APPENDIX D NATURAL RESOURCES TECHNICAL REPORT

UNIVERSITY BOULEVARD EXTENSION PROJECT

PRINCE WILLIAM COUNTY

NATURAL RESOURCES TECHNICAL REPORT

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Natural Resources Technical Report

University Boulevard Extension Project

Prince William County

Virginia

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1 BACKGROUND

The Prince William County Department of Transportation, in coordination with the Virginia Department of Transportation (VDOT), is evaluating the environmental impacts of connecting two existing sections of University Boulevard (Route 840) in Prince William County, Virginia. In accordance with the requirements of the National Environmental Policy Act (NEPA) and other Federal and State Law and regulations, environmental studies assessing the potential impacts will be documented in an Environmental Assessment (EA) for this project. WSP prepared this Natural Resources Technical Report as part of the environmental studies required for the EA document. This report identifies existing environmental and biological resources; the federal and state legislation surrounding these environmental and biological resources; the federal, state, and the local requirements associated with permitting impacts to any resource, including potential mitigation requirements.

1.1 PROJECT DESCRIPTION

Prince William County is proposing to extend the existing University Boulevard roadway located in Gainesville, Virginia. The proposed project involves a 2.5-mile extension of University Boulevard from Devlin Road to Wellington Road, acompassing approximately 68.5 acres. The road will be a four-lane divided highway with 12' travel lanes, encompassing a 5' sidewalk, 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 in Linton Hall, Virginia 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. (Appendix 1: *Vicinity and Area Maps*). The typical right-of-way to accommodate this work is approximately 128 feet along the proposed corridor. The roadway is designed to accommodate 50 mph, and will be posted for 35 mph. Design year (2048) average daily traffic (ADT) volumes along the extension are projected to vary between 36,290 vehicles at Rollins Ford Road and 43,230 at Wentworth Green Drive. Solutions will be implemented that meet design criteria such as roadway reconditioning, drainage crossings, and retaining walls to guarantee driver safety, prevent potential future roadway damage, and guarantee compliance with city, state, and federal stormwater guidelines.

2 WATER RESOURCES

2.1 METHODS

Water resources are regulated by the United States Environmental Protection Agency (EPA) and the United States Army Corps of Engineers (USACE) according to the Water Pollution Control Act of 1972 (Clean Water Act [CWA]) and the Water Quality Act of 1987. Section 404 of the CWA regulates activities affecting Wetlands and Waters of the United States (WOTUS). The EPA, USACE, and the Virginia Department of Environmental Quality (VDEQ) all issue permits for activities that impact or alter WOTUS in the commonwealth of Virginia.

The VDEQ administers the Virginia Water Protection Permit program (9 VAC 25-210), Section 401 of the CWA, and the State Water Control Law for activities affecting jurisdictional wetlands, streams, and

other water bodies. In July 2000, the Virginia General Assembly instructed VDEQ to develop a non-tidal wetlands program and to provide regulations to protect fish and wildlife resources. Isolated waters do not fall under federal CWA permitting, however they are regulated by VDEQ.

Virginia's wetlands are regulated under the Virginia Wetlands Act and through Subtitle III of Title 28.2 of the Code of Virginia. Through this framework, each County's Local Wetlands Board regulates activities in tidal wetlands within their Counties. The University Boulevard project will be subject to the Prince William County Local Wetlands Board.

To comply with Virginia's regulatory framework, a combination of a desktop assessment and field investigation were employed as part of wetland and stream determination efforts.

DESKTOP ANALYSIS

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

FIELD DELINEATION

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). After the desktop assessment, field surveys were performed by qualified WSP staff in March 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 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 determined using the National Wetland Plant List (NWPL) (USACE, 2022).

Additionally, 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 considered to have an ephemeral flow regime

with a score between 0-18, an intermittent flow regime with a score of 19-29, and a perennial flow regime with a score of ≥30.

2.2 DRAINAGE BASINS

The project falls within one 8-digit US Geologic Survey (USGS) Hydrologic Unit Code (HUC) watershed: the Middle Potomac-Anacostia-Occoquan (HUC 02070010).[1] For permitting purposes, regulatory agencies prefer that any mitigation activities take place within the same 8-digit HUC as the project.

The Middle Potomac-Anacostia Occoquan Watershed (HUC 02070010) encompasses approximately 831,483 acres across Alexandria, Arlington, Fairfax, Prince William, Loudoun, Fauquier, and Stafford Counties in Virginia.

2.3 WETLANDS AND STREAMS

Wetlands and Streams within the 68.5 acre Project area were identified through a combination of desktop review and field delineation. The Nationwide Wetlands Inventory (NWI) Wetland Mapper is an online digital map and database of wetlands and waterways managed by the U.S. Fish and Wildlife Service (USFWS). The mapper provides the estimated or known boundaries of wetlands and waterways, and their predicted Cowardin classification. WSP staff reviewed the NWI's mapper prior to the March 2025 field delineation (See Appendix 2: *National Wetland Inventory Map*).

Environmental scientists conducted a wetland and waterway delineation of the project study area in March and July 2025. A total of twenty-one (21) wetlands were delineated in the project area, including nine (9) palustrine emergent (PEM), five (5) palustrine scrub shrub (PSS), and seven (7) palustrine forested (PFO) wetlands. Additionally, seventeen watercourses were recorded, including six (6) perennial, six (6) intermittent, and five (5) ephemeral watercourses. See Table 1 for a summary of the wetland field delineation, and Table 2 for a summary of the watercourse field delineation. An in-depth summary of site findings can be found in Appendix 9: *Wetland and Waterway Delineation Memo*.

Palustrine emergent (PEM) wetlands are characterized by rooted, herbaceous, hydrophytic vegetation (hydrophytes), and can be classified as persistent or nonpersistent. In persistent PEMs, vegetation remains standing until the next growing season. Nonpersistent PEMs are dominated by species that fall below the water line or to the ground at the end of the growing season. All the PEM wetlands within the University Boulevard project site were classified as persistent.[2]

Palustrine scrub shrub (PSS) wetlands are dominated by woody vegetation less than 6 meters (19.7 feet) tall such as young trees or shrubby species. Palustrine forested (PFO) wetlands are dominated by vegetation that is over 6 meters (19.7 ft) in height. Commonly, vegetation includes a canopy of mature trees, an understory of younger trees and shrubs, and an herbaceous layer.

The delineated wetlands and streams are shown in Appendix 3: *Natural Resources Delineation Maps*. Site photos and datasheets can be found in Appendix 10: *Wetland and Waterway Delineation Memo*.

[1] USGS Watershed Database https://water.usgs.gov/wsc/a_api/wbd/index_wbd.html. Accessed 02/20/2025.
[2] Cowardin, *Classification of wetlands and deep-water habitats of the United States*, 1979.

Table 2. Field Delineated Wetlands Summary Table

Wetland ID	Cowardin Classification	Acreage in Study Area
WET-01	PFO1E: Palustrine Forested, Broad-Leaved Deciduous, Seasonally Flooded/Saturated	1.55 acres
WET-02	PEM1G: Palustrine Emergent, Persistent, Intermittently Flooded	0.09 acres
WET-03	PEM1C: Palustrine Emergent, Persistent, Seasonally Flooded	1.37 acres
WET-04	PEM1C: Palustrine Emergent, Persistent, Seasonally Flooded	1.14 acres
WET-05	PSS1E: Palustrine Scrub Shrub, Broad-Leaved Deciduous, Seasonally Flooded/Saturated	0.14 acres
WET-06	PSS1C: Palustrine Scrub Shrub, Broad-Leaved Deciduous, Seasonally Flooded	4.23 acres
WET-06C	PFO6C: Palustrine Forested, Deciduous, Seasonally Flooded	
WET-07	PSS1C: Palustrine Scrub Shrub, Broad-Leaved Deciduous, Seasonally Flooded	0.09 acres
WET-08	PSS6C: Palustrine Scrub-Shrub, Deciduous, Seasonally Flooded	0.53 acres
WET-09	PEM1A: Palustrine Emergent, Persistent, Temporarily Flooded	0.24 acres
WET-10	PEM1C: Palustrine Emergent, Persistent, Seasonally Flooded	0.88 acres
WET-10C	PSS1C: Palustrine Scrub Shrub, Broad-Leaved Deciduous, Seasonally Flooded	
WET-11	PEM1E: Palustrine Emergent, Persistent, Seasonally Flooded/Saturated	0.16 acres
WET-12	PEM1A: Palustrine Emergent, Persistent, Temporarily Flooded	0.16 acres
WET-12C	PFO1C: Palustrine Forested, Broad-Leaved Deciduous, Seasonally Flooded/Saturated	

Wetland ID	Cowardin Classification	Acreage in Study Area
WET-13	PFO1C: Palustrine Forested, Broad-Leaved Deciduous, Seasonally Flooded/Saturated	1.46 acres
WET-13A	PEM1E: Palustrine Emergent, Persistent, Seasonally Flooded/Saturated	
WET-14	PFO1/4A: Palustrine Forested, Broad-Leaved Deciduous/Needle-Leaved Evergreen, Temporarily Flooded	0.24 acres
WET-15	PEM1A/B: Palustrine Emergent, Persistent, Temporarily Flooded/Seasonally Saturated	0.13 acres
WET-16	PFO1A: Palustrine Forested, Broad-Leaved Deciduous, Temporarily Flooded	0.2 acres
WET-17	PFO1A: Palustrine Forested, Broad-Leaved Deciduous, Temporarily Flooded	0.05 acres
WET-18	PEM1C: Palustrine Emergent, Persistent, Seasonally Flooded	0.05 acres

Table 2. Field Delineated Watercourses (WC) Summary Table

Watercourse ID	Cowardin Classification	Stream Type	Linear Feet (LF) in Study Area
WC-01	R2SBH: Riverine, Lower Perennial, Stream Bed, Permanently Flooded	Perennial	830 LF
WC-02	R4UBH: Riverine, Intermittent, Unconsolidated Bottom, Permanently Flooded	Intermittent	167 LF
WC-03	R5: Riverine, Ephemeral	Ephemeral	160 LF
WC-04	R2UBH: Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded	Perennial	412 LF
WC-05	R4UBH: Riverine, Intermittent, Unconsolidated Bottom, Permanently Flooded	Intermittent	141 LF
WC-06	R4UBH: Riverine, Intermittent, Unconsolidated Bottom, Permanently Flooded	Intermittent	578 LF

Watercourse ID	Cowardin Classification	Stream Type	Linear Feet (LF) in Study Area
WC-07	R5: Riverine, Ephemeral	Ephemeral	29 LF
WC-08	R2UBH: Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded	Perennial	702 LF
WC-09	R4UBH: Riverine, Intermittent, Unconsolidated Bottom, Permanently Flooded	Intermittent	600 LF
WC-10	R2UBH: Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded	Perennial	420 LF
WC-11	R5: Riverine, Ephemeral	Ephemeral	394 LF
WC-12-EPH	R5: Riverine, Ephemeral	Ephemeral	67 LF
WC-12-PER	R2SBH: Riverine, Lower Perennial, Streambed, Permanently Flooded	Perennial	81 LF
WC-13-EPH	R5: Riverine, Ephemeral	Ephemeral	292 LF
WC-13-INT	R4UBH: Riverine, Intermittent, Unconsolidated Bottom, Permanently Flooded	Intermittent	189 LF
WC-14	R2UB1: Riverine, Lower Perennial, Unconsolidated Bottom, Cobble-Gravel	Perennial	551 LF
WC-15	R4SB5: Riverine, Intermittent, Streambed, Mud	Intermittent	74 LF

2.4 FLOODPLAINS AND FLOODWAYS

A floodplain is an area of low-lying land along a waterway that is susceptible to flooding. The National Flood Insurance Act of 1968 established the National Flood Insurance Program, under the authority of the Federal Emergency Management Agency (FEMA). FEMA maps the nation's flood-prone areas on the Flood Insurance Rate Map (FIRM). The eastern edge of the University Boulevard project area passes through two regulatory AE Flood Zones, which have a 1% annual chance of flooding.[3] The 1% "annual chance flood" is also referred to as the "base flood" or "100-year flood."

Refer to Table 3 for a list of flood hazard zones in the project area and their associated FEMA map panel number. See Appendix 3 for a map of the floodplains.

[3] FEMA Floodplain Data. https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed 02/20/2025.

Table 3. FEMA Floodplain Summary Table

FEMA Map Panel Number	Within 100-Year FEMA Floodplain? (Y/N)	Flood Hazard Type and Flood Zone
51153C0087D	Y	Regulatory Floodway, Flood Zone AE (1% annual flood hazard)
51153C0089D	Y	1% Annual Chance Flood Hazard, Flood Zone A

2.5 DESIGNATED WATERS

Table 4 identifies special status stream or waterbody designations, the federal or state agency with authority over the designated waterbodies, and if any designated waterbodies occur within the University Boulevard project area.

Table 4. Special Stream Designations Table

Designation	Organization	Waterbody
Navigable Waters	USACE/United States Coast Guard (USCG)	There are no Navigable Waters in the project area
State Scenic Rivers	Virginia Department of Conservation and Recreation (VDCR)	There are no state-designated Scenic Rivers in the project area
Nationwide Rivers Inventory	National Park Service (NPS)	There are no rivers registered with the Nationwide Rivers Inventory in the project area
Chesapeake Bay Preservation Areas	VDCR	The project encroaches on two RPA buffers and Prince William County is considered an RMA
Exceptional State Waters	VDEQ	There are no Exceptional State Waters in the project area

2.5.1 NAVIGABLE WATERS

Navigable waters are defined by 33 Code of Federal Regulations (CFR) 2.05-25 as waters subject to the ebb and flow of tide; or any water that is presently used, was previously used, or is susceptible to use in its natural condition, or by reasonable improvement, as a means to transport substantial interstate or foreign commerce. All navigable waters fall under the authority of USCG or USACE.

There are no navigable waterways within the University Boulevard project area.

2.5.2 STATE SCENIC RIVERS

State Scenic Rivers are rivers that possess outstanding scenic, historic, or other characteristics significant for the enjoyment of future generations. The Virginia Scenic Rivers Act of 1970, §10.1-400

requires state and federal agencies to take into consideration how projects and programs affect state scenic rivers.

There are no State Scenic Rivers in the University Boulevard project area.

2.5.3 NATIONWIDE RIVERS INVENTORY

The Nationwide Rivers Inventory (NRI) is a listing of more than 3,400 free-flowing river segments in the United States believed to possess one or more "outstandingly remarkable" natural or cultural values judged to be of more than local or regional significance. These rivers are under the authority of the National Park Service, and all federal agencies must seek to avoid or mitigate actions that would adversely affect NRI reaches.

There are no rivers registered with the Nationwide Rivers Inventory in the project area.

2.5.4 CHESAPEAKE BAY PRESERVATION AREAS

The Chesapeake Bay Preservation Act (Bay Act) was enacted by the Virginia General Assembly in 1988 to protect and manage Virginia's coastal zones. The Bay Act requires local governments to include water quality protection measures in their zoning ordinances and comprehensive plans.

RESOURCE PROTECTED AREAS (RPAs)

Under the Bay Act, Resource Protected Areas (RPAs) are defined as the riparian buffers surrounding perennial streams and rivers that drain into the Chesapeake Bay. RPAs include land within 100 ft of a waterway bank or wetland edge adjacent to a perennial stream. All proposed developments within these buffers must be optimized to minimize encroachment into the buffers to the maximum extent possible.

Using data provided by the Prince William County GIS Data Portal, the desktop review found two RPAs within the project area. For their location, see Appendix 4: *Resource Protection Areas Map*.

RESOURCE MANAGEMENT AREAS (RMAs)

Resource Management Areas (RMA) are areas containing floodplains, steep slopes, and highly erodible soils. Best management practices should be in place when building or developing in an RMA to minimize runoff, erosion, and pollution. The entirety of Prince William County is considered an RMA.[4]

Resource Protection Areas (RPAs) are regulated and permitted under the Chesapeake Bay Preservation Act (Bay Act), enacted in 1988. RPAs include any land within 100 ft of perennial streams and rivers that drain into the Chesapeake Bay, and their accompanying wetlands.

The Bay Act aims to "prevent a net increase in nonpoint source pollution from new development and development on previously developed land where the runoff was treated by a water quality protection best management practice" or "achieve a 10% reduction in nonpoint source pollution from development on previously developed land where the runoff was not treated by one or more water quality best management practices." To meet these guidelines, there is a general performance

[4] Price William County Environmental Restrictions https://www.pwcva.gov/department/environmental-services/building-environmentally-sensitive areas#:~:text=RMAs%20include%20floodplains%2C%20highly% 20eroded,and% 20help%20provide%20flood%20control Accessed 02/26/2025.

criterion established under the Act. Projects must not disturb any more land than necessary to accomplish project objectives; indigenous vegetation and mature trees should be preserved to the maximum extent possible; developments exceeding 2,500 sq ft must comply with the development review process outlined in § 15.2-2286 A 8; minimize impervious cover; comply with local ordinances regarding erosion and sediment control and stormwater management; and provide local governments with evidence of all wetland and waterway permits prior to them authorizing project activities.

A water quality impact assessment is required for any activities proposed within an RPA. The purpose of the assessment is to identify potential impacts of proposed activities on RPA water quality. Specific content and requirements for the impact assessment will be determined by Prince William County.

If applicable, a vegetated buffer area equal to the size of a buffer encroachment should be installed in the project area to maximize water quality protection and mitigate the effects of buffer encroachment. The planted vegetation must be effective in reducing runoff, preventing erosion, and filtering non-point source pollution by meeting at least a 75% reduction of sediments and a 40% reduction in nutrients. The planted vegetation must imitate undisturbed riparian forest, and will include trees, understory vegetation, shrubs, and groundcover. According to the VDCR, an undisturbed forest will consist of approximately 25% canopy trees, 25% subcanopy trees and shrubs, and 50% shrub/saplings.[5] A planting plan will be required for the approval of any activities that remove vegetation from a buffer, and must include the locations of removed plants and plans to replace them.

Table 5. Recommended Vegetation Replacement Rates Table from Virginia Department of Conservation & Recreation Riparian Buffers Modification and Mitigation Guidance Manual. [6]

Vegetation Removed	Preferred Replacement Vegetation	Acceptable Alternative Replacement Vegetation
1 tree or sapling 0.5"-2.5" caliper	1 tree of equal caliper or greater	2 large shrubs at 3'-4' height or 10 small shrubs or woody groundcover at 15"-18" height
1 tree ≥ 2.5" caliper	1 tree 1.5" - 2" caliper or 1 evergreen tree at a 6' min. height per every 4" caliper of tree removed	75% trees at 1.5" - 2" caliper and 25% large shrubs at 3'-4' height per every 4" caliper of tree removed or 10 small shrubs or woody groundcover at 15"-18" height per 4"caliper of tree removed
1 large shrub	1 large shrub at 3'-4' height	5 small shrubs or woody groundcover at 15"-18" height

[5] Riparian Buffers Modification and Mitigation Guidance Manual, https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_14877142/File/Government/Departments_Elected%20Offices/Planning,%20Permiting%20&%20Enforcement/RiparianBufferManual.pdf. Accessed 04/18/2025.
[6] Virginia Department of Conservation and Recreation, Chesapeake Bay Local Assistance Division. (2003, September 15). *Riparian buffers modification & mitigation guidance manual (DCR-CBLAD-022). Reprinted 2006.*

2.5.6 EXCEPTIONAL STATE WATERS

The Exceptional State Waters (ESW) Program, managed by the VDEQ, identifies and protects high quality waters by prohibiting new or increased point source discharges into the designated waterbody. ESWs are also known as Tier III waters. To designate a waterbody as an ESW, an amendment must be made to the Antidegradation Policy section of Virginia's Water Quality Standards regulation. There are currently 30 waterways across the state designated as ESWs.

None of the waterbodies that flow through the project area are designated as ESWs, nor do they flow directly into an ESW.

2.6 WATER QUALITY

In compliance with Sections 303(d), 305(b), and 314 of the federal CWA and the Safe Drinking Water Act, the Virginia DEQ has developed a prioritized list of water bodies that currently do not meet water quality standards. VDEQ monitors streams for a variety of water quality parameters, including temperature, dissolved oxygen levels, pH, fecal coliform, *E. coli*, *Enterococci* species, total phosphorus, chlorophyll a, benthic invertebrates, metals and toxins in the water column, suspended sediments, and fish tissues.

Water quality standards designate uses for waters. In Virginia, the six designated uses are aquatic life, fish consumption (i.e., the ability of humans to eat fish from the water body), public water supply, recreation, shellfishing, and wildlife. If a water body contains more contamination than allowed to support one or more of its designated uses, the waters are designated as "impaired." The maximum amount of pollutant a water body can receive and still meet its designated use is known as the Total Maximum Daily Load (TMDL).

According to the 2022 305(b)/303(d) Integrated Report released by VDEQ, the aquatic life, fish consumption, recreation, and wildlife categories were applicable to the two unnamed tributaries to Broad Run that flow through the University Boulevard project area. However, none of the categories were assessed by VDEQ or any citizen monitoring organization, and the current water quality of these streams is unknown. See Appendix 1: *Vicinity and Area Maps* for an overview of these resources.

2.7 DRINKING WATER, AQUIFERS, AND WATER SUPPLY

In 1974, Congress passed the Safe Drinking Water Act (SDWA) to regulate public drinking water supplies. Amendments in 1986 and 1996 installed further protections to public drinking water supplies by requiring states to implement actions that protect drinking water and its sources. States must assess, delineate, and map protection areas for their public drinking water sources, and determine and mitigate any potential risks to those sources.

The Virginia Department of Health: Office of Drinking Water reviewed the project site to determine if any public drinking water utilities were located within the project area or its vicinity. It found that two wells supplying Linton Hall School are within a 1-mile radius of the project, and the Lake Manassas Dam that supplies drinking water to the city of Manassas is within a 5-mile radius of the project site. The project also passes through the watershed that supplies Fairfax County's Occoquan Reservoir Intake. See Appendix 5: *Virginia Department of Health Correspondence*.

3 BIOLOGICAL RESOURCES

3.1 METHODS

Biological resources, for the purpose of this report, are conserved lands, managed at either the federal, state, or county level; wildlife, both aquatic and terrestrial; and vegetation. While wildlife and vegetation fall largely under the purview of the U.S. Fish and Wildlife Service (USFWS), conserved lands are managed by a variety of different agencies across the federal and state levels, with authority varying depending on the intended purpose of the land. This section of the report contains a desktop review, an analysis of potential regulations the project must abide by, and invasive species data collected during the March and July field surveys.

Ecoregions can be utilized to analyze and evaluate the integrity and health of biological resources. The Environmental Protection Agency (EPA) defines ecoregions as areas where ecosystems (and the type, quality, and quantity of environmental resources) are generally similar. Ecoregions serve as a spatial framework for the research, assessment, management, and monitoring of ecosystems and their components. There are four different hierarchical levels of ecoregions, ranging from general regions to more detailed:

- Level I — 12 Ecoregions
- Level II — 25 Ecoregions
- Level III — 105 Ecoregions
- Level IV — 967 Ecoregions

The University Boulevard project falls entirely within EPA Level III Ecoregion 64—Northern Piedmont. This ecoregion stretches from southern Virginia through central Maryland, with its eastern-most edges extending to southeast Pennsylvania and central New Jersey. This ecoregion is dominated by three land cover types: urban, agriculture, and forest cover. Forest cover is the dominant land cover type across the entire region, but land cover can vary drastically between counties and states. Forests are typically Appalachian oak forest, but due to historical clearing, the eradication of the American chestnut, and the introduction of invasive species such as *Ailanthus altissima* (tree of heaven) and *Acer platanoides* (Norway maple), modern forest compositions likely share few similarities with historical native forests. Common native trees throughout this region are *Quercus alba* (white oak), *Quercus rubra* (northern red oak), *Acer rubrum* (red maple), and *Liriodendron tulipfera* (tuliptree). The terrain is dominated by rolling hills and valleys in the northwest and coastal plains in the southeast.

3.2 REGULATED NATURAL COMMUNITIES

The communities described below are areas designated by federal, state, or county agencies for the preservation, conservation, and enjoyment of habitat, plants, and/or wildlife.

3.2.1 NATIONAL WILDLIFE REFUGES

The U.S. Fish and Wildlife Service manages the National Wildlife Refuge System with the aim of preserving and enhancing biological integrity, diversity, and environmental health to protect and

conserve the nation's wildlife resources. National Wildlife Refuges are protected by Section 4(f) of the Department of Transportation Act of 1966.

The University Boulevard project area does not overlap with any National Wildlife Refuges.

3.2.2 STATE PUBLIC LANDS

The Virginia Department of Conservation and Recreation (VDCR) and the Virginia Department of Wildlife Resources (VDWR) manage state-held lands for the benefit of the public, including providing opportunities for recreation and conserving biological diversity and environmental health. The VDWR manages Virginia's Wildlife Management Areas, which both protect vulnerable wildlife populations and provide hunting opportunities to the public. Virginia public lands are protected under Section 4(f) of the Department of Transportation Act of 1966. There are no Wildlife Management Areas in the project area.

According to the VDCR's Division of Natural Heritage, the University Boulevard project area passes through the Vulcan Gainesville Tract Conservation Site, including a 100 ft buffer (Appendix 6: *Conservation Area Map*). VDCR conservation sites represent key areas that warrant further review for possible conservation action, and are built around one or more rare plants, animals, or natural communities and the habitats and resources that support them. These sites are given biodiversity significance ratings (B-scores) to reflect the rarity, quality, and abundance of resources, and number 1-5 (1 being the most significant). The Vulcan Gainesville Tract has a score of B-3.

The sensitive natural resources associated with the Tract are earleaf false foxglove (*Agalinis auriaulata*), Torrey's mountain-mint (*Pycnanthemum torreyi*), hairy nutrush (*Scleria ciliata var. ciliata*), and stiff goldenrod (*Solidago rigida var. rigida*). At the Virginia state level, false foxglove and hairy nutrush are critically imperiled (S1), and Torrey's mountain-mint and stiff goldenrod are imperiled (S2). Additionally, Torrey's mountain-mint has a global rank of G2 (imperiled) and it is listed as a species of concern by the USFWS. A map of the mint's suitable habitat can be found in Appendix 6: *Habitat Maps*. These plants are associated with semi-open glades dominated by diabase, a type of volcanic rock found in northern Virginia throughout the Triassic Basin. Diabase flatrocks are extremely rare natural features, and exposed flatrock provides habitat for a unique community of drought-resistant plant species, including those listed above. A map of known diabase habitat in the study area is included in Appendix 6.

3.2.3 COUNTY PUBLIC LANDS

The Northern Virginia Conservation Trust (NVCT) holds 1,567 acres in easement across Prince William County.[7] Lands are put into easement to provide recreational opportunities, protect water quality, and aesthetic enjoyment.

There are no lands protected by the trust, lands in other easements, or lands owned by Prince William County within the University Boulevard project area.

[7] Northern Virginia Land Trust, https://www.nvct.org/prince-william. Accessed 04/16/2025.

3.2.4 PRIORITY CONSERVATION AREAS

Priority Conservation Areas are lands identified by the Virginia Department of Conservation and Recreation (VDCR) through their program, ConserveVirginia, as a priority for preservation, protection, or specific management action. ConserveVirginia was codified into law in 2021 (§ 10.1-104.6:1), and aims to conserve Virginia's ecosystem diversity, forests, floodplains, cultural and historic resources, scenic natural areas, and water quality.

The ConservationVision Watershed Impact Model maps where activities that alter the land are expected to have the greatest impact on water resources and water quality. Lands expected to have high impacts on water quality are also deemed priority areas for conservation, restoration, and protection. Potential impact is calculated under a "worst case scenario" assumption of completely barren land, and considers stormwater runoff potential, soil loss potential, and landscape position to calculate impact scores.

These potential water quality impacts are given a rank on a scale from 1 to 100. These scores are based on the potential for soil runoff, overland flow distance to surface waters, landscape position, soil sensitivity, potential for soil loss, and the prevalence of karst features. Activities on higher scored land will have the greatest impacts on quality while lower scores will be less significant. Impacts can be beneficial or harmful depending on the nature of the activity. The extension contains areas that would have Medium (41-60), High (61-80) and Severe (81-100) impacts on water quality.[8] The higher graded impact areas of the project are where the extension crosses waterways, while lower values are on already developed land. See Appendix 7: *Watershed Impacts Map* for a map of these areas.

3.2.5 THREATENED AND ENDANGERED SPECIES

Coordination with the US Fish and Wildlife Service (USFWS), the Virginia Department of Conservation and Recreation (VDCR) and the Virginia Department of Wildlife Resources (VDWR) regarding threatened and endangered species in the project area has been initiated and is ongoing. WSP staff utilized the U.S. Fish and Wildlife Service's (USFWS) IPaC (Information for Planning and Consultation) online service to obtain a species resource list.[9] The species resource list utilizes USFWS data to predict if any rare, endangered, or threatened species will occur within the project area (see Appendix 8: *RTE Species Memo*).

The IPaC identified a total of 3 threatened, endangered, or candidate species, including 2 mammals and 1 insect predicted to occur within the project area. Table 6 provides a summary of the species and their status. The resource report indicates that there is no designated critical habitat within the project area.

Table 6. USFWS Species Summary Table

Species	Status	Critical Habitat
Tricolored Bat (*Perimyotis subflavus*)	Proposed Endangered	No critical habitat has been designated for this species

[8] Virginia Department of Conservation and Recreation, 2022. Accessed 04/16/2025.
[9] USFWS IPAC, IPaC: Home (fws.gov). Accessed 02/21/2025.

Species	Status	Critical Habitat
Northern Long-Eared Bat (*Myotis septentrionalis*)	Endangered	No critical habitat has been designated for this species
Monarch Butterfly (*Danaus plexippus*)	Proposed Threatened	No critical habitat has been designated for this species

Staff also utilized the Virginia Fish and Wildlife Service (VaFWIS) Initial Project Assessment (IPA) for a 3-mile buffer around the project area to analyze potential for Virginia's endangered and threatened species to occur in the project area.[10] The IPA showed three listed species to be confirmed within the project area and 3-mile buffer. Coordination with the VDWR is currently ongoing concerning three species: the yellow lance (*Elliptio lanceolata*) and brook floater (*Alasmidonta varicose*), which are both species of mussel, and the wood turtle (*Glyptemys insculpta*). The Virginia Department of Conservation and Recreation (DCR) database was analyzed for the area as well.[11] The results from the VDWR and VDCR database searches are in Appendix 10 and Table 7.

Table 7. VAFWIS and DCR Species Summary Table

Species	Status	State Tier
Northern Long-Eared Bat (*Myotis septentrionalis*)	Federally Endangered, State Threatened	Critical Conservation Need; Feasibly Implemented Management Strategies (1a)
Little Brown Bat (*Myotis lucifugus*)	State Endangered	Critical Conservation Need; Feasibly Implemented Management Strategies (1a)
Tricolored Bat (*Perimyotis subflavus*)	Federally Proposed Endangered, State Endangered	Critical Conservation Need; Feasibly Implemented Management Strategies (1a)
Dwarf Wedgemussel (*Alasmidonta heterodon*)	Federally Endangered, State Endangered	Critical Conservation Need; Feasibly Implemented Management Strategies (1a)
Yellow Lance (*Ellipito lanceolata*)	Federally Threatened, State Threatened	Very High Conservation Need; Feasibly Implemented Management Strategies (2a)
Green Floater (*Lasmigona subviridis*)	Federally Proposed, State Threatened	Very High Conservation Need; Feasibly Implemented Management Strategies (2a)

[10] Virginia Department of Wildlife Resources Fish and Wildlife Information. https://services.dwr.virginia.gov/fwis/?Menu=Home.__By+Map. Last Accessed April 2025.
[11] Virginia Department of Conservation and Recreation. Natural Heritage Data Explorer. https://www.dcr.virginia.gov/natural-heritage/nhdeinfo. Last accessed April 2025.

Species	Status	State Tier
Atlantic Sturgeon (*Acipenser oxyrinchus*)	Federally Endangered, State Endangered	Critical Conservation Need; Management Strategies Not Currently Feasible (2b)
Brook Floater (Alasmidonta varicosa)	State Endangered	Critically Imperiled; At very high risk of extirpation in the jurisdiction due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors. (S1)
Wood Turtle (*Glyptemys insculpta*)	State Threatened	Critical Conservation Need; Feasibly Implemented Management Strategies (1a)
Spotted Turtle (*Clemmys guttata*)	Collection Concern	High Conservation Need; Feasibly Implemented Management Strategies (3a)
Peregrine Falcon (*Falco peregrinus*)	State Threatened	Critical Conservation Need; Feasibly Implemented Management Strategies (1a)
Loggerhead Shrike (*Lanius ludovicianus*)	State Threatened	Critical Conservation Need; Feasibly Implemented Management Strategies (1a)
Migrant Loggerhead Shrike (*Lanius ludovicianus migrans*)	State Threatened	N/A
Henslow's Sparrow (*Centronyx henslowii*)	State Threatened	Critical Conservation Need; Feasibly Implemented Management Strategies (1a)
Appalachian Grizzled Skipper (*Pyrgus wyandot*)	State Threatened	Critical Conservation Need; Feasibly Implemented Management Strategies (1a)
Eastern Regal Fritillary (*Speyeria idalia idalia*)	Federally Proposed Endangered	Critical Conservation Need; Feasibly Implemented Management Strategies (1a)
Monarch Butterfly (*Danaus plexippus*)	Federally Proposed Threatened	High Conservation Need; Feasibly Implemented Management Strategies (3a)
Timber Rattlesnake (*Crotalus horridus*)	Collection Concern	Moderate Conservation Need; Feasibly Implemented Management Strategies (4a)

Species	Status	State Tier
Small-Whorled Pogonia (*Isotria medeoloides*)	State Endangered	Imperiled; At high risk of extirpation in the jurisdiction due to the restricted range, few populations or occurrences, steep declines, severe threats, or other factors (S2)
Torrey's Mountain Mint (*Pycanthemum torreyi*)	State Threatened	Imperiled; At high risk of extirpation in the jurisdiction due to the restricted range, few populations or occurrences, steep declines, severe threats, or other factors (S2)

3.3 WILDLIFE AND HABITAT

Many sensitive, threatened, and endangered wildlife populations are found throughout the commonwealth of Virginia. These populations were taken into consideration to ensure the least disruption practicable during proposed project activities. The following section covers multiple types of wildlife, including avian and fish species; their habitats, such as areas used for feeding, breeding, and rearing young; and the protections afforded to each. It also covers what types of wildlife may be in the project area, and what state and federal agencies will be involved in the regulation of activities.

3.3.1 COLONIAL WATERBIRDS

Colonial waterbirds are birds that nest in large groups during the nesting season, called rookeries or colonies. Coordination with The Virginia Department of Wildlife Resources (VDWR) is required to determine the best steps forward regarding waterbird colonies documented in the project area.

There are no known waterbird colonies within the project area.

3.3.2 MIGRATORY BIRDS

THE MIGRATORY BIRD TREATY ACT

Migratory birds are birds that migrate annually, often north to south, between breeding grounds and wintering habitat. The Migratory Bird Treaty Act of 1918 (MBTA) makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit. This includes disturbances to trees and structures used for nesting if they are occupied, or the creation of a disturbance that would result in an adult bird abandoning its nest.

The MBTA is enforced by federal agencies such as the U.S. Fish and Wildlife Service (USFWS) and requires agencies and project applicants to avoid potential negative effects they may have on migratory bird populations. If any such effects could occur, the federal agency must consult with USFWS before the action and mitigate the effects.

The USFWS IPaC (Information for Planning and Consultation) indicates that 9 migratory bird species may pass through, inhabit, or nest in the University Boulevard project area. See Table 8 below for a table of these species and their breeding season.

Table 8. USFWS Migratory Birds Species Summary Table

Common Name	Scientific Name	Breeding Season
Bald eagle	*Haliaeetus leucocephalus*	Sep 1 to Jul 31
Black-billed cuckoo	*Coccyzus erythropthalmus*	May 15 to Oct 10
Chimney swift	*Chaetura pelagica*	Mar 15 to Aug 25
Grasshopper sparrow	*Ammodramus savannarum perpallidus*	Jun 1 to Aug 20
Kentucky warbler	*Geothlypis formosa*	Apr 20 to Aug 20
Prairie warbler	*Setophaga discolor*	May 1 to Jul 31
Red-headed woodpecker	*Melanerpes erythrocephalus*	May 10 to Sep 1
Rusty blackbird	*Euphagus carolinus*	Breeds elsewhere
Wood thrush	*Hylocichla mustelina*	May 10 to Aug 31

During field surveys, there was one active osprey nesting site spotted on top of a utility pole just outside the project area at 77.5925762°W 38.7792753°N. If project boundaries are altered, steps should be taken to guarantee compliance with the MBTA and the safety of the nesting adults, chicks or eggs, and nest.

BALD AND GOLDEN EAGLES

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d) of 1940 prohibits anyone, without a permit issued by the Secretary of the Interior, from “taking” bald or golden eagles, including their parts (ex. feathers), nests, and eggs. The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” “Disturb” is defined as “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”

The USFWS IPaC online service indicated that bald eagles are likely to be within, or pass through, the project area. The Center for Conservation Biology’s Virginia Eagle Nest Locator indicates that the project is approximately 2 miles away from the closest known eagle nest; this nest was last checked in

2009, and it was last known to be occupied in 2004. See Appendix 9: *RTE Species Memo* for further information.

FLYWAYS

Migratory species generally follow specific routes delineated by natural barriers, such as the Appalachian Mountains, called flyways. The project is within the Atlantic Flyway, a route that follows the eastern edge of the United States and passes through eastern and central Virginia. Therefore, many migratory bird species likely pass through the study area, such as vireo species, American goldfinches, Acadian and great-crested flycatchers, and blue-gray gnatcatchers. Species such as American robins, American cardinals, sparrows, hawks, and finches likely inhabit the project area year-round.

3.3.3 FISHERIES, ANADROMOUS FISH, AND TROUT WATERS

The 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) established a mandate for federal agencies to identify and protect important marine and anadromous fish habitat. Essential Fish Habitat (EFH) is defined by the Magnuson-Stevens Act as "those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity" (16 U.S.C. 1802 [10]). EFH regulations apply largely to marine fisheries but are also applicable to freshwater spawning waters for anadromous species.

FISHERIES

EFH waters include aquatic areas and their associated physical, chemical, and biological properties; substrates (natural and unnatural bottoms, structures, and biological communities); and necessary habitat required to support a sustainable fishery.

According to the National Oceanic and Atmospheric Administration (NOAA) Essential Fish Habitat mapper, there are no EFH waters in the University Boulevard project area.

ANADROMOUS FISH

An anadromous fish is a species of fish that spends its life in both freshwater and saltwater habitats, such as salmon. Potential Anadromous Fish Use Areas are areas identified by VDWR that have the potential to be used by anadromous fish and Confirmed Anadromous Fish Use Areas waters known to actively provide habitat for anadromous fish.

According to the VDWR Anadromous Fish Use Areas mapper (WERMS), there are no confirmed or potential Anadromous Fish Use Areas in the project area.

STOCKED TROUT WATERS

The VDWR regularly stocks waterbodies with trout for the purposes of public recreation. There are no stocked trout waters in the University Boulevard project area.

3.3.4 SUBMERGED AQUATIC VEGETATION

Submerged Aquatic Vegetation (SAV) is a broad term that includes a diverse array of underwater plants found in the shoal areas of the Chesapeake Bay, Virginia coastal bays, and their tributaries. SAV

are keystone species. They are primary indicators of water quality conditions and provide some of the most productive fish habitats on earth.[12] Any removal or destruction of SAV can only be conducted with prior approval of the Virginia Marine Resources Commission.

The Virginia Institute of Marine Science (VIMS) manages the Interactive SAV Map, a mapping tool that documents historic and known SAV areas. According to the mapper, there are no SAV areas in the project area.

3.4 INVASIVE SPECIES

Invasive species are defined as any non-native plant, animal, or microbial species that cause, or have the potential to cause, economic or ecological harm. Noxious weeds are invasive plant species designated by a federal, state, or county government as gravely detrimental to public health, agriculture, recreation, wildlife, economy, or property.

See Table 9 for a list of invasive species found within the project area during field surveys. The table includes the Virginia Department of Conservation and Recreation (VDCR) ranking for invasiveness, a score that reflects the level of threat the invasive species poses to ecosystems and native species. The ranks used are high, medium, and low, where species ranked "high" pose a substantial threat to native species, natural communities, or the economy.

Table 9. Invasive Species Summary Table

Scientific Name	Common Name	Invasiveness Score
Microstegium vimenium	Japanese stiltgrass	High
Rosa multiflora	Multiflora rose	High
Lonicera japonica	Japanese honeysuckle	High
Lonicera tatarica	Tatarian honeysuckle	Medium
Lonicera morrowii	Bush honeysuckle or Morrow's honeysuckle	High
Cardamine hirsuta	Hairy bittercress	N/A
Verbascum thapsus	Great mullein	N/A
Trifolium repens	White clover	N/A

[12] NOAA Fisheries, 2020, https://www.fisheries.noaa.gov/feature-story/submerged-aquatic-vegetation-habitat-worth-sav-ing, Accessed 06/25/2025

4 CONCLUSION

Prince William County Government has proposed a 2.5-mile extension of the existing University Boulevard roadway in Gainesville, Virginia. WSP USA, Inc. (WSP) was contracted to conduct a Natural Resources Technical Report to present baseline environmental information for the project area that will be used to analyze potential impacts in the Environmental Assessment. This included a field delineation and a thorough desktop review of potential regulatory requirements and involved state or federal agencies. Coordination with state and federal agencies is ongoing, and their input will continue to inform the progression of the project.

There are no Navigable Waters, State Scenic Rivers, NRI Remarkable Rivers, or Exceptional State Waters that flow through the project area, and do not contain any National Wildlife Refuges, State Protected Lands, or County Protected Lands. The extension will encroach on two RPA buffers, which require enhanced mitigation strategies. The project area crosses through Priority Conservation Areas and has the potential to provide temporary and year-round habitat for protected species.

5 REFERENCES

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APPENDIX

1. VICINITY AND TRIBUTARY MAPS

Legend

Project Study Area

UNIVERSITY BOULEVARD EXTENSION

PRINCE WILLIAM COUNTY, VIRGINIA

SCALE: 1" = 1,000' | FEB 2025

N W E S

Feet
0 500 1,000

COORDINATES: 38.773617, -77.587996

VICINITY MAP

Legend

- Project Study Area
- Broad Run
- Broad Run/Rocky Branch Tributaries (Unnamed)
- Dawkins Branch

UNIVERSITY BOULEVARD EXTENSION

PRINCE WILLIAM COUNTY, VIRGINIA

SCALE: 1" = 2,500' | JULY 2025

N W E S

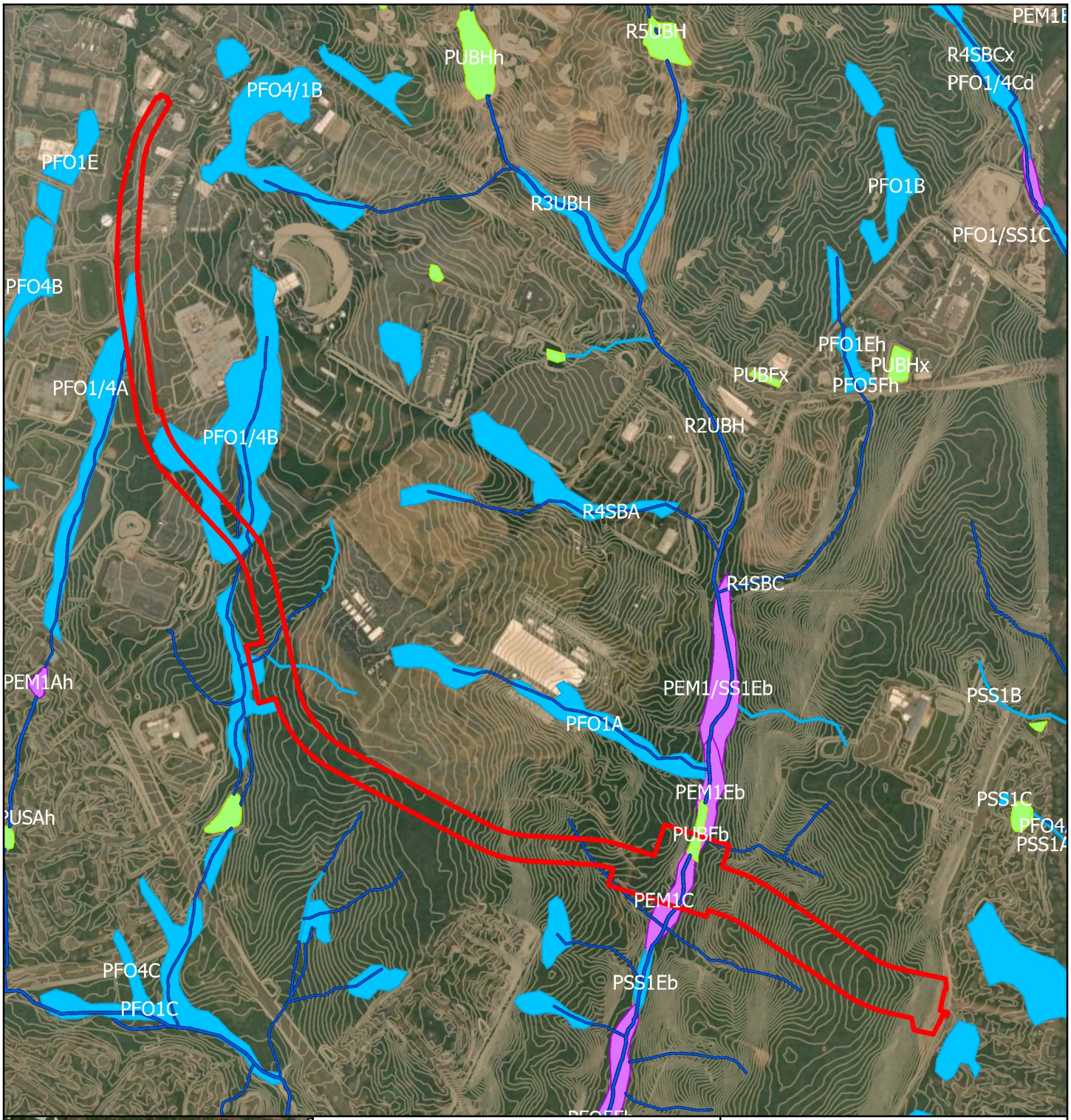
Feet

0 1,250 2,500

AREA MAP

APPENDIX

2. NATIONAL WETLAND INVENTORY MAP



Legend

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

USFWS NWI Mapper

UNIVERSITY BOULEVARD EXTENSION

PRINCE WILLIAM COUNTY, VIRGINIA

SCALE: 1" = 1,000' | FEB 2025

N W E S

Feet

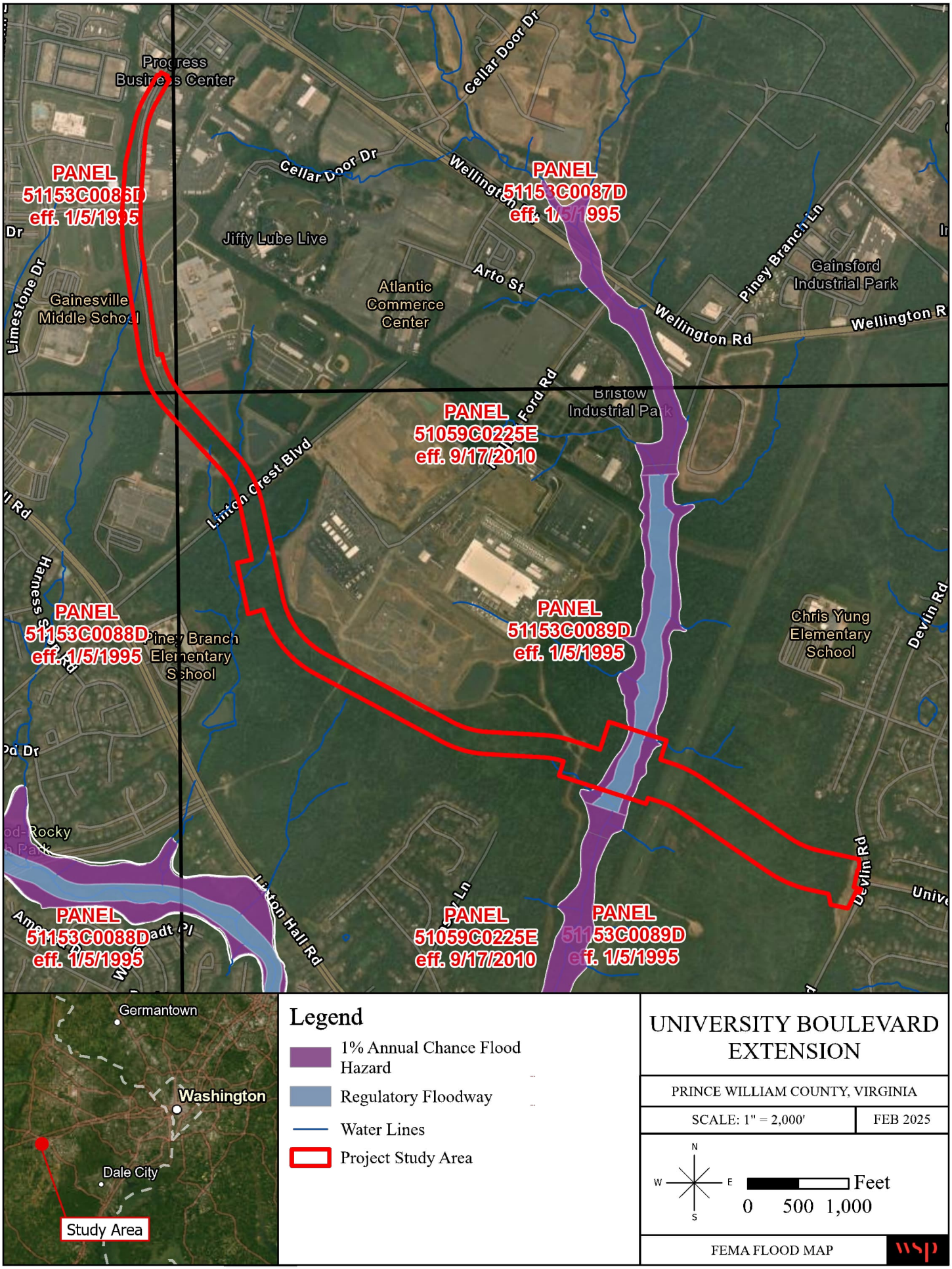
0 500 1,000

NATIONAL WETLAND INVENTORY MAP

wsp

APPENDIX

3. FEDERAL EMERGENCY MANAGEMENT AGENCY MAP



Legend

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

UNIVERSITY BOULEVARD EXTENSION

PRINCE WILLIAM COUNTY, VIRGINIA

SCALE: 1" = 2,000' | FEB 2025

N W E S

Feet

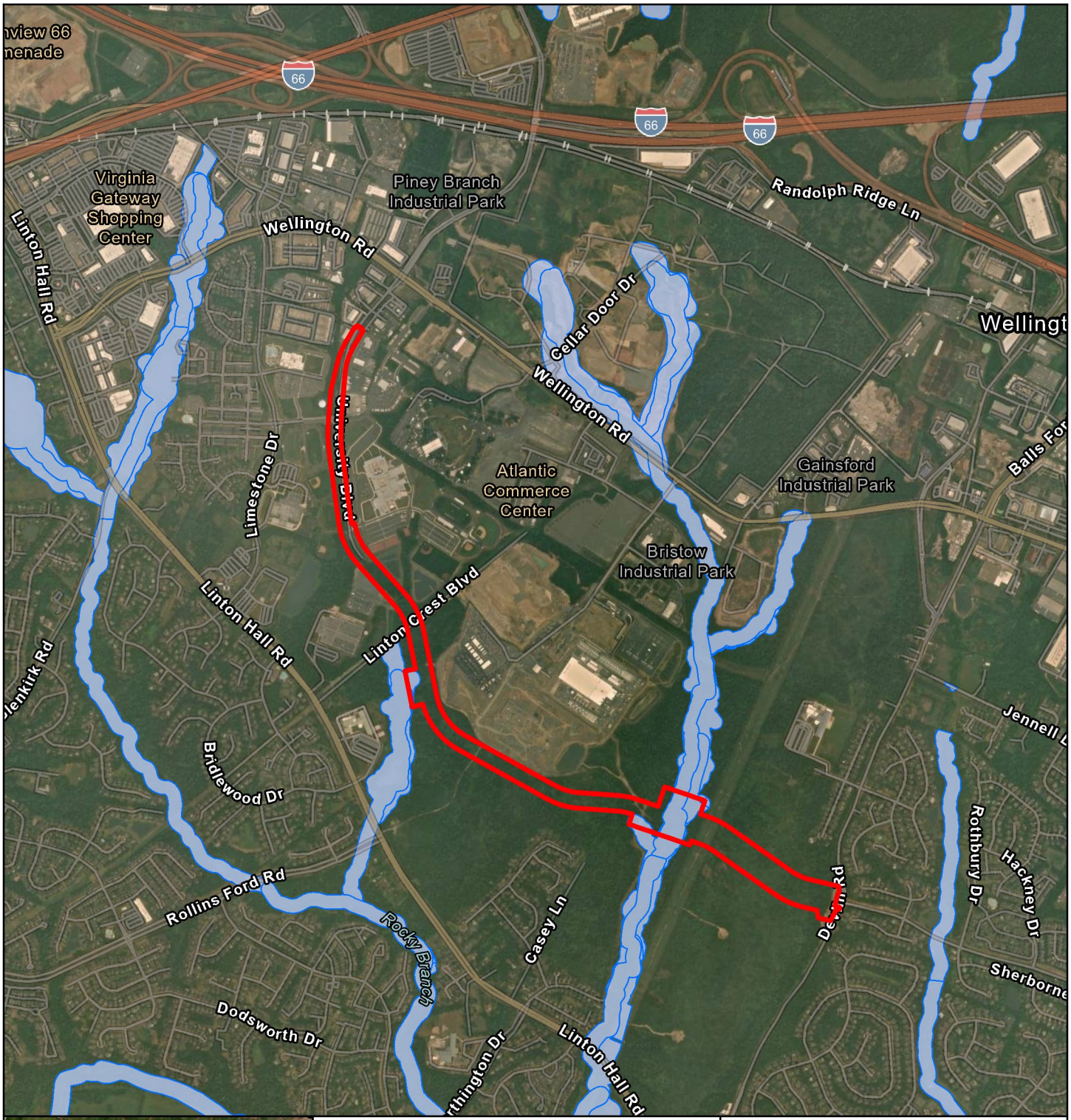
0 500 1,000

FEMA FLOOD MAP

wsp

APPENDIX

4. RESOURCE PROTECTION AREAS MAP



Legend

- Project Study Area
- Resource Protection Areas (RPA)

Prince William County GIS Data Portal

UNIVERSITY BOULEVARD EXTENSION

PRINCE WILLIAM COUNTY, VIRGINIA

SCALE: 1" = 2,500' | FEB 2025

N W E S

Feet

0 1,250 2,500

RESOURCE PROTECTION AREAS MAP

wsp

APPENDIX

5. VIRGINIA DEPARTMENT OF HEALTH CORRESPONDENCE

From: Warren, Arlene (VDH) <Arlene.Warren@vdh.virginia.gov>
Sent: Monday, July 21, 2025 3:26 PM
To: Li, Gary <GLi@pwcgov.org>
Subject: RE: University Boulevard Extension Project – Response

Project: N/A
Project Name: University Boulevard Extension Project
UPC #: N/A
Location: Prince William County

VDH – Office of Drinking Water has reviewed the above project. Below are our comments as they relate to proximity to **public drinking water sources** (groundwater wells, springs and surface water intakes). Potential impacts to public water distribution systems or sanitary sewage collection systems **must be verified by the local utility.**

The following public groundwater wells are located within a 1-mile radius of the project site):

PWS ID Number	City/County	System Name	Facility Name
6153475	PRINCE WILLIAM CO	LINTON HALL SCHOOL	WELL #1 NEAR CEMETERY
6153475	PRINCE WILLIAM CO	LINTON HALL SCHOOL	WELL #2 NEAR SCHOOL

The following surface water intakes are located within a 5-mile radius of the project site:

PWS ID Number	System Name	Facility Name
6685100	MANASSAS, CITY OF	LAKE MANASSAS DAM

The project is within the watershed of the following public surface water sources:

PWS ID Number	System Name	Facility Name
6059501	FAIRFAX COUNTY WATER AUTHORITY	OCCOQUAN RESERVIOR INTAKE

Best Management Practices should be employed, including Erosion & Sedimentation Controls and Spill Prevention Controls & Countermeasures on the project site.

Materials should be managed while on site and during transport to prevent impacts to nearby surface water.

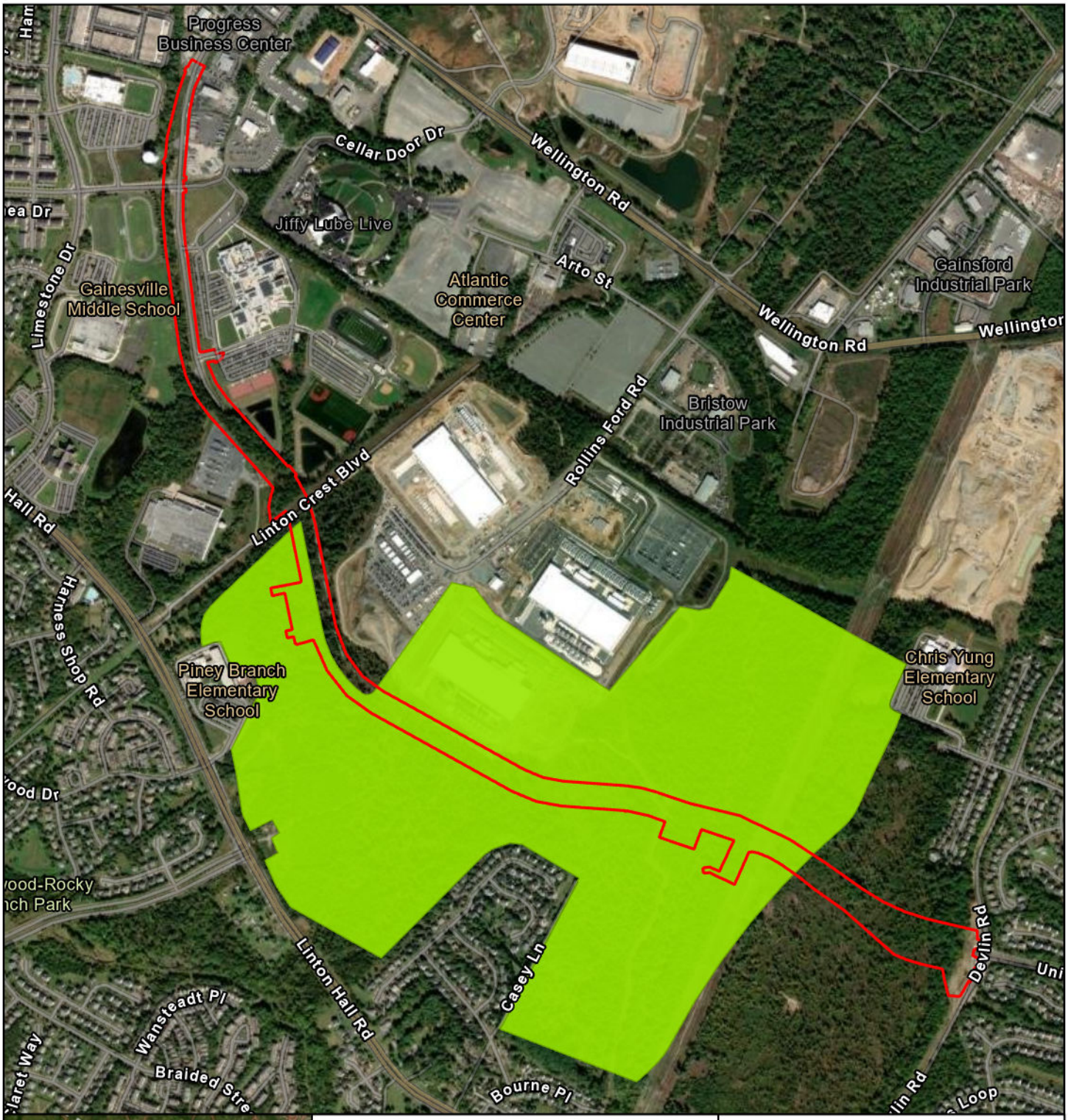
The Virginia Department of Health – Office of Drinking Water appreciates the opportunity to provide comments. If you have any questions, please let me know.

Best Regards,

Arlene F. Warren
GIS Program Support Technician
Mobile 804-389-2167 (office/cell/text)
Email arlene.warren@vdh.virginia.gov
VDH, Office of Drinking Water
109 Governor Street, 6th Floor
Richmond, VA 23219

APPENDIX

6. CONSERVATION AREA AND HABITAT MAPS



Legend

- Project Study Area
- Vulcan Gainesville Tract Conservation Site

UNIVERSITY BOULEVARD EXTENSION

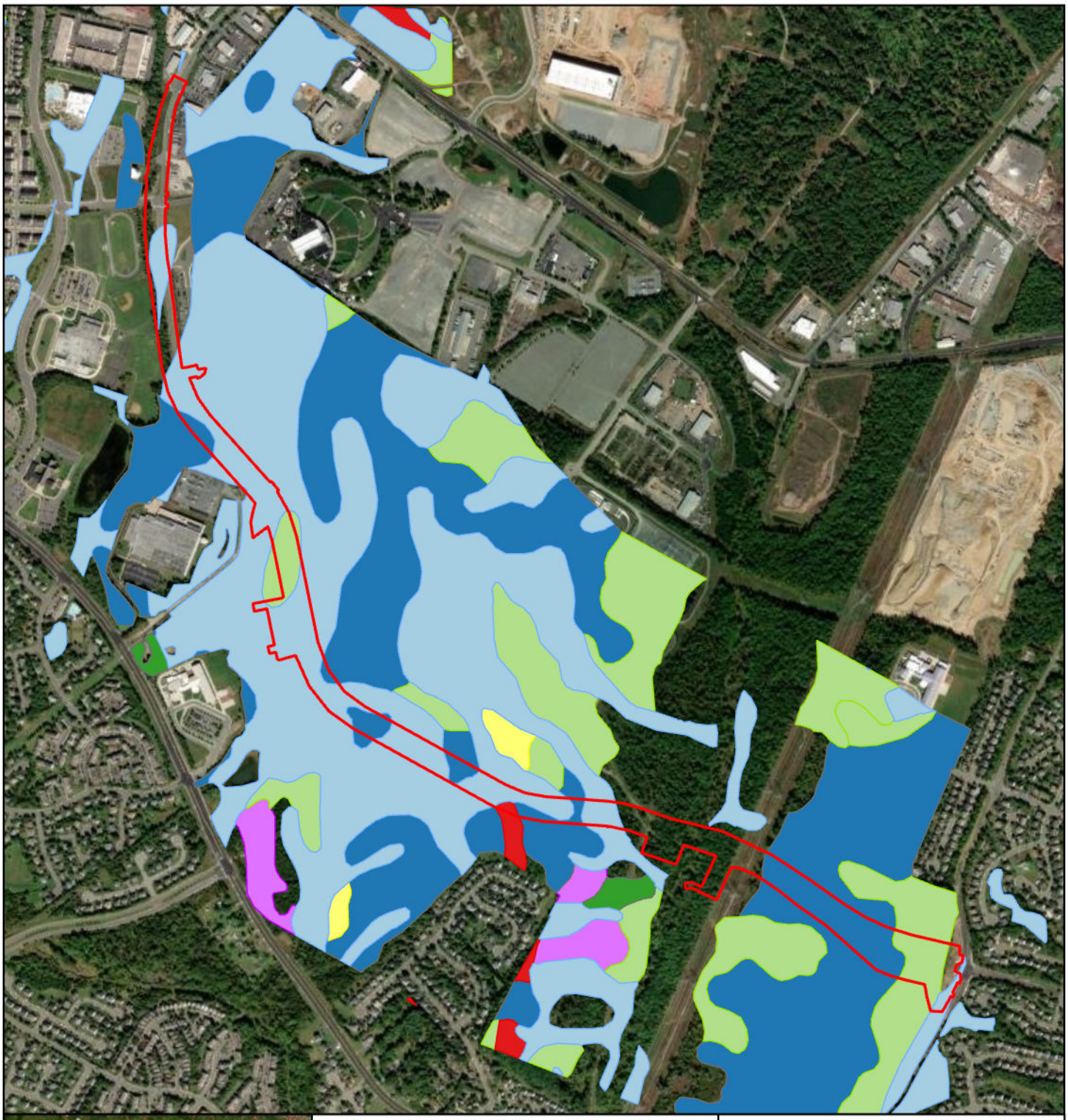
PRINCE WILLIAM COUNTY, VIRGINIA

SCALE: 1" = 1,250' | AUG 2025

N W E S

Feet
0 500 1,000

CONSERVATION TRACT MAP



Legend

Project Study Area

Diabase Type

- Haymarket Silt Loam
- Jackland Silt Loam
- Jackland-Haymarket Complex
- Kelly Silt Loam
- Legore-Oakhill Complex
- Montalto Silty Clay Loam
- Waxpool Silt Loam

UNIVERSITY BOULEVARD EXTENSION

PRINCE WILLIAM COUNTY, VIRGINIA

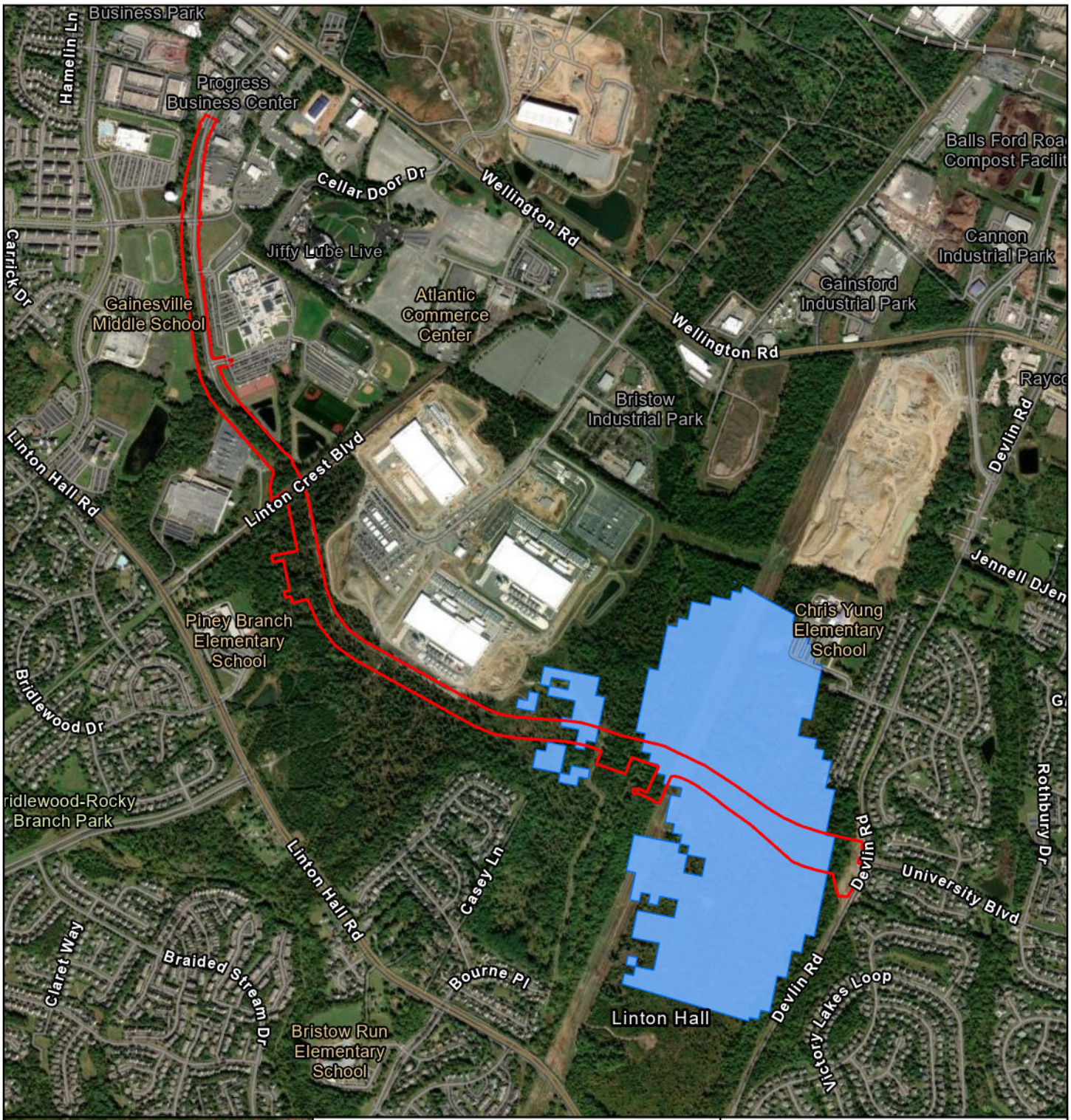
SCALE: 1" = 1,250' | AUG 2025

N W E S

Feet

0 500 1,000

DIABASE MAP



Legend

- Project Study Area
- Torrey's Mountain-mint Predicted Suitable Habitat

UNIVERSITY BOULEVARD EXTENSION

PRINCE WILLIAM COUNTY, VIRGINIA

SCALE: 1" = 1,500' | AUG 2025

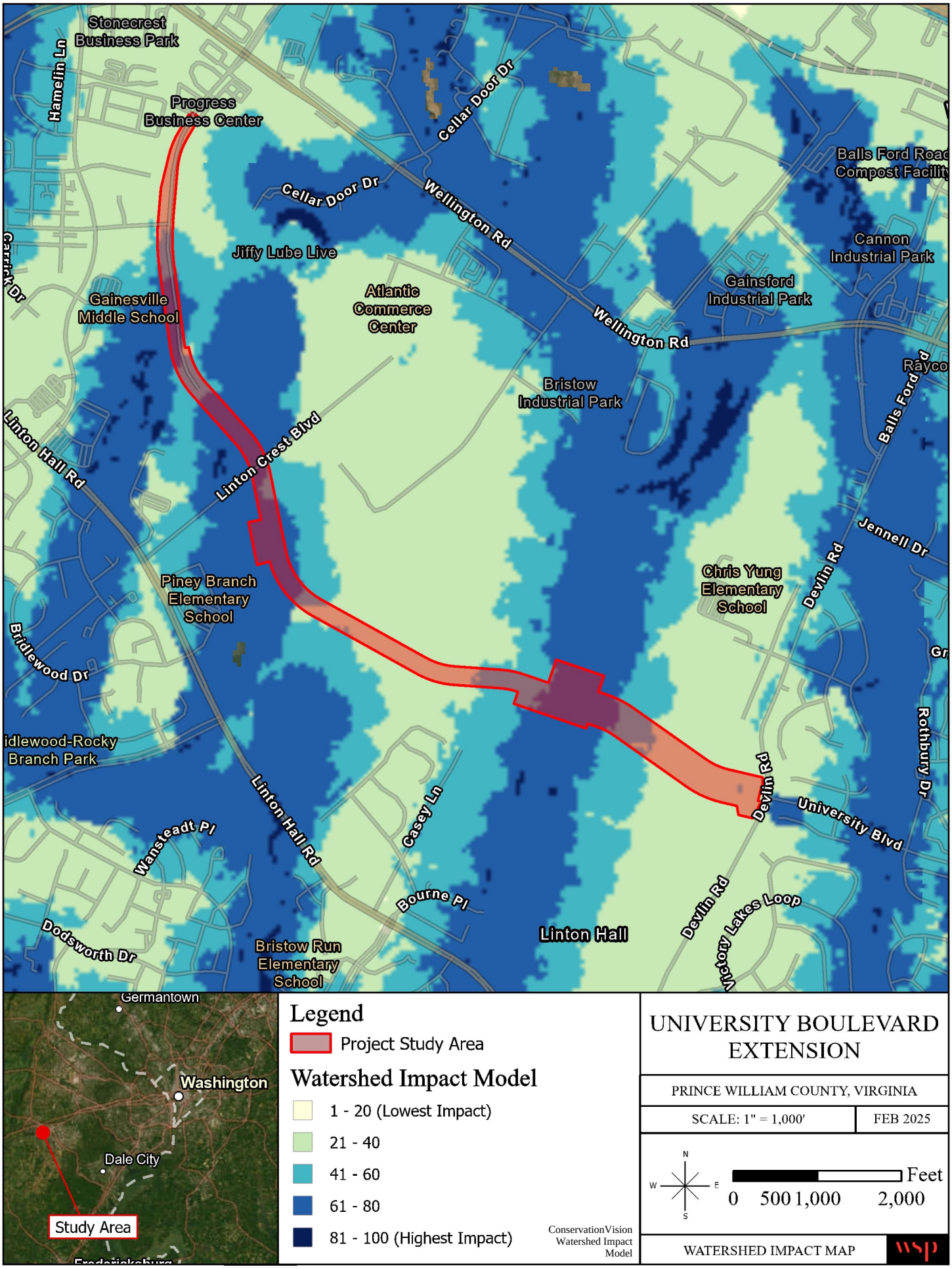
N W E S

0 1,000 2,000 Feet

PREDICTED SUITABLE HABITAT MAP

APPENDIX

7. WATERSHED IMPACTS MAP


Stonecrest Business Park
Hamelin Ln
Progress Business Center
Cellar Door Dr
Cellar Door Dr
Wellington Rd
Balls Ford Road Compost Facility
Jiffy Lube Live
Cannon Industrial Park
Gainesville Middle School
Atlantic Commerce Center
Gainsford Industrial Park
Wellington Rd
Bristow Industrial Park
Balls Ford Rd
Linton Hall Rd
Linton Crest Blvd
Jennell Dr
Devlin Rd
Chris Yung Elementary School
Piney Branch Elementary School
Bridlewood Dr
Rothbury Dr
Linton Hall Rd
Casey Ln
Devlin Rd
University Blvd
Wansteadt Pl
Bourne Pl
Devlin Rd
Victory Lakes Loop
Dodsworth Dr
Bristow Run Elementary School
Linton Hall
Germantown
Washington
Dale City
Study Area
Legend
Project Study Area
Watershed Impact Model
1 - 20 (Lowest Impact)
21 - 40
41 - 60
61 - 80
81 - 100 (Highest Impact)
ConservationVision Watershed Impact Model
UNIVERSITY BOULEVARD EXTENSION
PRINCIPAL WILLIAM COUNTY, VIRGINIA
SCALE: 1" = 1,000'
FEB 2025
N
W
E
S
Feet
0 500 1,000 2,000
WATERSHED IMPACT MAP

APPENDIX

8. USFWS

Correspondence

UNIVERSITY BOULEVARD EXTENSION PROJECT

PRINCE WILLIAM COUNTY

THREATENED AND ENDANGERED SPECIES MEMO

May 2025

Prepared for:

Prepared by:

Table of Contents

Page #

Appendices

1.0 Executive Summary

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 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.

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. A photo log documenting the site is included in **Appendix B:** *Site Photo Log.*

3.0 Desktop Analysis Results

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. A Virginia Fish and Wildlife Service (VaFWIS) search report was conducted for a 3-mile buffer around the project area to analyze potential Virginia targeted endangered and threatened species. 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:** *Desktop Review Maps and Reports*.

3.1 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 deviduous 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.

3.2 Additional DCR and VaFWIS Species Identified (3.0 Mile Buffer around Project Area)

Dwarf Wedgemussel (*Alasmidonta heterodon*) – State Endangered, Federally Endangered

The dwarf wedgemussel is a mussel species in the *Alasmidonta* family. The dwarf mussel is yellowish-brownish and is approximately 1-1.5 inches with a wedge shape. It is found in stable mud, silt sand, or gravel where the current is sufficient to keep the substrate free of surficial silt. It prefers slow or moderate currents and is often found near the banks among roots.

Atlantic Sturgeon (*Acipenser oxyrinchus*) – State Endangered, Federally Endangered

The Atlantic sturgeon is a fish in the *Acipenser* family. The Atlantic sturgeon has five rows of bony plates that run along its body and a snout with four slender, soft tissue projections in front of its mouth. These sturgeon can reach 14-feet in length. They are bluish-black or olive brown on their back and have paler sides. They migrate up and down the Atlantic coast of North American and into large tidal estuaries like the Chesapeake Bay. They return to large rivers to spawn.

Yellow Lance (*Elliptio lanceolata*) – State Threatened, Federally Threatened

The yellow lance is a mussel in the *Elliptio* family. It is a bright yellow elongate mussel with a shell over twice as long as it is tall, usually not more than 3.4 inches in length. It has a waxy appearance with a brownish color. This species prefers clean, coarse to medium sized sands as substrate. This species is found in mainstem channels down to stream as small as a meter across.

Little Brown Bat (*Myotis lucifugus*) – State Endangered

The little brown bat is a bat species in the *Myotis* family. The little brown bat is 3-2.7 inches in length and have a wingspan of approximately 8-11 inches. The little brown bats use a wide range of habitats and often use human-made structures for resting and maternity sites. They typically roost in caves and mines in the winter, and they can be found in trees, artificial structures, bat houses, under rocks and in piles of wood in the summer. Foraging habitat requirements are generalized, occurring primarily over streams and other bodies of water, along the margins of lakes and streams or in woodlands near water.

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.

Wood Turtle (*Glyptemys insculpta*) – State Threatened

The wood turtle is a reptile species in the *Glyptemys* family. They are brownish gray and grow up to 9 inches in length. The typical habitat for these semiaquatic turtles is a forested stream with clear,

moderately flowing water; a gravel bottom; and deep pools with sufficient amounts of leaf litter for overwintering. The ideal surrounding forested flood plain would be one with a mix of mature and young forest as well as some interspersed open, wet meadows.

Peregrine Falcon (*Falco peregrinus*) – State Threatened

The peregrine falcon is a bird species in the *Falco* family. It is a medium to large falcon with bluish-gray upperparts in adults and variable width black facial stripe extending down from the eye across the malar. Occupied habitat during spring and fall migration may include urban environments. Nests are a scraping in the ground, typically on high ledges of rocks or man-made structures. Substrate consists of dirt, sand, fine gravel, or sometimes decomposed fecal material or decomposed lining materials of old stick nest.

Loggerhead Shrike (*Lanius ludovicianus*) – State Threatened

The loggerhead shrike is a bird species in the *Lanius* family. They are thick-bodied song birds with grey heads and a black mask. They prefer open habitats such as pastures, old fields, grasslands, riparian areas, or open woodlands.

Henslow's Sparrow (*Centronyx henslowii*) – State Threatened

The henslow's sparrow is a bird in the *Centronyx* family. They are about 5 inches long when fully grown and have an olive-green head and nape, and rusty brown wings. They prefer habitats with tall, dense vegetation and thick litter, including weedy grasslands, wet meadows, and shrubby fields

Appalachian Grizzled Skipper (*Pyrgus wyandot*) – State Threatened

The Appalachian grizzled skipper is a butterfly in the *Pyrgus* family. It requires shale barren habitats with abundant exposed crumbly rock or soil. These dry, shale slopes should favor plentiful growth of the larval host plant, Canada cinquefoil (*Potentilla canadensis*) and tufted grasses like broom-sedge (*Andropogon virginicus*).

Green Floater (*Lasmigona subviridis*) – State Threatened, Federally Proposed

The green floater is a mollusk in the *Lasmigona* family. It can grow up to 65mm in length and is yellow, tan, dark green, or brown in color. It is most commonly found in gravel or sandy substrate in water depths of one to four feet.

Regal Fritillary (*Speyeria idalia idalia*) – Federally Proposed

The regal fritillary is a butterfly in the *Speyeria* family. It has large orange and black wings. Regal fritillary butterflies live in tall-grass prairie and other open and sunny locations such as damp meadows, marshes, wet fields, and mountain pastures.

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 (*Pycanthemum torreyi*) – State Threatened

Torey's mountain mint is a plant species in the *Pycanthemum* 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.

4.0 Next Steps and Conclusions

The Federal Highway Administration (FHWA) determination key (dKey) for the NLEB and Tri-colored Bat was assessed. The evaluation of the dKey resulted in the following response:

"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/trail, and the local Service Field Office has not confirmed that the effects of the action do not exceed the impacts as anticipated in this Programmatic Biological Opinion (PBO). Please contact the appropriate U.S. Fish and Wildlife Service Office for additional assistance with your project."

Further consultation with USFWS is required and this project review package is being submitted for evaluation.

5.0 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 April 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 MAP

Legend

Project Study Area

UNIVERSITY BOULEVARD EXTENSION

PRINCE WILLIAM COUNTY, VIRGINIA

SCALE: 1" = 1,000' | FEB 2025

N W E S

Feet
0 500 1,000

COORDINATES: 38.773617, -77.587996

VICINITY MAP

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 DESKTOP REVIEW MAPS AND REPORTS

USFWS OFFICIAL SPECIES LIST AND DRAFT KEYS

NOTE: DKeys were completed using this 4/16/2025 Official Species List

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: 04/16/2025 14:58:53 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, intentional or unintentional, 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.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. 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
- Bald & Golden Eagles
- Migratory Birds

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/@38.77854585,-77.59133679936971,14z

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 Fisheries[1], 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.

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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 *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* 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 *Danaus plexippus* 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.

REFUGE INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

---

1. The Bald and Golden Eagle Protection Act of 1940.

2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/ activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper

Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

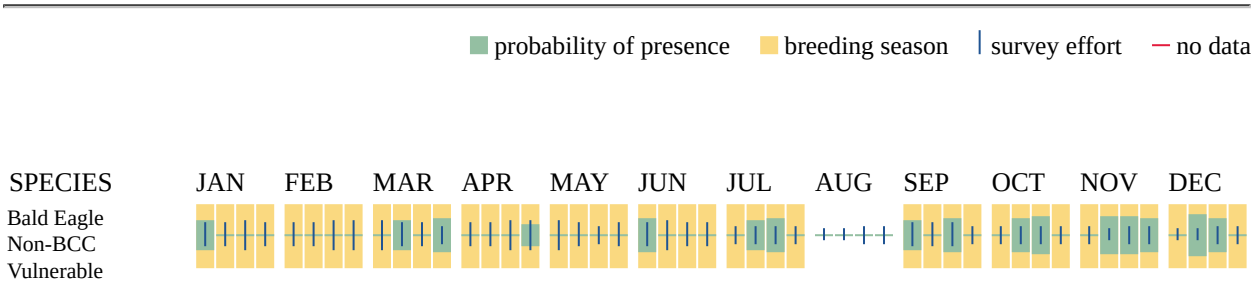
Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service). The incidental take of migratory

birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Grasshopper Sparrow *Ammodramus savannarum perpallidus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8329	Breeds Jun 1 to Aug 20
Kentucky Warbler *Geothlypis formosa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9443	Breeds Apr 20 to Aug 20
Prairie Warbler *Setophaga discolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9513	Breeds May 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10

NAME	BREEDING SEASON
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9478	Breeds elsewhere
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

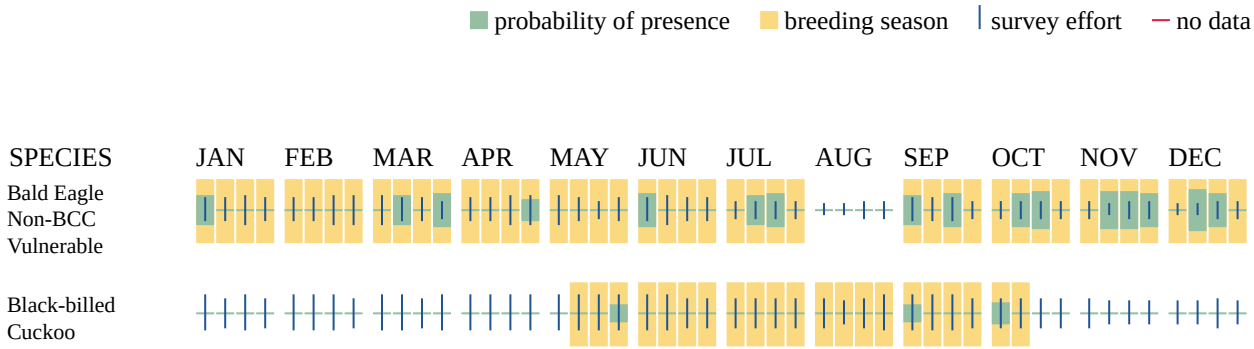
Probability of Presence (■)

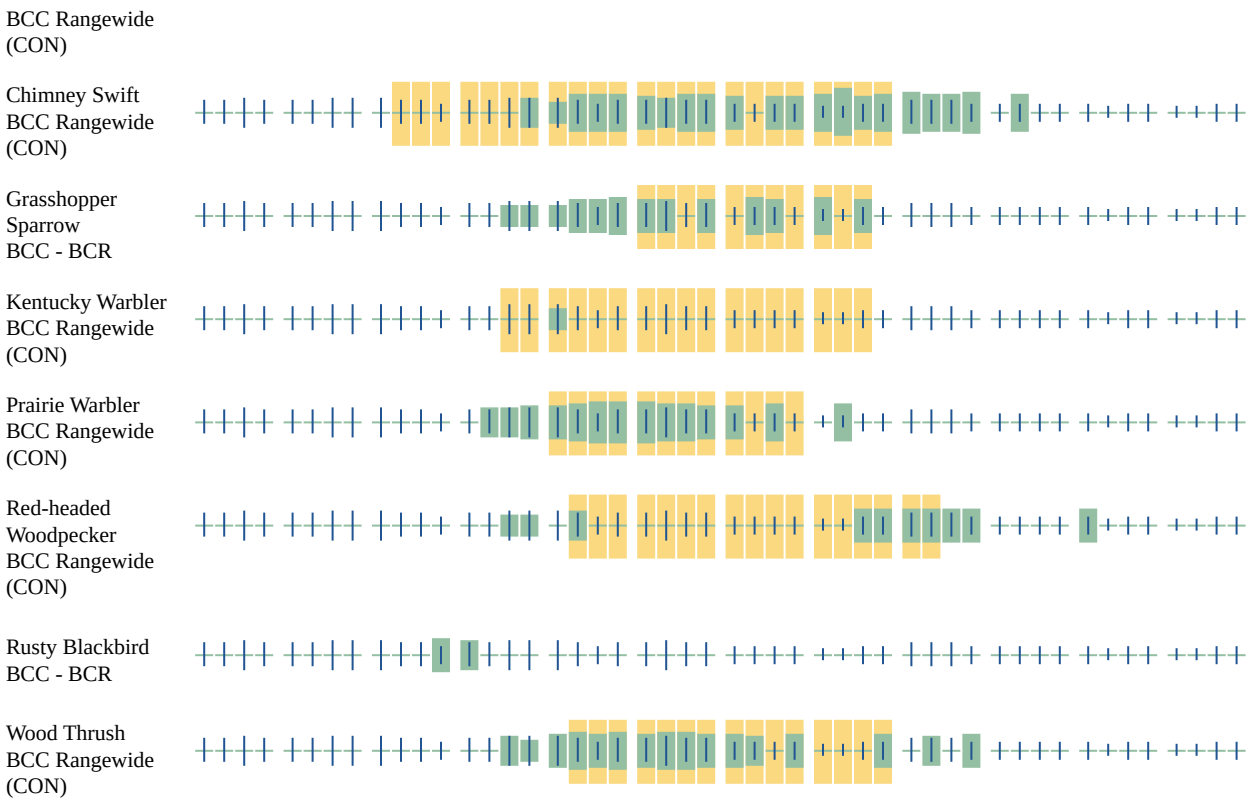
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.





Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

IPAC USER CONTACT INFORMATION

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Phone:	4107274608

IPaC **U.S. Fish & Wildlife Service**

Endangered Species Act Review

EVALU TING IBAT, NLEB,

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IPaC maintenance notice:

ECOSphere will be down for maintenance from the evening of **May 6th through the following day, May 7th.**

ECOSphere, MB IMR and **IPaC will not be accessible** while the maintenance is being completed.

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. 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

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

   ☑ No

6. 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

7. 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

8. 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

9. 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

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

☑ Yes

11. 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

12. 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

☑ No

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

☑ Yes

14. 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

15. 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

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

☑ No

17. Will your project include percussive activities? 3.1

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

☑ Yes

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

☑ No

19. 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

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

☑ Yes

21. 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

☑ Yes

22. Will any percussive activities that involve noise/vibration above existing background levels be conducted during the **bat pup season**? 3.6

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

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.

IPaC **U.S. Fish & Wildlife Service**

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. 2.0

   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? 3.0

   ☑ 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? 5.0

   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 includes 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.

Updated Species List was generated 7/10/2025

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 Fisheries[1], 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.

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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 *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* 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 *Danaus plexippus* 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

VAFWIS DATABASE SEARCH RESULTS

Site Location

38,49,04.5 -77,33,56.1
is **the Search Point**

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

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

Search Point is at map center

Base Map Choices
BW Aerial Photography

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

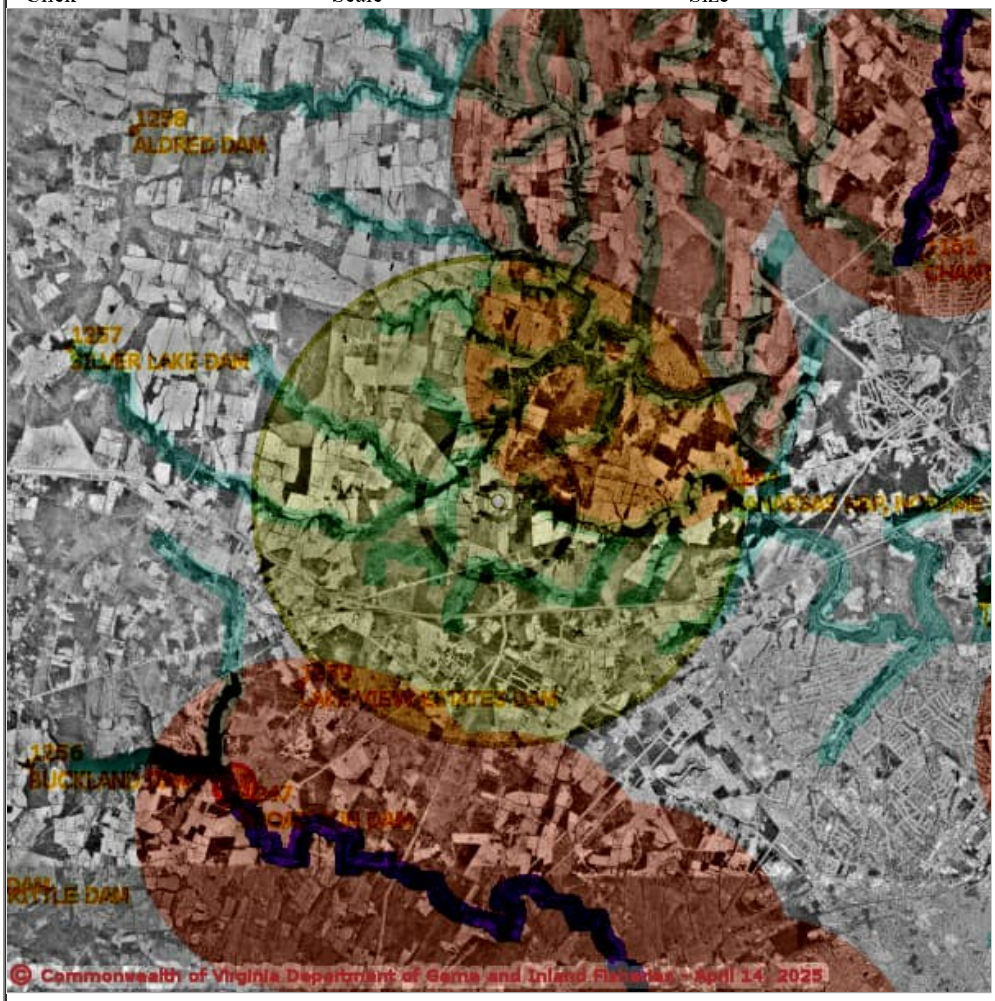
back | Refresh Browser Page

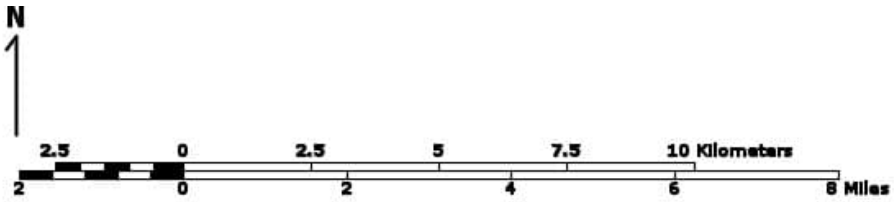
Map Click: Pan | Id | M

Map Scale: In — Zoom — Out

Screen Size: Small — Size — Big

Help





38,48,47.2 -77,34,29.9

Point of Search 38,49,04.5 -77,33,56.1
Map Location 38,49,04.5 -77,33,56.1

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

Base Map source: Black & White USGS Aerial Photography (see Microsoft terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 267659 and top 4309301. Pixel size is 32 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 19200 meters east to west by 19200 meters north to south for a total of 368.6 square kilometers.

Map Overlay Legend

T & E Waters

Federal

State

Predicted Habitat WAP Tier I & II

Aquatic

Terrestrial

Trout Waters

Class I - IV

Class V - VI

Anadromous Fish Reach

Confirmed

Potential

23 Impediment

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

3 mile radius Search Area

Bald Eagle Concentration Areas and Roosts

The map display represents 63002 feet east to west by 63002 feet north to south for a total of 142.3 square miles.

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

map assembled 2025-04-14 15:16:56 (qa/qc March 21, 2016 12:20 - tn=3517527.0 dist=4827 Visitor)
$poi=38.8179422 -77.5655870

VaFWIS Search Report Compiled on 4/14/2025, 3:16:50 PM

Observations reported or potential habitat occurs within a **3 mile radius around point 38.8179422 -77.5655870** in **059 Fairfax County, 107 Loudoun County, 153 Prince William County, VA**

View Map of Site Location

762 Known or Likely Species ordered by Status Concern for Conservation
(displaying first 36) (36 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name
050022	FEST	Ia	Bat, northern long-eared	Myotis septentrionalis
060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon
010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus
060029	FTST	IIa	Lance, yellow	Elliptio lanceolata
050020	SE	Ia	Bat, little brown	Myotis lucifugus
050027	FPSE	Ia	Bat, tri-colored	Perimyotis subflavus
060006	SE	Ib	Floater, brook	Alasmidonta varicosa
030062	ST	Ia	Turtle, wood	Glyptemys insculpta
040096	ST	Ia	Falcon, peregrine	Falco peregrinus
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus
040379	ST	Ia	Sparrow, Henslow's	Centronyx henslowii
100155	ST	Ia	Skipper, Appalachian grizzled	Pyrgus wyandot
060081	FPST	IIa	Floater, green	Lasmigona subviridis
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans
100248	FP	Ia	Fritillary, Regal	Speyeria idalia idalia
100079	FP	IIIa	Butterfly, Monarch	Danaus plexippus
030063	CC	IIIa	Turtle, spotted	Clemmys guttata
030012	CC	IVa	Rattlesnake, timber	Crotalus horridus
010077		Ia	Shiner, bridle	Notropis bifrenatus
040092		Ia	Eagle, golden	Aquila chrysaetos
040040		Ia	Ibis, glossy	Plegadis falcinellus
040306		Ia	Warbler, golden-winged	Vermivora chrysoptera
040213		Ic	Owl, northern saw-whet	Aegolius acadicus
040052		IIa	Duck, American black	Anas rubripes
040033		IIa	Egret, snowy	Egretta thula
040029		IIa	Heron, little blue	Egretta caerulea caerulea
040036		IIa	Night-heron, yellow-crowned	Nyctanassa violacea violacea
040181		IIa	Tern, common	Sterna hirundo
040320		IIa	Warbler, cerulean	Setophaga cerulea
040140		IIa	Woodcock, American	Scolopax minor
060071		IIa	Lampmussel, yellow	Lampsilis cariosa
040203		IIb	Cuckoo, black-billed	Coccyzus erythropthalmus

040105		IIb	Rail, king	Rallus elegans
040304		IIc	Warbler, Swainson's	Limnothlypis swainsonii
100154		IIc	Butterfly, Persius duskywing	Erynnis persius persius
100166		IIc	Skipper, Dotted	Hesperia attalus slossonae

To view **All 762 species** View 762

*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
Virginia Widlife Action Plan Conservation Opportunity Ranking:
a - On the ground management strategies/actions exist and can be feasibly implemented.; b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.; c - No on the grou

Anadromous Fish Use Streams

N/A

Impediments to Fish Passage (1 records) View Map of All Fish Impediments

ID	Name	River	View Map
1264	MANASSAS NBP, NONAME DAM #1 THRU 10	TR-BULL RUN	Yes

Threatened and Endangered Waters

N/A

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Habitat Predicted for Aquatic WAP Tier I & II Species (10 Reaches) View Map Combined Reaches from Below of Habitat Predicted for WAP Tier I & II Aquatic Species

Stream Name	Tier Species					View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name				
Bull Run (20700102)	SE	030062	ST	Ia	Turtle, wood Glyptemys insculpta	Yes
		060006	SE	Ib	Floater, brook Alasmidonta varicosa	
Chinn Branch (20700102)	ST	030062	ST	Ia	Turtle, wood Glyptemys insculpta	Yes
Holkums Branch (20700102)	ST	030062	ST	Ia	Turtle, wood Glyptemys insculpta	Yes
Lick Branch (20700102)	ST	030062	ST	Ia	Turtle, wood Glyptemys insculpta	Yes
Little Bull Run (20700102)	SE	030062	ST	Ia	Turtle, wood Glyptemys insculpta	Yes
		060006	SE	Ib	Floater, brook Alasmidonta varicosa	
Little Bull Run (20700102)	ST	030062	ST	Ia	Turtle, wood Glyptemys insculpta	Yes
tributary (20700102)	SE	030062	ST	Ia	Turtle, wood Glyptemys insculpta	Yes
		060006	SE	Ib	Floater, brook Alasmidonta varicosa	
tributary (20700102)	ST	030062	ST	Ia	Turtle, wood Glyptemys insculpta	Yes
Youngs Branch (20700102)	SE	030062	ST	Ia	Turtle, wood Glyptemys insculpta	Yes
		060006	SE	Ib	Floater, brook Alasmidonta varicosa	
Youngs Branch (20700102)	ST	030062	ST	Ia	Turtle, wood Glyptemys insculpta	Yes
Youngs Branch (20700102)	ST	030062	ST	Ia	Turtle, wood Glyptemys insculpta	Yes

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

Virginia Breeding Bird Atlas Blocks (6 records)

View Map of All Query Results
Virginia Breeding Bird Atlas Blocks

BBA ID	Atlas Quadrangle Block Name	Breeding Bird Atlas Species			View Map
		Different Species	Highest TE*	Highest Tier**	
50194	Gainesville, CE	38		III	Yes
50193	Gainesville, CW	48		III	Yes
50192	Gainesville, NE	1			Yes
50191	Gainesville, NW	36		III	Yes
50196	Gainesville, SE	74		III	Yes
50195	Gainesville, SW	45		III	Yes

Public Holdings: (2 names)

Name	Agency	Level
Manassas National Battlefield Park	National Park Service	Federal
Conway Robinson Memorial State Forest	VA Dept. of Forestry	State

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

FIPS Code	City and County Name	Different Species	Highest TE	Highest Tier
059	Fairfax	559	FESE	I
107	Loudoun	438	FESE	I
153	Prince William	483	FESE	I

USGS 7.5' Quadrangles:
Gainesville

USGS NRCS Watersheds in Virginia:

N/A

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

HU6 Code	USGS 6th Order Hydrologic Unit	Different Species	Highest TE	Highest Tier
PL34	Broad Run-Rocky Branch	59	FTSE	I
PL42	Upper Bull Run	68	FTSE	I
PL43	Little Bull Run	58	FPSE	I
PL44	Middle Bull Run	72	FTSE	I

Compiled on 4/14/2025, 3:16:51 PM V3517527.0 report=V searchType= R dist= 4827 pcs= 38.8179422 -77.5655870

VDCR DATABASE SEARCH RESULTS

Natural Heritage Resources

Your Criteria

Taxonomic Group: VASCULAR PLANTS,NON-VASCULAR PLANTS,AMPHIBIANS,BIRDS,FISH,MAMMALS,REPTILES,ANNELIDA (Segmented worms),ARACHNIDA (Spiders & Pseudoscorpions),BIVALVIA (Mussels),CHILOPODA (Centipedes),COLEOPTERA (Beetles),COLLEMBOLA (Springtails),CRUSTACEA (Amphipods Isopods & Decapods),DIPLOPODA (Millipedes),DIPLURA (Diplurans),DIPTERA (True flies),EPHEMEROPTERA (Mayflies),GASTROPODA (Snails),HETEROPTERA (True bugs),HOMOPTERA (Cicadas & Leaf hoppers),LEPIDOPTERA (Butterflies & moths),MECOPTERA (SCORPIONFLIES),ODONATA (Dragonflies & damselflies),PLECOPTERA (Stoneflies),TRICHOPTERA (Caddisflies),TURBELLARIA (Flatworms)

Global Conservation Status Rank: G1 - Critically imperiled,G2 - Imperiled,G3 - Vulnerable

State Conservation Status Rank: S1 - Critically imperiled,S2 - Imperiled,S3 - Vulnerable

Federal Legal Status: Select All

State Legal Status: Select All

County: Prince William

Physiographic Province: Northern Piedmont

Watershed (8 digit HUC): 02070010 - Middle Potomac-Anacostia-Occoquan

Planning District: Northern Virginia

Virginia Coastal Zone: Yes

Search Run: 4/16/2025 10:08:30 AM

Result Summary

Total Species returned: 3

Total Communities returned: 0

Click scientific names below to go to NatureServe report.

Click column headings for an explanation of species and community ranks.

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
Prince William									
Northern Piedmont									
Middle Potomac-Anacostia-Occoquan									

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.

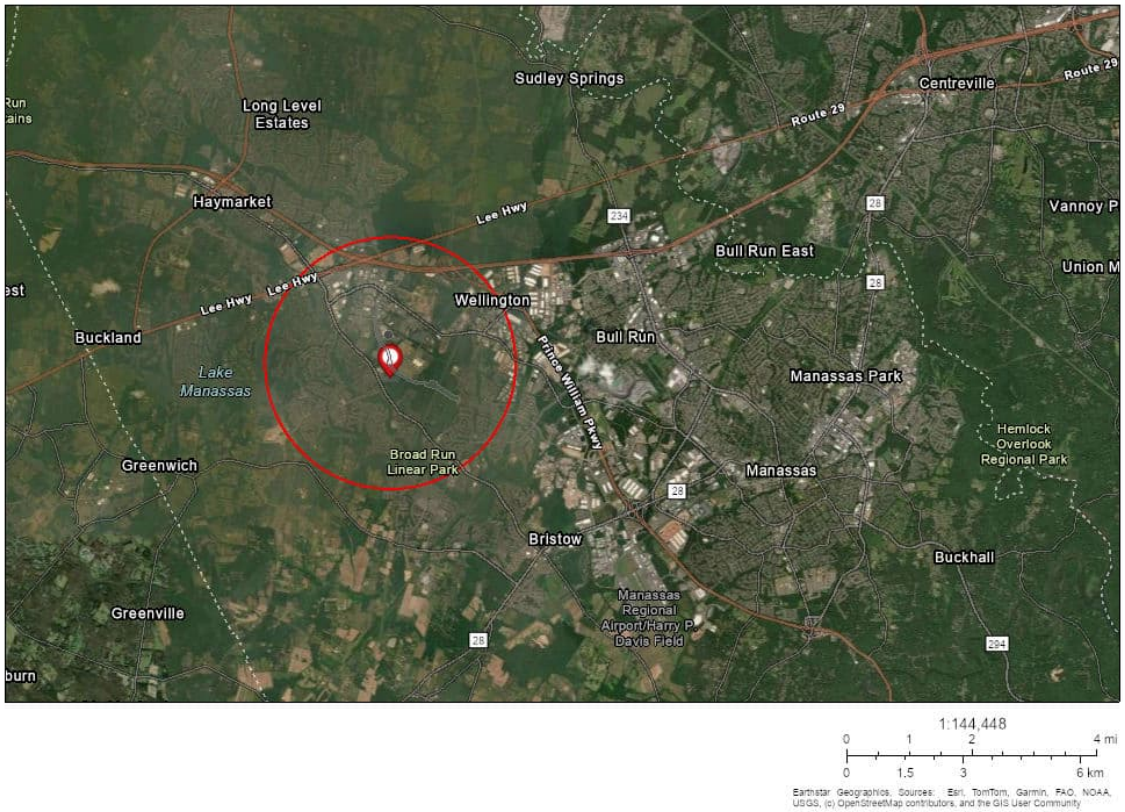
NOAA SEARCH RESULTS

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

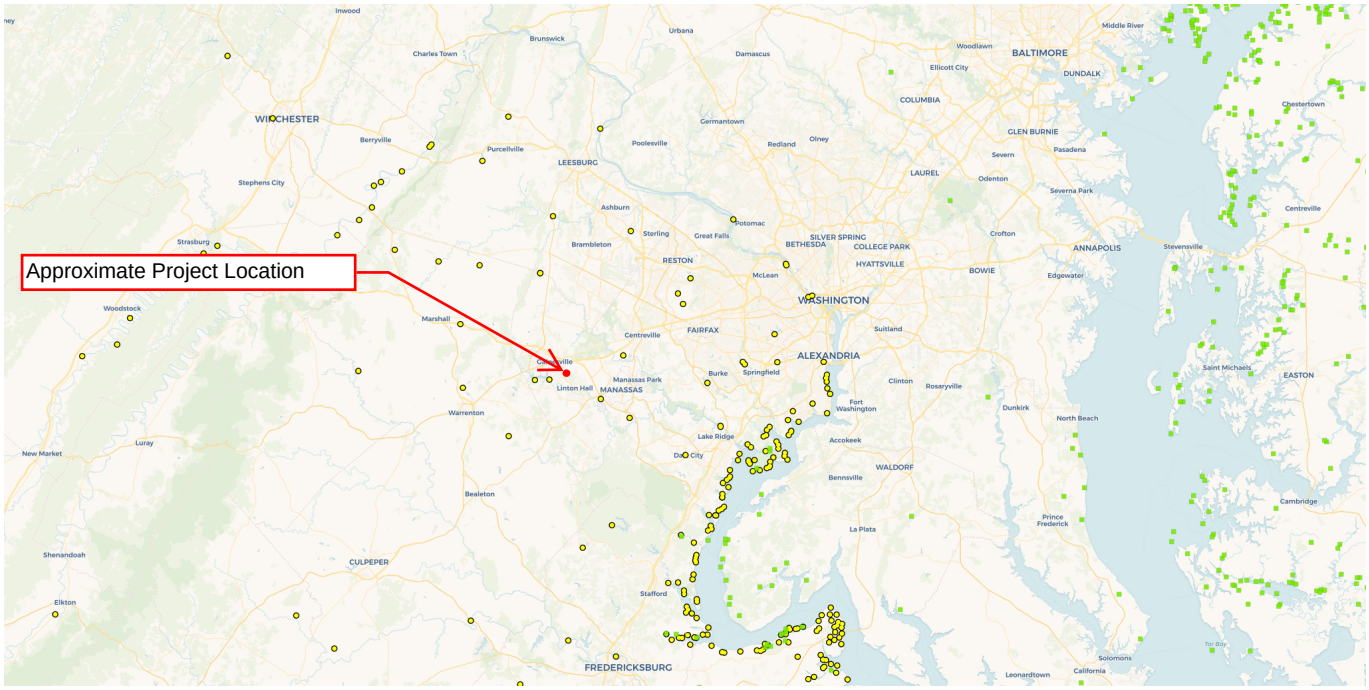
Name	Count	Area(acres)	Length(mi)
Study_Area_Polygon	1	77.06	N/A
Atlantic Sturgeon	0	0	N/A
Shortnose Sturgeon	0	0	N/A
Atlantic Salmon	0	0	N/A
Sea Turtles	0	0	N/A
Atlantic Large Whales	0	0	N/A
In or Near Critical Habitat	0	0	N/A

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=-77.39730834960938&base=Street+Map+%28OSM%2FCarto%29

Report Generated On: 04/16/2025

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

APPENDIX

D DETERMINATION TABLE

Endangered Species Act (ESA) Section 7 Determination Table

Project Name: Prince William County University Boulevard Extension Project

Date: September 15, 2025

Consultation Code: 2025-0084023

Species / Resource Name *Insert name of species or resource as listed on Official Species List.*	**Habitat/Species Presence in Action Area** *Indicate if suitable habitat and species are present in the Action Area (see examples in Step 5).*	**Sources of Info** *Explain what info suitable habitat/species presence is based on.*	**ESA Section 7 Determination** *Using reasoning and decision tables in Step 5, select determination for each species (e.g. no effect, not likely to adversely affect, or likely to adversely affect).*	**Project Elements that Support Determination** *Explain which project elements may impact the habitat or individuals of each species and any Avoidance and Minimization Measures being implemented.*
Northern long-eared bat (*Myotis septentrionalis*)	Suitable habitat present	IPaC Official Species List (7/10/25)	Not likely to adversely affect	No known hibernacula or maternity trees in project area. Tree removal and trimming will be avoided during the summer occupancy TOYR from April 1 - September 30. Drilling and blasting activities will be avoided during the pup season TOYR from May 15 - July 31
Tricolored bat (*Perimyotis subflavus*)	Suitable habitat present	IPac Official Species List (7/10/25)	Not likely to adversely affect	No known hibernacula or maternity trees in project area. Tree removal and trimming will be avoided during the summer occupancy TOYR from April 1 - September 30. Drilling and blasting activities will be avoided during the pup season TOYR from May 15 - July 31
Critical habitat	Critical habitat not present	IPac Official Species List (7/10/25)	No effect	No designated critical area occurs in the project area
Bald eagle	Project area is approximately 2 miles from the closest eagle nest	The Center for Conservation Biology mapping portal	No effect	N/A