Y 5/3	97	2.5Y 5/6	3	C	M	Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: WET-4
 Investigator(s): LJK, CH Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.774652 Long: -77.589764 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: PEM1C

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: Cowardin classified as PEM wetland.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>8</u> Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>8</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

Sampling Point: WET-4

	Absolute % Cover	Dominant Species?	Indicator Status			
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet:		
1. _____	_____	-	-	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)		
2. _____	_____	-	-	Total Number of Dominant Species Across All Strata: <u>1</u> (B)		
3. _____	_____	-	-	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)		
4. _____	_____	-	-	Prevalence Index worksheet:		
5. _____	_____	-	-		Total % Cover of: _____ Multiply by: _____	
6. _____	_____	-	-		OBL species <u>7</u> x 1 = <u>7</u>	
7. _____	_____	-	-		FACW species <u>10</u> x 2 = <u>20</u>	
8. _____	_____	-	-		FAC species <u>85</u> x 3 = <u>255</u>	
0 = Total Cover				FACU species <u>0</u> x 4 = <u>0</u>		
Sapling/Shrub Stratum (Plot size: <u>10</u>)				UPL species <u>0</u> x 5 = <u>0</u>		
1. _____	_____	-	-	Column Totals: <u>102</u> (A) <u>282</u> (B)		
2. _____	_____	-	-	Prevalence Index = B/A = <u>2.76</u>		
3. _____	_____	-	-	Hydrophytic Vegetation Indicators:		
4. _____	_____	-	-		<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
5. _____	_____	-	-		<input type="checkbox"/> 2 - Dominance Test is >50%	
6. _____	_____	-	-		<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
7. _____	_____	-	-		<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
8. _____	_____	-	-	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)		
9. _____	_____	-	-	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
10. _____	_____	-	-		Definitions of Four Vegetation Strata:	
0 = Total Cover						Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Herb Stratum (Plot size: <u>5</u>)						Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
1. <u>Carex lucustris</u>	<u>2</u>	<u>NO</u>	<u>OBL</u>			Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
2. <u>Scirpus cyperinus</u>	<u>10</u>	<u>NO</u>	<u>FACW</u>	Woody vine – All woody vines greater than 3.28 ft in height.		
3. <u>Microstegium vimenium</u>	<u>70</u>	<u>YES</u>	<u>FAC</u>	Hydrophytic Vegetation Present? Yes _____ No _____		
4. <u>Juncus effusus</u>	<u>5</u>	<u>NO</u>	<u>OBL</u>			
5. <u>Andropogon gerardii</u>	<u>10</u>	<u>NO</u>	<u>FAC</u>			
6. <u>Dichanthelium clandestinum</u>	<u>5</u>	<u>NO</u>	<u>FAC</u>			
7. _____	_____	-	-			
8. _____	_____	-	-	Woody Vine Stratum (Plot size: <u>10</u>)		
9. _____	_____	-	-			
10. _____	_____	-	-			
11. _____	_____	-	-			
12. _____	_____	-	-			
102 = Total Cover						
0 = Total Cover						
Remarks: (Include photo numbers here or on a separate sheet.)						

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: UPL-4
 Investigator(s): LJK, CH Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 2
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.774828 Long: -77.539699 Datum: NAD83
 Soil Map Unit Name: Jackland silt loam, 2 to 7 percent slopes NWI classification: N/A

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 _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: Upland point for WET-4	

HYDROLOGY

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

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

Sampling Point: UPL-4

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40</u> (A/B)
1. <u>Quercus alba</u>	<u>10</u>	<u>YES</u>	<u>FACU</u>	
2. _____	_____	-	-	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
<u>10</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>60</u> x 3 = <u>180</u> FACU species <u>85</u> x 4 = <u>340</u> UPL species <u>5</u> x 5 = <u>25</u> Column Totals: <u>150</u> (A) <u>545</u> (B) Prevalence Index = B/A = <u>3.63</u>
1. <u>Acer rubrum</u>	<u>10</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Pinus virginiana</u>	<u>5</u>	<u>NO</u>	<u>UPL</u>	
3. <u>Cercis canadensis</u>	<u>10</u>	<u>YES</u>	<u>FACU</u>	
4. <u>Quercus alba</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
9. _____	_____	-	-	
10. _____	_____	-	-	
<u>30</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Microstegium vimineum</u>	<u>30</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Euthamia graminifolia</u>	<u>5</u>	<u>NO</u>	<u>FAC</u>	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
9. _____	_____	-	-	
10. _____	_____	-	-	
11. _____	_____	-	-	
12. _____	_____	-	-	
<u>35</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. <u>Rosa multiflora</u>	<u>60</u>	<u>YES</u>	<u>FACU</u>	
2. <u>Smilax rotundifolia</u>	<u>15</u>	<u>NO</u>	<u>FAC</u>	
3. <u>Lonicera japonica</u>	<u>10</u>	<u>NO</u>	<u>FACU</u>	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
<u>85</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____

SOIL

Sampling Point: UPL-4

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 2/2	100					Clay loam	
1-18	10YR 4/4	100					Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: WET-5
 Investigator(s): KG, LJK Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 5
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.773286 Long: -77.588310 Datum: NAD83
 Soil Map Unit Name: Jackland silt loam, 2 to 7 percent slopes NWI classification: PSS1E

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: Cowardin classified as a PSS wetland.	

HYDROLOGY

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

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>.25</u> Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>
--	--

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

Remarks:

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

Sampling Point: WET-5

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)																
1. <u>Platanus occidentalis</u>	<u>10</u>	<u>YES</u>	<u>FACW</u>																	
2. _____	_____	-	-																	
3. _____	_____	-	-																	
4. _____	_____	-	-																	
5. _____	_____	-	-																	
6. _____	_____	-	-																	
7. _____	_____	-	-																	
8. _____	_____	-	-																	
<u>10</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>40</u></td> <td>x 1 = <u>40</u></td> </tr> <tr> <td>FACW species <u>30</u></td> <td>x 2 = <u>60</u></td> </tr> <tr> <td>FAC species <u>60</u></td> <td>x 3 = <u>180</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>140</u> (A)</td> <td><u>320</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.29</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>40</u>	x 1 = <u>40</u>	FACW species <u>30</u>	x 2 = <u>60</u>	FAC species <u>60</u>	x 3 = <u>180</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>140</u> (A)	<u>320</u> (B)	Prevalence Index = B/A = <u>2.29</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>40</u>	x 1 = <u>40</u>																			
FACW species <u>30</u>	x 2 = <u>60</u>																			
FAC species <u>60</u>	x 3 = <u>180</u>																			
FACU species <u>10</u>	x 4 = <u>40</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>140</u> (A)	<u>320</u> (B)																			
Prevalence Index = B/A = <u>2.29</u>																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. <u>Salix nigra</u>	<u>20</u>	<u>YES</u>	<u>OBL</u>																	
2. <u>Platanus occidentalis</u>	<u>5</u>	<u>NO</u>	<u>FACW</u>																	
3. <u>Juniperus virginiana</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>																	
4. _____	_____	-	-																	
5. _____	_____	-	-																	
6. _____	_____	-	-																	
7. _____	_____	-	-																	
8. _____	_____	-	-																	
9. _____	_____	-	-																	
10. _____	_____	-	-																	
<u>30</u> = Total Cover																				
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Scirpus cyperinus</u>	<u>10</u>	<u>NO</u>	<u>FACW</u>																	
2. <u>Andropogon virginicus</u>	<u>10</u>	<u>NO</u>	<u>FACU</u>																	
3. <u>Microstegium vimenium</u>	<u>60</u>	<u>YES</u>	<u>FAC</u>																	
4. <u>Typha angustifolia</u>	<u>20</u>	<u>YES</u>	<u>OBL</u>																	
5. <u>Eupatorium perfoliatum</u>	<u>5</u>	<u>NO</u>	<u>FACW</u>																	
6. <u>Rosa multiflora</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>																	
7. _____	_____	-	-																	
8. _____	_____	-	-																	
9. _____	_____	-	-																	
10. _____	_____	-	-																	
11. _____	_____	-	-																	
12. _____	_____	-	-																	
<u>110</u> = Total Cover																				
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.																
1. _____	_____	-	-																	
2. _____	_____	-	-																	
3. _____	_____	-	-																	
4. _____	_____	-	-																	
5. _____	_____	-	-																	
6. _____	_____	-	-																	
<u>0</u> = Total Cover																				
Hydrophytic Vegetation Present? Yes _____ No _____																				
Remarks: (Include photo numbers here or on a separate sheet.)																				

SOIL

Sampling Point: WET-5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	2.5Y 4/4	100					Clay loam	
4-18	2.5Y 4/2	80	2.5Y 5/4	20	C	M	Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks: **Soils affected by road construction and fill soil level**

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: UPL-5
 Investigator(s): KG, LJK Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Flat Slope (%): 5
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.774822 Long: -77.589701 Datum: NAD83
 Soil Map Unit Name: Jackland silt loam, 2 to 7 percent slopes NWI classification: N/A

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks:	

HYDROLOGY

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

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

Sampling Point: UPL-5

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)																
1. <u>Platanus occidentalis</u>	<u>5</u>	<u>YES</u>	<u>FACW</u>																	
2. _____	_____	-	-																	
3. _____	_____	-	-																	
4. _____	_____	-	-																	
5. _____	_____	-	-																	
6. _____	_____	-	-																	
7. _____	_____	-	-																	
8. _____	_____	-	-																	
<u>5</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: right;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>70</u></td> <td>x 3 = <u>210</u></td> </tr> <tr> <td>FACU species <u>27</u></td> <td>x 4 = <u>108</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>102</u> (A)</td> <td><u>328</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>3.22</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>70</u>	x 3 = <u>210</u>	FACU species <u>27</u>	x 4 = <u>108</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>102</u> (A)	<u>328</u> (B)	Prevalence Index = B/A = <u>3.22</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>5</u>	x 2 = <u>10</u>																			
FAC species <u>70</u>	x 3 = <u>210</u>																			
FACU species <u>27</u>	x 4 = <u>108</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>102</u> (A)	<u>328</u> (B)																			
Prevalence Index = B/A = <u>3.22</u>																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. <u>Quercus alba</u>	<u>2</u>	<u>NO</u>	<u>FACU</u>																	
2. <u>Juniperus virginiana</u>	<u>5</u>	<u>YES</u>	<u>FACU</u>																	
3. _____	_____	-	-																	
4. _____	_____	-	-																	
5. _____	_____	-	-																	
6. _____	_____	-	-																	
7. _____	_____	-	-																	
8. _____	_____	-	-																	
9. _____	_____	-	-																	
10. _____	_____	-	-																	
<u>7</u> = Total Cover																				
Herb Stratum (Plot size: <u>5</u>)																				
1. <u>Microstegium vimenium</u>	<u>70</u>	<u>YES</u>	<u>FAC</u>																	
2. <u>Eupatorium perfoliatum</u>	<u>10</u>	<u>NO</u>	<u>FACW</u>																	
3. <u>Sorghastrum nutans</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>																	
4. <u>Rosa multiflora</u>	<u>15</u>	<u>YES</u>	<u>FACU</u>																	
5. _____	_____	-	-																	
6. _____	_____	-	-																	
7. _____	_____	-	-																	
8. _____	_____	-	-																	
9. _____	_____	-	-																	
10. _____	_____	-	-																	
11. _____	_____	-	-																	
12. _____	_____	-	-																	
<u>100</u> = Total Cover																				
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____	_____	-	-																	
2. _____	_____	-	-																	
3. _____	_____	-	-																	
4. _____	_____	-	-																	
5. _____	_____	-	-																	
6. _____	_____	-	-																	
<u>0</u> = Total Cover																				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____																
				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																
				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.																

SOIL

Sampling Point: UPL-5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	2.5Y 4/3	100					Loam	
3-18	2.5Y 5/4	100					Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 136, 147)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks: **Some fill soil from previous construction is mixed in.**

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/11/25
 Applicant/Owner: Prince William County State: VA Sampling Point: WET-6
 Investigator(s): CH, SH Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depressional Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.771245 Long: -77.581028 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: PSS1C

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: Cowardin classified as a PSS wetland.	

HYDROLOGY

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

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

Sampling Point: WET-6

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80%</u> (A/B)														
1. <u>Platanus occidentalis</u>	<u>6</u>	<u>YES</u>	<u>FACW</u>															
2. <u>Acer rubrum</u>	<u>5</u>	<u>NO</u>	<u>FAC</u>															
3. <u>Liriodendron tulipifera</u>	<u>4</u>	<u>NO</u>	<u>FACU</u>															
4. _____	-	-	-															
5. _____	-	-	-															
6. _____	-	-	-															
7. _____	-	-	-															
8. _____	-	-	-															
<u>15</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>75</u></td> <td>x 1 = <u>75</u></td> </tr> <tr> <td>FACW species <u>46</u></td> <td>x 2 = <u>92</u></td> </tr> <tr> <td>FAC species <u>75</u></td> <td>x 3 = <u>225</u></td> </tr> <tr> <td>FACU species <u>19</u></td> <td>x 4 = <u>76</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>215</u> (A)</td> <td><u>468</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.18</u>	Total % Cover of:	Multiply by:	OBL species <u>75</u>	x 1 = <u>75</u>	FACW species <u>46</u>	x 2 = <u>92</u>	FAC species <u>75</u>	x 3 = <u>225</u>	FACU species <u>19</u>	x 4 = <u>76</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>215</u> (A)	<u>468</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>75</u>	x 1 = <u>75</u>																	
FACW species <u>46</u>	x 2 = <u>92</u>																	
FAC species <u>75</u>	x 3 = <u>225</u>																	
FACU species <u>19</u>	x 4 = <u>76</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>215</u> (A)	<u>468</u> (B)																	
1. <u>Salix nigra</u>	<u>40</u>	<u>YES</u>	<u>OBL</u>															
2. <u>Platanus occidentalis</u>	<u>35</u>	<u>YES</u>	<u>FACW</u>															
3. _____	-	-	-															
4. _____	-	-	-															
5. _____	-	-	-															
6. _____	-	-	-															
7. _____	-	-	-															
8. _____	-	-	-															
9. _____	-	-	-															
10. _____	-	-	-															
<u>75</u> = Total Cover																		
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Microstegium vimineum</u>	<u>60</u>	<u>YES</u>	<u>FAC</u>															
2. <u>Typha angustifolia</u>	<u>35</u>	<u>NO</u>	<u>OBL</u>															
3. <u>Carex lacustris</u>	<u>5</u>	<u>NO</u>	<u>FACW</u>															
4. <u>Agrostis scabra</u>	<u>10</u>	<u>NO</u>	<u>FAC</u>															
5. _____	-	-	-															
6. _____	-	-	-															
7. _____	-	-	-															
8. _____	-	-	-															
9. _____	-	-	-															
10. _____	-	-	-															
11. _____	-	-	-															
12. _____	-	-	-															
<u>110</u> = Total Cover																		
Woody Vine Stratum (Plot size: _____)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. <u>Rosa multiflora</u>	<u>15</u>	<u>YES</u>	<u>FACU</u>															
2. _____	-	-	-															
3. _____	-	-	-															
4. _____	-	-	-															
5. _____	-	-	-															
6. _____	-	-	-															
<u>15</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____														

SOIL

Sampling Point: WET-6

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 4/2	98	7.5YR 5/8	2	C	M	Clay loam	
3-12	10YR 5/1	90	10YR 5/8	10	C	M	Clay loam	
12-18	10YR 3/1	90	7.5YR 5/6	8	C	M	Clay loam	
			10YR 6/4	2	C	M	Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: WET-6C
 Investigator(s): KG, LJK, CH, SH Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.770841 Long: -77.580430 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: PFO6C

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: Extension of WET-06. PFO wetland.	

HYDROLOGY

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

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

Sampling Point: WET-6C

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60</u> (A/B)														
1. <u>Acer rubrum</u>	<u>30</u>	<u>YES</u>	<u>FAC</u>															
2. <u>Carpinus caroliniana</u>	<u>10</u>	<u>NO</u>	<u>FAC</u>															
3. <u>Quercus rubra</u>	<u>10</u>	<u>NO</u>	<u>FACU</u>															
4. <u>Juniperus virginiana</u>	<u>3</u>	<u>NO</u>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
	<u>53</u> = Total Cover																	
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>5</u></td> <td>x 1 = <u>5</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>65</u></td> <td>x 3 = <u>195</u></td> </tr> <tr> <td>FACU species <u>38</u></td> <td>x 4 = <u>152</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>108</u> (A)</td> <td><u>352</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.3</u>	Total % Cover of:	Multiply by:	OBL species <u>5</u>	x 1 = <u>5</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>65</u>	x 3 = <u>195</u>	FACU species <u>38</u>	x 4 = <u>152</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>108</u> (A)	<u>352</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>5</u>	x 1 = <u>5</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>65</u>	x 3 = <u>195</u>																	
FACU species <u>38</u>	x 4 = <u>152</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>108</u> (A)	<u>352</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
	<u>0</u> = Total Cover																	
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Carex lurida</u>	<u>5</u>	<u>NO</u>	<u>OBL</u>															
2. <u>Microstegium vimenium</u>	<u>15</u>	<u>YES</u>	<u>FAC</u>															
3. <u>Elymus hystrix</u>	<u>10</u>	<u>YES</u>	<u>UPL</u>															
4. <u>Smilax rotundifolia</u>	<u>10</u>	<u>YES</u>	<u>FAC</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
	<u>40</u> = Total Cover																	
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. <u>Lonicera japonica</u>	<u>10</u>	<u>YES</u>	<u>FACU</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
	<u>10</u> = Total Cover																	
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____														

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince Williams Sampling Date: 03/11/2025
 Applicant/Owner: Prince Williams County State: VA Sampling Point: UPL-6
 Investigator(s): CH, SH Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 6
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.771254 Long: -77.581336 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: N/A

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: Associated with WET-6 and WET-6C	

HYDROLOGY

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

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

Remarks:
No hydrological indicators

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

Sampling Point: UPL-6

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20%</u> (A/B)
1. <u>Quercus alba</u>	<u>15</u>	<u>YES</u>	<u>FACU</u>	
2. <u>Pinus virginiana</u>	<u>5</u>	<u>NO</u>	<u>UPL</u>	
3. <u>Quercus rubra</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>25</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>107</u> x 4 = <u>428</u> UPL species <u>5</u> x 5 = <u>25</u> Column Totals: <u>127</u> (A) <u>498</u> (B) Prevalence Index = B/A = <u>3.92</u>
1. <u>Cercis canadensis</u>	<u>30</u>	<u>YES</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>30</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Elymus hystrix</u>	<u>50</u>	<u>YES</u>	<u>FACU</u>	
2. <u>Microstegium vimineum</u>	<u>10</u>	<u>NO</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>60</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. <u>Rosa multiflora</u>	<u>5</u>	<u>YES</u>	<u>FACU</u>	
2. <u>Lonicera japonica</u>	<u>2</u>	<u>NO</u>	<u>FACU</u>	
3. <u>Smilax rotundifolia</u>	<u>5</u>	<u>YES</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>12</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: WET-7
 Investigator(s): KG, LJK Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 5
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.773428 Long: -77.588034 Datum: NAD83
 Soil Map Unit Name: Jackland silt loam, 2 to 7 percent slopes NWI classification: PSS1C

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: Cowardin classified as a PSS wetland.	

HYDROLOGY

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

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

Sampling Point: WET-7

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u>Platanus occidentalis</u>	<u>15</u>	<u>YES</u>	<u>FACW</u>	
2. _____	_____	-	-	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
<u>15</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>8</u> x 1 = <u>8</u> FACW species <u>45</u> x 2 = <u>90</u> FAC species <u>55</u> x 3 = <u>165</u> FACU species <u>23</u> x 4 = <u>92</u> UPL species <u>13</u> x 5 = <u>65</u> Column Totals: <u>144</u> (A) <u>420</u> (B) Prevalence Index = B/A = <u>2.92</u>
1. <u>Salix nigra</u>	<u>8</u>	<u>YES</u>	<u>OBL</u>	
2. <u>Platanus occidentalis</u>	<u>10</u>	<u>NO</u>	<u>FACW</u>	
3. <u>Juniperus virginiana</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>	
4. <u>Pinus virginiana</u>	<u>13</u>	<u>NO</u>	<u>UPL</u>	
5. <u>Rosa multiflora</u>	<u>15</u>	<u>YES</u>	<u>FACU</u>	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
9. _____	_____	-	-	
10. _____	_____	-	-	
<u>51</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Scirpus cyperinus</u>	<u>15</u>	<u>YES</u>	<u>FACW</u>	
2. <u>Andropogon virginicus</u>	<u>10</u>	<u>NO</u>	<u>FACU</u>	
3. <u>Microstegium vimenium</u>	<u>50</u>	<u>YES</u>	<u>FAC</u>	
4. <u>Sorghastrum nutans</u>	<u>8</u>	<u>NO</u>	<u>FACU</u>	
5. <u>Eupatorium perfoliatum</u>	<u>5</u>	<u>NO</u>	<u>FACW</u>	
6. <u>Rosa multiflora</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>	
7. _____	_____	-	-	
8. _____	_____	-	-	
9. _____	_____	-	-	
10. _____	_____	-	-	
11. _____	_____	-	-	
12. _____	_____	-	-	
<u>93</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. _____	_____	-	-	
2. _____	_____	-	-	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____

SOIL

Sampling Point: WET-7

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	2.5Y 4/4	100					Clay loam	
4-18	2.5Y 4/2	85	2.5Y 5/4	15	C	M	Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks: **Soils affected by road construction and fill soil level**

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: UPL-7
 Investigator(s): KG, LJK Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Flat Slope (%): 5
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.773541 Long: -77.587930 Datum: NAD83
 Soil Map Unit Name: Jackland silt loam, 2 to 7 percent slopes NWI classification: N/A

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 _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: <u>Associated with WET-7.</u>	

HYDROLOGY

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

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

Sampling Point: UPL-7

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. _____	_____	-	-	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)														
2. _____	_____	-	-															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%;"><u>Total % Cover of:</u></td> <td style="width:50%;"><u>Multiply by:</u></td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>55</u></td> <td>x 3 = <u>165</u></td> </tr> <tr> <td>FACU species <u>55</u></td> <td>x 4 = <u>220</u></td> </tr> <tr> <td>UPL species <u>15</u></td> <td>x 5 = <u>75</u></td> </tr> <tr> <td>Column Totals: <u>125</u> (A)</td> <td><u>460</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.68</u>	<u>Total % Cover of:</u>	<u>Multiply by:</u>	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>55</u>	x 3 = <u>165</u>	FACU species <u>55</u>	x 4 = <u>220</u>	UPL species <u>15</u>	x 5 = <u>75</u>	Column Totals: <u>125</u> (A)	<u>460</u> (B)
<u>Total % Cover of:</u>	<u>Multiply by:</u>																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>55</u>	x 3 = <u>165</u>																	
FACU species <u>55</u>	x 4 = <u>220</u>																	
UPL species <u>15</u>	x 5 = <u>75</u>																	
Column Totals: <u>125</u> (A)	<u>460</u> (B)																	
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Pinus virginiana</u>	<u>15</u>	<u>YES</u>	<u>UPL</u>		Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)													
2. <u>Juniperus virginiana</u>	<u>10</u>	<u>YES</u>	<u>FACU</u>															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
9. _____	_____	-	-															
10. _____	_____	-	-															
<u>25</u> = Total Cover				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
<u>Herb Stratum</u> (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Microstegium vimenium</u>	<u>55</u>	<u>YES</u>	<u>FAC</u>		Hydrophytic Vegetation Present? Yes _____ No _____													
2. <u>Rosa multiflora</u>	<u>20</u>	<u>NO</u>	<u>FACU</u>															
3. <u>Sorghastrum nutans</u>	<u>10</u>	<u>NO</u>	<u>FACU</u>															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
9. _____	_____	-	-															
10. _____	_____	-	-															
11. _____	_____	-	-															
12. _____	_____	-	-															
<u>85</u> = Total Cover																		
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	-	-															
2. _____	_____	-	-															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: UPL-7

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	2.5Y 4/3	100					Loam	
3-18	2.5Y 5/4	100					Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks: **Some fill soil from previous construction is mixed in.**

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: WET-8
 Investigator(s): LJK, KG Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.772042 Long: -77.585366 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: PSS6C

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: Cowardin classified as a PSS wetland.	

HYDROLOGY

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

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

Sampling Point: WET-8

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
1. <u>Quercus alba</u>	<u>5</u>	<u>YES</u>	<u>FACU</u>	
2. _____	_____	-	-	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
<u>5</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>25</u> x 2 = <u>50</u> FAC species <u>75</u> x 3 = <u>225</u> FACU species <u>18</u> x 4 = <u>72</u> UPL species <u>10</u> x 5 = <u>50</u> Column Totals: <u>128</u> (A) <u>397</u> (B) Prevalence Index = B/A = <u>3.1</u>
1. <u>Rosa multiflora</u>	<u>30</u>	<u>YES</u>	<u>FACU</u>	
2. <u>Juniperus virginiana</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>	
3. <u>Lonicera tatarica</u>	<u>13</u>	<u>NO</u>	<u>FACU</u>	
4. <u>Pinus virginiana</u>	<u>5</u>	<u>NO</u>	<u>UPL</u>	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
9. _____	_____	-	-	
10. _____	_____	-	-	
<u>53</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Scirpus cyperinus</u>	<u>25</u>	<u>YES</u>	<u>FACW</u>	
2. <u>Microstegium vimenium</u>	<u>75</u>	<u>YES</u>	<u>FAC</u>	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
9. _____	_____	-	-	
10. _____	_____	-	-	
11. _____	_____	-	-	
12. _____	_____	-	-	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. _____	_____	-	-	
2. _____	_____	-	-	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____

SOIL

Sampling Point: WET-8

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	2.5Y 3/2	100					Clay loam	
2-18	2.5Y 4/2	95	2.5Y 4/6	5	C	M	Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: UPL-8
 Investigator(s): LJK, KG Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.772129 Long: -77.585475 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: N/A

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: Associated with WET-8.	

HYDROLOGY

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

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

Sampling Point: UPL-8

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
1. <u>Quercus alba</u>	<u>2</u>	<u>YES</u>	<u>FACU</u>															
2. _____	_____	-	-															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
<u>2</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: right;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>98</u></td> <td>x 4 = <u>392</u></td> </tr> <tr> <td>UPL species <u>3</u></td> <td>x 5 = <u>15</u></td> </tr> <tr> <td>Column Totals: <u>101</u> (A)</td> <td><u>407</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.03</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>98</u>	x 4 = <u>392</u>	UPL species <u>3</u>	x 5 = <u>15</u>	Column Totals: <u>101</u> (A)	<u>407</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>98</u>	x 4 = <u>392</u>																	
UPL species <u>3</u>	x 5 = <u>15</u>																	
Column Totals: <u>101</u> (A)	<u>407</u> (B)																	
1. <u>Rosa multiflora</u>	<u>40</u>	<u>YES</u>	<u>FACU</u>															
2. <u>Juniperus virginiana</u>	<u>8</u>	<u>NO</u>	<u>FACU</u>															
3. <u>Lonicera tatarica</u>	<u>8</u>	<u>NO</u>	<u>FACU</u>															
4. <u>Pinus virginiana</u>	<u>3</u>	<u>NO</u>	<u>UPL</u>															
5. _____	_____	-	-															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
9. _____	_____	-	-															
10. _____	_____	-	-															
<u>59</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u>)																		
1. <u>Danthonia spicata</u>	<u>30</u>	<u>YES</u>	<u>UPL</u>															
2. _____	_____	-	-															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
9. _____	_____	-	-															
10. _____	_____	-	-															
11. _____	_____	-	-															
12. _____	_____	-	-															
<u>30</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u>)																		
1. <u>Lonicera japonica</u>	<u>10</u>	<u>YES</u>	<u>FACU</u>															
2. _____	_____	-	-															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
<u>10</u> = Total Cover																		
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																		
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.																		
Hydrophytic Vegetation Present? Yes _____ No _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: WET-9
 Investigator(s): KG, LJK Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.773329 Long: -77.587398 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: PEM6A

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: Cowardin classified as a PEM wetland.	

HYDROLOGY

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

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

Sampling Point: WET-9

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40%</u> (A/B)
1. <u>Carya glabra</u>	<u>3</u>	<u>YES</u>	<u>FACU</u>	
2. _____	_____	-	-	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
<u>3</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>21</u> x 2 = <u>42</u> FAC species <u>72</u> x 3 = <u>216</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>113</u> (A) <u>338</u> (B) Prevalence Index = B/A = <u>2.99</u>
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. <u>Quercus alba</u>	<u>2</u>	<u>NO</u>	<u>FACU</u>	
2. <u>Juniperus virginiana</u>	<u>2</u>	<u>NO</u>	<u>FACU</u>	
3. <u>Lonicera morowii</u>	<u>3</u>	<u>YES</u>	<u>FACU</u>	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
9. _____	_____	-	-	
10. _____	_____	-	-	
<u>7</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Microstegium vimenium</u>	<u>70</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Sorghastrum nutans</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>	
3. <u>Smilax rotundifolia</u>	<u>2</u>	<u>NO</u>	<u>FAC</u>	
4. <u>Scirpus cyperinus</u>	<u>10</u>	<u>NO</u>	<u>FACW</u>	
5. <u>Eupatorium perfoliatum</u>	<u>12</u>	<u>YES</u>	<u>FACW</u>	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
9. _____	_____	-	-	
10. _____	_____	-	-	
11. _____	_____	-	-	
12. _____	_____	-	-	
<u>99</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. <u>Lonicera japonica</u>	<u>5</u>	<u>YES</u>	<u>FACU</u>	
2. _____	_____	-	-	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
<u>5</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____

SOIL

Sampling Point: WET-9

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	2.5Y 3/2	100					Clay loam	
3-18	2.5Y 5/2	95	2.5Y 4/6	5	C	M	Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: UPL-9
 Investigator(s): KG, LJK Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.773272 Long: -77.587253 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: N/A

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: Associated with WET-9.	

HYDROLOGY

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

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

Sampling Point: UPL-9

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)																		
1. <u>Quercus alba</u>	<u>4</u>	YES	FACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. <u>Carya glabra</u>	<u>2</u>	NO	FACU															
3. _____		-	-															
4. _____		-	-															
5. _____		-	-															
6. _____		-	-															
7. _____		-	-															
8. _____		-	-															
	<u>6</u>	= Total Cover																
Sapling/Shrub Stratum (Plot size: <u>15</u>)																		
1. <u>Pinus virginiana</u>	<u>2</u>	YES	UPL	Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:right;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>8</u></td> <td>x 3 = <u>24</u></td> </tr> <tr> <td>FACU species <u>46</u></td> <td>x 4 = <u>184</u></td> </tr> <tr> <td>UPL species <u>15</u></td> <td>x 5 = <u>75</u></td> </tr> <tr> <td>Column Totals: <u>69</u> (A)</td> <td><u>283</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.1</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>8</u>	x 3 = <u>24</u>	FACU species <u>46</u>	x 4 = <u>184</u>	UPL species <u>15</u>	x 5 = <u>75</u>	Column Totals: <u>69</u> (A)	<u>283</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>8</u>	x 3 = <u>24</u>																	
FACU species <u>46</u>	x 4 = <u>184</u>																	
UPL species <u>15</u>	x 5 = <u>75</u>																	
Column Totals: <u>69</u> (A)	<u>283</u> (B)																	
2. <u>Carya glabra</u>	<u>2</u>	YES	FACU															
3. _____		-	-															
4. _____		-	-															
5. _____		-	-															
6. _____		-	-															
7. _____		-	-															
8. _____		-	-															
9. _____		-	-															
10. _____		-	-															
	<u>4</u>	= Total Cover																
Herb Stratum (Plot size: <u>10</u>)																		
1. <u>Rosa multiflora</u>	<u>20</u>	YES	FACU	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. <u>Smilax rotundifolia</u>	<u>8</u>	NO	FAC															
3. <u>Danthonia spicata</u>	<u>15</u>	NO	UPL															
4. _____		-	-															
5. _____		-	-															
6. _____		-	-															
7. _____		-	-															
8. _____		-	-															
9. _____		-	-															
10. _____		-	-															
11. _____		-	-															
12. _____		-	-															
	<u>43</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30</u>)																		
1. <u>Lonicera japonica</u>	<u>10</u>	YES	FACU	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
2. _____		-	-															
3. _____		-	-															
4. _____		-	-															
5. _____		-	-															
6. _____		-	-															
	<u>10</u>	= Total Cover																
<table style="width:100%; border:none;"> <tr> <td style="width:60%;">Hydrophytic Vegetation Present?</td> <td style="width:20%; text-align:center;">Yes _____</td> <td style="width:20%; text-align:center;">No _____</td> </tr> </table>					Hydrophytic Vegetation Present?	Yes _____	No _____											
Hydrophytic Vegetation Present?	Yes _____	No _____																
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: UPL-9

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	2.5Y 4/3	100					Clay loam	
3-18	2.5Y 5/4	95	2.5Y 5/1	5	D	M	Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: WET-10
 Investigator(s): CH, SH Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 6
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.770277 Long: -77.576943 Datum: NAD83
 Soil Map Unit Name: Jackland silt loam, 2 to 7 percent slopes NWI classification: PEM1C

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: PEM wetland.	

HYDROLOGY

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

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

Sampling Point: WET-10

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)																
1. _____	_____	-	-																	
2. _____	_____	-	-																	
3. _____	_____	-	-																	
4. _____	_____	-	-																	
5. _____	_____	-	-																	
6. _____	_____	-	-																	
7. _____	_____	-	-																	
8. _____	_____	-	-																	
<u>0</u> = Total Cover																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>30</u></td> <td>x 2 = <u>60</u></td> </tr> <tr> <td>FAC species <u>70</u></td> <td>x 3 = <u>210</u></td> </tr> <tr> <td>FACU species <u>15</u></td> <td>x 4 = <u>60</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>115</u> (A)</td> <td><u>330</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.87</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>30</u>	x 2 = <u>60</u>	FAC species <u>70</u>	x 3 = <u>210</u>	FACU species <u>15</u>	x 4 = <u>60</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>115</u> (A)	<u>330</u> (B)	Prevalence Index = B/A = <u>2.87</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>30</u>	x 2 = <u>60</u>																			
FAC species <u>70</u>	x 3 = <u>210</u>																			
FACU species <u>15</u>	x 4 = <u>60</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>115</u> (A)	<u>330</u> (B)																			
Prevalence Index = B/A = <u>2.87</u>																				
1. _____	_____	-	-																	
2. _____	_____	-	-																	
3. _____	_____	-	-																	
4. _____	_____	-	-																	
5. _____	_____	-	-																	
6. _____	_____	-	-																	
7. _____	_____	-	-																	
8. _____	_____	-	-																	
9. _____	_____	-	-																	
10. _____	_____	-	-																	
<u>0</u> = Total Cover																				
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Onoclea sensibilis</u>	<u>10</u>	<u>NO</u>	<u>FACW</u>																	
2. <u>Microstegium vimineum</u>	<u>60</u>	<u>YES</u>	<u>FAC</u>																	
3. <u>Cardamine hirsuta</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>																	
4. <u>Euthamia gramnifolia</u>	<u>10</u>	<u>NO</u>	<u>FAC</u>																	
5. <u>Phalaris arundinacea</u>	<u>20</u>	<u>YES</u>	<u>FACW</u>																	
6. <u>Solanum carolinense</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>																	
7. _____	_____	-	-																	
8. _____	_____	-	-																	
9. _____	_____	-	-																	
10. _____	_____	-	-																	
11. _____	_____	-	-																	
12. _____	_____	-	-																	
<u>110</u> = Total Cover																				
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.																
1. <u>Rosa multiflora</u>	<u>10</u>	<u>YES</u>	<u>FACU</u>																	
2. _____	_____	-	-																	
3. _____	_____	-	-																	
4. _____	_____	-	-																	
5. _____	_____	-	-																	
6. _____	_____	-	-																	
<u>10</u> = Total Cover																				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____																

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: WET-10C
 Investigator(s): SH, CH Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 4
 Subregion (LRR or MLRA): MLRA 148 Lat: _____ Long: _____ Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: PSS1C

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 _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: Extension of WET-10. Cowardin classified as a PSS wetland.	

HYDROLOGY

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

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

Sampling Point: WET-10C

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)																
1. _____	_____	-	-																	
2. _____	_____	-	-																	
3. _____	_____	-	-																	
4. _____	_____	-	-																	
5. _____	_____	-	-																	
6. _____	_____	-	-																	
7. _____	_____	-	-																	
8. _____	_____	-	-																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>35</u></td> <td>x 2 = <u>70</u></td> </tr> <tr> <td>FAC species <u>90</u></td> <td>x 3 = <u>270</u></td> </tr> <tr> <td>FACU species <u>25</u></td> <td>x 4 = <u>100</u></td> </tr> <tr> <td>UPL species <u>2</u></td> <td>x 5 = <u>10</u></td> </tr> <tr> <td>Column Totals: <u>152</u> (A)</td> <td><u>450</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.96</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>35</u>	x 2 = <u>70</u>	FAC species <u>90</u>	x 3 = <u>270</u>	FACU species <u>25</u>	x 4 = <u>100</u>	UPL species <u>2</u>	x 5 = <u>10</u>	Column Totals: <u>152</u> (A)	<u>450</u> (B)	Prevalence Index = B/A = <u>2.96</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>35</u>	x 2 = <u>70</u>																			
FAC species <u>90</u>	x 3 = <u>270</u>																			
FACU species <u>25</u>	x 4 = <u>100</u>																			
UPL species <u>2</u>	x 5 = <u>10</u>																			
Column Totals: <u>152</u> (A)	<u>450</u> (B)																			
Prevalence Index = B/A = <u>2.96</u>																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. <u>Platanus occidentalis</u>	<u>20</u>	YES	FACW																	
2. <u>Salix nigra</u>	<u>10</u>	NO	FACW																	
3. <u>Pinus virginiana</u>	<u>2</u>	NO	UPL																	
4. <u>Juniperus virginiana</u>	<u>5</u>	NO	FACU																	
5. _____	_____	-	-																	
6. _____	_____	-	-																	
7. _____	_____	-	-																	
8. _____	_____	-	-																	
9. _____	_____	-	-																	
10. _____	_____	-	-																	
<u>37</u> = Total Cover																				
Herb Stratum (Plot size: <u>5</u>)																				
1. <u>Microstegium vimineum</u>	<u>70</u>	YES	FAC																	
2. <u>Carex lacustris</u>	<u>10</u>	NO	FAC																	
3. <u>Euthamia graminifolia</u>	<u>10</u>	NO	FAC																	
4. <u>Potentilla canadensis</u>	<u>5</u>	NO	FACU																	
5. <u>Eupatorium perfoliatum</u>	<u>5</u>	NO	FACW																	
6. _____	_____	-	-																	
7. _____	_____	-	-																	
8. _____	_____	-	-																	
9. _____	_____	-	-																	
10. _____	_____	-	-																	
11. _____	_____	-	-																	
12. _____	_____	-	-																	
<u>100</u> = Total Cover																				
Woody Vine Stratum (Plot size: _____)																				
1. <u>Rosa multiflora</u>	<u>15</u>	YES	FACU																	
2. _____	_____	-	-																	
3. _____	_____	-	-																	
4. _____	_____	-	-																	
5. _____	_____	-	-																	
6. _____	_____	-	-																	
<u>15</u> = Total Cover																				
Remarks: (Include photo numbers here or on a separate sheet.)																				
<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:60%;">Hydrophytic Vegetation Present?</td> <td style="width:20%;">Yes _____</td> <td style="width:20%;">No _____</td> </tr> </table>				Hydrophytic Vegetation Present?	Yes _____	No _____														
Hydrophytic Vegetation Present?	Yes _____	No _____																		

SOIL

Sampling Point: WET-10C

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 2/2	100					Clay loam	
5-16	10YR 4/2	85	5YR 4/6	15	C	M	Clay loam	
16-18	10YR 6/8	80	5YR 4/6	20	C	M	Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (**LRR N**)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (**LRR N, MLRA 147, 148**)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (**MLRA 147, 148**)
- Thin Dark Surface (S9) (**MLRA 147, 148**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
- Umbric Surface (F13) (**MLRA 136, 122**)
- Piedmont Floodplain Soils (F19) (**MLRA 148**)
- Red Parent Material (F21) (**MLRA 127, 147**)

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: UPL-10
 Investigator(s): CH, SH Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 7
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.770112 Long: -77.577074 Datum: NAD83
 Soil Map Unit Name: Sycoline-Kelly complex, 2 to 7 percent slopes NWI classification: N/A

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: Associated with WET-10 and WET-10B	

HYDROLOGY

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

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

Sampling Point: UPL-10

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)														
1. _____	_____	-	-															
2. _____	_____	-	-															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
<u>0</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: right;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>50</u></td> <td>x 3 = <u>150</u></td> </tr> <tr> <td>FACU species <u>35</u></td> <td>x 4 = <u>140</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>85</u> (A)</td> <td><u>290</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.41</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>50</u>	x 3 = <u>150</u>	FACU species <u>35</u>	x 4 = <u>140</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>85</u> (A)	<u>290</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>50</u>	x 3 = <u>150</u>																	
FACU species <u>35</u>	x 4 = <u>140</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>85</u> (A)	<u>290</u> (B)																	
1. _____	_____	-	-															
2. _____	_____	-	-															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
9. _____	_____	-	-															
10. _____	_____	-	-															
<u>0</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Verbascum thapsus</u>	<u>15</u>	YES	FACU															
2. <u>Panicum vergatum</u>	<u>30</u>	YES	FAC															
3. <u>Eupatorium serotinum</u>	<u>10</u>	NO	FAC															
4. <u>Cardamine hirsuta</u>	<u>5</u>	NO	FACU															
5. <u>Microstegium vimineum</u>	<u>10</u>	NO	FAC															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
9. _____	_____	-	-															
10. _____	_____	-	-															
11. _____	_____	-	-															
12. _____	_____	-	-															
<u>70</u> = Total Cover																		
Woody Vine Stratum (Plot size: _____)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. <u>Lonicera japonica</u>	<u>5</u>	NO	FACU															
2. <u>Rosa multiflora</u>	<u>10</u>	YES	FACU															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
<u>15</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____														

SOIL

Sampling Point: UPL-10

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	2.5Y 4/2	95	10YR 6/4	5	D	M	Clay loam	
12-18	2.5Y 5/3	95	2.5Y 6/6	5	C	M	Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks: **Check indicators**

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: WET-11
 Investigator(s): KG, LJK Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.772585 Long: -77.586294 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: PEM1E

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 _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: Cowardin classified as a PEM wetland.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) ___ Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No _____ Depth (inches): <u>0.25</u> Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

Sampling Point: WET-11

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)														
1. <u>Quercus alba</u>	<u>5</u>	<u>YES</u>	<u>FACU</u>															
2. _____	_____	-	-															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
<u>5</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; border:none;">Total % Cover of:</td> <td style="width:50%; border:none;">Multiply by:</td> </tr> <tr> <td style="border:none;">OBL species <u>20</u></td> <td style="border:none;">x 1 = <u>20</u></td> </tr> <tr> <td style="border:none;">FACW species <u>8</u></td> <td style="border:none;">x 2 = <u>16</u></td> </tr> <tr> <td style="border:none;">FAC species <u>54</u></td> <td style="border:none;">x 3 = <u>162</u></td> </tr> <tr> <td style="border:none;">FACU species <u>8</u></td> <td style="border:none;">x 4 = <u>32</u></td> </tr> <tr> <td style="border:none;">UPL species <u>2</u></td> <td style="border:none;">x 5 = <u>10</u></td> </tr> <tr> <td style="border:none;">Column Totals: <u>92</u> (A)</td> <td style="border:none;"><u>240</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.61</u>	Total % Cover of:	Multiply by:	OBL species <u>20</u>	x 1 = <u>20</u>	FACW species <u>8</u>	x 2 = <u>16</u>	FAC species <u>54</u>	x 3 = <u>162</u>	FACU species <u>8</u>	x 4 = <u>32</u>	UPL species <u>2</u>	x 5 = <u>10</u>	Column Totals: <u>92</u> (A)	<u>240</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>20</u>	x 1 = <u>20</u>																	
FACW species <u>8</u>	x 2 = <u>16</u>																	
FAC species <u>54</u>	x 3 = <u>162</u>																	
FACU species <u>8</u>	x 4 = <u>32</u>																	
UPL species <u>2</u>	x 5 = <u>10</u>																	
Column Totals: <u>92</u> (A)	<u>240</u> (B)																	
1. <u>Pinus virginiana</u>	<u>2</u>	<u>NO</u>	<u>UPL</u>															
2. <u>Juniperus virginiana</u>	<u>3</u>	<u>YES</u>	<u>FACU</u>															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
9. _____	_____	-	-															
10. _____	_____	-	-															
<u>5</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Microstegium vimineum</u>	<u>50</u>	<u>YES</u>	<u>FAC</u>															
2. <u>Carex lurida</u>	<u>20</u>	<u>YES</u>	<u>OBL</u>															
3. <u>Smilax rotundifolia</u>	<u>4</u>	<u>NO</u>	<u>FAC</u>															
4. <u>Scirpus cyperinus</u>	<u>5</u>	<u>NO</u>	<u>FACW</u>															
5. <u>Eupatorium perfoliatum</u>	<u>3</u>	<u>NO</u>	<u>FACW</u>															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
9. _____	_____	-	-															
10. _____	_____	-	-															
11. _____	_____	-	-															
12. _____	_____	-	-															
<u>82</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. _____	_____	-	-															
2. _____	_____	-	-															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)																		
<table style="width:100%; border:none;"> <tr> <td style="width:60%;">Hydrophytic Vegetation Present?</td> <td style="width:20%;">Yes _____</td> <td style="width:20%;">No _____</td> </tr> </table>				Hydrophytic Vegetation Present?	Yes _____	No _____												
Hydrophytic Vegetation Present?	Yes _____	No _____																

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: UPL-11
 Investigator(s): KG, LJK Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex Slope (%): 5
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.772534 Long: -77.586300 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: N/A

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 _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: Associated with WET-11.	

HYDROLOGY

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

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

Sampling Point: UPL-11

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
1. <u>Quercus alba</u>	<u>6</u>	<u>YES</u>	<u>FAC</u>															
2. <u>Juniperus virginiana</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>															
3. <u>Pinus virginiana</u>	<u>4</u>	<u>NO</u>	<u>UPL</u>															
4. _____	-	-	-															
5. _____	-	-	-															
6. _____	-	-	-															
7. _____	-	-	-															
8. _____	-	-	-															
	<u>15</u>	= Total Cover																
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%;"><u>Total % Cover of:</u></td> <td style="width:50%;"><u>Multiply by:</u></td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>16</u></td> <td>x 3 = <u>48</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>54</u></td> <td>x 5 = <u>270</u></td> </tr> <tr> <td>Column Totals: <u>80</u> (A)</td> <td><u>358</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.48</u>	<u>Total % Cover of:</u>	<u>Multiply by:</u>	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>16</u>	x 3 = <u>48</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>54</u>	x 5 = <u>270</u>	Column Totals: <u>80</u> (A)	<u>358</u> (B)
<u>Total % Cover of:</u>	<u>Multiply by:</u>																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>16</u>	x 3 = <u>48</u>																	
FACU species <u>10</u>	x 4 = <u>40</u>																	
UPL species <u>54</u>	x 5 = <u>270</u>																	
Column Totals: <u>80</u> (A)	<u>358</u> (B)																	
1. <u>Pinus virginiana</u>	<u>15</u>	<u>YES</u>	<u>UPL</u>															
2. <u>Quercus alba</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>															
3. _____	-	-	-															
4. _____	-	-	-															
5. _____	-	-	-															
6. _____	-	-	-															
7. _____	-	-	-															
8. _____	-	-	-															
9. _____	-	-	-															
10. _____	-	-	-															
	<u>20</u>	= Total Cover																
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Danthonia spicata</u>	<u>50</u>	<u>YES</u>	<u>UPL</u>															
2. <u>Microstegium vimineum</u>	<u>10</u>	<u>NO</u>	<u>FAC</u>															
3. _____	-	-	-															
4. _____	-	-	-															
5. _____	-	-	-															
6. _____	-	-	-															
7. _____	-	-	-															
8. _____	-	-	-															
9. _____	-	-	-															
10. _____	-	-	-															
11. _____	-	-	-															
12. _____	-	-	-															
	<u>60</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. _____	-	-	-															
2. _____	-	-	-															
3. _____	-	-	-															
4. _____	-	-	-															
5. _____	-	-	-															
6. _____	-	-	-															
	<u>0</u>	= Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____														

SOIL

Sampling Point: UPL-11

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 2/2	100					Clay loam	
1-18	2.5Y 5/4	100					Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: WET-12
 Investigator(s): KG, LJK Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Flat Slope (%): 1
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.770416 Long: -77.578231 Datum: NAD83
 Soil Map Unit Name: Rowland silt loam, 0 to 2 percent slopes NWI classification: PEM1A

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 _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: PEM wetland along the WC-1 floodplain.	

HYDROLOGY

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

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

Sampling Point: WET-12

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
1. <u>Acer rubrum</u>	<u>5</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Juniperus virginiana</u>	<u>2</u>	<u>NO</u>	<u>FACU</u>	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
	<u>7</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>70</u> x 3 = <u>210</u> FACU species <u>31</u> x 4 = <u>132</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>116</u> (A) <u>362</u> (B) Prevalence Index = B/A = <u>3.12</u>
1. <u>Juniperus virginiana</u>	<u>5</u>	<u>YES</u>	<u>FACU</u>	
2. <u>Acer rubrum</u>	<u>5</u>	<u>YES</u>	<u>FAC</u>	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
9. _____	_____	-	-	
10. _____	_____	-	-	
	<u>10</u>	= Total Cover		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Sorghastrum nutens</u>	<u>10</u>	<u>NO</u>	<u>FACU</u>	
2. <u>Microstegium vimineum</u>	<u>70</u>	<u>YES</u>	<u>FAC</u>	
3. <u>Andropogon virginicus</u>	<u>8</u>	<u>NO</u>	<u>FACU</u>	
4. <u>Carex lurida</u>	<u>10</u>	<u>NO</u>	<u>OBL</u>	
5. <u>Juncus effusus</u>	<u>5</u>	<u>NO</u>	<u>FACW</u>	
6. <u>Tridens flavus</u>	<u>3</u>	<u>NO</u>	<u>FACU</u>	
7. _____	_____	-	-	
8. _____	_____	-	-	
9. _____	_____	-	-	
10. _____	_____	-	-	
11. _____	_____	-	-	
12. _____	_____	-	-	
	<u>106</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. <u>Lonicera japonica</u>	<u>3</u>	<u>NO</u>	<u>FACU</u>	
2. _____	_____	-	-	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
	<u>3</u>	= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: WET-12C
 Investigator(s): CH, SH, KG, LJK Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 4
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.770626 Long: -77.578053 Datum: NAD83
 Soil Map Unit Name: Rowland silt loam, 0 to 2 percent slopes NWI classification: PFO1C

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>PFO portion of WET-12 (PEM).</u>	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>8</u> Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>8</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

Sampling Point: WET-12C

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80%</u> (A/B)
1. <u>Carpinus caroliniana</u>	<u>35</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Acer rubrum</u>	<u>20</u>	<u>YES</u>	<u>FAC</u>	
3. <u>Juniperis virginiana</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>60</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>5</u> x 1 = <u>5</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>60</u> x 3 = <u>180</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>75</u> (A) <u>225</u> (B) Prevalence Index = B/A = <u>3.0</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Carex pedunculata</u>	<u>5</u>	<u>YES</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>5</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. <u>Smilax rotundifolia</u>	<u>5</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Lonicera japonica</u>	<u>5</u>	<u>YES</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>10</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____

SOIL

Sampling Point: WET-12C

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3/3	100					Clay loam	
3-18	10YR 4/2	93	7.5YR 4/4	7	C	M	Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: UPL-12
 Investigator(s): KG, LJK Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex Slope (%): 7
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.770384 Long: -77.578068 Datum: NAD83
 Soil Map Unit Name: Catlett-Sycoline complex, 7 to 15 percent slopes NWI classification: N/A

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks:	

HYDROLOGY

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

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

Sampling Point: UPL-12

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40%</u> (A/B)
1. <u>Juniperus virginicus</u>	<u>25</u>	<u>YES</u>	<u>FACU</u>	
2. <u>Carya glabra</u>	<u>10</u>	<u>YES</u>	<u>FACU</u>	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
	<u>35</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>17</u> x 3 = <u>51</u> FACU species <u>43</u> x 4 = <u>172</u> UPL species <u>3</u> x 5 = <u>15</u> Column Totals: <u>63</u> (A) <u>238</u> (B) Prevalence Index = B/A = <u>3.78</u>
1. <u>Carpinus caroliniana</u>	<u>10</u>	<u>YES</u>	<u>FAC</u>	
2. _____	_____	-	-	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
9. _____	_____	-	-	
10. _____	_____	-	-	
	<u>10</u>	= Total Cover		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Microstegium vimineum</u>	<u>5</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Danthonia spicata</u>	<u>3</u>	<u>NO</u>	<u>UPL</u>	
3. <u>Polystichum acrostichoides</u>	<u>3</u>	<u>NO</u>	<u>FACU</u>	
4. <u>Smilax rotundifolia</u>	<u>2</u>	<u>NO</u>	<u>FAC</u>	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
9. _____	_____	-	-	
10. _____	_____	-	-	
11. _____	_____	-	-	
12. _____	_____	-	-	
	<u>13</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. <u>Lonicera japonica</u>	<u>5</u>	<u>YES</u>	<u>FACU</u>	
2. _____	_____	-	-	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
	<u>5</u>	= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____

SOIL

Sampling Point: UPL-12

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 2/2	100					Clay loam	
3-18	10YR 3/3	99	5YR 4/6	1	C	M	Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/21/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: WET-13
 Investigator(s): SH, KG, LJK Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.7790820 Long: -77.5915139 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: PFO1C

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: Cowardin classified as a PFO wetland.	

HYDROLOGY

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

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

Sampling Point: WET-13

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet:
1. <u>Acer rubrum</u>	<u>15</u>	<u>YES</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)
2. <u>Platanus occidentalis</u>	<u>5</u>	<u>NO</u>	<u>FACW</u>	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. <u>Quercus alba</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80</u> (A/B)
4. <u>Carya glabra</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
	<u>30</u> = Total Cover			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Total % Cover of: _____ Multiply by: _____
1. <u>Carpinus caroliniana</u>	<u>10</u>	<u>YES</u>	<u>FAC</u>	OBL species <u>3</u> x 1 = <u>3</u>
2. <u>Acer rubrum</u>	<u>5</u>	<u>NO</u>	<u>FAC</u>	FACW species <u>5</u> x 2 = <u>10</u>
3. _____	_____	_____	_____	FAC species <u>95</u> x 3 = <u>285</u>
4. _____	_____	_____	_____	FACU species <u>15</u> x 4 = <u>60</u>
5. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
6. _____	_____	_____	_____	Column Totals: <u>118</u> (A) <u>358</u> (B)
7. _____	_____	_____	_____	Prevalence Index = B/A = <u>3.03</u>
8. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:
9. _____	_____	_____	_____	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
10. _____	_____	_____	_____	<input type="checkbox"/> 2 - Dominance Test is >50%
	<u>15</u> = Total Cover			<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
Herb Stratum (Plot size: <u>5</u>)				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
1. <u>Microstegium vimineum</u>	<u>60</u>	<u>YES</u>	<u>FAC</u>	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Elymus hystrix</u>	<u>10</u>	<u>NO</u>	<u>UPL</u>	
3. <u>Carex lurida</u>	<u>3</u>	<u>NO</u>	<u>OBL</u>	
4. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____	_____	_____	_____	Definitions of Four Vegetation Strata:
6. _____	_____	_____	_____	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
7. _____	_____	_____	_____	Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
8. _____	_____	_____	_____	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
9. _____	_____	_____	_____	Woody vine – All woody vines greater than 3.28 ft in height.
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
	<u>73</u> = Total Cover			
Woody Vine Stratum (Plot size: <u>30</u>)				
1. <u>Smilax rotundifolia</u>	<u>5</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Lonicera japonica</u>	<u>5</u>	<u>YES</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	<u>10</u> = Total Cover			Hydrophytic Vegetation Present? Yes _____ No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: WET-13

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	2.5Y 5/2	100					Clay loam	
4-18	2.5Y 5/2	75	2.5Y 5/6	15	C	M	Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/21/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: WET-13C
 Investigator(s): SH, KG, LK Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.7792323 Long: -77.5921952 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: PEM1E

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 _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: PEM portion of WET-13.	

HYDROLOGY

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

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

Sampling Point: WET-13C

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet:	
1. _____	_____	-	-	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
2. _____	_____	-	-	Total Number of Dominant Species Across All Strata: <u>2</u> (B)	
3. _____	_____	-	-	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
4. _____	_____	-	-	Prevalence Index worksheet:	
5. _____	_____	-	-		
6. _____	_____	-	-		
7. _____	_____	-	-		
8. _____	_____	-	-		
<u>0</u> = Total Cover					
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. _____	_____	-	-		Total % Cover of: _____ Multiply by: _____
2. _____	_____	-	-	OBL species <u>10</u> x 1 = <u>10</u>	
3. _____	_____	-	-	FACW species <u>40</u> x 2 = <u>80</u>	
4. _____	_____	-	-	FAC species <u>50</u> x 3 = <u>150</u>	
5. _____	_____	-	-	FACU species <u>0</u> x 4 = <u>0</u>	
6. _____	_____	-	-	UPL species <u>0</u> x 5 = <u>0</u>	
7. _____	_____	-	-	Column Totals: <u>100</u> (A) <u>240</u> (B)	
8. _____	_____	-	-	Prevalence Index = B/A = <u>2.4</u>	
9. _____	_____	-	-	Hydrophytic Vegetation Indicators:	
10. _____	_____	-	-		<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
<u>0</u> = Total Cover					<input type="checkbox"/> 2 - Dominance Test is >50%
Herb Stratum (Plot size: <u>5</u>)					<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
1. <u>Scirpus cyperinus</u>	<u>40</u>	<u>YES</u>	<u>FACW</u>	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
2. <u>Microstegium vimineum</u>	<u>50</u>	<u>YES</u>	<u>FAC</u>	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
3. <u>Typha angustifolia</u>	<u>10</u>	<u>NO</u>	<u>OBL</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
4. _____	_____	-	-	Definitions of Four Vegetation Strata:	
5. _____	_____	-	-		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
6. _____	_____	-	-		Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
7. _____	_____	-	-		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
8. _____	_____	-	-		Woody vine – All woody vines greater than 3.28 ft in height.
9. _____	_____	-	-		Hydrophytic Vegetation Present? Yes _____ No _____
10. _____	_____	-	-		
11. _____	_____	-	-		
12. _____	_____	-	-		
<u>100</u> = Total Cover					
Woody Vine Stratum (Plot size: <u>10</u>)					
1. _____	_____	-	-		
2. _____	_____	-	-		
3. _____	_____	-	-		
4. _____	_____	-	-		
5. _____	_____	-	-		
6. _____	_____	-	-		
<u>0</u> = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince Williams Sampling Date: 03/21/2025
 Applicant/Owner: Prince Williams County State: VA Sampling Point: UPL-13
 Investigator(s): SH, KG, LK Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex Slope (%): 5
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.7790218 Long: -77.5913922 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: N/A

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: Upland point for WET-13 and WET-13C.	

HYDROLOGY

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

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

Sampling Point: UPL-13

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25</u> (A/B)
1. <u>Juniperus virginiana</u>	<u>20</u>	<u>YES</u>	<u>FACU</u>	
2. <u>Quercus alba</u>	<u>10</u>	<u>NO</u>	<u>FACU</u>	
3. <u>Acer rubrum</u>	<u>5</u>	<u>NO</u>	<u>FAC</u>	
4. <u>Carya glabra</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
	<u>40</u> = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>43</u> x 4 = <u>172</u> UPL species <u>5</u> x 5 = <u>25</u> Column Totals: <u>58</u> (A) <u>227</u> (B) Prevalence Index = B/A = <u>3.91</u>
1. <u>Acer rubrum</u>	<u>5</u>	<u>YES</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
	<u>5</u> = Total Cover			
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Elymus hystrix</u>	<u>5</u>	<u>YES</u>	<u>UPL</u>	
2. <u>Poa pratensis</u>	<u>3</u>	<u>NO</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
	<u>8</u> = Total Cover			
Woody Vine Stratum (Plot size: <u>10</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. <u>Lonicera japonica</u>	<u>5</u>	<u>YES</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	<u>5</u> = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____

SOIL

Sampling Point: UPL-13

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	2.5Y4/1	100					Clay loam	
3-18	2.5Y 5/2	95	2.5Y 4/6	5	C	M	Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	--

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 3/21/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: WET-14
 Investigator(s): KG, SH, LK Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depressional Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.7839779 Long: -77.5951808 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: PFO1/4A

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: <p align="center">Cowardin classified as a PFO wetland</p>	

HYDROLOGY

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

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

Sampling Point: WET-14

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)														
1. <u>Carya glabra</u>	<u>5</u>	<u>YES</u>	<u>FACU</u>															
2. _____	_____	-	-															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
<u>5</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: right;">Multiply by:</td> </tr> <tr> <td>OBL species <u>10</u></td> <td>x 1 = <u>10</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>75</u></td> <td>x 3 = <u>225</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>120</u> (A)</td> <td><u>345</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.875</u>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>15</u>	x 2 = <u>30</u>	FAC species <u>75</u>	x 3 = <u>225</u>	FACU species <u>20</u>	x 4 = <u>80</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>120</u> (A)	<u>345</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>10</u>	x 1 = <u>10</u>																	
FACW species <u>15</u>	x 2 = <u>30</u>																	
FAC species <u>75</u>	x 3 = <u>225</u>																	
FACU species <u>20</u>	x 4 = <u>80</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>120</u> (A)	<u>345</u> (B)																	
1. <u>Rosa multiflora</u>	<u>10</u>	<u>YES</u>	<u>FACU</u>															
2. <u>Frangula alnus</u>	<u>10</u>	<u>YES</u>	<u>FAC</u>															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
9. _____	_____	-	-															
10. _____	_____	-	-															
<u>20</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Microstegium vimineum</u>	<u>60</u>	<u>YES</u>	<u>FAC</u>															
2. <u>Typha angustifolia</u>	<u>10</u>	<u>NO</u>	<u>OBL</u>															
3. <u>Cinna arundinacea</u>	<u>5</u>	<u>NO</u>	<u>FACW</u>															
4. <u>Carex lurida</u>	<u>5</u>	<u>NO</u>	<u>FACW</u>															
5. <u>Juncus effusus</u>	<u>5</u>	<u>NO</u>	<u>FACW</u>															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
9. _____	_____	-	-															
10. _____	_____	-	-															
11. _____	_____	-	-															
12. _____	_____	-	-															
<u>85</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>10</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. <u>Lonicera japonica</u>	<u>5</u>	<u>YES</u>	<u>FACU</u>															
2. <u>Smilax rotundifolia</u>	<u>5</u>	<u>YES</u>	<u>FAC</u>															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
<u>10</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____														

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince Williams Sampling Date: 03/21/2025
 Applicant/Owner: Prince Williams County State: VA Sampling Point: UPL-14
 Investigator(s): KG, SH, LK Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex Slope (%): 7
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.783903 Long: -77.595259 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: N/A

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>Upland point for WET-14</u>	

HYDROLOGY

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

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

Sampling Point: UPL-14

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
1. _____	_____	-	-															
2. _____	_____	-	-															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
<u>0</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: right;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>90</u></td> <td>x 4 = <u>360</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>90</u> (A)</td> <td><u>360</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.0</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>90</u>	x 4 = <u>360</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>90</u> (A)	<u>360</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>90</u>	x 4 = <u>360</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>90</u> (A)	<u>360</u> (B)																	
1. _____	_____	-	-															
2. _____	_____	-	-															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
9. _____	_____	-	-															
10. _____	_____	-	-															
<u>0</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Poa pratensis</u>	<u>80</u>	<u>YES</u>	<u>FACU</u>															
2. <u>Trifolium repens</u>	<u>10</u>	<u>NO</u>	<u>FACU</u>															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
9. _____	_____	-	-															
10. _____	_____	-	-															
11. _____	_____	-	-															
12. _____	_____	-	-															
<u>90</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>10</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. _____	_____	-	-															
2. _____	_____	-	-															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____														

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 3/21/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: WET-15
 Investigator(s): KG, LK, SH Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.7852785 Long: -77.5955230 Datum: NAD83
 Soil Map Unit Name: Sycoline-Kelly complex, 2 to 7 percent slopes NWI classification: PEM1A/B

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 _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: Cowardin classified as a PEM wetland.	

HYDROLOGY

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

Field Observations: Surface Water Present? Yes _____ No _____ Depth (inches): <u>1"</u> Water Table Present? Yes _____ No _____ Depth (inches): <u>6"</u> Saturation Present? Yes _____ No _____ Depth (inches): <u>1"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No _____
---	--

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

Remarks:

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

Sampling Point: WET-15

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet:																
1. _____	_____	-	-	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)																
2. _____	_____	-	-	Total Number of Dominant Species Across All Strata: <u>1</u> (B)																
3. _____	_____	-	-	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)																
4. _____	_____	-	-	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>60</u></td> <td>x 1 = <u>60</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>60</u> (A)</td> <td><u>60</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>1</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>60</u>	x 1 = <u>60</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>60</u> (A)	<u>60</u> (B)	Prevalence Index = B/A = <u>1</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>60</u>	x 1 = <u>60</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>60</u> (A)	<u>60</u> (B)																			
Prevalence Index = B/A = <u>1</u>																				
5. _____	_____	-	-																	
6. _____	_____	-	-																	
7. _____	_____	-	-																	
8. _____	_____	-	-																	
<u>0</u> = Total Cover																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. _____	_____	-	-	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. _____	_____	-	-																	
3. _____	_____	-	-																	
4. _____	_____	-	-																	
5. _____	_____	-	-																	
6. _____	_____	-	-																	
7. _____	_____	-	-																	
8. _____	_____	-	-																	
9. _____	_____	-	-																	
10. _____	_____	-	-																	
<u>0</u> = Total Cover																				
Herb Stratum (Plot size: <u>5</u>)																				
1. <u>Typha angustifolia</u>	<u>60</u>	<u>YES</u>	<u>OBL</u>	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes _____ No _____																
2. _____	_____	-	-																	
3. _____	_____	-	-																	
4. _____	_____	-	-																	
5. _____	_____	-	-																	
6. _____	_____	-	-																	
7. _____	_____	-	-																	
8. _____	_____	-	-																	
9. _____	_____	-	-																	
10. _____	_____	-	-																	
11. _____	_____	-	-																	
12. _____	_____	-	-																	
<u>60</u> = Total Cover																				
Woody Vine Stratum (Plot size: <u>10</u>)																				
1. _____	_____	-	-																	
2. _____	_____	-	-																	
3. _____	_____	-	-																	
4. _____	_____	-	-																	
5. _____	_____	-	-																	
6. _____	_____	-	-																	
<u>0</u> = Total Cover																				
Remarks: (Include photo numbers here or on a separate sheet.)																				

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince Williams Sampling Date: 03/21/2025
 Applicant/Owner: Prince Williams County State: VA Sampling Point: UPL-15
 Investigator(s): KG, SH, LK Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex Slope (%): 7
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.785289 Long: -77.595558 Datum: NAD83
 Soil Map Unit Name: Sycoline-Kelly complex, 2 to 7 percent slopes NWI classification: N/A

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 _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: <u>Upland point for WET-15</u>	

HYDROLOGY

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

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

Sampling Point: UPL-15

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
1. _____	_____	-	-															
2. _____	_____	-	-															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
<u>0</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: right;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>60</u></td> <td>x 4 = <u>240</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>60</u> (A)</td> <td><u>240</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.0</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>60</u>	x 4 = <u>240</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>60</u> (A)	<u>240</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>60</u>	x 4 = <u>240</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>60</u> (A)	<u>240</u> (B)																	
1. <u>Rosa multiflora</u>	<u>10</u>	YES	FACU															
2. _____	_____	-	-															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
9. _____	_____	-	-															
10. _____	_____	-	-															
<u>10</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u>)																		
1. <u>Poa pratensis</u>	<u>40</u>	YES	FACU															
2. <u>Trifolium repens</u>	<u>10</u>	NO	FACU															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
7. _____	_____	-	-															
8. _____	_____	-	-															
9. _____	_____	-	-															
10. _____	_____	-	-															
11. _____	_____	-	-															
12. _____	_____	-	-															
<u>50</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>10</u>)																		
1. _____	_____	-	-															
2. _____	_____	-	-															
3. _____	_____	-	-															
4. _____	_____	-	-															
5. _____	_____	-	-															
6. _____	_____	-	-															
<u>0</u> = Total Cover																		
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																		
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																		
Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.																		
Hydrophytic Vegetation Present? Yes _____ No _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks:	

HYDROLOGY

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

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

Sampling Point: _____

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				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.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
Hydrophytic Vegetation Present? Yes _____ No _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 7/30/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: WET-17
 Investigator(s): SH, IW Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 5
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.7764751 Long: -77.5920857 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: PFO1A

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 _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: Coward Classification: PFO wetland	

HYDROLOGY

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

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

Sampling Point: WET-17

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				
1. <u>Ulmus americana</u>	40	YES	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)
2. <u>Carya glabra</u>	20	YES	FACU	
3. <u>Quercus alba</u>	10	NO	FACU	
4. <u>Quercus stellata</u>	10	NO	UPL	
5. _____		-	-	
6. _____		-	-	
7. _____		-	-	
8. _____		-	-	
	80	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____		-	-	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = _____
2. _____		-	-	
3. _____		-	-	
4. _____		-	-	
5. _____		-	-	
6. _____		-	-	
7. _____		-	-	
8. _____		-	-	
9. _____		-	-	
10. _____		-	-	
	0	= Total Cover		
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Microstegium vimineum</u>	30	YES	FAC	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Arthraxon hispidus</u>	20	YES	FAC	
3. <u>Leersia oryzoides</u>	15	NO	OBL	
4. <u>Dichantherium clandestinum</u>	15	NO	FAC	
5. <u>Carex squarrosa</u>	10	NO	FACW	
6. <u>Erechtites hieraciifolius</u>	10	NO	FACU	
7. <u>Nymphaea odorata</u>	5	NO	OBL	
8. <u>Elymus canadensis</u>	3	NO	FACU	
9. _____		-	-	
10. _____		-	-	
11. _____		-	-	
12. _____		-	-	
	108	= Total Cover		
Woody Vine Stratum (Plot size: <u>10</u>)				
1. _____		-	-	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
2. _____		-	-	
3. _____		-	-	
4. _____		-	-	
5. _____		-	-	
6. _____		-	-	
	0	= Total Cover		
Hydrophytic Vegetation Present? Yes _____ No _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 7/30/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: UPL-17
 Investigator(s): SH, IW Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 5
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.7765045 Long: -77.5918936 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: N/A

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks:	

HYDROLOGY

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

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

Sampling Point: UPL-17

	Absolute % Cover	Dominant Species?	Indicator Status																													
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)																												
1. <u>Juniperus virginiana</u>		-	FACU																													
2. <u>Pinus taeda</u>		-	FAC																													
3. <u>Carya glabra</u>		-	FACU																													
4. <u>Quercus alba</u>		-	FACU																													
5. _____		-	-																													
6. _____		-	-																													
7. _____		-	-																													
8. _____		-	-																													
	<u>0</u>	= Total Cover		Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">_____</td> <td style="text-align:right;">Multiply by:</td> <td style="text-align:center;">_____</td> </tr> <tr> <td>OBL species</td> <td style="text-align:center;"><u>0</u></td> <td>x 1 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align:center;"><u>0</u></td> <td>x 2 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align:center;"><u>3</u></td> <td>x 3 =</td> <td style="text-align:center;"><u>9</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align:center;"><u>7</u></td> <td>x 4 =</td> <td style="text-align:center;"><u>28</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align:center;"><u>1</u></td> <td>x 5 =</td> <td style="text-align:center;"><u>5</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align:center;"><u>11</u></td> <td>(A)</td> <td style="text-align:center;"><u>42</u></td> (B)</tr></table>	Total % Cover of:	_____	Multiply by:	_____	OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>0</u>	x 2 =	<u>0</u>	FAC species	<u>3</u>	x 3 =	<u>9</u>	FACU species	<u>7</u>	x 4 =	<u>28</u>	UPL species	<u>1</u>	x 5 =	<u>5</u>	Column Totals:	<u>11</u>	(A)	<u>42</u>
Total % Cover of:	_____	Multiply by:	_____																													
OBL species	<u>0</u>	x 1 =	<u>0</u>																													
FACW species	<u>0</u>	x 2 =	<u>0</u>																													
FAC species	<u>3</u>	x 3 =	<u>9</u>																													
FACU species	<u>7</u>	x 4 =	<u>28</u>																													
UPL species	<u>1</u>	x 5 =	<u>5</u>																													
Column Totals:	<u>11</u>	(A)	<u>42</u>																													
Prevalence Index = B/A = <u>3.82</u>																																

Sapling/Shrub Stratum (Plot size: 15)				
1. Quercus falcata		-	FACU	
2. _____		-	-	
3. _____		-	-	
4. _____		-	-	
5. _____		-	-	
6. _____		-	-	
7. _____		-	-	
8. _____		-	-	
9. _____		-	-	
10. _____		-	-	
	0	= Total Cover		
Herb Stratum (Plot size: 5)				**Hydrophytic Vegetation Indicators:** 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
1. Rubus allegheniensis		-	FACU	
2. Parthenocissus quinquefolia		-	FACU	
3. Sporobolus heterolepis		-	UPL	
4. Dichantherium clandestinum		-	FAC	
5. Elymus canadensis		-	FACU	
6. Smilax rotundifolia		-	FAC	
7. _____		-	-	
8. _____		-	-	
9. _____		-	-	
10. _____		-	-	
11. _____		-	-	
12. _____		-	-	
	0	= Total Cover		
Woody Vine Stratum (Plot size: 10)				**Definitions of Four Vegetation Strata:** **Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. **Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. **Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. **Woody vine** – All woody vines greater than 3.28 ft in height.
1. _____		-	-	
2. _____		-	-	
3. _____		-	-	
4. _____		-	-	
5. _____		-	-	
6. _____		-	-	
	0	= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				**Hydrophytic Vegetation Present?** Yes _____ No _____

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 7/30/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: WET-18
 Investigator(s): SH, IW Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 5
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.7697957 Long: -77.5785891 Datum: NAD83
 Soil Map Unit Name: Rowland silt loam, 0 to 2 percent slopes NWI classification: PEM1C

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: Cowardin Classification: PFO Wetland	

HYDROLOGY

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

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

Sampling Point: WET-18

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>Acer rubrum</u>	<u>35</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Carpinus caroliniana</u>	<u>10</u>	<u>NO</u>	<u>FAC</u>	
3. <u>Asimina triloba</u>	<u>10</u>	<u>NO</u>	<u>FAC</u>	
4. <u>Carya glabra</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>	
5. _____	-	-	-	
6. _____	-	-	-	
7. _____	-	-	-	
8. _____	-	-	-	
<u>60</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = _____
1. <u>Carpinus caroliniana</u>	<u>20</u>	<u>YES</u>	<u>FAC</u>	
2. _____	-	-	-	
3. _____	-	-	-	
4. _____	-	-	-	
5. _____	-	-	-	
6. _____	-	-	-	
7. _____	-	-	-	
8. _____	-	-	-	
9. _____	-	-	-	
10. _____	-	-	-	
<u>20</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Amphicarpaea bracteata</u>	<u>30</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Microstegium vimineum</u>	<u>25</u>	<u>YES</u>	<u>FAC</u>	
3. <u>Onoclea sensibilis</u>	<u>25</u>	<u>YES</u>	<u>FACW</u>	
4. <u>Elymus canadensis</u>	<u>10</u>	<u>NO</u>	<u>FACU</u>	
5. <u>Berberis thunbergi</u>	<u>10</u>	<u>NO</u>	<u>FACU</u>	
6. <u>Asclepias syriaca</u>	<u>8</u>	<u>NO</u>	<u>FACU</u>	
7. <u>Parthenocissus quinquefolia</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>	
8. <u>Rubus allegheniensis</u>	<u>3</u>	<u>NO</u>	<u>FACU</u>	
9. _____	-	-	-	
10. _____	-	-	-	
11. _____	-	-	-	
12. _____	-	-	-	
<u>116</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. _____	-	-	-	
2. _____	-	-	-	
3. _____	-	-	-	
4. _____	-	-	-	
5. _____	-	-	-	
6. _____	-	-	-	
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____

SOIL

Sampling Point: WET-18

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/3	100					CL	
4-20	10YR 4/2	85	5YR 4/6	15	C	M	CL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince Williams Sampling Date: 7/30/2025
 Applicant/Owner: Prince Williams County State: VA Sampling Point: UPL-18
 Investigator(s): SH, IW Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 5
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.7697705 Long: -77.5783587 Datum: NAD83
 Soil Map Unit Name: Catlett-Sycoline complex, 7 to 15 percent slopes NWI classification: N/A

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks:	

HYDROLOGY

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

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

Sampling Point: UPL-18

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				
1. <u>Quercus rubra</u>	<u>25</u>	<u>YES</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>28.6</u> (A/B)
2. <u>Quercus alba</u>	<u>20</u>	<u>YES</u>	<u>FACU</u>	
3. <u>Acer rubrum</u>	<u>15</u>	<u>NO</u>	<u>FACW</u>	
4. <u>Prunus serotina</u>	<u>10</u>	<u>NO</u>	<u>FACU</u>	
5. <u>Carpinus caroliniana</u>	<u>10</u>	<u>NO</u>	<u>FAC</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>80</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. <u>Carya glabra</u>	<u>15</u>	<u>YES</u>	<u>FACU</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>1</u> x 2 = <u>2</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>9</u> x 4 = <u>36</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>15</u> (A) <u>53</u> (B) Prevalence Index = B/A = <u>3.53</u>
2. <u>Carpinus caroliniana</u>	<u>10</u>	<u>YES</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>25</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Elymus canadensis</u>	<u>15</u>	<u>YES</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Amphicarpaea bracteata</u>	<u>10</u>	<u>YES</u>	<u>FAC</u>	
3. <u>Lonicera japonica</u>	<u>10</u>	<u>YES</u>	<u>FACU</u>	
4. <u>Microstegium vimineum</u>	<u>5</u>	<u>NO</u>	<u>FAC</u>	
5. <u>Dichanthelium clandestinum</u>	<u>5</u>	<u>NO</u>	<u>FAC</u>	
6. <u>Parthenocissus quinquefolia</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>	
7. <u>Rubus allegheniensis</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>	
8. <u>Eupatorium perfoliatum</u>	<u>3</u>	<u>NO</u>	<u>FACW</u>	
9. <u>Polystichum acrostichoides</u>	<u>3</u>	<u>NO</u>	<u>FACU</u>	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>61</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10</u>)				
1. _____	_____	_____	_____	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Hydrophytic Vegetation Present? Yes _____ No _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: UPL-18

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4/3	100					Clay Loam	
12-15	10YR 4/4	100					Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/05/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: UVP-1
 Investigator(s): KG, SH Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.777874 Long: -77.591335 Datum: NAD83
 Soil Map Unit Name: Jackland-Haymarket complex, 2 to 7 percent slopes NWI classification: N/A

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: Upland verification point.	

HYDROLOGY

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

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

Sampling Point: UVP-1

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Quercus alba</u>	10	NO	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. <u>Juniperus virginiana</u>	15	YES	FACU	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. <u>Carya glabra</u>	20	YES	FACU	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
4. _____		-	-	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>95</u> x 4 = <u>380</u> UPL species <u>15</u> x 5 = <u>75</u> Column Totals: <u>110</u> (A) <u>455</u> (B) Prevalence Index = B/A = <u>4.14</u>
5. _____		-	-	
6. _____		-	-	
7. _____		-	-	
8. _____		-	-	
	45	= Total Cover		
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. <u>Juniperus virginiana</u>	10	NO	FACU	
2. <u>Pinus virginiana</u>	15	YES	UPL	
3. _____		-	-	
4. _____		-	-	
5. _____		-	-	
6. _____		-	-	
7. _____		-	-	
8. _____		-	-	
9. _____		-	-	
10. _____		-	-	
	25	= Total Cover		
<u>Herb Stratum</u> (Plot size: _____)				
1. <u>Juniperus virginiana</u>	5	NO	FACU	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Andropogon virginicus</u>	20	YES	FACU	
3. _____		-	-	
4. _____		-	-	
5. _____		-	-	
6. _____		-	-	
7. _____		-	-	
8. _____		-	-	
9. _____		-	-	
10. _____		-	-	
11. _____		-	-	
12. _____		-	-	
	25	= Total Cover		
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. <u>Multiflora rosa</u>	15	YES	FACU	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
2. _____		-	-	
3. _____		-	-	
4. _____		-	-	
5. _____		-	-	
6. _____		-	-	
	15	= Total Cover		
Hydrophytic Vegetation Present? Yes _____ No _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: UVP-1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	2.5Y 4/3	100					Loam	
2-18	2.5Y 6/4	100					Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince Williams Sampling Date: 03/05/2025
 Applicant/Owner: Prince Williams County State: VA Sampling Point: UVP-2
 Investigator(s): SH, CH, KG, LJK Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): _____ Slope (%): 4
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.771618 Long: -77.578916 Datum: NAD83
 Soil Map Unit Name: Arcola silt loam, 2 to 7 percent slopes NWI classification: N/A

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 _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: Upland verification point.	

HYDROLOGY

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

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

Sampling Point: UVP-2

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20%</u> (A/B)
1. <u>Quercus alba</u>	<u>20</u>	<u>YES</u>	<u>FACU</u>	
2. <u>Juniperus virginiana</u>	<u>10</u>	<u>NO</u>	<u>FACU</u>	
3. <u>Pinus virginiana</u>	<u>10</u>	<u>NO</u>	<u>UPL</u>	
4. _____	-	-	-	
5. _____	-	-	-	
6. _____	-	-	-	
7. _____	-	-	-	
8. _____	-	-	-	
	<u>40</u> = Total Cover			
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>50</u> x 4 = <u>200</u> UPL species <u>35</u> x 5 = <u>175</u> Column Totals: <u>100</u> (A) <u>420</u> (B) Prevalence Index = B/A = <u>4.2</u>
1. <u>Pinus virginiana</u>	<u>10</u>	<u>YES</u>	<u>UPL</u>	
2. _____	-	-	-	
3. _____	-	-	-	
4. _____	-	-	-	
5. _____	-	-	-	
6. _____	-	-	-	
7. _____	-	-	-	
8. _____	-	-	-	
9. _____	-	-	-	
10. _____	-	-	-	
	<u>10</u> = Total Cover			
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Danthonia spicata</u>	<u>15</u>	<u>YES</u>	<u>UPL</u>	
2. <u>Achillea millefolium</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>	
3. _____	-	-	-	
4. _____	-	-	-	
5. _____	-	-	-	
6. _____	-	-	-	
7. _____	-	-	-	
8. _____	-	-	-	
9. _____	-	-	-	
10. _____	-	-	-	
11. _____	-	-	-	
12. _____	-	-	-	
	<u>20</u> = Total Cover			
Woody Vine Stratum (Plot size: _____)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. <u>Smilax rotundifolia</u>	<u>15</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Lonicera japonica</u>	<u>15</u>	<u>YES</u>	<u>FACU</u>	
3. _____	-	-	-	
4. _____	-	-	-	
5. _____	-	-	-	
6. _____	-	-	-	
	<u>30</u> = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____

SOIL

Sampling Point: UVP-2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 4/3	100					Clay loam	
1-15	7.5YR 4/3	100					Clay loam	
15-18	7.5YR 4/4	100					Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince William Sampling Date: 03/21/2025
 Applicant/Owner: Prince William County State: VA Sampling Point: UVP-3
 Investigator(s): LJK, SH, KG Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Flat Slope (%): 2
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.781493 Long: -77.594409 Datum: NAD83
 Soil Map Unit Name: Waxpool silt loam, 0 to 2 percent slopes NWI classification: N/A

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 <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: Upland verification point	

HYDROLOGY

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

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

Sampling Point: UVP-3

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. <u>Pinus virginiana</u>	<u>20</u>	<u>YES</u>	<u>UPL</u>	
2. <u>Quercus alba</u>	<u>15</u>	<u>YES</u>	<u>FACU</u>	
3. <u>Quercus stilata</u>	<u>3</u>	<u>NO</u>	<u>UPL</u>	
4. <u>Juniperus virginiana</u>	<u>10</u>	<u>NO</u>	<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
	<u>48</u> = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>28</u> x 4 = <u>112</u> UPL species <u>39</u> x 5 = <u>195</u> Column Totals: <u>72</u> (A) <u>322</u> (B) Prevalence Index = B/A = <u>4.47</u>
1. <u>Pinus virginiana</u>	<u>10</u>	<u>YES</u>	<u>UPL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
	<u>10</u> = Total Cover			
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Smilax rotundifolia</u>	<u>5</u>	<u>NO</u>	<u>FAC</u>	
2. <u>Elymus hystrix</u>	<u>6</u>	<u>YES</u>	<u>UPL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
	<u>11</u> = Total Cover			
Woody Vine Stratum (Plot size: <u>30</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. <u>Lonicera japonica</u>	<u>3</u>	<u>YES</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	<u>3</u> = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No _____

SOIL

Sampling Point: UVP-3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	2.5Y 5/3	100					Clay loam	
3-18	10YR 5/1	60	10YR 5/6	40	C	M	Clay loam	Clay layer after 15 inches

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No _____
---	---

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: University Boulevard City/County: Prince Williams Sampling Date: 03/21/2025
 Applicant/Owner: Prince Williams County State: VA Sampling Point: UVP-4
 Investigator(s): SH, KG, LJK Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 4
 Subregion (LRR or MLRA): MLRA 148 Lat: 38.7875068 Long: -77.5951788 Datum: NAD83
 Soil Map Unit Name: Sycoline-Kelly complex, 2 to 7 percent slopes NWI classification: N/A

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 _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: Upland verification point	

HYDROLOGY

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

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

Sampling Point: UVP-4

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	-	-	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____	_____	-	-	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>85</u> x 4 = <u>340</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>85</u> (A) <u>340</u> (B) Prevalence Index = B/A = <u>4.0</u>
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Juniperus virginiana</u>	<u>5</u>	YES	FACU	
2. _____	_____	-	-	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
9. _____	_____	-	-	
10. _____	_____	-	-	
<u>5</u> = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Andropogon virginicus</u>	<u>80</u>	YES	FACU	
2. _____	_____	-	-	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
7. _____	_____	-	-	
8. _____	_____	-	-	
9. _____	_____	-	-	
10. _____	_____	-	-	
11. _____	_____	-	-	
12. _____	_____	-	-	
<u>80</u> = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>10</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	-	-	
2. _____	_____	-	-	
3. _____	_____	-	-	
4. _____	_____	-	-	
5. _____	_____	-	-	
6. _____	_____	-	-	
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) 				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
				Hydrophytic Vegetation Present? Yes _____ No _____

