Dominion Energy®

Application, Appendix, DEQ Supplement, Direct Testimony and Exhibits of Virginia Electric and Power Company

Before the State Corporation Commission of Virginia

Nimbus 230 kV Line Loop and Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line

Application No. 314

Case No. PUR-2022-00027

Filed: February 23, 2022

Volume 2 of 3

COMMONWEALTH OF VIRGINIA
BEFORE THE
STATE CORPORATION COMMISSION

APPLICATION OF

VIRGINIA ELECTRIC AND POWER COMPANY

FOR APPROVAL AND CERTIFICATION
OF ELECTRIC TRANSMISSION FACILITIES

Nimbus 230 kV Line Loop and Nimbus Substation
and
230 kV Farmwell-Nimbus Transmission Line Project

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Based on consultations with the Department of Environmental Quality ("DEQ"), Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company") has developed this DEQ Supplement to facilitate review and analysis of the proposed Project by the DEQ and other relevant agencies.

1. Project Description

In order to provide service requested by a retail electric service customer (the "Customer"), to maintain reliable service for the overall growth in the area, and to comply with mandatory North American Electric Reliability Corporation Reliability Standards, Dominion Energy Virginia proposes the following in Loudoun County, Virginia.

- Construct a new overhead 230 kilovolt ("kV") double circuit line by cutting the existing Beaumeade-Buttermilk Line #2152 at Structure #2152/19A ("Nimbus Line Loop"), resulting in (i) the 230 kV Beaumeade-Nimbus Line #2152, and (ii) the 230 kV Buttermilk-Nimbus Line #2255. The proposed Nimbus Line Loop will extend approximately 0.61 mile on a new 100-foot-wide right-of-way to a proposed new 230-34.5 kV Nimbus Substation ("Nimbus Substation") constructed with five 230 kV, 4000A circuit breakers in a ring bus arrangement, three 230 kV line terminals, two 230-34.5 kV, 84 MVA transformers, eight 34.5 kV distribution circuits, and other associated equipment (collectively, the "Nimbus Line Loop and Substation").

- Construct a new approximately 0.26-mile 230 kV overhead single circuit line, the Farmwell-Nimbus Line #2260, on a new 80-foot-wide right-of-way, originating at the Company's existing Farmwell Substation and terminating at the proposed new Nimbus Substation (the "Farmwell-Nimbus Line").

- Install one 230 kV, 4000A circuit breaker, one 230 kV, 4000A disconnect switch and line terminal equipment at the Company's existing Farmwell Substation for one 230 kV transmission line. Additionally, the Project will require relay resets, drawing updates, and field support, as necessary, at the Company's existing Buttermilk and Beaumeade Substations.

Collectively, the Nimbus Line Loop and Substation, the Farmwell-Nimbus Line, and related substation work comprise the "Project." The Project is necessary to assure that Dominion Energy Virginia can maintain and improve reliable electric service to customers in the load area, in compliance with mandatory North American Electric Reliability Corporation Reliability Standards.

For this Project, the Company requested the services of Environmental Resources Management ("ERM") to help collect information within the study area, identity potential routes, perform a routing analysis, and document the routing efforts in an Environmental Routing Study. After investigating various electrical solutions, the Company determined that two electrical line segments are required for the Project:

- Nimbus Line Loop: a double circuit 230 kV overhead route that would cut the Company's existing Beaumeade-Buttermilk Line #2152 at Structure #2152/19A along Waxpool Road, east of Loudoun County Parkway, and extend to the proposed Nimbus Substation.

- Farmwell-Nimbus Line: a single circuit 230 kV overhead route that would extend

from the existing Farmwell Substation to the proposed Nimbus Substation.

A study area was developed that encompassed the areas surrounding these two proposed line segments.

ERM originally identified five potential route alternatives for the Nimbus Line Loop. Of these five routes, the Proposed Route represents the only feasible, least impacting option.

Because the Proposed Route of the Farmwell-Nimbus Line represents the shortest and most direct route option to connect the existing Farmwell Substation and the proposed Nimbus Substation, the Company did not consider any alternative routes for the Farmwell-Nimbus Line.

The Proposed Routes for the Nimbus Line Loop and Farmwell-Nimbus Lines are as follows:

Nimbus Line Loop

This route would construct an overhead double circuit 230 kV transmission line originating at the cut in on Line #2152 at existing Structure #2152/19A adjacent to the south side of Waxpool Road, east of Loudoun County Parkway, and extend to the proposed Nimbus Substation termination point.

The total length of the Proposed Route of the Nimbus Line Loop between Structure #2152/19A and the proposed Nimbus Substation is approximately 0.61 mile. Beginning at Structure #2152/19A, the route continues west along the south side of Waxpool Road, crossing over Loudoun County Parkway, for a distance of 3,225 linear feet. At this point, the route turns south for a distance of 20 feet where it terminates at the proposed Nimbus Substation.

Farmwell-Nimbus Line

This route would construct an overhead single circuit 230 kV transmission line originating from the Company's existing Farmwell Substation to the proposed Nimbus Substation termination point.

The total length of the Proposed Route of the Farmwell-Nimbus Line is approximately 0.26 mile. The route exits the eastern side of the Farmwell Substation then turns to the southeast and extends parallel to the Digital Realty Building ACC9 Data Center building for approximately 450 feet. The route then turns to the northeast across an existing parking area for approximately 430 feet. Upon exiting the parking area, the route next turns southeast and parallels Waxpool Road for approximately 510 feet. The route then turns south and enters into the proposed Nimbus Substation.

The route development process for the Project is described in more detail in the Environmental Routing Study.

2. Environmental Analysis

The Company solicited comments from all relevant state and local agencies about the proposed Project in January 2022. Copies of these letters are included as Attachment 2.[1] The DEQ responded to the Company's scoping request for the proposed Project in a letter dated January 20, 2022. A copy of this letter is included as Attachment 2.1.

A. Air Quality

For the Project, the Company will control fugitive dust during construction in accordance with DEQ regulations. During construction, if the weather is dry for an extended period of time, there will be airborne particles from the use of vehicles and equipment within the right-of-way. However, minimal earth disturbance will take place and vehicle speed, which is often a factor in airborne particulate, will be kept to a minimum. Erosion and sedimentation control is addressed in Section 2.G of this Supplement. Equipment and vehicles powered by gasoline or diesel motors will be used during the construction. Exhaust from those motors will result in minimal air pollution.

Some small landscaping trees adjacent to Waxpool Road may need to be cleared as part of this Project. Tree clearing would be on new and temporary right-of-way. The Company does not expect to burn cleared material, but, if necessary, the Company will coordinate with the responsible locality to obtain permits, comply with any conditions set forth by the locality, or take actions as otherwise set forth in the Company's right-of-way easements. The Company's tree clearing methods are described in Section 2.K.

B. Water Source

(No water source is required for transmission lines so this discussion will focus on water bodies that will be crossed by the proposed transmission lines.)

On behalf of the Company, ERM identified and mapped waterbodies in the study area using publicly available geographic information system ("GIS") databases, U.S. Geological Survey ("USGS") topographic maps (1:24,000), and recent (2021) digital aerial photography.

Nimbus Line Loop

Based on ERM's review of remote sensing data sources, including USGS National Hydrography Dataset ("NHD") and Loudoun County data, the proposed Nimbus Line Loop crosses an unnamed intermittent tributary to Broad Run in one location.

[1] Note, due to an administrative oversight, new Buttermilk-Nimbus Line #2225 identified in the letters provided in Attachment 2 should have indicated new Buttermilk-Nimbus Line #2255.

Nimbus Substation

Based on ERM's review of remote sensing data sources, including USGS NHD and Loudoun County data, the proposed substation footprint contains no natural open water features. One waterbody feature was identified by NHD and the National Wetlands Inventory ("NWI") within the substation footprint; however, based on current aerial photographs (2021), this NWI feature was not identified on the map and no longer appears to exist. The area where the substation is located represents an active construction site which has been cleared and graded.

Farmwell-Nimbus Line

Based on ERM's review of remote sensing data sources, including USGS NHD and Loudoun County data, the proposed Farmwell-Nimbus Line crosses no natural open water features.

Waterbodies in the Project area are shown on Figure 2 of Appendix D in the Environmental Routing Study.

The span between transmission line structures proposed by Dominion Energy Virginia is anticipated to span the waterbody identified along the Nimbus Line Loop. In addition, some small landscaping trees may need to be removed along Waxpool Road within the Nimbus Line Loop right-of-way. This could affect the one unnamed intermitted tributary crossed by the route, which is adjacent to where the tree clearing may occur. Impacts to the waterbody will be mitigated through the use of erosion and sediment controls as described in Section 2G below.

According to U.S. Army Corps of Engineers ("Corps") documentation, no waters considered navigable under Section 10 of the Rivers and Harbors Act are crossed by the Project.

The Company solicited comments from the Virginia Marine Resources Commission ("VMRC") regarding the proposed Project in January 2022. If necessary, a Joint Permit Application will be submitted for review by the VMRC, DEQ, and the Corps to authorize jurisdictional crossings and for any impacts on jurisdictional features.

C. Discharge of Cooling Waters

No discharge of cooling waters is associated with the Project.

D. Tidal and Non-tidal Wetlands

No tidal wetlands were identified within the Project area. Non-tidal wetlands are summarized below.

On behalf of the Company, ERM identified wetlands within the Project area using remote

sensing data sources to conduct an offsite desktop wetlands delineation. A copy of ERM's Wetland and Waterbody Desktop Summary for the Nimbus Line Loop and Farmwell-Nimbus Line is included in Attachment 2.D.1. The sources for this desktop summary include publicly available GIS databases, the NWI Online Maps from the U.S. Fish and Wildlife Service ("USFWS"), soils data from the Natural Resources Conservation Service ("NRCS") Web Soil Survey, National Agricultural Imagery Program Digital Ortho-Rectified Natural Color and Infrared Images, USGS topographic maps (1:24,000), U.S. Department of Agricultural NRCS Soil Survey Geographic database for Loudoun County, and recent (2021) digital aerial photography. ERM did not field delineate wetlands within the Project area.

All wetlands will require the installation of protective matting to support vehicles, equipment, and materials during construction. All wetlands will be spanned by the transmission line and no wetland conversion is anticipated, as there are no forested wetlands in the Project boundaries.

Nimbus Line Loop

Based on ERM's desktop wetland analysis data, the Proposed Route and substation would cross approximately 0.02 linear mile (0.46 acre) of medium or higher probability of containing wetlands. Of the 0.46 acre, 0.04 acre is freshwater pond, 0.22 acre consists of palustrine emergent, and 0.21 acre consists of riverine wetland area. As the Project anticipates spanning all wetlands, disturbance of these wetlands will be kept to a minimum.

Farmwell-Nimbus Line

Based on ERM's desktop wetland and waterbody analysis, no wetland habitat was identified within the Farmwell-Nimbus Line right-of-way. No clearing and/or disturbance of land with a medium or higher probability of containing wetlands is anticipated.

Prior to construction, the Company will delineate wetlands and other waters of the United States using the *Routine Determination Method*, as outlined in the *1987 Corps of Engineers Wetland Delineation Manual,* and methods described in the *2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* (Version 2.0). The Company will obtain any necessary permits for activities that will impact jurisdictional resources. All wetlands will be spanned and no wetland conversion is anticipated, as there are no forested wetlands in the Project boundaries. If necessary, protective matting will be installed to support construction vehicles, equipment, and materials during construction.

The Company solicited comments from the DEQ and the Corps in January 2022. The Company has sited structures to avoid wetlands and streams to the extent practicable. Temporary impacts will be restored to pre-existing conditions, and permanent impacts will be compensated for in accordance with all applicable state regulations and laws. The

Project is expected to require a Virginia Water Protection general permit and a Nationwide Permit 57. A Joint Permit Application will be submitted for further evaluation and final permit need determination by the DEQ.

E. Solid and Hazardous Waste

Environmentally regulated sites in the study area have been identified using publicly available GIS databases obtained from the U.S. Environmental Protection Agency ("EPA") and the DEQ. These databases provide information about facilities, sites, or places subject to environmental regulation or of environmental interest. These include sites that use and/or store hazardous materials; waste-producing facilities operating under permits from the EPA or other regulatory authorities; Comprehensive Environmental Response, Compensation, and Liability Act ("Superfund") sites; the storage of petroleum, petroleum release sites; and solid waste sites. The identification of a site in the databases does not mean that the site necessarily has contaminated soil or groundwater.

A summary of the information from the EPA and DEQ databases within a 1.0-mile buffer of the centerlines of the Project is provided in Table E-1 below and depicted in Attachment 2.E.1.

TABLE E-1
Nimbus Line Loop and Nimbus Substation and Farmwell-Nimbus Line Project

Environmental Regulated Facilities and Hazardous Waste / Petroleum Release Sites within 1.0 Mile

Database	Nimbus Loop Line	Nimbus Substation	Farmwell-Nimbus Line
Waste	18	12	15
Toxics	0	0	0
Land	0	0	0
Air	22	18	18
Water	9	5	5
Petroleum Facilities	17	11	13
Petroleum Releases	8	3	4
Pollution Response Program Sites	8	7	6
Total [a]	**82**	**56**	**61**

[a] Note that a single facility may be associated with multiple environmental permits; as such, the total number reflects the number of permits and releases within the specified distance from the Project.

Notes

Waste (facilities that handle or generate hazardous wastes)
Toxics (facilities that release toxic substances to the environment)
Land (site cleanup under Resource Conservation and Recovery Act, Superfund, brownfield, DEQ VRP, and DEQ Pollution Response and Prevention programs)
Air (facilities with a release of pollutants to the air)
Water (facilities that discharge storm or process water to surface water)
Petroleum Facilities (regulated petroleum storage)
Petroleum Releases (typically associated with storage tank releases)
Pollution Response Program (DEQ response program to pollution incidents that may impact air, land, and water)

Based on the EPA's "Cleanups in My Community" database, no brownfield, Superfund, or Resource Conservation and Recovery Act Corrective Action sites that were identified in the reviewed databases are located within 1.0 mile of the Proposed Routes.

To evaluate the potential impact to the routes, ERM further assessed the sites within 1,000 feet of the Proposed Routes (Table E-2).

TABLE E-2
Nimbus Line Loop and Nimbus Substation and Farmwell-Nimbus Line Project

Environmental Regulated Facilities and Hazardous Waste / Petroleum Release Sites within 1,000 Feet

Database	Nimbus Loop Line	Nimbus Substation	Farmwell-Nimbus Line
Waste	0	0	0
Toxics	0	0	0
Land	0	0	0
Air	0	0	0
Water	1	0	0
Petroleum Facilities	0	0	0
Petroleum Releases	0	0	0
Pollution Response Program Sites	5	3	2
Total [a]	**6**	**3**	**2**

[a] Note that a single facility may be associated with multiple environmental permits; as such, the total number reflects the number of permits and releases within the specified distance from the Project.

Notes

Waste (facilities that handle or generate hazardous wastes)
Toxics (facilities that release toxic substances to the environment)
Land (site cleanup under Resource Conservation and Recovery Act, Superfund, brownfield, DEQ VRP, and DEQ Pollution Response and Prevention programs)
Air (facilities with a release of pollutants to the air)
Water (facilities that discharge storm or process water to surface water)

Petroleum Facilities (regulated petroleum storage)
Petroleum Releases (typically associated with storage tank releases)
Pollution Response Program (DEQ response program to pollution incidents that may impact air, land, and water)

Based on a review of sites listed in the EPA and DEQ databases, there were 11 sites within 1,000 feet of the Project. Of the 11 sites, 10 of them are DEQ Pollution Response and Prevention sites, all of which have a status of closed and are not anticipated to have impacts on the proposed Project. One site is a Virginia Pollution Discharge Elimination System ("VPDES") permit from 2019. These permits are issued for controlled discharges. This type of site would not have any impacts on the Project. No petroleum release sites or other sites with documented contaminated soil and/or groundwater were identified within 1,000 feet of the Proposed Routes.

Care will be taken to operate and maintain construction equipment to prevent any fuel or oil spills. Any waste created by the construction crews will be disposed of in a proper manner and recycled where appropriate and will be further detailed in the Company's stormwater pollution prevention plan. This plan is a component of the Virginia Stormwater Management Program and will be submitted to the Virginia Department of Conservation and Recreation ("DCR").

F. Natural Heritage, Threatened and Endangered Species

On behalf of the Company, ERM conducted online database searches for threatened and endangered species in the vicinity of the Project, including the DCR Natural Heritage Data

Explorer ("NHDE"). The NHDE includes three components: Conservation Sites ("CS"), Stream Conservation Units ("SCU"), and General Location Areas for Natural Heritage Resources ("GLNHR"). ERM also obtained query results from the Virginia Department of Wildlife Resources ("VDWR") Fish and Wildlife Information Service ("VaFWIS") and the USFWS Information for Planning and Consultation ("IPaC") System to identify federally and state-listed species that may occur within the Project area. Digital data were obtained from the DCR NHDE to identify locations within the study area that potentially support protected species.

To obtain the most current eagle nest data, ERM reviewed the Center for Conservation Biology ("CCB") VA Eagle Nest Locator mapping portal, which provides information about the Virginia bald eagle (*Haliaeetus leucocephalus*) population, including the results of the CCB's annual eagle nest survey.

The agencies lists of threatened and endangered species were reviewed and are described in Section 3.2.4 of the Environmental Routing Study. A total of three federal and 13 state-listed species have the potential to occur within the Project area.

The USFWS IPaC review identified three (3) federally listed species protected under the Endangered Species Act ("ESA") that potentially occur or have been documented within the proposed Project area. These species include the Northern Long-eared bat (*Myotis septentrionalis*), Dwarf wedgemussel (*Alasmidonta heterodon*), and Yellow lance (*Elliptio lanceolata*). These species are also state-listed. The VDWR operates a *Northern Long-eared Bat Winter Habitat and Roost Trees* online mapping system that shows general locations of known Northern Long-eared bat hibernacula and roost trees. A review of this system did not show hibernaculum or roost trees in Loudoun County. Dwarf wedgemussel and Yellow lance have the potential to occur in perennial waterbodies.

Based on DCR and VDWR queries, 10 additional state-listed species could potentially occur or have been documented within the proposed Project area. A summary of the 13 species with potential habitat within the Project area are listed in Table F-1 below. The VDWR operates a Little Brown Bat and Tri-colored Bat Winter Habitat and Roosts Application online mapping system, which shows general locations of known Little Brown Bat (*Myotis lucifugus*) and Tri-colored Bat (*Perimyotis subflavus*) hibernacula and roost trees. A review of this system did not show a hibernaculum or roost trees in Loudoun County. Of the 13 species identified, only the Wood turtle (*Glyptemys insculpta*) and Henslow's sparrow (*Ammodramus henslowii*) have been historically documented by state agencies within a 2-mile radius of the geographic center of the Project area. Dominion Energy Virginia will coordinate with state and federal agencies as needed.

TABLE F-2
Nimbus Line Loop and Nimbus Substation and Farmwell-Nimbus Line Project

Potential Federal and State-Listed Species in the Project Area

Species	Status	Database	Habitat	Results
Northern long-eared bat (*Myotis septentrionalis*)	FT, ST	USFWS IPaC, VDWR-NLEB Winter Habitat and Roost Tree Map, VDWR VaFWIS	Generally associated with old-growth or late successional interior forests. Partially dead or decaying trees are used for breeding, summer day roosting, and foraging. Hibernation occurs primarily in caves, mines, and tunnels.	Species not confirmed as present, and no known hibernacula or maternity roost trees are documented within the Project area. Project would require clearing of some trees; however, given lack of confirmed species presence, impacts are not anticipated.
Dwarf wedgemussel (*Alasmidonta heterodon)*	FE, SE	USFWS IPaC and VDWR VaFWIS	Deep, quick, running water on cobble, fine gravel, or firm silt or sandy bottoms.	Species not confirmed as present and no instream work would be performed. No impacts are anticipated.
Yellow lance (*Elliptio lanceolate)*	FT, ST	VDWR VaFWIS	Main channels of drainages and streams as small as 1 meter across with clean, coarse, medium-sized sand or gravel substrate.	Species not confirmed as present and no instream work would be performed. No impacts are anticipated.
Little brown bat (*Myotis lucifugus)*	SE	VDWR VaFWIS and VDWR Little Brown Bat and Tri-colored Bat Winter Habitat and Roosts Application	Roosts in caves, buildings, rocks, trees, under bridges, and in mines and tunnels. Found in all forested regions of the state.	Species not confirmed as present and no hibernaculum identified within 0.5-mile radius of the Project. No impacts are anticipated.
Tri-colored bat (*Perimyotis subflavus)*	SE	VDWR VaFWIS and VDWR Little Brown Bat and Tri-colored Bat Winter Habitat and Roosts Application	Typically roost in trees near forest edges during summer. Hibernate deep in caves or mines in areas with warm, stable temperatures during winter.	Species not confirmed as present and no hibernaculum identified within 0.5-mile radius of the Project. No impacts are anticipated.
Appalachian grizzled skipper (*Pyrgus Wyandot)*	ST	VDWR VaFWIS	Semi-open slopes with sparse herbaceous vegetation and exposed rock or soil.	VaFWIS Search Report listed as not confirmed. No impacts are anticipated.
Brook floater (*Alasmidonta varicose)*	SE	VDWR VaFWIS	Creeks and small rivers. Found among rocks in gravel substrates and in sandy shoals in flowing-water habitats only.	VaFWIS Search Report listed as not confirmed and no instream work would be performed. No impacts are anticipated.
Green floater (*Lasmigona subviridis)*	ST	VDWR VaFWIS	Small to medium streams in quiet pools and eddies with gravel and sand substrates.	VaFWIS Search Report listed as not confirmed and no instream work would be performed. No impacts are anticipated.
Henslow's sparrow (*Ammodramus henslowii)*	ST	VDWR VaFWIS	Open grasslands with few or no woody plants and tall, dense, grasses and litter layer.	VaFWIS Search Report listed as not confirmed. No impacts are anticipated.
Loggerhead shrike (*Lanius ludovicianus)*	ST	VDWR VaFWIS	Open country with scattered shrubs and trees or other tall structures for perching.	VaFWIS Search Report listed as not confirmed. No impacts are anticipated.
Migrant Loggerhead shrike (*Lanius ludovicianus migrans)*	ST	VDWR VaFWIS	Open country with scattered shrubs and trees or other tall structures for perching.	VaFWIS Search Report listed as not confirmed. No impacts are anticipated.

TABLE F-2
Nimbus Line Loop and Nimbus Substation and Farmwell-Nimbus Line Project

Potential Federal and State-Listed Species in the Project Area

Species	Status	Database	Habitat	Results
Peregrine falcon (*Falco peregrinus)*	ST	VDWR VaFWIS	Tall structures such as power line poles, buildings, and rock ledges in generally open landscapes.	VaFWIS Search Report listed as not confirmed. No impacts are anticipated.
Wood turtle (*Glyptemys insculpta)*	ST	VDWR VaFWIS	Forested floodplains, fields, wet meadows, and farmland with a perennial stream nearby.	Confirmed in VaFWIS Search Report. No instream work would be performed but forested floodplains may be cleared. Coordination with VDWR will be needed.

Federal/State Status:
FE Federally listed as endangered.
FT Federally listed as threatened.
SE State listed as endangered
ST State listed as threatened

A copy of the database search results can be found in Attachment 2.F.1. Additionally, the Company requested comments from the USFWS, VDWR, and DCR regarding the proposed Project in January 2022. On behalf of the Company, ERM submitted the Project to DCR Division of Natural Heritage ("DNH") for review. The DCR completed the review on November 3, 2021.

According to the official review, DCR DNH concluded that the Proposed Routes did not contain any habitat of rare, threatened, or endangered plant or animal species, insects, macrobenthics, bivalves, fish, unique or exemplary natural communities, significant geologic formations, or cross any State Natural Area Preserves under DCR jurisdiction. The DCR did not identify any Ecological Cores within the Project areas.

The study area is not located within an Eagle Concentration Area, and neither of the Proposed Routes is located within the Primary or Secondary Buffers of any documented eagle nest locations. The nearest bald eagle nest (CCB ID: LD 1901) is located approximately 1,605 feet (0.3 mile) south of the cut-in location of the Nimbus Line Loop, and was last document as occupied in 2019. No Project facilities are within the 660-foot management buffer for the nest. The Company will work with the appropriate jurisdictional agencies to minimize any impacts on this species.

Construction and maintenance of the new transmission line facilities could have some minor impacts on wildlife; however, impacts on most species will be short-term in nature, and limited to the period of construction.

Nimbus Line Loop

Some landscaped trees are anticipated to be removed for construction of the Nimbus Line Loop. The Proposed Route crosses one intermittent waterbody; however, as the crossings would be spanned by the overhead lines, impacts on aquatic species are not

anticipated. Based on the amount of recent development within and adjacent to the Project area, no negative impacts on listed species or their habitats are anticipated.

Farmwell-Nimbus Line

Impacts on threatened and endangered species associated with the Farmwell-Nimbus Line are similar to those described above for the Nimbus Loop Line. However, there are no aquatic resources within the right-of-way for the Farmwell-Nimbus Line.

New and updated information is continually added to DCR's Biotics database. Following the DCR-DNH SCC planning stage Project review, the Company will re-submit Project information with a completed information services order form and a map to the DCR-DNH or submit the Project online through the NHDE. This review will occur during the final design stage of engineering and upon any major modifications of the Project during construction (i.e., deviations, permanent or temporary, from the original study area and/or the relocation of a tower(s) into sensitive areas) for an update on natural heritage information and coordination of potential Project modifications to avoid and minimize impacts on natural heritage resources.

G. Erosion and Sediment Control

The DEQ approved the Company's *Standards & Specification for Erosion & Sediment* Control *and Stormwater Management for Construction of Linear Electric Transmission Facilities (TE VEP 8000).* These specifications are given to the Company's contractors and require erosion and sediment control measures to be in place before construction of the line begins and specifies the requirements for rehabilitation of the right-of-way. A copy of the current DEQ approval letter dated August 13, 2019, is provided as Attachment 2.G.1. According to the approval letter, coverage was effective through August 12, 2020. The Company submitted the renewal application on August 3, 2020, and is awaiting approval.

H. Archaeological, Historic, Scenic, Cultural, or Architectural Resources

Dutton + Associates, LLC ("D+A") was retained by the Company to conduct a Stage I Pre-Application Analysis for the proposed Project. This analysis was completed in January 2022. The report is included as Attachment 2.H.1. Preliminary background research was conducted pursuant to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR, 2008)[2] and *Commonwealth of Virginia State Corporation Commission*

[2] Virginia Department of Historic Resources. 2008. *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia*. Accessed: January 2022. Available online: https://www.dhr.virginia.gov/wp-content/uploads/2018/08/DHR_Guidelines_for_Transmission_Line_Assessment.pdf.

Division of Public Utility Regulation Guidelines for Transmission Line Applications Filed Under Title 56 of the Code of Virginia (August 2017).

As required by Virginia Department of Historic Resources ("VDHR") guidance for electric transmission line projects, D+A considered National Historic Landmark ("NHL") properties located within a 1.5-mile radius of the centerline of the Proposed Routes; National Register of Historic Places ("NRHP")-listed properties, NHLs, battlefields, and historic landscapes within a 1.0-mile radius of the centerline of the Project; NRHP-eligible and -listed properties, NHLs, battlefields, and historic landscapes within a 0.5-mile radius of the centerline of the Proposed Routes; and all of the above qualifying architectural resources as well as archaeological sites located within the right-of-way of the Proposed Routes. Information on the resources in each tier was collected from the Virginia Cultural Resource Information System. D+A also sought information on battlefields surveyed and assessed by the National Park Service's American Battlefield Protection Program ("ABPP"). In their focus on nationally significant Civil War battlefields, the ABPP identifies the historic extent of the battle (Project area), the areas of fighting on the battlefield (core area located within the Project area), and potential NRHP boundaries. Mapping of those ABPP boundaries in the form of ArcGIS shape files was reviewed as part of the analysis of potential cultural resource impacts. In addition to those resources, Dominion Energy Virginia is considering potential effects to VDHR easements.

Along with the records review carried out for the four tiers defined by VDHR, D+A conducted field assessments of the identified considered resources to characterize the nature of potential viewshed impacts that would result from the Project in accordance with the VDHR guidelines. Digital photographs of each resource and views toward the Proposed Routes were taken. Photosimulations were prepared to assess visual effects on each considered resource.

A summary of the considered resources identified in the vicinity of the Project is presented in Tables H-1 and H-2, and recommendations concerning the Project effects are provided in the following discussion. The information presented here derives from existing records and does not purport to encompass the entire suite of historic and archaeological resources that may ultimately be affected by the undertaking.

Three resources are currently under consideration per the VDHR tiers as described above. These include one historic resource that VDHR considers potentially eligible for the NRHP: the Broad Run Ford and Ox Road (053-6416), a resource consisting of a road trace located approximately 0.25 mile from the Nimbus Line Loop at its nearest point, and a ford located 0.4 mile from the Nimbus Line Loop. The Farmwell-Nimbus Line's southeast end is located approximately 0.5 mile from the Broad Run Ford. Although the Broad Run Ford and Ox Road has not been formally determined eligible for the NRHP by VDHR, it is being treated as such for the purpose of the analysis. The other considered resources are two archaeological sites (44LD1602 and 44LD1603), neither of which have been evaluated for NRHP eligibility by the VDHR. Site 44LD1602 is intersected by the right-of-way of the

Farmwell-Nimbus Line, while 44LD1603 is intersected by the right-of-way of the Nimbus Line Loop.

TABLE H-1
Nimbus Line Loop and Nimbus Substation and Farmwell-Nimbus Line Project

Resources in VDHR Tiers for Nimbus Line Loop and Nimbus Substation

Buffer (miles)	Considered Resources	VDHR #	Description
1.0-1.5	National Historic Landmarks	None	None
0.5-1.0	National Register—Listed	None	None
		None	None
	Battlefields	None	None
	Historic Landscapes	None	None
0.0- 0.5	National Register—Eligible	053-6416	Broad Run Ford and Ox Road
0.0 (within right-of-way)	Archaeology Sites	44LD1603	Twentieth Century Road Trace

TABLE H-2
Nimbus Line Loop and Nimbus Substation and Farmwell-Nimbus Line Project

Resources in VDHR Tiers for Farmwell-Nimbus Line

Buffer (miles)	Considered Resources	VDHR #	Description
1.0-1.5	National Historic Landmarks	None	None
0.5-1.0	National Register—Listed	None	None
		None	None
	Battlefields	None	None
	Historic Landscapes	None	None
0.0- 0.5	National Register—Eligible	053-6416	Broad Run Ford and Ox Road
0.0 (within right-of-way)	Archaeology Sites	44LD1602	Twentieth Century Domestic Site

A review of the VDHR Virginia Cultural Resource Information System indicates that two previously recorded archaeological sites (44LD1602 and 44LD1603) fall within the right-of-way for the Farmwell-Nimbus Line and the Nimbus Line Loop, respectively (VDHR, 2022)[3]. Neither has been evaluated for NRHP eligibility by the VDHR. A formal archaeological survey has not been conducted as part of this Project, but a review of contemporary aerial imagery suggests that the portions of the sites in the proposed rights-of-way have been destroyed by modern land use impacts. However, pending archaeological field investigations to assess the nature of site deposits in the Project area, these resources should be considered when assessing the potential impacts of the Project.

[3] Virginia Department of Historic Resources. 2022. Virginia Cultural Resources Information System (VCRIS) database and GIS server.

Only one considered historic resource defined in accordance with VDHR Guidelines is associated with both the Nimbus Line Loop and the Farmwell-Nimbus Line. The Broad Run Ford and Ox Road (053-6416) is a remnant of a road built in the 1720s through 1740s and used into the twentieth century along with the ford at Broad Run; the route south of the ford has not been surveyed and is not included in the defined resource boundary. The Broad Run Ford and Ox Road has been deemed potentially eligible for the NRHP by VDHR, and thus is being treated as eligible for the purpose of the analysis.

The resource is closer to the proposed Nimbus Line Loop. The northern end of the recorded Ox Road trace is located approximately 0.25 mile south of the Nimbus Line Loop at its nearest point, and the Broad Run Ford is located 0.4 mile from the Nimbus Line Loop. The Farmwell-Nimbus Line is farther from the resource, but close enough to be considered for potential impacts. The line's southeast end is located approximately 0.5 mile from the Broad Run Ford.

Visual impacts are defined as the introduction of visual elements that might diminish or alter the setting of any historic property listed on or eligible for listing on the NRHP. The Broad Run Ford and Ox Road is potentially significant for its associations with Virginia's early transportation network. As such, its setting is important to its interpretation and its ability to convey its significance. At the time of the analysis, the resource's setting had already been compromised by large-scale modern development and placement of infrastructure in the surrounding area just beyond the thin stand of trees that border the stream in the location of the resource. A utility line crosses Broad Run just east of the ford, and the shoreline of the stream has been modified with riprap and fill. The cleared utility easement continues north of the stream, paralleling the Ox Road trace as it traverses woodlands. The trace then merges with a gravel road that follows the alignment of the old Ox Road. The area between the Broad Run Ford and Ox Road and the Project contains multiple large data centers built in the recent past on lots that have been substantially impacted by cut and fill. The divided four-lane Loudoun County Parkway and an existing 230 kV transmission line also traverse the area between the resource and the Project.

D+A conducted a field reconnaissance and prepared photosimulations from vantage points at the north end of the road trace, closest to the Project, and from the south side of the ford on Broad Run. The ford and southern portion of the road trace were on private property and not accessible. From the vantage point of the north end of the resource, D+A concluded that any view of the Project would be screened almost entirely by several large data center warehouses in the intervening distance. The one area where line of sight to the Project could exist is straight up Loudoun County Parkway to the northeast, where a view of the Nimbus Line Loop could exist as the line is suspended across the road. No transmission line structures would be visible along this sight line, however, and the viewshed is already dominated by modern development. An existing transmission line parallels the south side of Loudoun County Parkway, and a transmission structure is located immediately adjacent to the north end of the road trace. Thus, the resource's viewshed already contains transmission infrastructure that is closer and more obtrusive than what is proposed as part

of the current Project. From the vantage point south of the ford, D+A found that the Project would be entirely screened by vegetation and development.

It is D+A's opinion that the historical setting of the Broad Run Ford and Ox Road (053-6416) has been compromised by modern development. It is anticipated that there would be minimal visibility of Nimbus Line Loop from the north end of the resource, as illustrated in the photosimulations prepared for the analysis (see Appendix F in the Environmental Routing Study, Figures 5-1 through 5-7). Therefore, the Project's Nimbus Line Loop would have *minimal impact* on the Broad Run Ford and Ox Road. The Farmwell-Nimbus Line would have *no impact* on the resource, as it is entirely screened from view.

I. Chesapeake Bay Preservation Areas

The Project is not located in a locality subject to the Chesapeake Bay Preservation Act. Construction, installation, operation, and maintenance of electric transmission lines are conditionally exempt from the Chesapeake Bay Act as stated in the exemption for public utilities, railroads, public roads, and facilities in 9 Virginia Administrative Code 25-830-150. The Company will meet those conditions.

J. Wildlife Resources

Relevant agency databases were reviewed and requests for comments from the USFWS, and DCR were submitted to determine if the proposed Project has the potential to affect any threatened or endangered species. As discussed in Section 2.F and identified in Attachment 2.F.1, certain federal and state-listed species were identified as potentially occurring in the Project area. The Company will coordinate with the USFWS, VDWR, and DCR as appropriate to determine whether additional surveys are necessary and to minimize impacts on wildlife resources. In general, the Project area is a combination of open space and developed land consisting of public roads, and industrial and commercial use. Native grasses can be used during revegetation to maintain a healthy plant species diversity.

K. Recreation, Agricultural, and Forest Resources

The Project is expected to have minimal incremental impacts on recreational, agricultural, and forest resources. The Proposed Routes' collocation and impacts on forest land are described in the sections below.

The Virginia Scenic Rivers Act seeks to identify, designate, and protect rivers and streams that possess outstanding scenic, recreational, historic, and natural characteristics of statewide significance for future generations. No state scenic rivers would be crossed by the Project.

According to the Virginia Department of Forestry ("VDOF"), the Nimbus Line Loop and Farmwell-Nimbus Line cross no Agricultural and Forestal Districts ("AFDs").

Under the Virginia Open-Space Land Act, any public body can acquire title or rights to real property to provide means of preservation of open-space land. Such conservation easements must be held for no less than 5 years in duration and can be held in perpetuity. According to the DCR's NHDE, the Project does not cross Virginia Outdoors Foundation ("VOF") easements. There are currently no VOF easements crossed by any of the routes. No Loudoun County Conservation Easements or other conservation lands are crossed by the Project.

Nimbus Loop Line

The Nimbus Line Loop is collocated with Waxpool Road for a total of 0.60 mile. The Nimbus Line Loop crosses developed, non-residential zoned lands for the entirety of the route. The Nimbus Line Loop crosses a total of 0.61 mile of land affecting 7.38 acres of right-of-way. A total of four parcels are crossed by the route all of which are privately owned lands. Land use crossed by the Nimbus Line Loop includes 4.33 acres of open space and 3.05 acres of developed land. No forested lands or open water land use types are crossed.

A review of NRCS soils data indicates that approximately 5.24 acres of the footprint of the Nimbus Loop Line are classified as prime farmland and 2.15 acres are classified as not prime farmland. According to a review of recent 2021 aerial photography, there is no land being used for agricultural purposes within or near the right-of-way of the Proposed Route. The Proposed Route crosses no AFDs or agricultural lands nor does the route run parallel to or cross any Virginia Byways, Scenic Rivers, Resource Protection Areas, or Virginia Birding and Wildlife Trails.

Nimbus Substation

The Nimbus Substation encompasses approximately 3.60 acres. Land use crossed by the Nimbus Substation includes 0.19 acre of open space and 3.41 acres of developed land. No forested lands or open water land use types are crossed.

A review of NRCS soils data indicates that approximately 3.25 acres of the Nimbus Substation are classified as prime farmland and 0.36 acre are classified as not prime farmland. According to a review of recent 2021 aerial photography, there is no land being used for agricultural purposes within or near the substation. The substation crosses no AFDs or agricultural lands nor does it or cross any Virginia Byways, Scenic Rivers, Resource Protection Areas, or Virginia Birding and Wildlife Trails.

Farmwell-Nimbus Line

The Farmwell-Nimbus Line is collocated with Waxpool Road for a total of 0.1 mile. The Farmwell-Nimbus Transmission Line crosses a total of 0.34 mile of land affecting 3.25 acres of right-of-way. A total of five parcels are crossed by the route, all of which are privately owned lands. Land use crossed by the Farmwell-Nimbus Line include

0.72 acre of open space and 2.53 acres of developed land. No forested lands or open water land use types are crossed.

A review of NRCS soils data indicates that approximately 2.02 acres of the footprint of the Farmwell-Nimbus Line are classified as prime farmland and 1.23 acres are classified as not prime farmland. According to a review of recent 2021 aerial photography, there is no land being used for agricultural purposes within or near the right-of-way of the Farmwell-Nimbus Line. The route crosses no AFDs or agricultural lands nor does the route run parallel to or cross any Virginia Byways, Scenic Rivers, Resource Protection Areas, or Virginia Birding and Wildlife Trails.

Any tree along the right-of-way that is tall enough to endanger the conductors if it were to break at the stump or uproot and fall directly toward the conductors and exhibits signs or symptoms of disease or structural defect that make it an elevated risk for falling will be designated as a "danger tree" and may be removed. The Company's arborist will contact the property owner if possible before any danger trees are cut, except in emergency situations. The Company's Forestry Coordinator will field inspect the right-of-way and designate any danger trees present. Qualified contractors working in accordance with the Company's Electric Transmission specifications will perform all danger tree cutting. The proposed Project is expected to have minimal, if any, impact on forest resources, as the proposed Project is primarily located on properties that have been previously cleared and maintained for existing facility operation and industrial and commercial developments.

In January 2022, the Company solicited DCR, VOF and VDOF for comments on the proposed Project. In an email dated January 19, 2022, the DCR Planning and Recreation Resources Division ("PRR") indicated it has no comment regarding the Project, as there does not appear to be impacts to recreation resources. See Attachment 2.K.1. VOF responded on January 21, 2022, that it had reviewed the Project and, as of January 21, 2022, did not find any existing or proposed VOF open-space easements in the immediate vicinity of the Project. See Attachment 2.K.2. VDOF responded by letter dated January 24, 2022, with no comments to provide on the proposed Project. See Attachment 2.K.3.

L. Use of Pesticides and Herbicides

Of the techniques available, selective foliar is the preferred method of herbicide application. The Company typically maintains transmission line right-of-way by means of selective, low-volume applications of EPA-approved, non-restricted use herbicides. The goal of this method is to exclude tall-growing brush species from right-of-way by establishing early successional plant communities of native grasses, forbs, and low-growing woody vegetation. "Selective" application means the Company sprays only the undesirable plant species (as opposed to broadcast applications). "Low volume" application means the Company uses only the volume of herbicide necessary to remove the selected plant species. The mixture of herbicides used varies from one cycle to the next to avoid the development of resistance by the targeted plants. There are four means

of dispersal available to the Company, including by-hand application, backpack, fixed nozzle-radiarc, and aerial. Very little right-of-way maintenance incorporates aerial equipment. The Company uses licensed contractors to perform this work that are either certified applicators or registered technicians in the Commonwealth of Virginia.

DEQ has previously requested that only herbicides approved for aquatic use by the EPA or the USFWS be used in or around any surface water. The Company intends to comply with this request.

M. Geology and Mineral Resources

The Project area is located within the Piedmont geologic province, which is characterized by strongly weathered bedrock due to the humid climate, thick soils overlying saprolite (weathered bedrock), and rolling topography that becomes more rugged to the west near the Blue Ridge Mountains. In general, the Piedmont province consists of several complex geologic terranes where faults separate rock units with differing igneous and metamorphic histories. Based on review of the Geologic Map of Virginia, the Project area is located within a basin that formed as the Atlantic Ocean began opening during the early Mesozoic Era. Within this Mesozoic-age basin, the bedrock underlying the Project area comprises Triassic-age sandstones, shales, and siltstones that were deposited between approximately 225 and 190 million years ago and were subsequently intruded by fine-grained dark-colored igneous dikes (William and Mary Department of Geology 2021).

ERM reviewed publicly available Virginia Energy (2021) and USGS Mineral Resources Data System (1996) datasets, USGS topographic quadrangles, and recent (2021) digital aerial photographs to identify mineral resources in the Project area. Based on the review, no active mineral resources were identified within 0.5 mile of the Proposed Routes for the Nimbus Line Loop or Nimbus-Farmwell Line. The closest active quarry is located approximately 2.7 miles southeast of the Nimbus Line Loop on the southeast corner of Route 606 and Route 636 near Herndon. The closest mineral occurrence is a copper mineralization located in a road outcrop on the northeast corner of Highway 28 and Route 625, approximately 1.1 miles east of the Nimbus Line Loop. As such, Project activities would not impact, or be impacted by, identified mineral resources.

N. Transportation Infrastructure

Major public roads within the study area include Loudoun County Parkway and Waxpool Road. Both of these major roads are maintained by the Virginia Department of Transportation ("VDOT"). Many smaller public roads also exist within the study area. Based on consultations with Loudoun County Department of Transportation and Capital Infrastructure and the VDOT, there are no planned road projects in the study area.

Nimbus Line Loop

Beginning at the cut-in location on Line #2152, the route extends west and parallels the southern side of Waxpool Road for 0.2 mile and then crosses over Loudoun County

Parkway. The route continues west on the south side of Waxpool Road for 0.4 mile. The route then turns south into the proposed Nimbus Substation.

Farmwell-Nimbus Line

The Farmwell-Nimbus Line exits the eastern side of the Farmwell Substation and continues east-southeast for 0.15 mile before reaching Sir Timothy Drive. The route then turns to the northeast for 0.08 mile toward Waxpool Road. The route then runs parallel to the south side of Waxpool Road for 0.09 mile. The route next pivots to the south for 0.05 mile and then terminates at the proposed Nimbus Substation

Temporary closures of roads and or traffic lanes would be required during construction of the Project. No long-term impacts on roads are anticipated. The Company will comply with VDOT requirements for access to the rights-of-way from public roads. In January 2022, the Company solicited comments from VDOT on the proposed Project. At the appropriate time, the Company will obtain the necessary VDOT permits as required and comply with permit conditions.

The design of the proposed Project must prevent interference with pilots' safe air travel in and out of airports. Such hazard or impediments include interference with navigation and communication equipment and glare from materials and external lights.

The Company reviewed the Federal Aviation Administration's (FAA's) website to identify public use airports, airports operated by a federal agency or the U.S. Department of Defense, airports or heliports with at least one FAA-approved instrument approach procedure, and public use or military airports under construction within 10 miles of the proposed Project. Based on this review, the following FAA-restricted airports are located within 10 miles of the Project:

- Washington Dulles International Airport (nearest runway), approximately 2.7 miles south of the Project; and

- Leesburg Executive Airport (nearest runway), approximately 6.6 miles west of the Project.

The Leesburg Executive Airport is located far enough away from the Project area that there is no potential to impact the airport's federally defined airspace. Structures associated with the Proposed Routes would be located within close proximity to the federally defined airspace of Dulles International Airport. The Dulles International Airport is located about 3.7 miles from the Project. The Company has reviewed and mapped the airspace for the airport and has confirmed that no structures would penetrate into the federally defined airspace. Since the FAA manages air traffic in the United States, it will evaluate any physical objects that may affect the safety of aeronautical operations through an obstruction evaluation. If required during the permitting process, the Company will submit an FAA

Form 7460-1, Notice of Proposed Construction or Alteration, pursuant to 14 Code of Federal Regulations Part 77, for any tower locations that meet the review criteria.

Based on the current plans, the transmission line structures for the Project would range in height from 110 to 140 feet tall. It is anticipated that cranes would be used to install the structures. Based on current plans, the Project would not exceed FAA notification thresholds at any airports.

ATTACHMENTS

Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219
DominionEnergy.com

January 14, 2022

BY EMAIL

Ms. Bettina Rayfield, Manager
Office of Environmental Impact Review
Department of Environmental Quality, Central Office
PO Box 1105
Richmond, Virginia 23218

RE: Dominion Energy Virginia's Proposed Nimbus 230 kV Line Loop & Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line, Loudoun County, Virginia

Dear Ms. Rayfield,

Dominion Energy Virginia (the "Company") is proposing the Nimbus 230 kV Line Loop & Nimbus Substation and the 230 kV Farmwell-Nimbus Transmission Line (collectively, the "Project") within Loudoun County, Virginia. The Project is necessary to ensure that Dominion Energy Virginia can continue to meet customer needs and maintain reliable electric service for the overall growth in the area.

Specifically, the Company proposes as part of this Project to build a new approximately 0.6-mile overhead 230 kV double circuit transmission line loop ("Nimbus Line Loop") and 230-34.5 kV substation ("Nimbus Substation"), collectively called the Nimbus Line Loop & Substation. The proposed Nimbus Line Loop will be constructed in new right-of-way along a route that would tie into the Company's existing Beaumeade-Buttermilk Line #2152 at structure #2152/19A east of the intersection of Loudoun County Parkway and Waxpool Road, creating a loop that results in (i) Beaumeade-Nimbus Line #2152 and (ii) Buttermilk-Nimbus Line #2225.

The Company is also proposing as part of this Project to construct a new overhead 230 kV single circuit line ("Farmwell-Nimbus Line") that would originate at the Farmwell Substation and terminate at the new Nimbus Substation. The proposed Farmwell-Nimbus Line #2260 will be constructed in new right-of-way along a route that would extend northwest of the Nimbus Substation to the Farmwell Substation for approximately 0.26 mile.

The Company is in the process of preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"), which may be necessary for the Project. At this time, in advance of an SCC filing, the Company respectfully requests that you submit any comments or additional information that would have bearing on the proposed Project within 30 days of the date of this letter. If you would like to receive a GIS shapefile of the transmission line routes to assist in the project review or if there are any questions, please do not hesitate to contact James P. Young at (804) 426-6648 or james.p.young@dominionenergy.com.

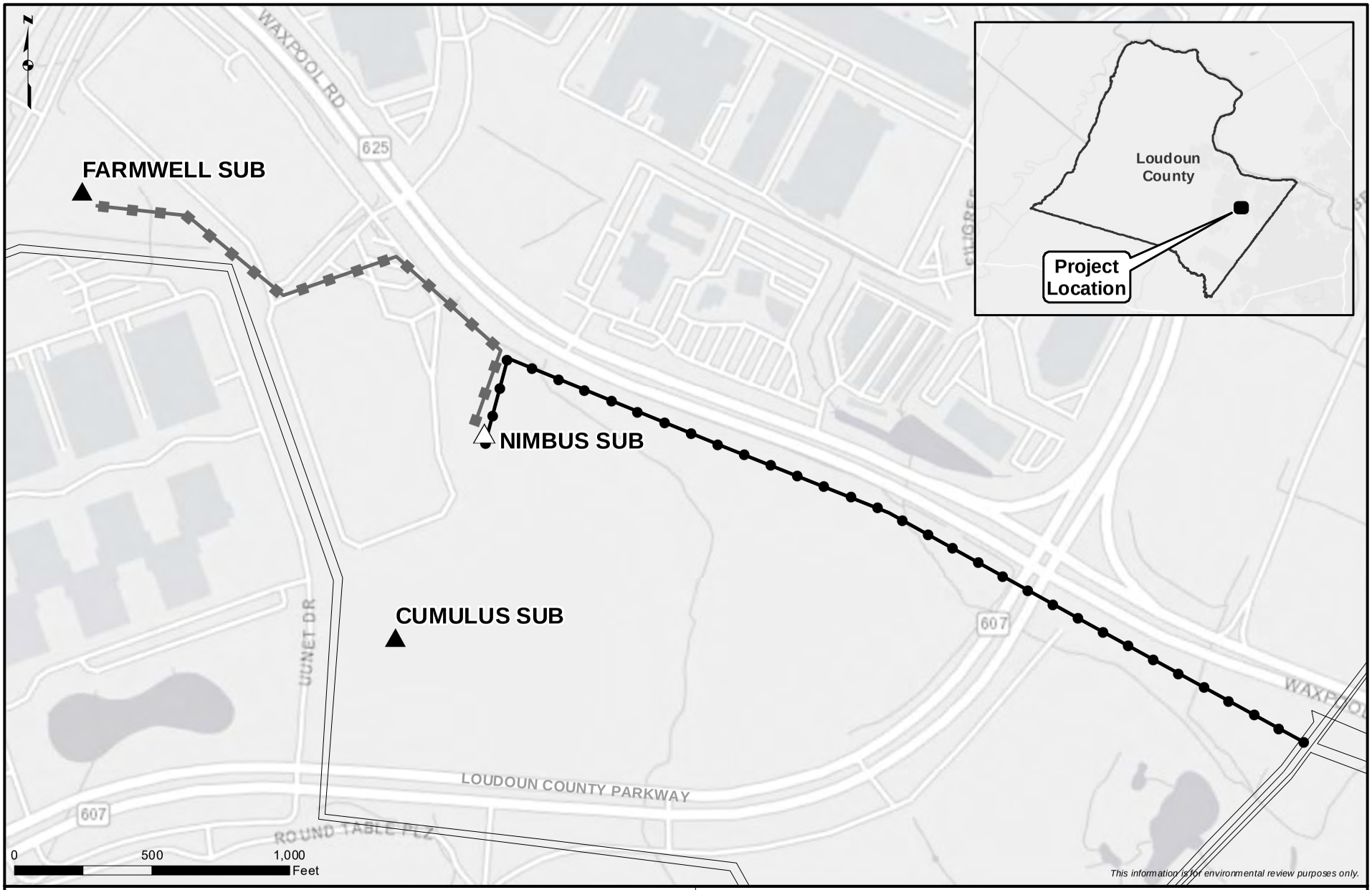
We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map



▲ Existing Substation
△ Proposed Substation
Nimbus 230 kV Line Loop Proposed Route
230 kV Farmwell-Nimbus Proposed Route
Existing Dominion Transmission Lines

Overview Map

Nimbus 230 kV Line Loop and Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line

Loudoun County, Virginia

Dominion Energy Virginia
10900 Nuckols Road, Ste. 400
Glen Allen, VA 23060
DominionEnergy.com

January 19, 2022

BY EMAIL

Mr. Roger Kirchen
Department of Historic Resources
Review and Compliance Division
2801 Kensington Avenue
Richmond, Virginia 23221

RE: Dominion Energy Virginia's Proposed Nimbus 230 kV Line Loop & Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line, Loudoun County, Virginia

Dear Mr. Kirchen,

Dominion Energy Virginia (the "Company") is proposing the Nimbus 230 kV Line Loop & Nimbus Substation and the 230 kV Farmwell-Nimbus Transmission Line (collectively, the "Project") within Loudoun County, Virginia. The Project is necessary to ensure that Dominion Energy Virginia can continue to meet customer needs and maintain reliable electric service for the overall growth in the area.

Specifically, the Company proposes as part of this Project to build a new approximately 0.6-mile overhead 230 kV double circuit transmission line loop ("Nimbus Line Loop") and 230-34.5 kV substation ("Nimbus Substation"), collectively called the Nimbus Line Loop & Substation. The proposed Nimbus Line Loop will be constructed in new right-of-way along a route that would tie into the Company's existing Beaumeade-Buttermilk Line #2152 at structure #2152/19A east of the intersection of Loudoun County Parkway and Waxpool Road, creating a loop that results in (i) Beaumeade-Nimbus Line #2152 and (ii) Buttermilk-Nimbus Line #2225.

The Company is also proposing as part of this Project to construct a new overhead 230 kV single circuit line ("Farmwell-Nimbus Line") that would originate at the Farmwell Substation and terminate at the new Nimbus Substation. The proposed Farmwell-Nimbus Line #2260 will be constructed in new right-of-way along a route that would extend northwest of the Nimbus Substation to the Farmwell Substation for approximately 0.26 mile.

The Company is in the process of preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"), which may be necessary for the Project. At this time, in advance of an SCC filing, the Company respectfully requests that you submit any comments or additional information that would have bearing on the proposed Project within 30 days of the date of this letter. If you would like to receive a GIS shapefile of the transmission line routes to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 239-6450 or charles.h.weil@dominionenergy.com.

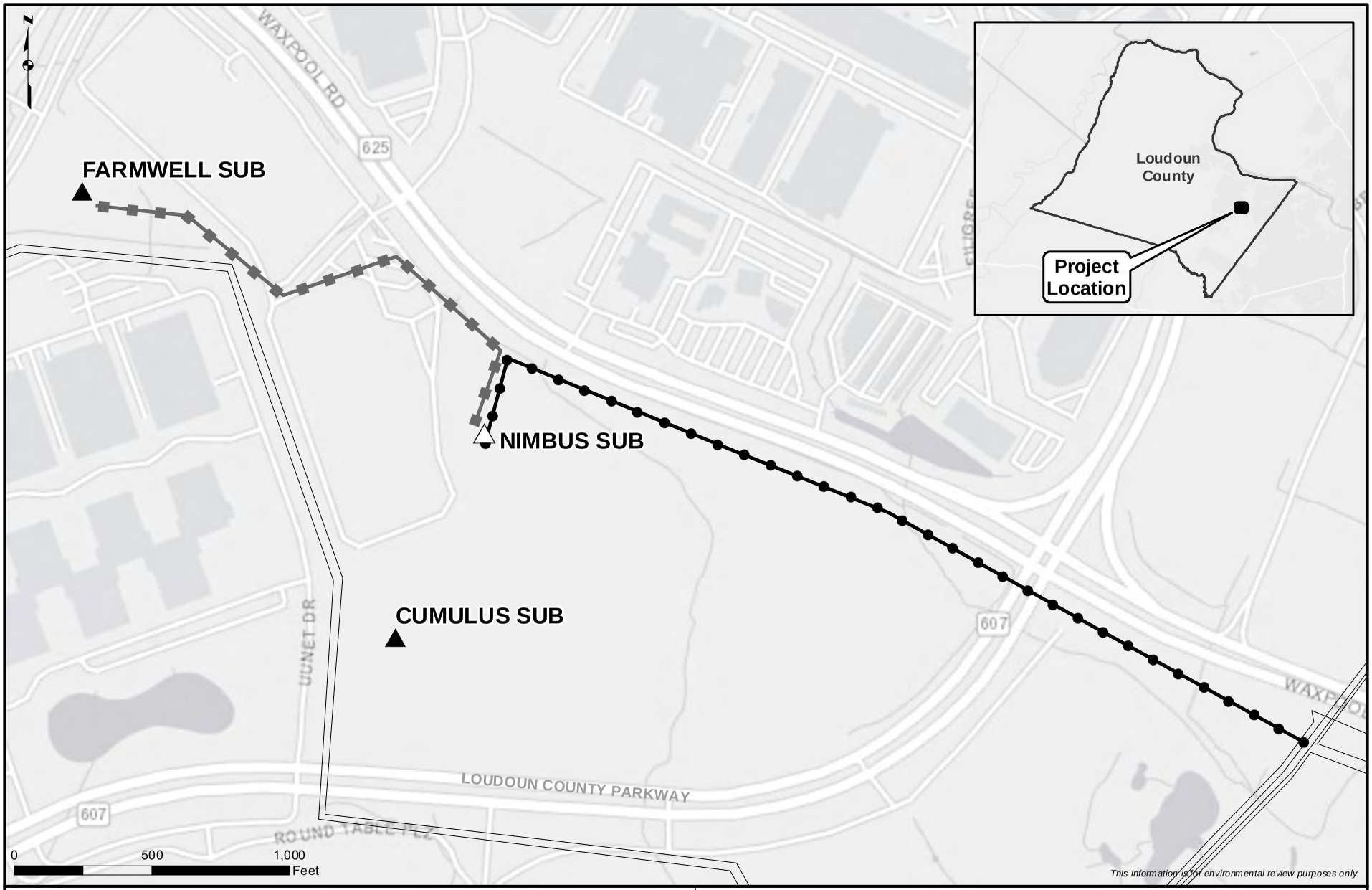
We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

Charles H. Weil, PE
Siting and Permitting

Attachment: Project Notice Map



▲ Existing Substation
△ Proposed Substation
Nimbus 230 kV Line Loop Proposed Route
230 kV Farmwell-Nimbus Proposed Route
Existing Dominion Transmission Lines

Overview Map

Nimbus 230 kV Line Loop and Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line

Loudoun County, Virginia

Dominion Energy Virginia
10900 Nuckols Road, Ste. 400
Glen Allen, VA 23060
DominionEnergy.com

January 19, 2022

BY EMAIL

Scott Denny
Virginia Department of Aviation, Airport Services Division
5702 Gulfstream Road
Richmond, VA 23250

RE: Dominion Energy Virginia's Proposed Nimbus 230 kV Line Loop & Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line, Loudoun County, Virginia

Dear Mr. Denny,

Dominion Energy Virginia (the "Company") is proposing the Nimbus 230 kV Line Loop & Nimbus Substation and the 230 kV Farmwell-Nimbus Transmission Line (collectively, the "Project") within Loudoun County, Virginia. The Project is necessary to ensure that Dominion Energy Virginia can continue to meet customer needs and maintain reliable electric service for the overall growth in the area.

Specifically, the Company proposes as part of this Project to build a new approximately 0.6-mile overhead 230 kV double circuit transmission line loop ("Nimbus Line Loop") and 230-34.5 kV substation ("Nimbus Substation"), collectively called the Nimbus Line Loop & Substation. The proposed Nimbus Line Loop will be constructed in new right-of-way along a route that would tie into the Company's existing Beaumeade-Buttermilk Line #2152 at structure #2152/19A east of the intersection of Loudoun County Parkway and Waxpool Road, creating a loop that results in (i) Beaumeade-Nimbus Line #2152 and (ii) Buttermilk-Nimbus Line #2225.

The Company is also proposing as part of this Project to construct a new overhead 230 kV single circuit line ("Farmwell-Nimbus Line") that would originate at the Farmwell Substation and terminate at the new Nimbus Substation. The proposed Farmwell-Nimbus Line #2260 will be constructed in new right-of-way along a route that would extend northwest of the Nimbus Substation to the Farmwell Substation for approximately 0.26 mile.

The Company is in the process of preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"), which may be necessary for the Project. At this time, in advance of an SCC filing, the Company respectfully requests that you submit any comments or additional information that would have bearing on the proposed Project within 30 days of the date of this letter. If you would like to receive a GIS shapefile of the transmission line routes to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 239-6450 or charles.h.weil@dominionenergy.com.

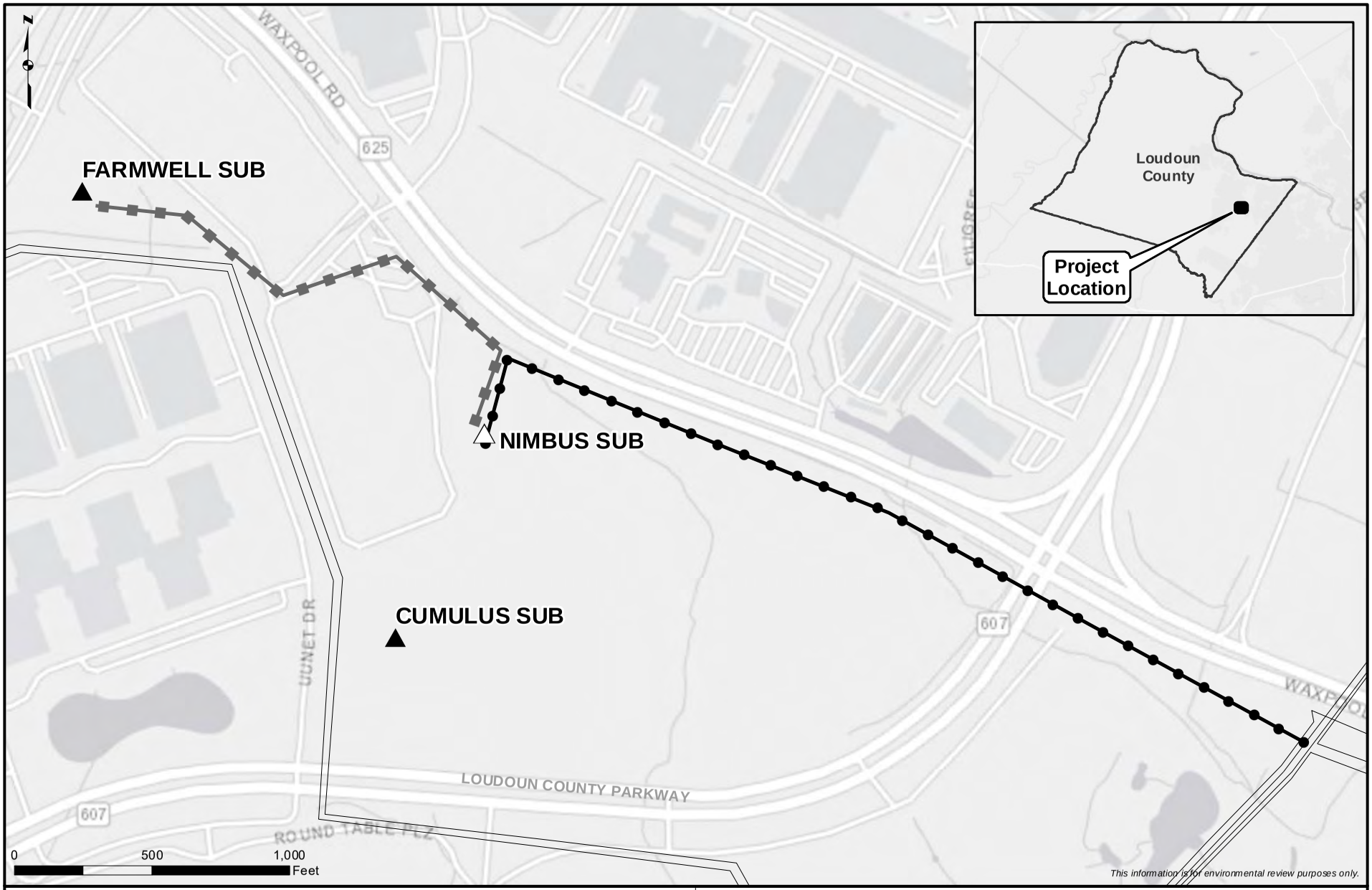
We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

Charles H. Weil, PE
Siting and Permitting

Attachment: Project Notice Map



▲ Existing Substation
△ Proposed Substation
Nimbus 230 kV Line Loop Proposed Route
230 kV Farmwell-Nimbus Proposed Route
Existing Dominion Transmission Lines

Overview Map

Nimbus 230 kV Line Loop and Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line

Loudoun County, Virginia

Dominion Energy Virginia
10900 Nuckols Road, Ste. 400
Glen Allen, VA 23060
DominionEnergy.com

January 19, 2022

BY EMAIL

John D. Lynch
Northern Virginia District Engineer
Virginia Department of Transportation, Northern Virginia District Office
4975 Alliance Drive
Fairfax, VA 22030

RE: Dominion Energy Virginia's Proposed Nimbus 230 kV Line Loop & Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line, Loudoun County, Virginia

Dear Mr. Lynch,

Dominion Energy Virginia (the "Company") is proposing the Nimbus 230 kV Line Loop & Nimbus Substation and the 230 kV Farmwell-Nimbus Transmission Line (collectively, the "Project") within Loudoun County, Virginia. The Project is necessary to ensure that Dominion Energy Virginia can continue to meet customer needs and maintain reliable electric service for the overall growth in the area.

Specifically, the Company proposes as part of this Project to build a new approximately 0.6-mile overhead 230 kV double circuit transmission line loop ("Nimbus Line Loop") and 230-34.5 kV substation ("Nimbus Substation"), collectively called the Nimbus Line Loop & Substation. The proposed Nimbus Line Loop will be constructed in new right-of-way along a route that would tie into the Company's existing Beaumeade-Buttermilk Line #2152 at structure #2152/19A east of the intersection of Loudoun County Parkway and Waxpool Road, creating a loop that results in (i) Beaumeade-Nimbus Line #2152 and (ii) Buttermilk-Nimbus Line #2225.

The Company is also proposing as part of this Project to construct a new overhead 230 kV single circuit line ("Farmwell-Nimbus Line") that would originate at the Farmwell Substation and terminate at the new Nimbus Substation. The proposed Farmwell-Nimbus Line #2260 will be constructed in new right-of-way along a route that would extend northwest of the Nimbus Substation to the Farmwell Substation for approximately 0.26 mile.

The Company is in the process of preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"), which may be necessary for the Project. At this time, in advance of an SCC filing, the Company respectfully requests that you submit any comments or additional information that would have bearing on the proposed Project within 30 days of the date of this letter. If you would like to receive a GIS shapefile of the transmission line routes to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 239-6450 or charles.h.weil@dominionenergy.com.

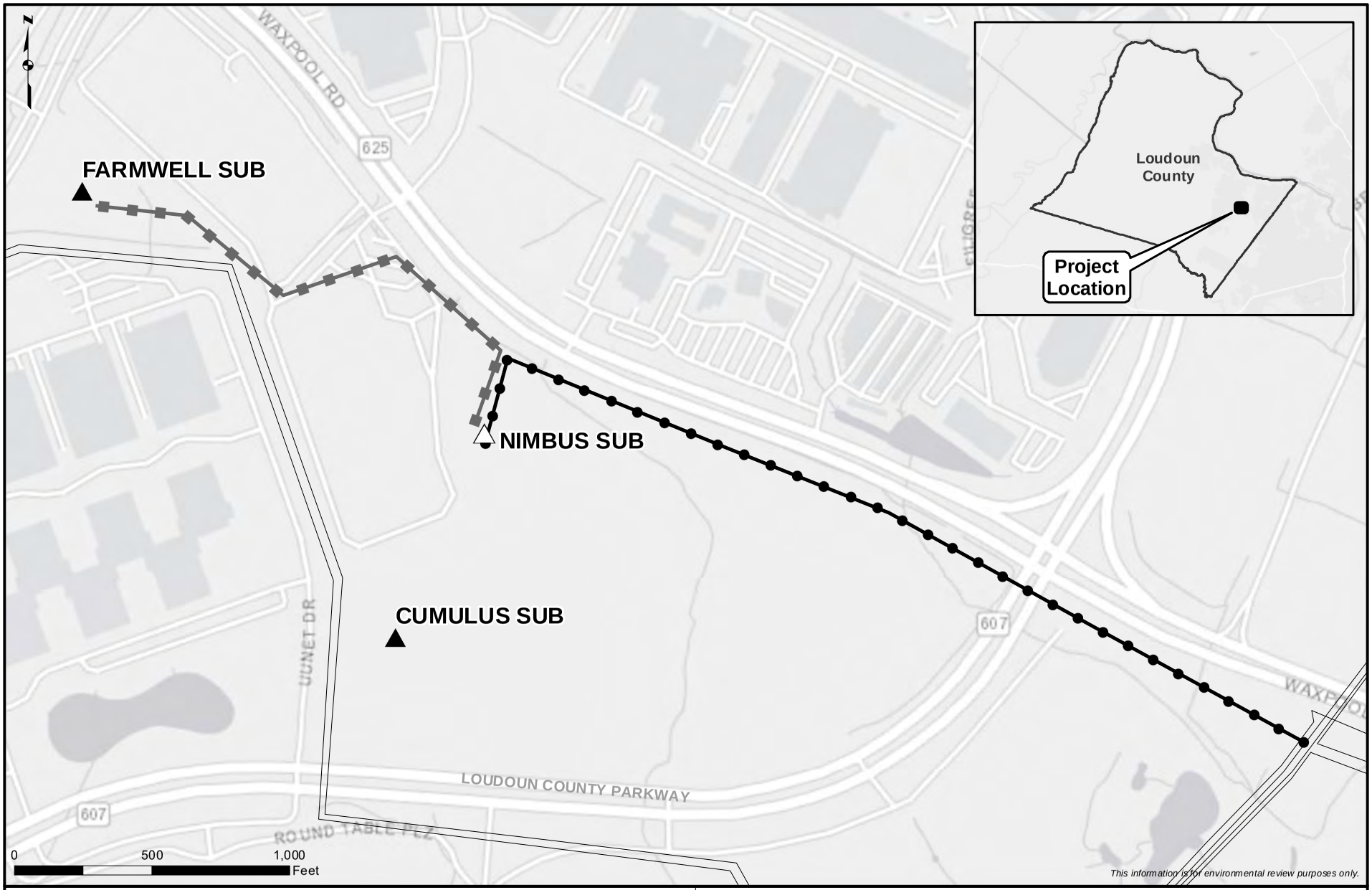
We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

Charles H. Weil, PE
Siting and Permitting

Attachment: Project Notice Map



▲ Existing Substation
△ Proposed Substation
Nimbus 230 kV Line Loop Proposed Route
230 kV Farmwell-Nimbus Proposed Route
Existing Dominion Transmission Lines

Overview Map

Nimbus 230 kV Line Loop and Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line

Loudoun County, Virginia

Dominion Energy Virginia
10900 Nuckols Road, Ste. 400
Glen Allen, VA 23060
DominionEnergy.com

January 19, 2022

BY EMAIL

Kamal Suliman
Regional Operations Director
Virginia Department of Transportation, Northern Virginia District Office
4975 Alliance Drive
Fairfax, VA 22030

RE: Dominion Energy Virginia's Proposed Nimbus 230 kV Line Loop & Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line, Loudoun County, Virginia

Dear Mr. Suliman,

Dominion Energy Virginia (the "Company") is proposing the Nimbus 230 kV Line Loop & Nimbus Substation and the 230 kV Farmwell-Nimbus Transmission Line (collectively, the "Project") within Loudoun County, Virginia. The Project is necessary to ensure that Dominion Energy Virginia can continue to meet customer needs and maintain reliable electric service for the overall growth in the area.

Specifically, the Company proposes as part of this Project to build a new approximately 0.6-mile overhead 230 kV double circuit transmission line loop ("Nimbus Line Loop") and 230-34.5 kV substation ("Nimbus Substation"), collectively called the Nimbus Line Loop & Substation. The proposed Nimbus Line Loop will be constructed in new right-of-way along a route that would tie into the Company's existing Beaumeade-Buttermilk Line #2152 at structure #2152/19A east of the intersection of Loudoun County Parkway and Waxpool Road, creating a loop that results in (i) Beaumeade-Nimbus Line #2152 and (ii) Buttermilk-Nimbus Line #2225.

The Company is also proposing as part of this Project to construct a new overhead 230 kV single circuit line ("Farmwell-Nimbus Line") that would originate at the Farmwell Substation and terminate at the new Nimbus Substation. The proposed Farmwell-Nimbus Line #2260 will be constructed in new right-of-way along a route that would extend northwest of the Nimbus Substation to the Farmwell Substation for approximately 0.26 mile.

The Company is in the process of preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"), which may be necessary for the Project. At this time, in advance of an SCC filing, the Company respectfully requests that you submit any comments or additional information that would have bearing on the proposed Project within 30 days of the date of this letter. If you would like to receive a GIS shapefile of the transmission line routes to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 239-6450 or charles.h.weil@dominionenergy.com.

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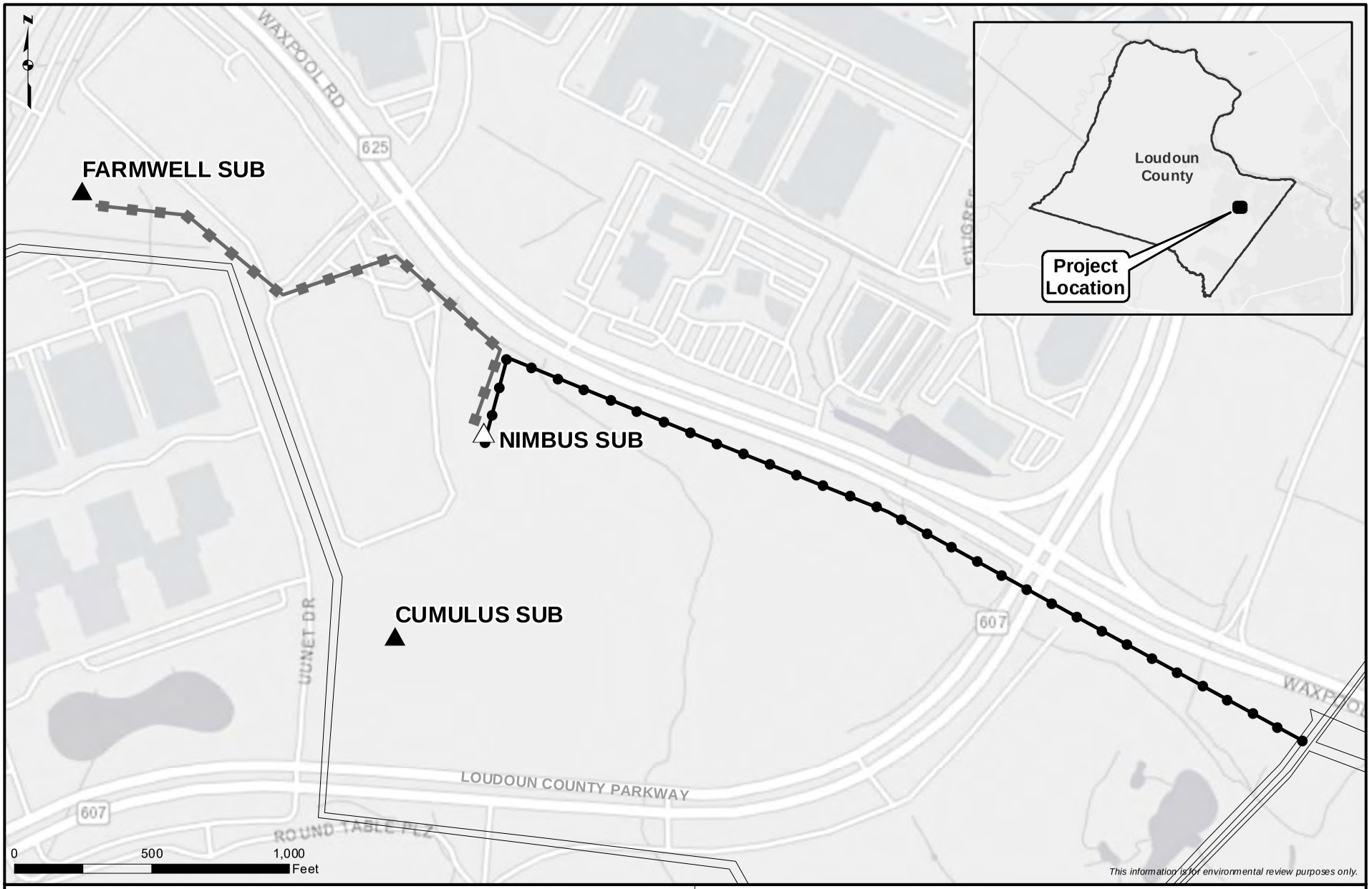
Sincerely,

Dominion Energy Virginia

Charles H. Weil, PE
Siting and Permitting

Attachment: Project Notice Map



▲ Existing Substation
△ Proposed Substation
Nimbus 230 kV Line Loop Proposed Route
230 kV Farmwell-Nimbus Proposed Route
Existing Dominion Transmission Lines

Overview Map

Nimbus 230 kV Line Loop and Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line

Loudoun County, Virginia

Dominion Energy Virginia
10900 Nuckols Road, Ste. 400
Glen Allen, VA 23060
DominionEnergy.com

January 19, 2022

BY EMAIL

Martha Little
Deputy Director
Virginia Outdoors Foundation
600 East Main Street, Suite 402
Richmond, VA 23219

RE: Dominion Energy Virginia's Proposed Nimbus 230 kV Line Loop & Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line, Loudoun County, Virginia

Dear Ms. Little,

Dominion Energy Virginia (the "Company") is proposing the Nimbus 230 kV Line Loop & Nimbus Substation and the 230 kV Farmwell-Nimbus Transmission Line (collectively, the "Project") within Loudoun County, Virginia. The Project is necessary to ensure that Dominion Energy Virginia can continue to meet customer needs and maintain reliable electric service for the overall growth in the area.

Specifically, the Company proposes as part of this Project to build a new approximately 0.6-mile overhead 230 kV double circuit transmission line loop ("Nimbus Line Loop") and 230-34.5 kV substation ("Nimbus Substation"), collectively called the Nimbus Line Loop & Substation. The proposed Nimbus Line Loop will be constructed in new right-of-way along a route that would tie into the Company's existing Beaumeade-Buttermilk Line #2152 at structure #2152/19A east of the intersection of Loudoun County Parkway and Waxpool Road, creating a loop that results in (i) Beaumeade-Nimbus Line #2152 and (ii) Buttermilk-Nimbus Line #2225.

The Company is also proposing as part of this Project to construct a new overhead 230 kV single circuit line ("Farmwell-Nimbus Line") that would originate at the Farmwell Substation and terminate at the new Nimbus Substation. The proposed Farmwell-Nimbus Line #2260 will be constructed in new right-of-way along a route that would extend northwest of the Nimbus Substation to the Farmwell Substation for approximately 0.26 mile.

The Company is in the process of preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"), which may be necessary for the Project. At this time, in advance of an SCC filing, the Company respectfully requests that you submit any comments or additional information that would have bearing on the proposed Project within 30 days of the date of this letter. If you would like to receive a GIS shapefile of the transmission line routes to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 239-6450 or charles.h.weil@dominionenergy.com.

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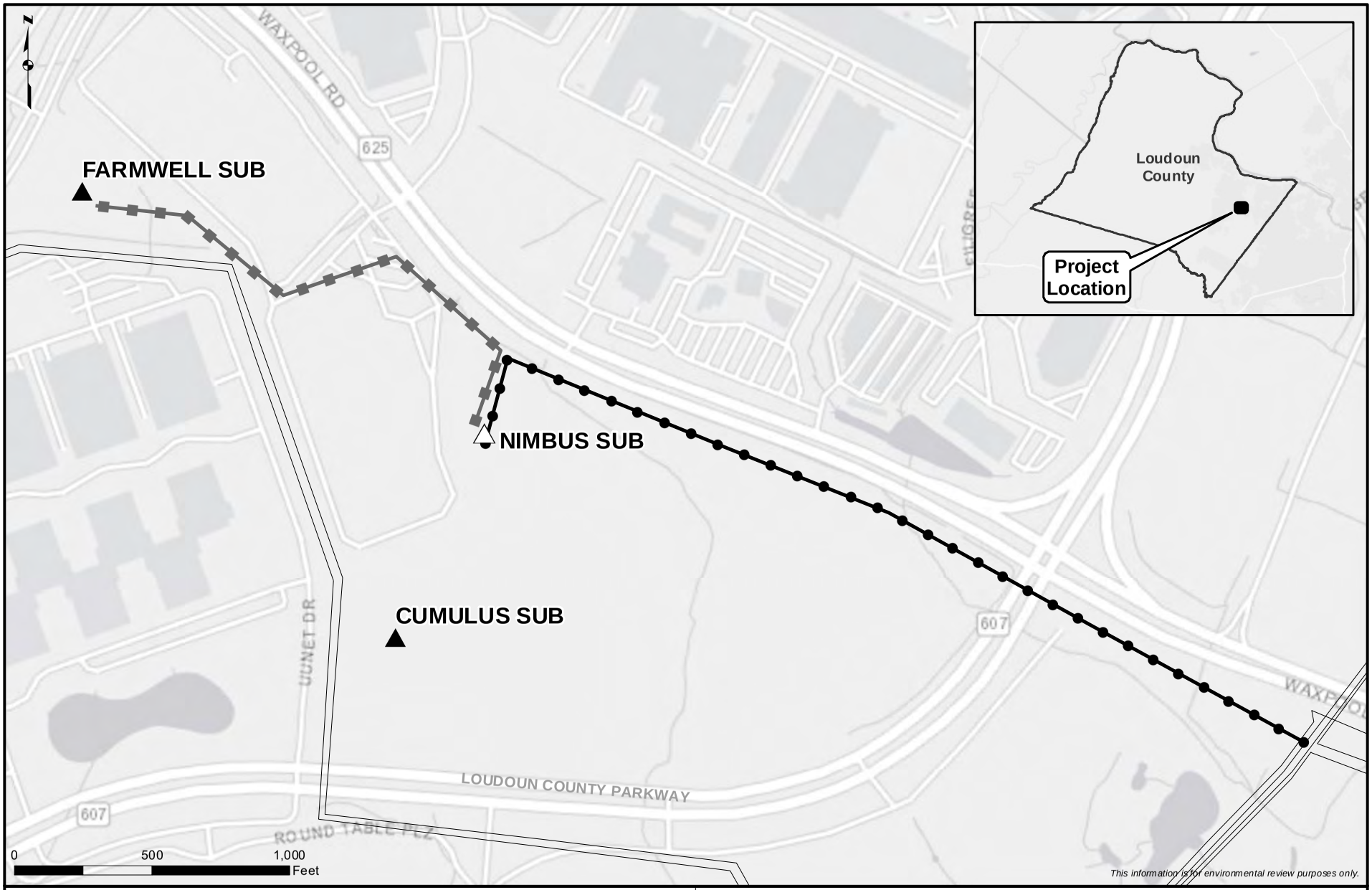
Sincerely,

Dominion Energy Virginia

Charles H. Weil, PE
Siting and Permitting

Attachment: Project Notice Map



▲ Existing Substation
△ Proposed Substation
Nimbus 230 kV Line Loop Proposed Route
230 kV Farmwell-Nimbus Proposed Route
Existing Dominion Transmission Lines

Overview Map

Nimbus 230 kV Line Loop and Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line

Loudoun County, Virginia

Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

1111 E. Main Street, Suite 1400, Richmond, Virginia 23219
P.O. Box 1105, Richmond, Virginia 23218
(800) 592-5482 FAX (804) 698-4178
www.deq.virginia.gov

Andrew R. Wheeler
Secretary of Natural and Historic Resources

Michael S. Rolband, PE, PWD, PWS Emeritus
Director
(804) 698-4000

January 20, 2022

James P. Young, PWS
DEES ET Contractor
Dominion Energy
120 Tredegar Street
Richmond, VA 23219

RE: Dominion Energy Virginia's Proposed Nimbus 230 kV Line Loop & Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line, Loudoun County, Virginia

Dear Mr. Young:

This letter is in response to the scoping request for the above-referenced project.

As you may know, the Department of Environmental Quality, through its Office of Environmental Impact Review (DEQ-OEIR), is responsible for coordinating Virginia's review of environmental impacts for electric power generating projects and power line projects in conjunction with the licensing process of the State Corporation Commission.

DOCUMENT SUBMISSIONS

In order to ensure an effective coordinated review of the environmental impact analysis may be sent directly to OEIR. We request that you submit one electronic to eir@deq.virginia.gov (25 MB maximum) or make the documents available for download at a website, file transfer protocol (ftp) site or the VITA LFT file share system (Requires an "invitation" for access. An invitation request should be sent to eir@deq.virginia.gov.). The required "Wetlands Impact Consultation" can be sent directly to Michelle Henicheck at michelle.henicheck @deq.virginia.gov or at the address above.

ENVIRONMENTAL REVIEW UNDER VIRGINIA CODE 56-46.1

While this Office does not participate in scoping efforts beyond the advice given herein, other agencies are free to provide scoping comments concerning the preparation of the environmental impact analysis document. Accordingly, we have coordinated your request with the following state agencies and those localities and Planning District Commissions, including but not limited to:

Department of Environmental Quality:

- DEQ Regional Office
- Air Division
- Office of Wetlands and Stream Protection
- Office of Local Government Programs
- Division of Land Protection and Revitalization
- Office of Stormwater Management

Department of Conservation and Recreation
Department of Health
Department of Agriculture and Consumer Services
Department of Wildlife Resources
Virginia Marine Resources Commission
Department of Historic Resources
Department of Mines, Minerals, and Energy
Department of Forestry
Department of Transportation

DATA BASE ASSISTANCE

Below is a list of databases that may assist you in the preparation of a NEPA document:

- DEQ Online Database: Virginia Environmental Geographic Information Systems

  Information on Permitted Solid Waste Management Facilities, Impaired Waters, Petroleum Releases, Registered Petroleum Facilities, Permitted Discharge (Virginia Pollution Discharge Elimination System Permits) Facilities, Resource Conservation and Recovery Act (RCRA) Sites, Water Monitoring Stations, National Wetlands Inventory:
  - www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx

- DEQ Virginia Coastal Geospatial and Educational Mapping System (GEMS)

  Virginia's coastal resource data and maps; coastal laws and policies; facts on coastal resource values; and direct links to collaborating agencies responsible for current data:
  - http://128.172.160.131/gems2/

- MARCO Mid-Atlantic Ocean Data Portal

  The Mid-Atlantic Ocean Data Portal is a publicly available online toolkit and resource center that consolidates available data and enables users to visualize and analyze ocean resources and human use information such as fishing grounds, recreational areas, shipping lanes, habitat areas, and energy sites, among others.

  http://portal.midatlanticocean.org/visualize/#x=-73.24&y=38.93&z=7&logo=true&controls=true&basemap=Ocean&tab=data&legends=false&layers=true

- DHR Data Sharing System.

  Survey records in the DHR inventory:

- www.dhr.virginia.gov/archives/data_sharing_sys.htm

- DCR Natural Heritage Search

  Produces lists of resources that occur in specific counties, watersheds or physiographic regions:
  - www.dcr.virginia.gov/natural_heritage/dbsearchtool.shtml

- DWR Fish and Wildlife Information Service

  Information about Virginia's Wildlife resources:
  - http://vafwis.org/fwis/

- Total Maximum Daily Loads Approved Reports
  - https://www.deq.virginia.gov/programs/water/waterqualityinformationtmdls/tmdl/tmdldevelopment/approvedtmdlreports.aspx

- Virginia Outdoors Foundation: Identify VOF-protected land
  - http://vof.maps.arcgis.com/home/index.html

- Environmental Protection Agency (EPA) Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Database: Superfund Information Systems

  Information on hazardous waste sites, potentially hazardous waste sites and remedial activities across the nation, including sites that are on the National Priorities List (NPL) or being considered for the NPL:
  - www.epa.gov/superfund/sites/cursites/index.htm

- EPA RCRAInfo Search

  Information on hazardous waste facilities:
  - www.epa.gov/enviro/facts/rcrainfo/search.html

- Total Maximum Daily Loads Approved Reports
  - https://www.deq.virginia.gov/programs/water/waterqualityinformationtmdls/tmdl/tmdldevelopment/approvedtmdlreports.aspx

- EPA Envirofacts Database

  EPA Environmental Information, including EPA-Regulated Facilities and Toxics Release Inventory Reports:
  - www.epa.gov/enviro/index.html

- EPA NEPAssist Database

  Facilitates the environmental review process and project planning:
  http://nepaassisttool.epa.gov/nepaassist/entry.aspx

If you have questions about the environmental review process, please feel free to contact me (telephone (804) 659-1915 or e-mail bettina.rayfield@deq.virginia.gov).

I hope this information is helpful to you.

Sincerely,

Bettina Rayfield, Program Manager
Environmental Impact Review and
Long-Range Priorities

ERM

919 East Main Street
Suite 1701
Richmond, Virginia
23219

Telephone: (804) 253-1090
Fax: (804) 253-1091

www.erm.com

February 23, 2022

Ms. Bettina Rayfield, Manager
Virginia Department of Environmental Quality
Office of Environmental Impact Review
P.O. Box 1105
Richmond, Virginia 23218

Subject: Wetland and Waterbody Desktop Summary
Nimbus 230 kV Line Loop and Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line Project
New SCC Filing

Dear Ms. Rayfield:

Environmental Resources Management (ERM), on behalf of Virginia Electric and Power Company ("Dominion Energy Virginia," "Dominion" or the "Company"), conducted a desktop wetland and waterbody review of publically-available information for the proposed Nimbus 230 kV Line Loop and Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line Project (Project) located in Loudoun County, Virginia. Field delineations were not performed as part of this analysis and would be required to verify the accuracy and extent of aquatic resource boundaries. Attachment 1 depicts the general location of the proposed Project. Attachment 2 illustrates the wetland boundaries that were identified as part of the desktop review. Dominion Energy Virginia is filing an application with the State Corporation Commission (SCC) for the following:

- A new double circuit 230 kV transmission line that would cut Dominion's existing Line #2152, at existing structure #2152/19A, east of Loudoun County Parkway and extend to the proposed Nimbus Substation (Nimbus Line Loop). This project also includes construction of the proposed Nimbus Substation.
- A new 230 kV single circuit transmission line that would be constructed from the existing Farmwell Substation to the proposed Nimbus Substation (Farmwell-Nimbus Line).

The Project is necessary in order to provide service requested by the Customer in Loudoun County, Virginia, to maintain reliable service for the overall growth on the Project area, and to comply with mandatory NERC Reliability Standards. The Company considered the facilities required to construct and operate the new feeds; the length of new rights-of-way that will be required; the amount of existing development in each area; the potential for environmental impacts on communities; and the relative cost of the Project.

The purpose of this desktop analysis was to identify and evaluate potential impacts of the Project on wetlands and waterbodies (streams, creeks, runs, and open water features). In accordance with Virginia Department of Environmental Quality (DEQ) and the SCC's Memorandum of Agreement, the evaluation was conducted using various data sets that may indicate wetland location and type. The information summarized in this report will be submitted to the DEQ as part of the DEQ Wetland Impacts Consultation.

This assessment did not include the field investigations required for wetland delineations in accordance with the U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0).

Project Study Area and Potential Routes

The Project study area is rectangular in shape and lies within the heavily developed part of Loudoun County north of Dulles Airport known as "Data Center Alley". The study area encompasses an approximately 3-square-mile area and includes mixed-use, commercial, and data center developments. The study area encompasses the area around and between Dominion's existing Farmwell Substation to the west, and Dominion's existing Line #2152 to the east.

As referenced and discussed above, two separate transmission lines are required to provide service requested by the Customer, maintain reliable service for the overall growth in the area, and comply with mandatory NERC Reliability Standards. These two transmission lines are referred to as the Nimbus Line Loop and Farmwell-Nimbus Line.

Multiple potential routes were identified for the Nimbus Line Loop. However, only one route was deemed viable. The remaining routes were rejected from further consideration.

Due to heavy development in the area, the route developed for the Farmwell-Nimbus Line represented the only viable route option to connect the existing Farmwell Substation and the proposed Nimbus Substation. No other potential routes were identified for the Farmwell-Nimbus Line.

Route Alternatives

Nimbus Line Loop

The Nimbus Line Loop would involve the construction of an overhead double circuit 230 kV line from a cut in located on existing Line #2152, at structure #2152/19A, to the proposed Nimbus Substation. The length of the route is approximately 0.61 mile. The route begins at the cut in location on Line #2152, which is located along the south side of Waxpool Road. The route then continues west along the south side of Waxpool Road, crossing over Loudoun County Parkway, for a distance of 3,225 linear feet. The route then turns south for a distance of 20 feet and terminates at the proposed Nimbus Substation.

Farmwell-Nimbus Line

The Farmwell-Nimbus Line would involve the construction of an overhead single circuit 230 kV line from the existing Farmwell Substation to the proposed Nimbus Substation. The length of the route is approximately 0.26 mile. Beginning at the Farmwell Substation, the route exits the eastern side of the substation then turns to the southeast and extends parallel to the Digital Realty ACC9 Data Center building for approximately 450 feet. The route then turns to the northeast across a parking area for approximately 430 feet. Upon exiting the parking area, the route next turns southeast and parallels Waxpool Road for approximately 510 feet. The route then turns south and enters into the proposed Nimbus Substation.

Desktop Evaluation Methodology

The area of effect considered for this study consists of the proposed rights-of-way identified above within which the electric transmission lines would be constructed and operated. Data sources used for this review include the following, each of which is described briefly below:

- National Agricultural Imagery Program (NAIP) Digital Ortho-Rectified Natural Color Images, Virginia, 1-meter pixel resolution, photo date 2020;
- NAIP Digital Ortho-Rectified Infrared Images, Virginia, 1-meter pixel resolution, photo date 2020;
- U.S. Geological Survey (USGS) 7.5-minute current (2014);
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) mapping (2020);
- U.S. Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS) Soil Survey Geographic (SSURGO) database for Loudon County, Virginia (2021); and
- Loudoun County, Virginia Weblogis – Online Mapping System (2021)

Natural Color and Infrared Aerial Photography

Recent (2021) natural color aerial photography was used to provide a visual overview of the Project area and to assist in evaluating current conditions. Recent (2020) infrared aerial photography was used to identify the potential presence of wetlands based on signatures associated with the levels of reflectance. For example, areas that are inundated with water appear very dark (almost black) due to the low level of reflectance in the infrared spectrum. The presence of these dark colors can be used as a potential indicator of hydric or inundated soils that are likely associated with wetlands.

USGS Topographic Maps

The recent (2014) USGS topographic maps show the topography of the area. The USGS topographic maps also depict other important landscape features such as forest cover, development, buildings, agricultural areas, streams, lakes, and wetlands.

NWI Maps

NWI maps provide the boundaries and classifications of potential wetland areas as mapped by the USFWS. However, NWI data is based primarily on aerial photo interpretations with limited ground-truthing and may represent incorrect boundaries or wetland cover types. NWI data can be unreliable in some areas, especially in forested landscapes, when aerial photography is used as the major data source. The classifications of the majority of the NWI polygons in the study area appear to be accurate based on a review of the cover types observed in the aerial photography. However, in areas where there was an obvious discrepancy between the NWI classification and the aerial photography, ERM modified the classification to more accurately reflect current conditions. For example, an area mapped by NWI data as open water was adjusted to an emergent wetland type. For the purposes of this review, wetlands mapped as unconsolidated bottom or riverine were considered open water. In order to acknowledge ERM's adjustment of NWI classifications where appropriate, all of the wetland types referenced in this assessment are referred to as "assigned wetland cover types" regardless of whether the cover type was actually modified from the NWI classification.

USDA-NRCS Soils Data

Soils in the study area were identified and assessed using the SSURGO database, which is a digital version of the original county soil surveys. The attribute data within the SSURGO database provides the proportionate extent of the component soils and their properties (e.g., hydric rating) for each soil map unit. The soils in the study area were grouped into three categories based on the hydric rating of the component soils within each map unit: hydric, partially hydric, and non-hydric. Hydric soils were defined as those where the major component soils, and minor components in some cases, are designated as hydric. Hydric components in these map units account for more than 80 percent of the map unit. Partially hydric soils include map units that only contain minor component soils that are designated as hydric. The partially hydric map units in the Project area contain 10 percent or less hydric soils. The remaining map units do not contain any component soils that are designated as hydric. Areas mapped as hydric or partially hydric have a higher probability of containing wetlands than areas with no hydric soils.

USGS Hydrography and Loudoun County Waterbody Datasets

The National Hydrography Dataset (NHD) and Loudoun County Waterbody datasets contain features such as lakes, ponds, streams, rivers, and canals. The waterbodies mapped by the NHD appeared consistent with those visible on the USGS maps and aerial photography. The Loudoun County Waterbody datasets were used in coordination with the USGS Hydrography dataset for additional refinement.

Probability Analysis

ERM used a stepwise process to identify probable wetland areas along the Nimbus Line Loop and Farmwell-Nimbus Line, as follows:

1. Infrared and natural color aerial photography was used in conjunction with USGS topographic maps and soils maps to identify potential wetland areas. Boundaries were assigned to the areas that appeared to exhibit wetland signatures based on this review and a cover type was determined based on aerial photo interpretation. For the purpose of the study, these areas are referred to as Interpreted Wetlands.

2. To further determine the probability of a wetland occurring within a given location, the Interpreted Wetland polygon shape files were digitally layered with the NWI mapping and soils information from the SSURGO database.

3. The probability of a wetland occurring was assigned based on the number of overlapping data layers (i.e., indicators of potential wetland presence) that occurred in a particular area.

The criteria assigned to each probability are outlined in Table 1.

Table 1: Criteria Used to Rank the Probability of Wetland Occurrence

Probability	Criteria
High	Areas where layers of hydric soils, Interpreted Wetlands, and NWI data overlap
Medium/High	NWI data overlaps hydric soils; or NWI data overlaps Interpreted Wetlands with or without partially hydric soils; or Hydric soils overlap Interpreted Wetlands
Medium	Interpreted Wetlands with or without overlap by partially hydric soils

Medium/Low	Hydric soils only; or NWI data with or without overlap by partially hydric soils
Low	Partially hydric soils only
Very Low	Non-hydric soils only

Wetland and Waterbody Crossings

The desktop analysis provides a probability of wetlands and waterbody occurrence within each route. As stated above, field delineations were not performed and would be required to verify the accuracy and extent of aquatic resource boundaries. A range of wetland occurrence probabilities are reported by this study from very low to high. The probability of wetland occurrence increases as multiple indicators begin to overlap towards the "high" end of the spectrum. The medium, medium-high and high probability category are the most reliable representation of in-situ conditions, due to overlapping data sets, and these categories are reported in the summary below as a percentage of the total acreage of each route. Attachment 2 depicts the interpreted wetlands displayed on color base map images.

Results

Results of the probability analysis are presented in Table 2 below. Summaries of impacts by route are provided in the sections following the table. Impacts associated with the Nimbus Substation are included in the impacts for Nimbus Line Loop.

Table 2: Summary of the Probabilities of Wetland and Waterbody Occurrence along Project Routes [a, b]

Probability	Total right-of-way Acres [c]	Wetland and Waterbody type (acres)		
		PEM Emergent	Riverine Stream	Freshwater Pond
Nimbus Line Loop				
High	0.00	0.00	NA	NA
Medium/High	**0.40**	**0.16**	**0.21**	**0.04**
Medium	**0.06**	**0.06**	NA	NA
Medium/Low	2.11	NA	NA	NA
Low	NA	NA	NA	NA
Very Low	8.41	NA	NA	NA
Farmwell-Nimbus Line				
High	NA	NA	NA	NA
Medium/High	NA	NA	NA	NA
Medium	NA	NA	NA	NA
Medium/Low	1.23	NA	NA	NA
Low	NA	NA	NA	NA
Very Low	2.03	NA	NA	NA

NA Not applicable due to absence of wetland or waterbody type within the alternative route
a The numbers in this table have been rounded for presentation purposes; as a result, the totals may not reflect the sum of the addends.
b Nimbus Substation wetlands and waterbodies are included in the Nimbus Line Loop.
c Total acres may not total the sum of wetland and waterbody types. This is due to the fact that some of the lower probability rankings do not overlap with NWI or interpreted wetlands, and therefore do not have a wetland/waterbody type associated with them.

Nimbus Line Loop

The length of the corridor for the Nimbus Line Loop is approximately 0.61 mile, and encompasses a total of approximately 10.98 acres (including 3.60 acres for the proposed Nimbus Substation). Based on the methodology discussed above, the right-of-way and substation footprint will encompass approximately 4.2 percent (0.46 acres) of land with a medium or higher probability of containing wetlands and waterbodies. Based on recent aerial photography (2021), previously existing wetlands and waterbodies are no longer present within the proposed substation footprint due to land development; however, due to the desktop probability methodology, which assigns a medium/high probability based on overlapping NWI and hydric soil layers, there is a probability assigned even though aquatic resources no longer appear to be present

Farmwell-Nimbus Line

The length of the corridor for the Farmwell-Nimbus Line is approximately 0.26 mile, and encompasses a total of approximately 3.25 acres of right-of-way. Based on the methodology discussed above, the right-of-way will not encompass land with a medium or higher probability of containing wetlands and waterbodies.

Waterbody Crossings

Based on the NHD, there is one waterbody crossing within the Project boundaries. An unnamed intermittent tributary to Broad Run crosses the Nimbus Line Loop west of the intersection of Waxpool Road and Loudoun County Parkway.

Project Impacts

Avoiding or minimizing new impacts on wetlands and streams was among the criteria Dominion Energy Virginia used in developing routes for the Project. Dominion Energy Virginia has minimized crossings of these features to the extent practicable by designing the proposed lines to span wetlands and waterbodies, therefore no permanent impacts to aquatic resources are anticipated.

Where the removal of shrubby vegetation occurs within wetlands, Dominion Energy Virginia would use the least intrusive method reasonably possible to clear the corridor. Hand-cutting of vegetation would be conducted, where needed, to avoid and minimize impacts on streams and/or wetlands. There would be no change in contours or redirection of the flow of water, and the amount of spoil from trenching would be minimal. Excess soil in wetlands generated during construction would be removed from the wetland.

Mats would be used for construction equipment to travel over wetlands, as appropriate. Grading in wetlands will consist of the minimum necessary for safe and efficient equipment operation. Potential direct impacts on wetlands would be temporary in nature.

Summary

This Wetland and Waterbody Summary report was prepared in accordance with the Memorandum of Agreement between the DEQ and the SCC for purposes of initiating a Wetlands Impact Consultation. Please note that a formal onsite wetland delineation was not conducted as part of this review.

In addition, we have a Project website where the SCC application will be available after filing, as well as maps and discussions about the Project. It can be accessed by going to https://www.dominionenergy.com/nimbus. If you have any questions regarding this wetland assessment please contact me at 804-338-9099 or by email at mariah.weitzenkamp@erm.com.

Yours sincerely,

Mariah Weitzenkamp
Environmental Resources Management

cc: Charles Weil, Virginia Electric and Power Company
James Young, Virginia Electric and Power Company

Enclosures: Attachments 1 and 2

References

County of Loudoun (VA) GIS Office. 2021. Environmental GIS Layers. Available online at https://logis.loudoun.gov/weblogis/. Accessed October 2021.

Environmental Laboratory. 1987. Technical Report Y-87-1: Corps of Engineers Wetlands Delineation Manual US Army Corps of Engineers, Waterways Experiment Station. January 1987.

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National Agricultural Imagery Program (NAIP). 2020. Digital Ortho-Rectified Color infared Images and NAIP Digital Ortho-Rectified Infrared Images. Available online at https://www.fsa.usda.gov/programs-and-services/aerial-photography/imagery-programs/naip-imagery/. Accessed October 2021.

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U.S. Geological Survey (USGS). 2017. U.S. Geological Survey. The National Hydrography Dataset. Available online at https://www.usgs.gov/core-science-systems/ngp/national-hydrography. Accessed October 2021.

ATTACHMENT 1

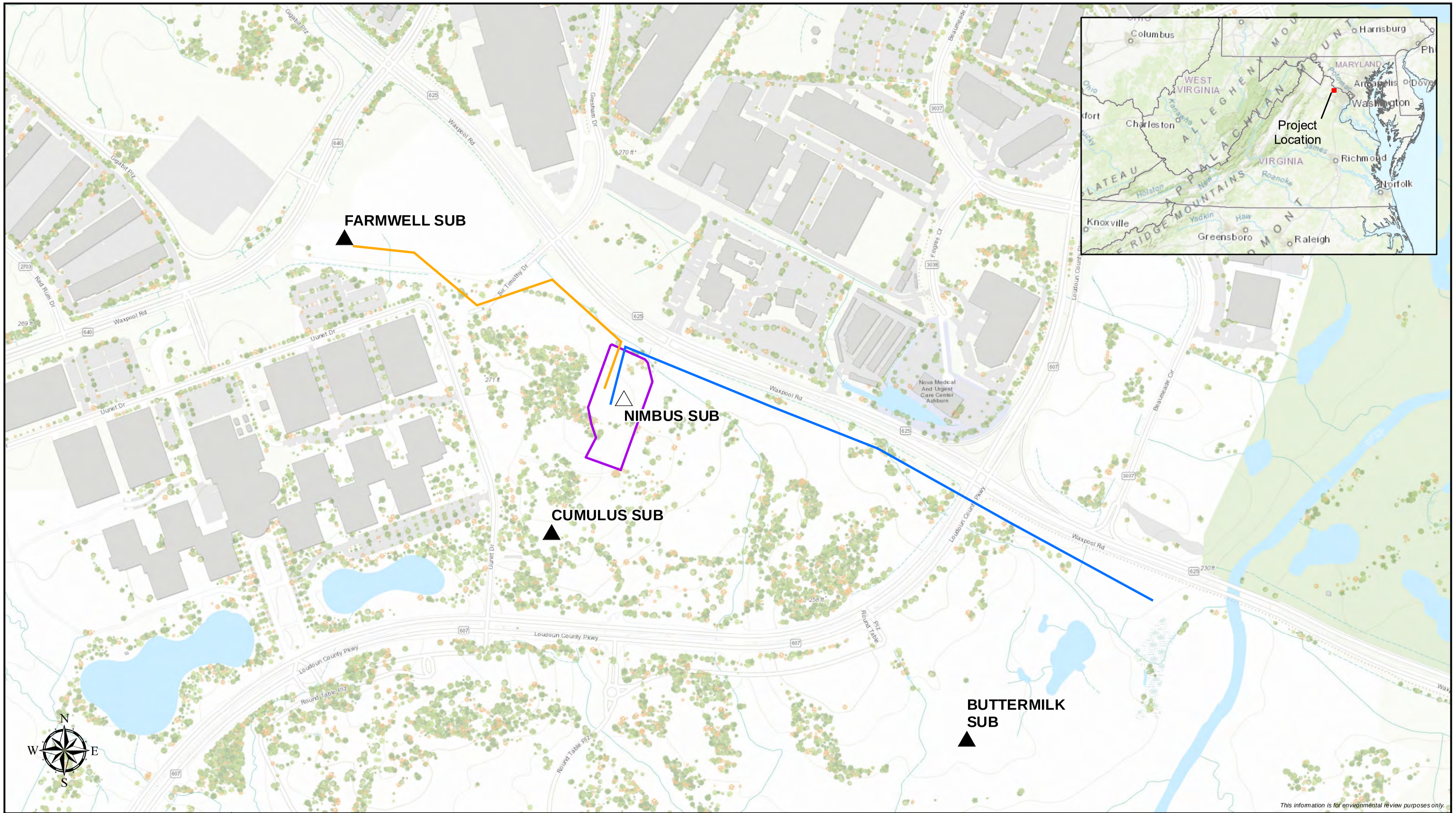


Figure 1
Project Overview Map
Nimbus 230 kV Delivery Project and Nimbus to Farmwell Project
Loudoun County, Virginia

MPLS M:\Clients\D-F\DOM\Nivo_Nimbus_ArcGIS\2021\10\28_WL_Probability_Analysis\DOM_Nimbus_WL_Prob_Overview.mxd | REVISED: 02/08/2022 | SCALE: 1:6,000 when printed at 11x17 DRAWN BY: JPB

ATTACHMENT 2

FARMWELL SUB

Page 1

NIMBUS SUB

CUMULUS SUB

Page 2

BUTTERMILK SUB

This information is for environmental review purposes only.

0 500 1,000
Feet

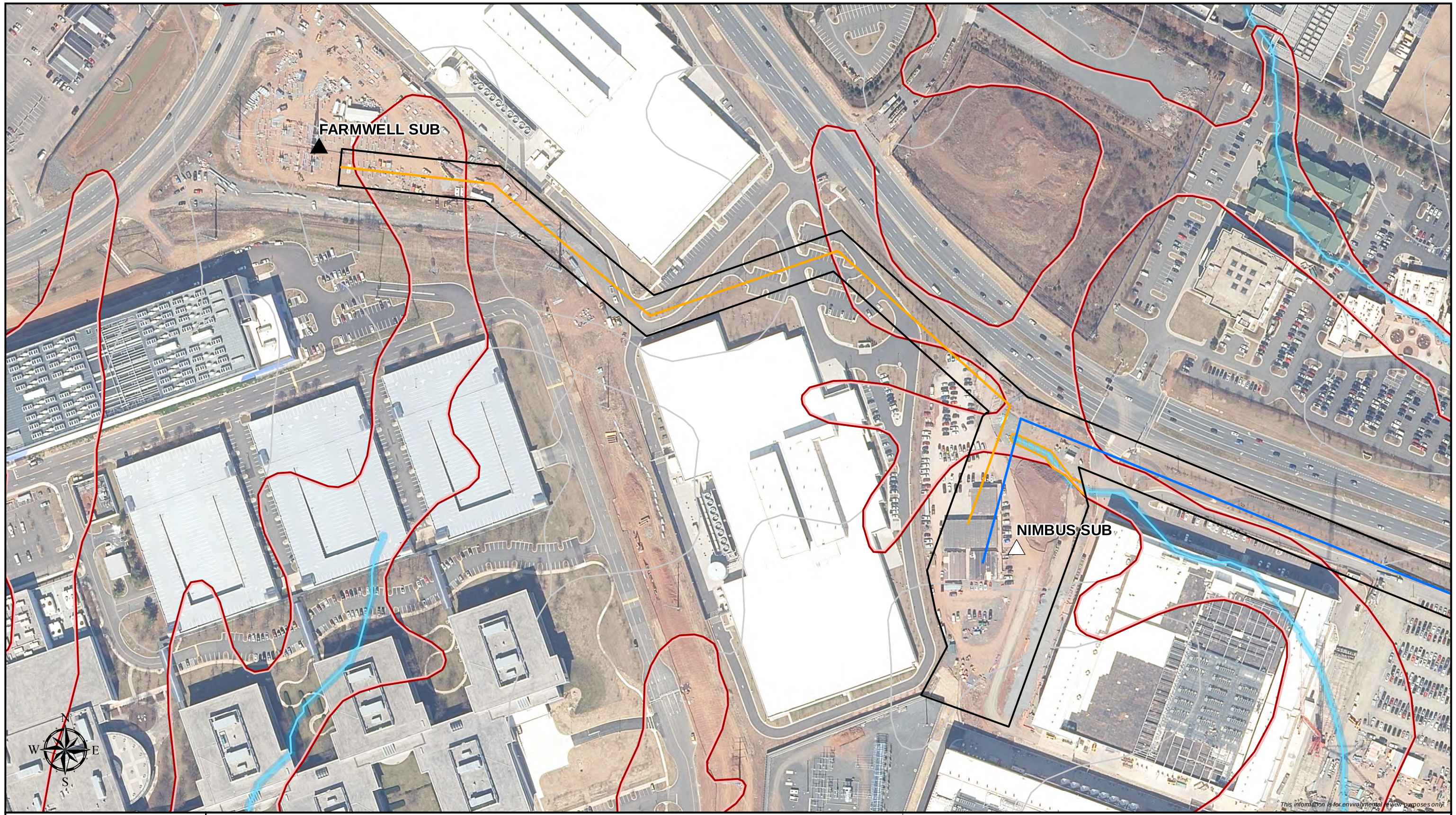
- Existing Substation
- Proposed Substation
- Nimbus 230 kV Line Loop Proposed Route
- 230 kV Farmwell-Nimbus Proposed Route
- Proposed Nimbus Substation Boundary
- Page Index

Figure 2
Wetland and Waterbody Index Map
Nimbus 230 kV Delivery Project
and Nimbus to Farmwell Project
Loudoun County, Virginia

MPLS M:\Clients\D-F\DOM\Nivo_Nimbus_ArcGIS\2021\10\28_WL_Probability_Analysis\DOM_Nimbus_WL_Prob_Mapset_Overview.mxd | REVISED: 02/08/2022 | SCALE: 1:6,000 when printed at 11x17

DRAWN BY: JPB

The wetlands and waterbodies depicted on this map are an estimate of possible wetland and waterbody extent based on desktop data review only, and are subject to change in extent and location based on actual field delineation of wetlands and waterbodies.



0 200 400
Feet

- Existing Substation
- Proposed Substation
- Nimbus 230 kV Line Loop Proposed Route
- 230 kV Farmwell-Nimbus Proposed Route
- Project Limits

Wetland Probability

- Medium/High
- Not Hydric Soil
- Hydric Soil
- NHD Waterbody
- NWI Wetland

Figure 2
Wetland and Waterbody Mapset
Nimbus 230 kV Delivery Project and Nimbus to Farmwell Project
Loudoun County, Virginia

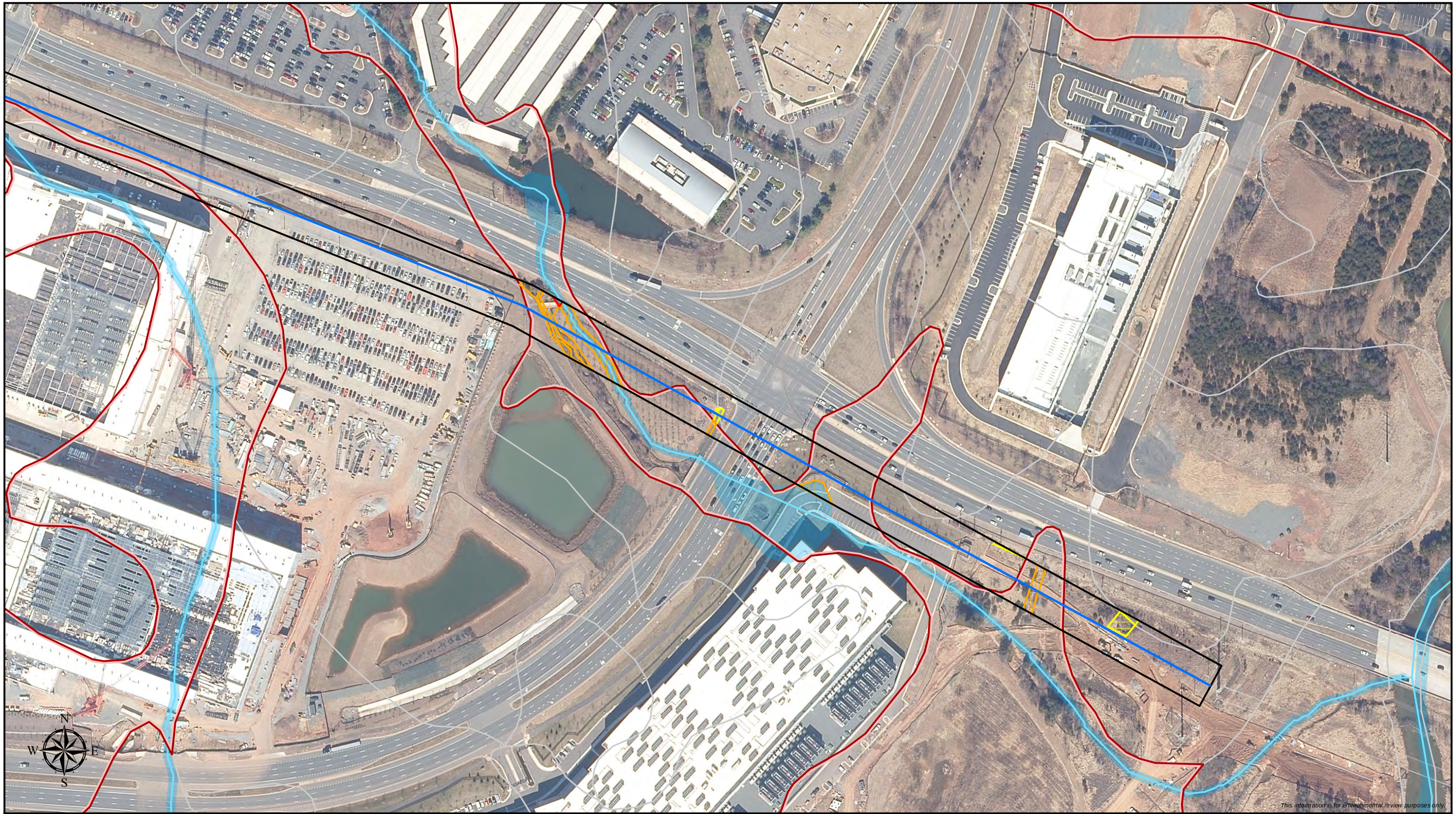
Dominion Energy

ERM

MPLS M:\Clients\D-F\DOM\Nivo_Nimbus_ArcGIS\2021\10\28_WL_Probability_Analysis\DOM_Nimbus_WL_Prob_Mapset.mxd | REVISED: 02/08/2022 | SCALE: 1:2,400 when printed at 11x17

DRAWN BY: JPB

The wetlands and waterbodies depicted on this map are an estimate of possible wetland and waterbody extent based on desktop data review only, and are subject to change in extent and location based on actual field delineation of wetlands and waterbodies.



0 200 400
Feet

- Nimbus 230 kV Line Loop Proposed Route
- Project Limits

Wetland Probability

- High
- Medium/High
- Medium
- Not Hydric Soil
- Hydric Soil
- NHD Waterbody
- NWI Wetland

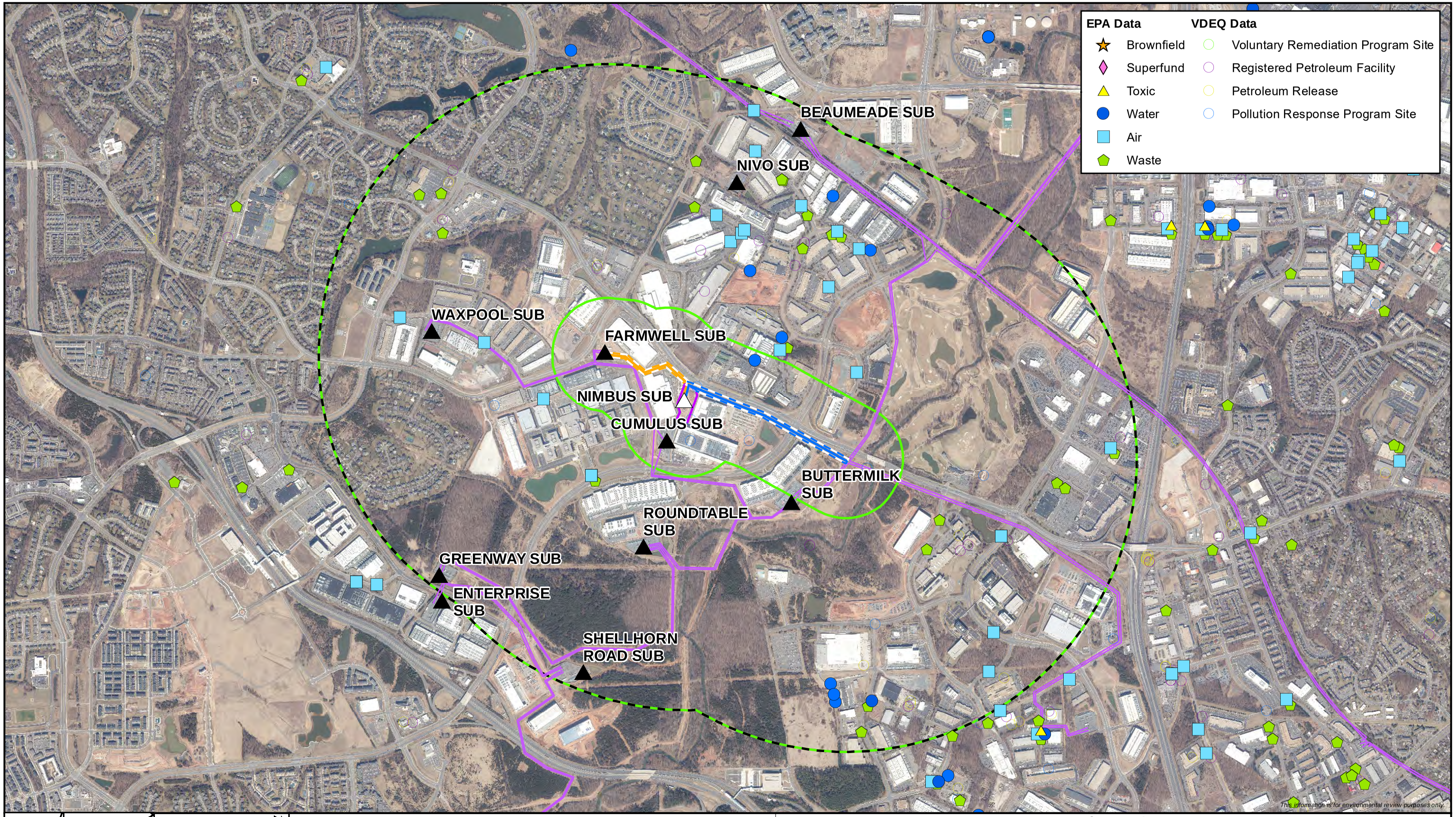
Dominion Energy

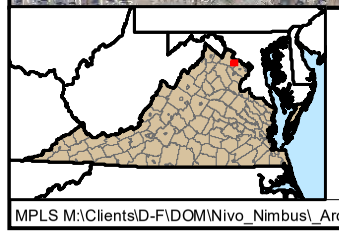
Figure 2
Wetland and Waterbody Mapset
Nimbus 230 kV Delivery Project and Nimbus to Farmwell Project
Loudoun County, Virginia

ERM

MPLS M:\Clients\D-F\DOM\Nivo_Nimbus_ArcGIS\2021\10\28_WL_Probability_Analysis\DOM_Nimbus_WL_Prob_Mapset.mxd | REVISED: 02/08/2022 | SCALE: 1:2,400 when printed at 11x17

DRAWN BY: JPB





0 500 1,000
Feet

Existing Substation
Proposed Substation
Nimbus 230 kV Line Loop Proposed Route
230 kV Farmwell-Nimbus Proposed Route
Existing Dominion Transmission Lines
Nimbus 230 kV Line Loop Proposed ROW
230 kV Farmwell-Nimbus Proposed ROW
Proposed Nimbus Substation Boundary
1,000' Buffer
1 Mile Buffer

Dominion Energy

Attachment 2.E.1
Contaminated Sites
Nimbus 230 kV Line Loop and Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line
Dominion Energy Virginia
Loudoun County, Virginia

ERM

MPLS M:\Clients\D-F\DOM\Nivo_Nimbus_ArcGIS\2022\01\07_Routing_Study_Figures\DOM_Nimbus_Contaminated_Sites.mxd | REVISED: 02/08/2022 | SCALE: 1:20,000 when printed at 11x17

DRAWN BY: JPB

Ann Jennings
Secretary of Natural and Historic Resources and Chief Resilience Officer

Clyde E. Cristman
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

Rochelle Altholz
Deputy Director of Administration and Finance

Nathan Burrell
Deputy Director of Government and Community Relations

Darryl M. Glover
Deputy Director of Dam Safety & Floodplain Management and Soil & Water Conservation

Thomas L. Smith
Deputy Director of Operations

November 3, 2021

Jason Teschler
Environmental Resource Management
1613 Whitlone Drive
Richmond, VA 23225

Re: Nimbus Project

Dear Mr. Teschler:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in Biotics, natural heritage resources have not been documented within the submitted project boundary including a 100 foot buffer. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources. In addition, the project boundary does not intersect any of the predictive models identifying potential habitat for natural heritage resources.

DCR recommends the development and implementation of an invasive species plan to be included as part of the maintenance practices for the right-of-way (ROW). The invasive species plan should include an invasive species inventory for the project area based on the current DCR Invasive Species List (http://www.dcr.virginia.gov/natural-heritage/document/nh-invasive-plant-list-2014.pdf) and methods for treating the invasives. DCR also recommends the ROW restoration and maintenance practices planned include appropriate revegetation using native species in a mix of grasses and forbs, robust monitoring and an adaptive management plan to provide guidance if initial revegetation efforts are unsuccessful or if invasive species outbreaks occur.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

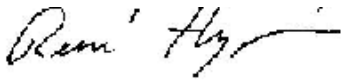
New and updated information is continually added to Biotics. Please re-submit a completed order form and project map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

A fee of $390.00 has been assessed for the service of providing this information. Please find attached an invoice for that amount. Please return one copy of the invoice along with your remittance made payable to the Treasurer of Virginia, DCR Finance, 600 East Main Street, 24th Floor, Richmond, VA 23219. Payment is due within thirty days of the invoice date. Please note late payment may result in the suspension of project review service for future projects.

The Virginia Department of Wildlife Resources (VDWR) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from http://vafwis.org/fwis/ or contact Amy Martin at 804-367-2211 or amy.martin@dwr.virginia.gov.

Should you have any questions or concerns, feel free to contact me at 804-371-2708. Thank you for the opportunity to comment on this project.

Sincerely,



S. René Hypes
Natural Heritage Project Review Coordinator

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 Fax: (804) 693-9032
http://www.fws.gov/northeast/virginiafield/

In Reply Refer To: November 29, 2021
Consultation Code: 05E2VA00-2022-SLI-0892
Event Code: 05E2VA00-2022-E-03049
Project Name: Nimbus 230kv Delivery 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 ECOS-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 ECOS-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:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

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 Consultation Tracking Number 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".

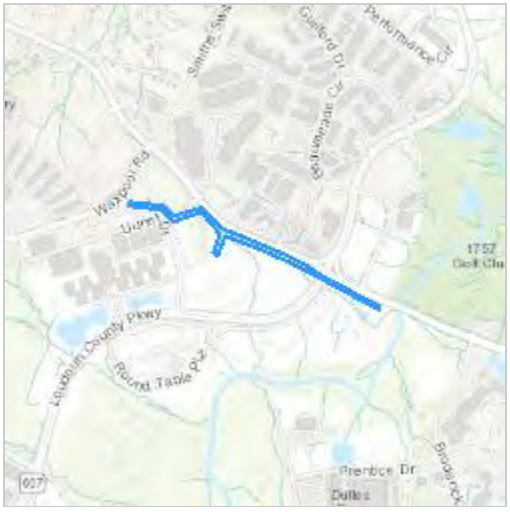
This species list is provided by:

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

Project Summary

Consultation Code: 05E2VA00-2022-SLI-0892
Event Code: Some(05E2VA00-2022-E-03049)
Project Name: Nimbus 230kv Delivery Project
Project Type: TRANSMISSION LINE
Project Description: Due diligence
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.01201465,-77.45982170470666,14z



Counties: Loudoun 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.

---

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	Threatened

Clams

NAME	STATUS
Dwarf Wedgemussel *Alasmidonta heterodon* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/784	Endangered

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

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

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.

Site Location

39,00,43.6 -77,27,36.6
is **the Search Point**

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

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

Search Point is at map center

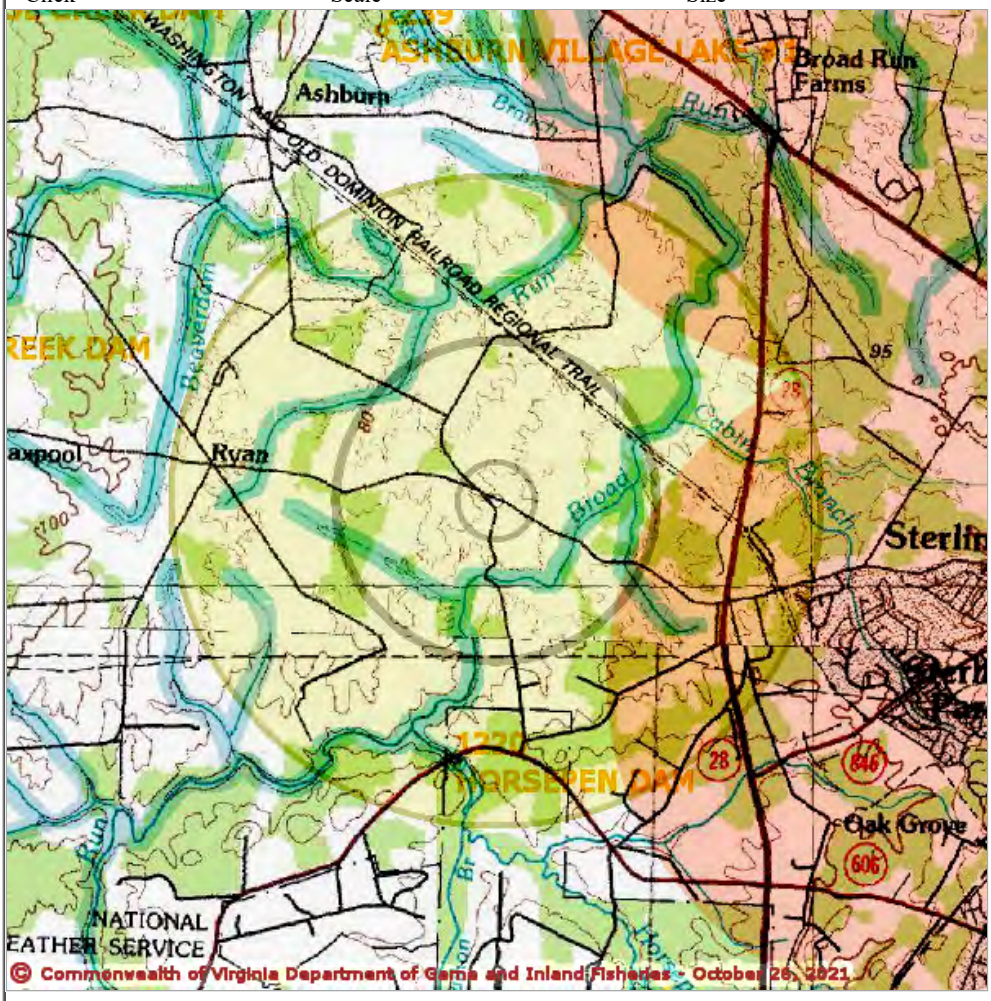
Base Map Choices
Topography

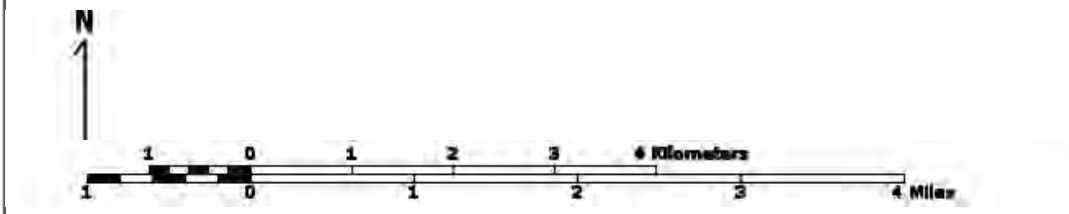
Map Overlay Choices
Current List: Position, Search, BECAR, BAEANests, TEWaters, TierII, Habitat, Trout, Anadromous

Map Overlay Legend

Refresh Browser Page

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





Point of Search 39,00,43.6 -77,27,36.6
Map Location 39,00,43.6 -77,27,36.6

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

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

Map projection is UTM Zone 18 NAD 1983 with left 282194 and top 4325800. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5

T & E Waters

Federal

State

Predicted Habitat WAP Tier I & II

Aquatic

Terrestrial

Trout Waters

Class I - IV

Class V - VI

Anadromous Fish Reach

Confirmed

Potential

Impediment

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

2 mile radius Search Area

Bald Eagle Concentration Areas and Roosts

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 Game and Inland Fisheries.

map assembled 2021-10-26 11:53:23 (qa/qc March 21, 2016 12:20 - tn=1145375.0 dist=3218 I)
$poi=39.0121111 -77.4601667

VaFWIS Search Report Compiled on 10/26/2021, 11:52:42 AM

Help

Known or likely to occur within a **2 mile radius around point 39,00,43.6 -77,27,36.6** in **107 Loudoun County, VA**

View Map of Site Location

510 Known or Likely Species ordered by Status Concern for Conservation (displaying first 31) (31 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon		BOVA
050022	FTST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
060029	FTST	IIa	Lance, yellow	Elliptio lanceolata		BOVA
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA
050027	SE	Ia	Bat, tri-colored	Perimyotis subflavus		BOVA
060006	SE	Ib	Floater, brook	Alasmidonta varicosa		BOVA
030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Potential	BOVA,Habitat,HU6
040096	ST	Ia	Falcon, peregrine	Falco peregrinus		BOVA
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
040379	ST	Ia	Sparrow, Henslow's	Centronyx henslowii	Potential	BOVA,BBA
100155	ST	Ia	Skipper, Appalachian grizzled	Pyrgus wyandot		HU6
060081	ST	IIa	Floater, green	Lasmigona subviridis		BOVA
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
030063	CC	IIIa	Turtle, spotted	Clemmys guttata		BOVA,HU6
030012	CC	IVa	Rattlesnake, timber	Crotalus horridus		BOVA
040092		Ia	Eagle, golden	Aquila chrysaetos		BOVA
040040		Ia	Ibis, glossy	Plegadis falcinellus		HU6
040306		Ia	Warbler, golden-winged	Vermivora chrysoptera		BOVA
100248		Ia	Fritillary, regal	Speyeria idalia idalia		BOVA,HU6
040213		Ic	Owl, northern saw-whet	Aegolius acadicus		BOVA,HU6
040052		IIa	Duck, American black	Anas rubripes		BOVA,HU6
040036		IIa	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040181		IIa	Tern, common	Sterna hirundo		HU6
040320		IIa	Warbler, cerulean	Setophaga cerulea		BOVA,HU6

040140		IIa	Woodcock, American	Scolopax minor		BOVA,HU6
060071		IIa	Lampmussel, yellow	Lampsilis cariosa		BOVA,HU6
040203		IIb	Cuckoo, black-billed	Coccyzus erythropthalmus		BOVA
040105		IIb	Rail, king	Rallus elegans		BOVA
040304		IIc	Warbler, Swainson's	Limnothlypis swainsonii		HU6
100154		IIc	Butterfly, Persius duskywing	Erynnis persius persius		HU6
100166		IIc	Skipper, Dotted	Hesperia attalus slossonae		BOVA,HU6

To view **All 510 species** View 510

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

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

View Map of All Query Results from All Observation Tables

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams

N/A

Impediments to Fish Passage (1 records)

View Map of All Fish Impediments

ID	Name	River	View Map
1220	HORSEPEN DAM	HORSEPEN RUN	Yes

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters

N/A

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Species Observations (85 records - displaying first 20)

View Map of All Query Results
Species Observations

obsID	class	Date Observed	Observer	N Species			View Map
				Different Species	Highest TE*	Highest Tier**	
318779	SppObs	Mar 13 2007	Christine Geist	7		III	Yes
317200	SppObs	Jun 13 2006	Christine Geist	1		III	Yes
58740	SppObs	Apr 8 1998	JOHN WHITE	2		III	Yes
628395	SppObs	Jul 16 2015	Cynthia Hauser	2		IV	Yes
628394	SppObs	Jul 15 2015	Cynthia Hauser	2		IV	Yes
628392	SppObs	Jul 14 2015	Cynthia Hauser	2		IV	Yes
628391	SppObs	Jul 13 2015	Cynthia Hauser	1		IV	Yes
628389	SppObs	Jul 11 2015	Cynthia Hauser	2		IV	Yes
628387	SppObs	Jul 10 2015	Amy Schneider	2		IV	Yes
51546	SppObs	Aug 5 1995	Roger B. Clapp, USNM	2		IV	Yes
51542	SppObs	Jul 23 1995	Roger B. Clapp, USNM	1		IV	Yes
51537	SppObs	Jul 22 1995	Roger B. Clapp, USNM	1		IV	Yes
51538	SppObs	Jul 22 1995	Roger B. Clapp, USNM	1		IV	Yes

364200	SppObs	Jan 1 1900		1		IV	Yes
628393	SppObs	Jul 15 2015	Cynthia Hauser	1			Yes
628390	SppObs	Jul 12 2015	Cynthia Hauser	1			Yes
628388	SppObs	Jul 10 2015	Cynthia Hauser	1			Yes
623491	SppObs	Oct 9 2014	David; Parks| Rebecca; Larson	1			Yes
623754	SppObs	Oct 2 2014	David; Parks| Rebecca; Larson	2			Yes
623636	SppObs	Sep 24 2014	David; Parks| Chelsea; McGlynn	4			Yes

Displayed 20 Species Observations

Selected 85 Observations View all 85 Species Observations

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

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

Stream Name	Tier Species						View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name					
Beaverdam Run (20700081)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes
Broad Run (20700081)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes
Horsepen Run (20700081)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes
tributary (20700081)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes
tributary (20700081)	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 (4 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**	
51202	Herndon, NE	51		III	Yes

51201	Herndon, NW	47	ST	I	Yes	15 of 18
51216	Sterling, SE	72		III	Yes	
51215	Sterling, SW	6		III	Yes	

Public Holdings:

N/A

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
107	Loudoun	438	FTSE	I

USGS 7.5' Quadrangles:
Herndon
Sterling

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
PL17	Broad Run-Lenah Run	49	ST	I
PL18	Horsepen Run	61	ST	I
PL19	Broad Run-Beaverdam Run	53	ST	I

Compiled on 10/26/2021, 11:52:42 AM I1145375.0 report=all searchType= R dist= 3218 poi= 39,00,43.6 -77,27,36.6

PixelSize=64; Anadromous=0.018432; BBA=0.03217; BECAR=0.017156; Bats=0.017282; Buffer=0.059604; County=0.04679; HU6=0.043333; Impediments=0.018725; Init=0.085569; PublicLands=0.018839; Quad=0.023626; SppObs=0.22811; TEWaters=0.020383; TierReaches=0.047464; TierTerrestrial=0.024601; Total=0.844908; Tracking_BOVA=0.158085; Trout=0.018723; huva=0.022125

CCB Mapping Portal

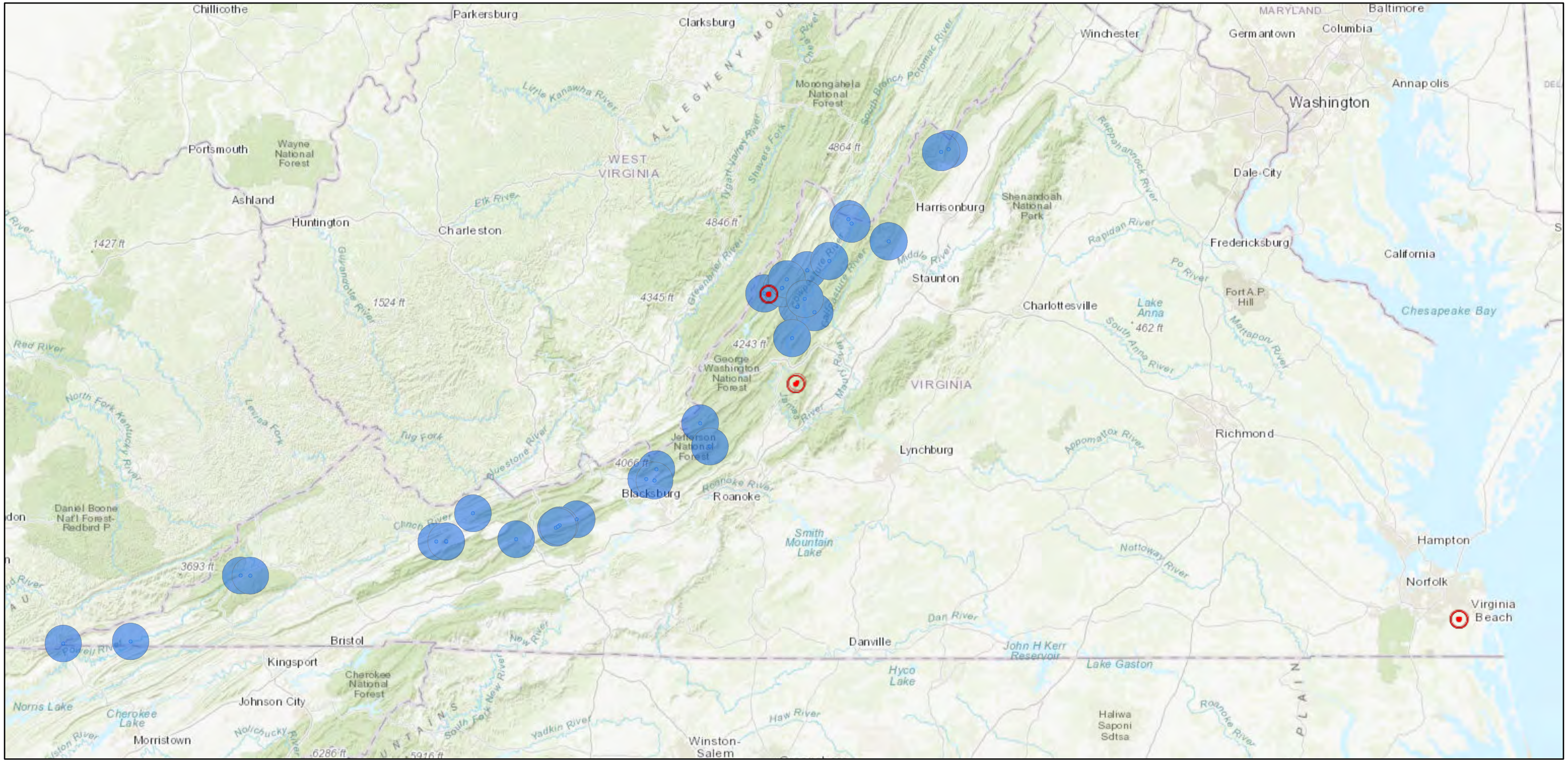
Layers: VA Eagle Nest Locator

Map Center [longitude, latitude]: [-77.45441794395447, 39.007371143678455]

Map Link:
https://ccbbirds.org/maps/#layer=VA+Eagle+Nest+Locator&zoom=17&lat=39.007371143678455&lng=-77.45441794395447&legend=legend_tab_7c321b7e-e523-11e4-aaa0-0e0c41326911&base=World+Imagery+%28ESRI%29

Report Generated On: 10/26/2021

NLEB Locations and Roost Trees



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NLEB Known Occupied Maternity Roost (Summer Habitat)

NLEB Hibernaculum 5.5 Mile Buffer

NLEB Hibernaculum Half Mile Buffer

1:2,311,162

0 20 40 80 mi

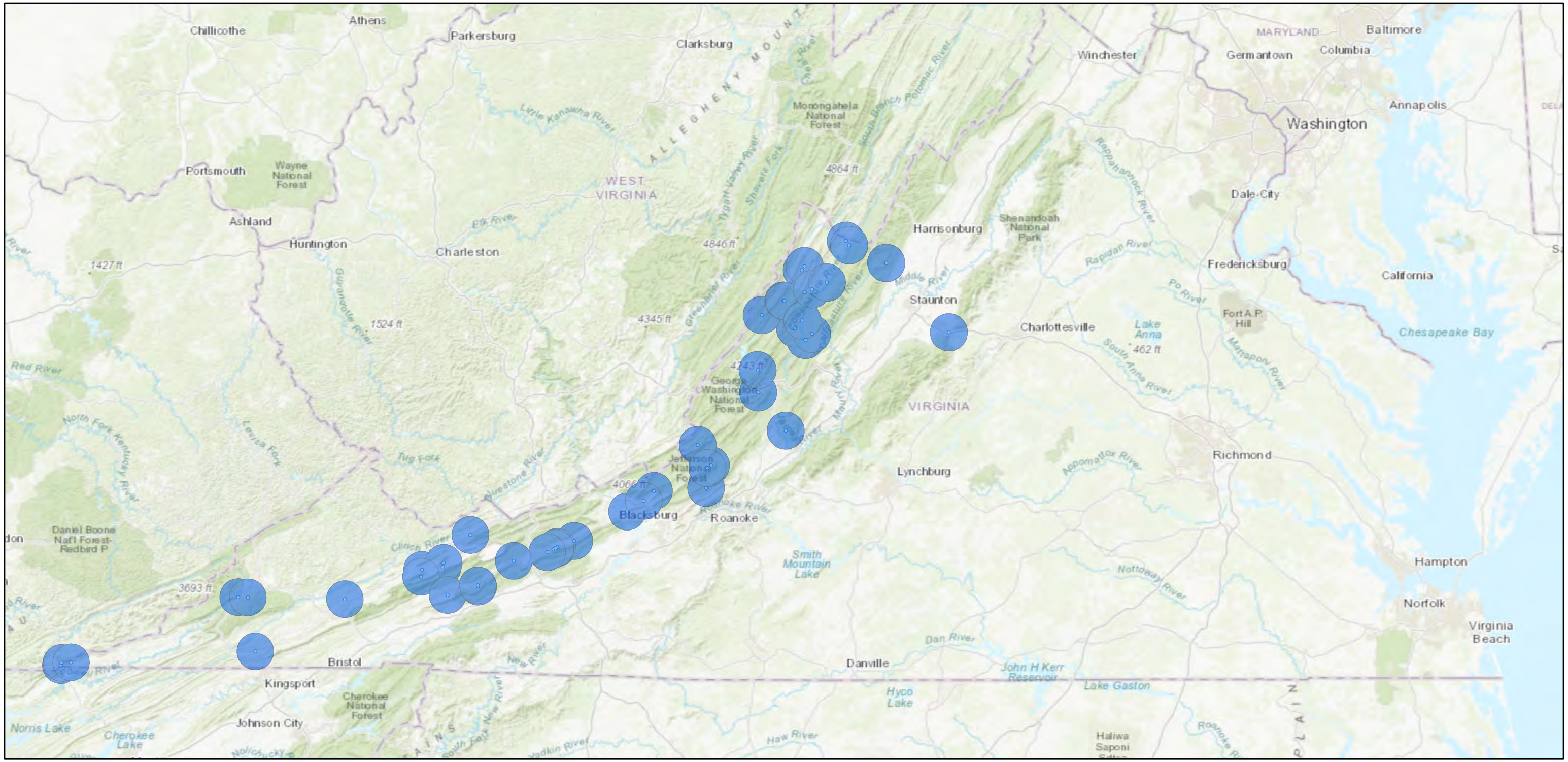
0 35 70 140 km

Esri, HERE, Garmin, FAO, USGS, EPA, NPS

VA Dept. Game & Inland Fisheries

Esri, HERE, Garmin, FAO, USGS, EPA, NPS |

Route 1 Relocation



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Tri-colored and Little Brown Hibernaculum Half Mile Buffer

Tri-colored and Little Brown Hibernaculum 5.5 Mile Buffer

1:2,311,162

0 20 40 80 mi

0 35 70 140 km

Esri, HERE, Garmin, FAO, USGS, EPA, NPS

Dept. Game and Inland Fisheries

Esri, HERE, Garmin, FAO, USGS, EPA, NPS |

Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

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Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director
(804) 698-4000

August 13, 2019

Mr. Jason E. Williams
Director Environmental Services
Dominion Energy
5000 Dominion Boulevard
Glen Allen, VA 23060

Transmitted electronically: jason.e.william@dominionenergy.com

Subject: Dominion Energy (Electric Transmission) – Annual Standards and Specifications for Erosion & Sediment Control and Stormwater Management (AS&S for ESC and SWM)

Dear Mr. Williams:

The Virginia Department of Environmental Quality ("DEQ") hereby approves the Annual Standards and Specifications for Erosion & Sediment Control and Stormwater Management for Dominion Energy (Electric Transmission) dated "May 29, 2019". This coverage is effective from August 13, 2019 to August 12, 2020.

To ensure compliance with approved specifications, the Virginia Erosion and Sediment Control Law and the Virginia Stormwater Management Act, DEQ staff will conduct random site inspections, respond to complaints, and provide on-site technical assistance with specific erosion and sediment control and stormwater management measures and plan implementation.

Please note that your approved Annual Standards and Specifications include the following requirements:

1. Variance, exception, and deviation requests must be submitted separately from this Annual Standards and Specifications submission to DEQ. DEQ may require project-specific plans associated with variance requests to be submitted for review and approval.

2. The following information must be submitted to DEQ for each project at least two weeks in advance of the commencement of regulated land-disturbing activities. Notifications shall be sent by email to: StandardsandSpecs@deq.virginia.gov
   - i: Project name or project number;
   - ii: Project location (including nearest intersection, latitude and longitude, access point);
   - iii: On-site project manager name and contact info;
   - iv: Responsible Land Disturber (RLD) name and contact info;
   - v: Project description;

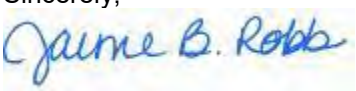
vi: Acreage of disturbance for project;
vii: Project start and finish date; and
viii: Any variances/exceptions/waivers associated with this project.

3. Project tracking of all regulated land disturbing activities (LDA) must be submitted to the DEQ on a bi-annual basis. Project tracking records shall contain the same information as required in the two week e-notifications for each regulated LDA.
4. Erosion & Sediment Control and Stormwater Management plan review and approval must be conducted by DEQ-Certified plan reviewers and documented in writing.

To ensure an efficient information exchange and response to inquiries, the DEQ Central Office is your primary point of contact. Central Office staff will coordinate with our Regional Office staff as appropriate.

Thank you very much for your submission and continued efforts to conserve and protect Virginia's precious natural resources.

Sincerely,



Jaime B. Robb, Manager
Office of Stormwater Management

Cc: Amelia Boschen, *Amelia.h.boschen@dominionenergy.com*
Elizabeth Hester, *Elizabeth.l.hester@dominionenergy.com*
Stacey Ellis, *Stacey.t.ellis@dominionenergy.com*

Case Decision Information:
As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty days from the date of service (the date you actually received this decision or the date it was mailed to you, whichever occurred first) within which to appeal this decision by filing a notice of appeal in accordance with the Rules of the Supreme Court of Virginia with the Director, Department of Environmental Quality. In the event that this decision is served on you by mail, three days are added to that period.

REPORT >

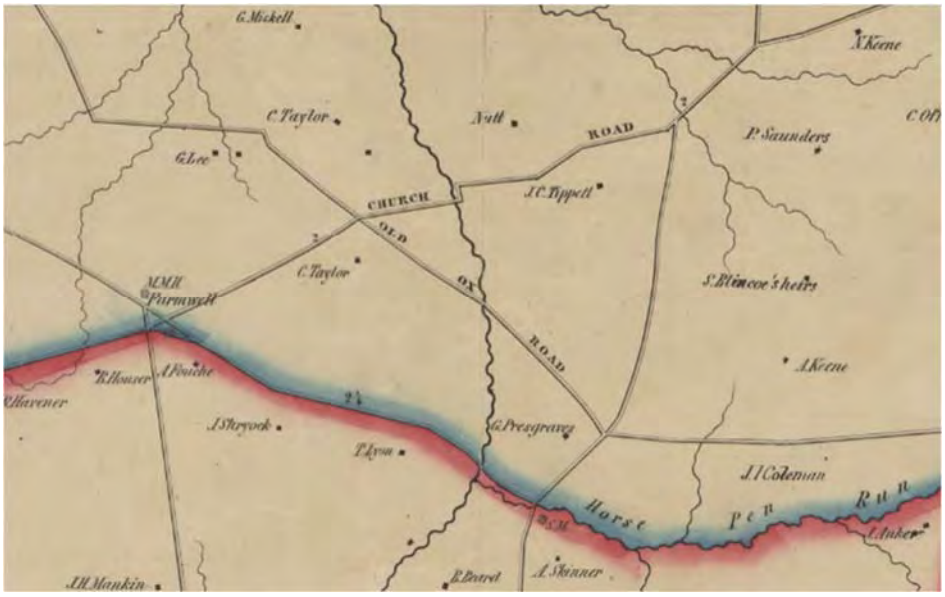
Pre-Application Analysis Of Cultural Resources for the Nimbus 230kV Line Loop and Substation and Farmwell-Nimbus 230kV Transmission Line Projects

LOCATION > Loudoun County, Virginia

DATE> FEBRUARY 2022

PREPARED FOR >

Dominion Energy



PREPARED BY >

Dutton + Associates, LLC

PROJECT REVIEW # >

Dutton + Associates

CULTURAL RESOURCE SURVEY, PLANNING, AND MANAGEMENT

SCC Pre-Application Analysis of Cultural Resources for the Nimbus 230kV Line Loop and Substation and Farmwell-Nimbus 230kV Transmission Line Projects

Loudoun County, Virginia

***PREPARED FOR*:**
DOMINION ENERGY
10900 Nuckols Road, 4TH FLOOR
Glen Allen, VIRGINIA 23060
804.771.6948

***PREPARED BY*:**
DUTTON + ASSOCIATES, LLC
1115 Crowder Drive
Midlothian, Virginia 23236
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PRINCIPAL INVESTIGATOR:
Robert J. Taylor, Jr. M.A.

February 2022

ABSTRACT

In January 2022, Dutton + Associates, LLC (D+A) conducted a Pre-Application Analysis (analysis) of cultural resources for the Nimbus 230kV Line Loop and Substation and Farmwell-Nimbus 230kV Transmission Line projects in Loudoun County, Virginia. Collectively, these are referred to as "the projects." The analysis was performed for Dominion Energy Virginia (Dominion) in support of a State Corporation Commission (SCC) application. The analysis was conducted in accordance with Virginia Department of Historic Resources' (VDHR) guidance titled Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia (January 2008) and Commonwealth of Virginia State Corporation Commission Division of Public Utility Regulation Guidelines for Transmission Line Applications Filed Under Title 56 of the Code of Virginia (August 2017).

The Nimbus 230kV Line Loop and Substation and Farmwell-Nimbus 230kV Transmission Line are two projects that entail the construction of transmission line to connect an existing transmission line with an existing substation in the Sterling vicinity of Loudoun County, Virginia. The projects are proposed in order to provide service requested by a retail electric service customer (the Customer); to maintain reliable service for the overall growth in the area; and to comply with mandatory North American Electric Reliability Corporation (NERC) Reliability Standards. The Nimbus 230 kV Line Loop and Nimbus Substation project entails the construction of a new 230 kV overhead double circuit line, cutting into Beaumeade-Buttermilk Line #2152 at Structure #2152/19A ("Nimbus Line Loop"), and extending to a new 230-34.5 kV Nimbus Substation ("Nimbus Substation"). The project will be constructed within a new 100-foot right-of-way. The proposed structures will be steel monopoles with a galvanized finish that range from 120-feet to 130-feet tall. The 230 kV Farmwell-Nimbus Transmission Line project entails the construction of a new 230 kV overhead single circuit line, originating at the existing Farmwell Substation and terminating at the new Nimbus Substation. The project will be constructed within a new 80-foot right-of-way. The proposed structures will be steel monopoles with a galvanized finish that will be 110-feet tall.

The background research conducted as part of this analysis was consistent with VDHR guidance and designed to identify all previously recorded National Historic Landmarks (NHL) located within 1.5-miles of the proposed projects, all National Register of Historic Places (NRHP)-listed properties, battlefields, and historic landscapes located within 1-mile of the proposed projects, all historic properties considered eligible for listing in the NRHP located within 0.5-miles of the proposed projects, and archaeological sites located directly within the proposed project ROWs. Historic properties include architectural and archaeological (terrestrial and underwater) resources, historic and cultural landscapes, battlefields, and historic districts. For each historic property within the defined tiers, a review of existing documentation and a field reconnaissance was undertaken to assess each property's significant character-defining features, as well as the character of its current setting. Following identification of historic properties, D+A assessed the potential for impacts to any identified properties as a result of the proposed projects. Specific attention was given to determining whether or not construction related to the projects could introduce new visual elements into the property's viewshed or directly impact the property through

construction, which would either directly or indirectly alter those qualities or characteristics that qualify the historic property for listing in the NRHP.

A review of VDHR records in VCRIS reveals there are no NHLs located within 1.5-miles of the projects, no NRHP-listed properties, battlefields, or historic landscapes located within 1-mile of the projects, one property that is considered potentially eligible for listing in the NRHP within 0.5-miles of the projects, and two archaeological sites located directly within or crossed by the project ROWs (Table 6-1).

Previously recorded historic properties within their respective tiered buffer zones

Buffer (miles)	***Considered Resources***	***VDHR #***	***Description***	***Associated Project***
1.5	*National Historic Landmarks*	*None*	*None*	*N/A*
1.0	*National Historic Landmarks*	*None*	*None*	*N/A*
	National Register- Listed	*None*	*None*	*N/A*
	Battlefields	*None*	*None*	*N/A*
	Historic Landscapes	*None*	*None*	*N/A*
0.5	*National Historic Landmarks*	*None*	*None*	*N/A*
	National Register- Listed	*None*	*None*	*N/A*
	Battlefields	*None*	*None*	*N/A*
	Historic Landscapes	*None*	*None*	*N/A*
	National Register-Eligible	*053-6416*	*Broad Run Ford and Ox Road*	*Nimbus 230kV Line Loop and Nimbus Substation/ 230kV Farmwell-Nimbus Transmission Line*
0.0 (ROW)	*All Above*	*None*	*None*	*N/A*
	Archaeology Sites	*44LD1602*	*Twentieth Century Domestic Site (Not Evaluated)*	*230kV Farmwell-Nimbus Transmission Line*
		44LD1603	*Twentieth Century Road Trace (Not Evaluated)*	*Nimbus 230kV Line Loop and Nimbus Substation*

For the purposes of this analysis, an impact is one that alters, either directly or indirectly, those qualities or characteristics that qualify a particular property for listing in the NRHP and does so in a manner that diminishes the integrity of a property's materials, workmanship, design, location,

setting, feeling, and/or association. With respect to transmission lines, direct impacts typically are associated with ground disturbance resulting from ROW clearing and structure construction. Indirect impacts typically are associated with the introduction of new visual elements or changes to the physical features of a property's setting or viewshed. According to VDHR guidance, project impacts are characterized as such:

- ***None** – Project is not visible from the property*
- ***Minimal** – Occur within viewsheds that have existing transmission lines, locations where there will only be a minor change in tower height, and/or views that have been partially obstructed by intervening topography and vegetation.*
- ***Moderate** – Include viewsheds with expansive views of the transmission line, more dramatic changes in the line and tower height, and/or an overall increase in the visibility of the route from the historic properties.*
- ***Severe** – Occur within viewsheds that do not have existing transmission lines and where the views are primarily unobstructed, locations where there will be a dramatic increase in tower visibility due to the close proximity of the route to historic properties, and viewsheds where the visual introduction of the transmission line is a significant change in the setting of the historic properties.*

*With regard to architectural resources, just one considered property is located within the defined tiers for assessment. This is the potentially NRHP-eligible Broad Run Ford and Ox Road. Field inspection and desktop analysis reveal that this resource has historical significance related to early transportation in the region and is considered significant for its representation of a colonial-era ford and road, however, its setting has been compromised by a variety of nonhistoric development in the vicinity. This includes private development in the form of large warehouse-style data centers, and public utility corridors, including an existing transmission line corridor between it and the project. As shown by ground-based photography, views from the resource are already interrupted by these features, and the proposed projects would be set beyond the compromised setting and be completely screened, with the exception of a short length of the proposed Nimbus Line Loop that may be visible from the Ox Road trace portion of the property between buildings as it is suspended across the Loudoun County Parkway. Photo simulation confirmed that all proposed structures associated with both projects would be completely screened from view from the Broad Run portion of the property by intervening development and vegetation. As such, the project is not anticipated to introduce any substantial new or uncharacteristic features into the already compromised setting or viewshed from the resource, and therefore, the Nimbus 230kV Line Loop and Substation Project will have no more than a **minimal impact** on the Broad Run Ford and Ox Road and the Farmwell-Nimbus 230kV Transmission Line Project will have **no impact** on the Broad Run Ford and Ox Road..*

Potential impacts summary for architectural resources.

VDHR#	*Resource Name*	*NRHP Status*	*Impact*
053-6416	*Broad Run Ford and Ox Road*	*Potentially NRHP-Eligible*	*Nimbus Line Loop - Minimal Impact* *Farmwell-Nimbus - No Impact*

With regard to archaeology, there are two previously recorded sites located within the proposed ROW for the projects. Site 44LD1602 is located within the proposed ROW of the Farmwell-Nimbus Transmission Line Project and Site 44LD1603 is located within the proposed ROW of the Nimbus Line Loop Project. Neither site has been formally evaluated for NRHP-eligibility by the VDHR, and their current condition is unknown as they were not subject to investigation as part of this effort, although recent aerial photography suggests substantial disturbance has occurred as a result of development in the vicinity of both sites. Therefore, these two sites should be investigated further and assessed for impacts as additional project details become available.

Potential impacts summary for archaeological resources.

VDHR#	*Resource Name*	*NRHP Status*	*Impact*
44LD1602	*Twentieth Century Domestic Site (Not Evaluated)*	*Not Evaluated*	*Farmwell-Nimbus - TBD*
44LD1603	*Twentieth Century Road Trace (Not Evaluated)*	*Not Evaluated*	*Nimbus Line Loop - TBD*

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1. INTRODUCTION

In January 2022, Dutton + Associates, LLC (D+A) conducted a Pre-Application Analysis (analysis) of cultural resources for the Nimbus 230kV Line Loop and Substation and Farmwell-Nimbus 230kV Transmission Line projects in Loudoun County, Virginia. Collectively, these are referred to as "the projects." The analysis was performed for Dominion Energy Virginia (Dominion) in support of a State Corporation Commission (SCC) application. The analysis was conducted in accordance with Virginia Department of Historic Resources' (VDHR) guidance titled *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (January 2008) and Commonwealth of Virginia State Corporation Commission Division of Public Utility Regulation *Guidelines for Transmission Line Applications Filed Under Title 56 of the Code of Virginia* (August 2017).

This analysis was performed at a level that meets the purpose and intent of VDHR and the SCC's guidance. It provides information on the presence of previously recorded National Historic Landmark (NHL) properties located within a 1.5-mile buffer area established around the project areas, properties listed on the National Register of Historic Places (NRHP), battlefields, and historic landscapes located within a 1-mile buffer around the project areas, and properties previously determined eligible for listing in the NRHP located within a 0.5-mile buffer area around the project areas, and previously identified archaeological resources directly within the project areas. This analysis will not satisfy Section 106 identification and evaluation requirements in the event federal permits or licenses are needed; however, it can be used as a planning document to assist in making decisions under Section 106 as to whether further cultural resource identification efforts may be warranted.

This report contains a research design which describes the scope and methodology of the analysis, discussion of previously identified historic properties, and an assessment of potential impacts. D+A Senior Architectural Historian Robert J. Taylor, Jr. M.A. served as Principal Investigator and oversaw the general course of the project and supervised all aspects of the work. Copies of all notes, maps, correspondence, and historical research materials are on file at the D+A main office in Midlothian, Virginia.

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2. PROJECT DESCRIPTION

The Nimbus 230kV Line Loop and Substation and Farmwell-Nimbus 230kV Transmission Line are two projects that entail the construction of transmission line to connect an existing transmission line with an existing substation in the Sterling vicinity of Loudoun County, Virginia (Figure 2-1). The projects are proposed in order to provide service requested by a retail electric service customer (the Customer), to maintain reliable service for the overall growth in the area, and to comply with mandatory North American Electric Reliability Corporation (NERC) Reliability Standards.

The Nimbus 230 kV Line Loop and Nimbus Substation project entails the construction of a new 230 kV overhead double circuit line, cutting into Beaumeade-Buttermilk Line #2152 at Structure #2152/19A ("Nimbus Line Loop"), and extending to a new 230-34.5 kV Nimbus Substation ("Nimbus Substation"). The project will be constructed within a new 100-foot right-of-way. The proposed structures will be steel monopoles with a galvanized finish that range from 120-feet to 140-feet tall.

The 230 kV Farmwell-Nimbus Transmission Line project entails the construction of a new 230 kV overhead single circuit line, originating at the existing Farmwell Substation and terminating at the new Nimbus Substation. The project will be constructed within a new 80-foot right-of-way. The proposed structures will be steel monopoles with a galvanized finish that will be 110-feet tall.

Figures 2-1 and 2-2 illustrate the general location and alignments of the projects. Figure 2-3 provides a representative schematic of proposed structures for the Nimbus 230kV Line Loop and Figure 2-4 provides a representative schematic of proposed structures for the 230kV Farmwell-Nimbus Transmission Line.

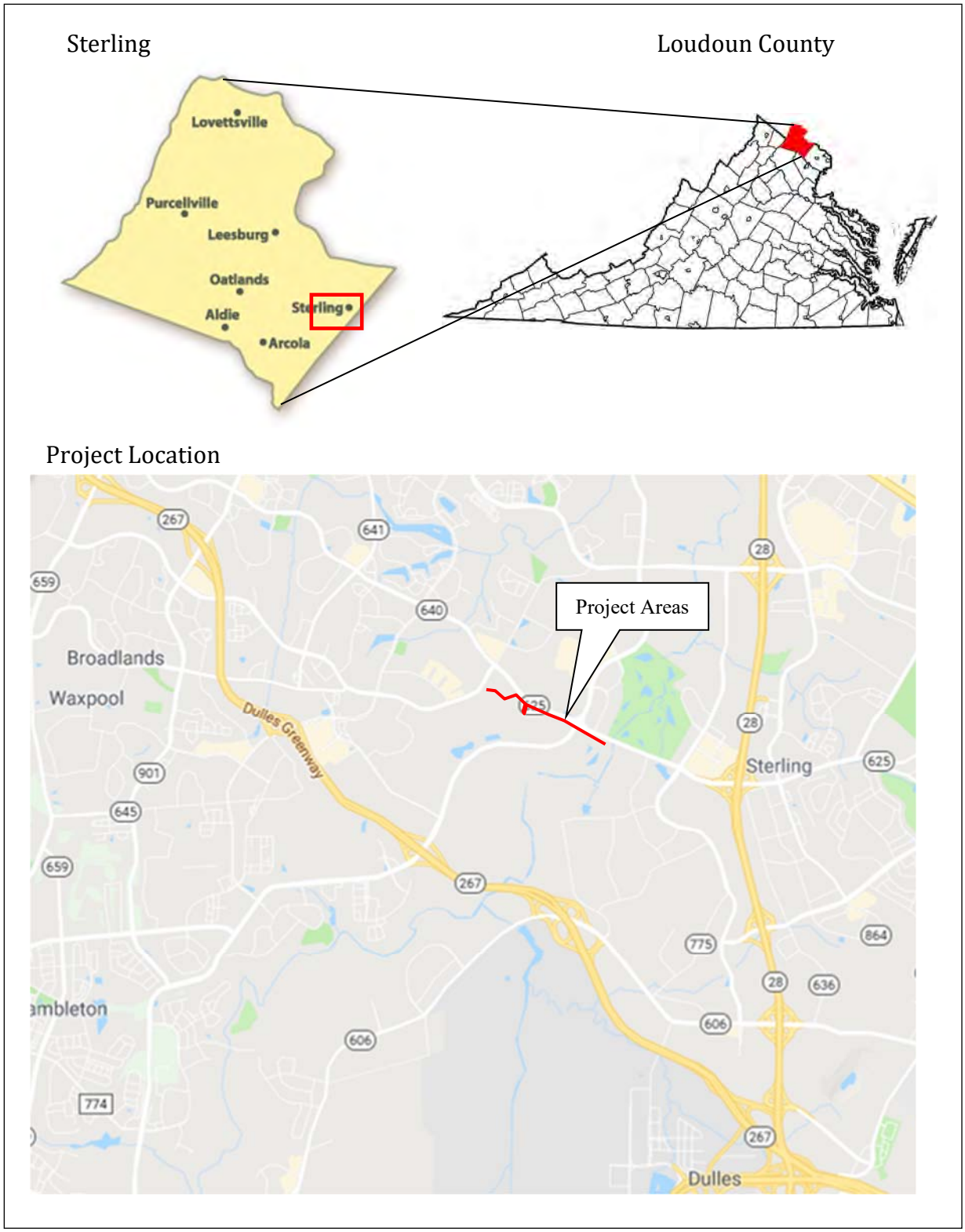

Figure 2-1: General location of the projects.

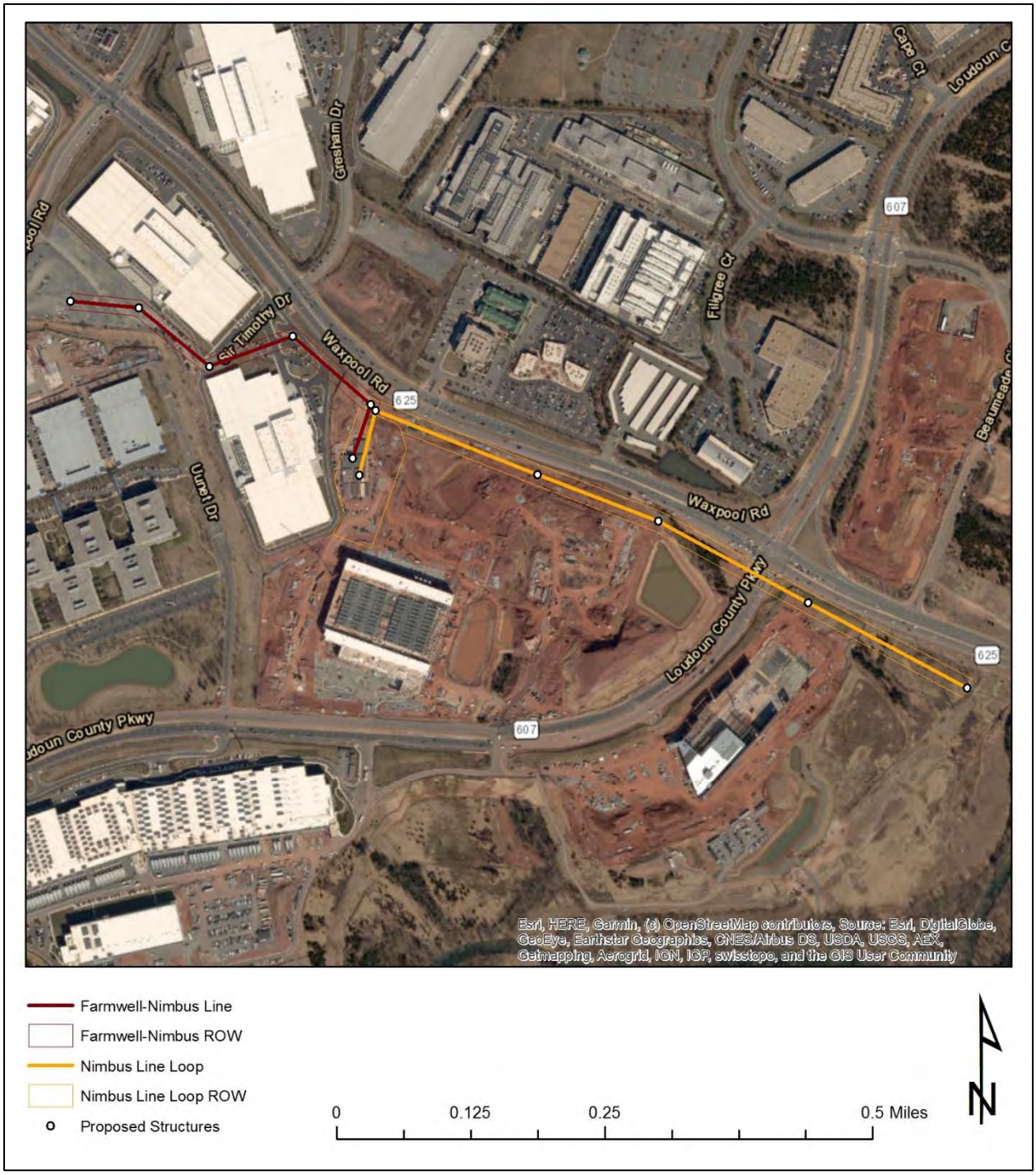

Figure 2-2: Detail of the project setting with project alignments, proposed structure locations, and ROW.

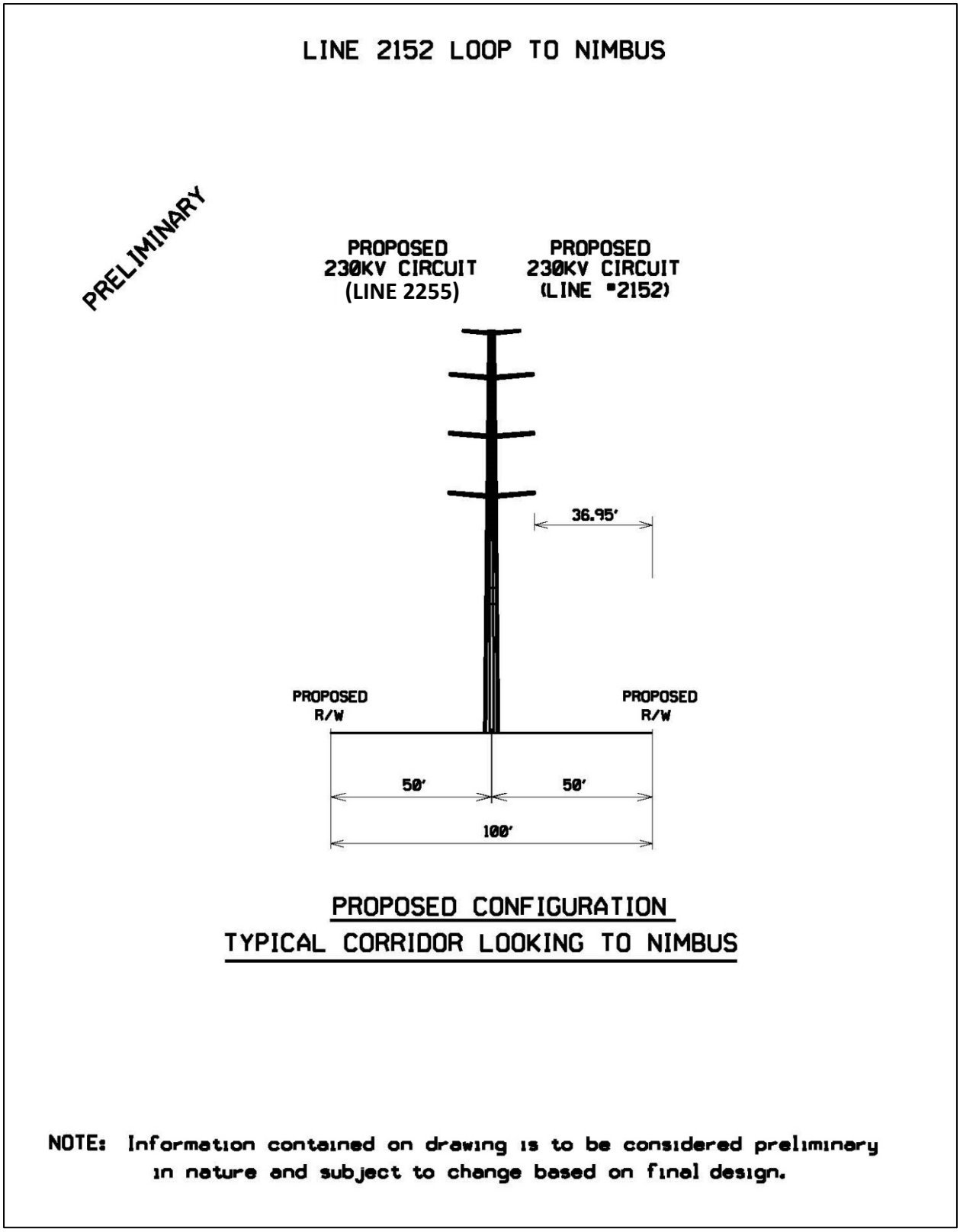

Figure 2-3: Nimbus 230kV Line Loop representative typical structure. Source: Dominion Energy Virginia

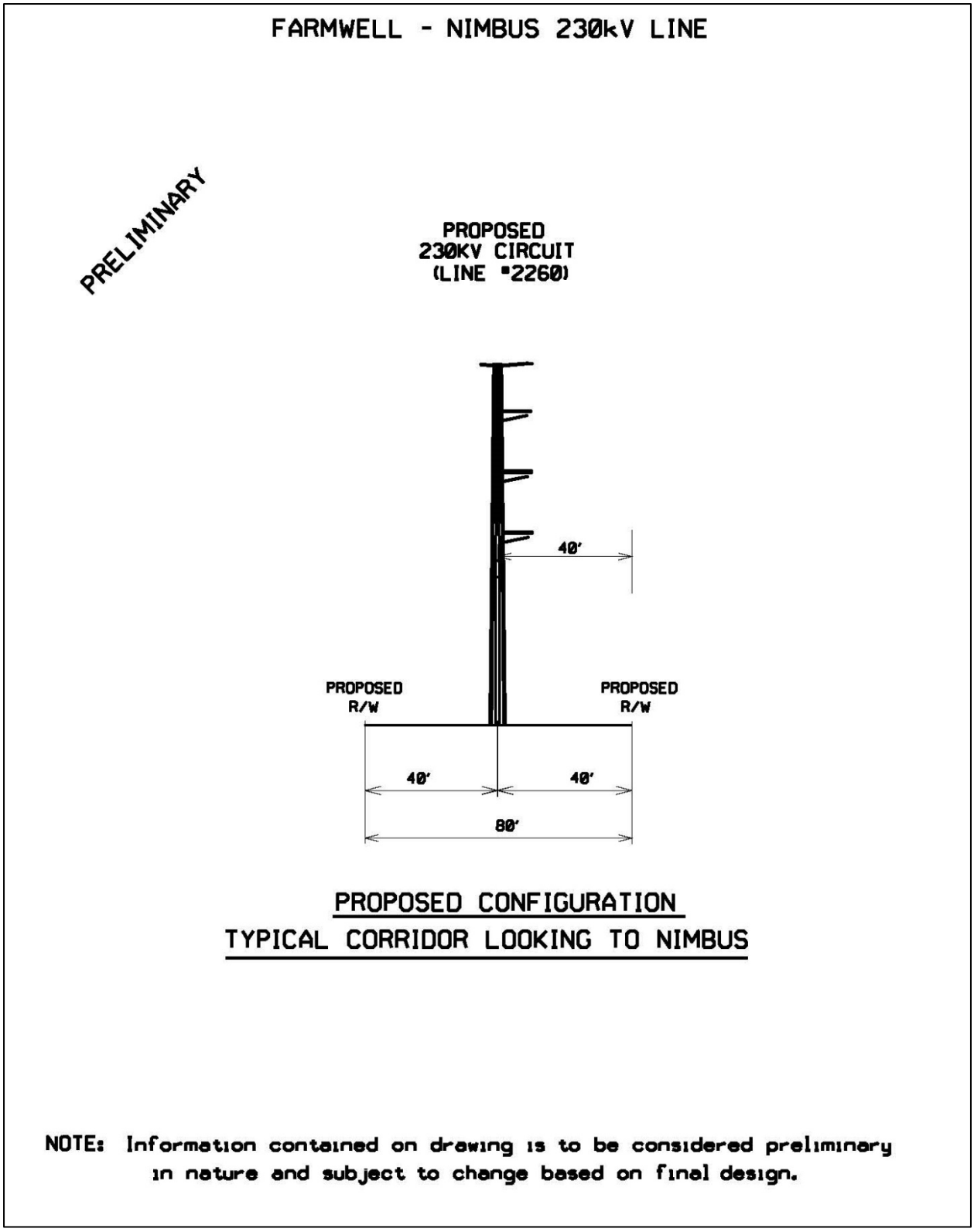

Figure 2-4: Farmwell-Nimbus 230kV Line representative typical structure. Source: Dominion Energy Virginia

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3. RESEARCH DESIGN

The intent of this effort was to identify all known historic properties within the vicinity of the proposed project area in order to assess significant properties for potential impacts brought about by the project. Historic properties include architectural and archaeological (terrestrial and underwater) resources, historic and cultural landscapes, battlefields, and historic districts. Significant properties are those designated National Historic Landmarks, listed in the NRHP, or determined-eligible for listing in the NRHP by the VDHR, as well as those resources designated as historic by the local municipality. For each significant historic property, an examination of property documentation, current aerial photography, field reconnaissance, and photo simulation was undertaken to assess each property's integrity of feeling, setting, and association, and to provide documentation and assessment of the property including views toward the proposed project. The D+A personnel who directed and conducted this survey meet the professional qualification standards of the Department of the Interior (48 FR 44738-9).

ARCHIVAL RESEARCH

In January 2022, D+A conducted archival research with the goal of identifying all previously recorded historic properties and any additional historic property locations referred to in historic documents and other archives, as well as consultation with local informants and other professionals with intimate knowledge of the project area as appropriate. Background research was conducted at the VDHR and on the internet and included the following sources:

- VDHR Virginia Cultural Resource Information System (VCRIS) site files; and
- National Park Service (NPS), American Battlefield Protection Program (ABPP), maps and related documentation.
- Loudoun County Department of Planning and Zoning Historic Sites Interactive Map.

Data collection was performed according to VDHR guidance in *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (January 2008) and was organized in a multi-tier approach. As such, the effort was designed to identify all previously recorded NHL's located within 1.5-miles of the proposed project area, all NRHP-listed properties, battlefields, and historic landscapes located within 1-mile of the project area, all historic properties previously determined eligible for listing in the NRHP located within 0.5-mile of the project area. Additional previously recorded resources located directly within the project area are also noted.

FIELD RECONNAISSANCE

Field reconnaissance included visual inspection of those historic properties that are located within the respective study tiers. Visual inspection included digital photo documentation of each property's existing conditions including its setting and views toward the proposed project. Representative photographs were taken of the resource, general setting, and existing viewsheds. All photographs were taken from public right-of-way or where property access was granted. No subsurface archaeological testing was conducted as part of this effort.

ASSESSMENT OF POTENTIAL IMPACTS

Following identification and field inspection of historic properties, D+A assessed each NRHP-listed or eligible resource for potential impacts brought about by the proposed project. Assessment included pedestrian inspection from historic properties towards the project area, ground-based photography, review of aerial photography, and photo simulation as appropriate. When utilized, photo simulation was conducted from vantage points within or near each resource property deemed most likely to have a change in visibility as a result of the project. The photo simulation entailed digital photography, towards the project, which was then loaded into a computer with location coordinates and ground-elevation. The transmission line structures to be built as part of the project were then also computer modeled to represent the location, height, and configuration following construction. These models were then overlaid onto the digital photograph so that the existing (unaltered) view can be compared with the simulated view that illustrates the proposed structures, as they would appear on the landscape.

When assessing impacts, D+A considered those qualities and characteristics that qualify the property for listing and whether the project had the potential to alter or diminish the integrity of the property and its associated significance. Specific attention was given to determining whether or not the proposed project would introduce new visual elements into a property's setting or viewshed, which would either directly or indirectly alter those qualities or characteristics that qualify the historic property for listing in the NRHP. Identified impacts were characterized according to VDHR guidance and definitions as follows:

- **None** – Project is not visible from the property
- **Minimal** – Occur within viewsheds that have existing transmission lines, locations where there will only be a minor change in tower height, and/or views that have been partially obstructed by intervening topography and vegetation.
- **Moderate** – Include viewsheds with expansive views of the transmission line, more dramatic changes in the line and tower height, and/or an overall increase in the visibility of the route from the historic properties.
- **Severe** – Occur within viewsheds that do not have existing transmission lines and where the views are primarily unobstructed, locations where there will be a dramatic increase in tower visibility due to the close proximity of the route to historic properties, and viewsheds where the visual introduction of the transmission line is a significant change in the setting of the historic properties.

REPORT PREPARATION

The results of the archival research, field inspection, and analysis were synthesized and summarized in a summary report accompanied by maps, illustrations, and photographs as appropriate. All research material and documentation generated by this project is on file at D+A's office in Midlothian, Virginia.

4. ARCHIVAL RESEARCH

This section includes a summary of efforts to identify previously known and recorded cultural resources within the tiered project buffers. It includes lists, maps, and descriptive data on all previously conducted cultural resource surveys, and previously recorded architectural resources and archaeological sites according to the VDHR archives and VCRIS database.

PREVIOUSLY SURVEYED AREAS

VDHR and VCRIS records indicate that there have been thirty-one (31) prior Phase I cultural resource surveys within 1-mile of the projects, including four (4) that overlap portions of the project ROWs. These surveys are at a minimum archaeological in nature, although some include architectural resources as well. The four surveys that include portions of the project ROWs were conducted as part of private development projects as well as utility projects. As a result of these prior surveys, the entirety of the project areas for both the Nimbus 230kV Line Loop and Substation and the 230kV Farmwell-Nimbus Transmission Line have been subject to Phase I archaeological identification. The previously conducted cultural resource surveys are listed in Table 4-1 and illustrated in Figure 4-1.

Table 4-1: Previously conducted cultural resource surveys that include portions of the Project Area Source: VDHR.

VDHR Survey #	Title	Author	Date
LD-332	Phase I Cultural Resources Survey of the Approximately 350-Acre DuPont-Fabros Development Tract, Loudoun County, Virginia	Circa-Cultural Resource Management, LLC	2011
LD-335	Phase I Architectural and Archaeological Survey of the Proposed Waxpool Route D Transmission Line Right-of-Way, Loudoun County, Virginia	Dutton & Associates	2013
LD-404	Roundtable Property, Loudoun County, Virginia: Phase I Cultural Resources Investigation	Thunderbird Archaeological Associates (Thunderbird Research Corp.)	2016
LD-412	Phase I Archeological Survey of the Proposed Presidential Golf Course, Dulles, Loudoun County, Virginia	Ottery Group	2005

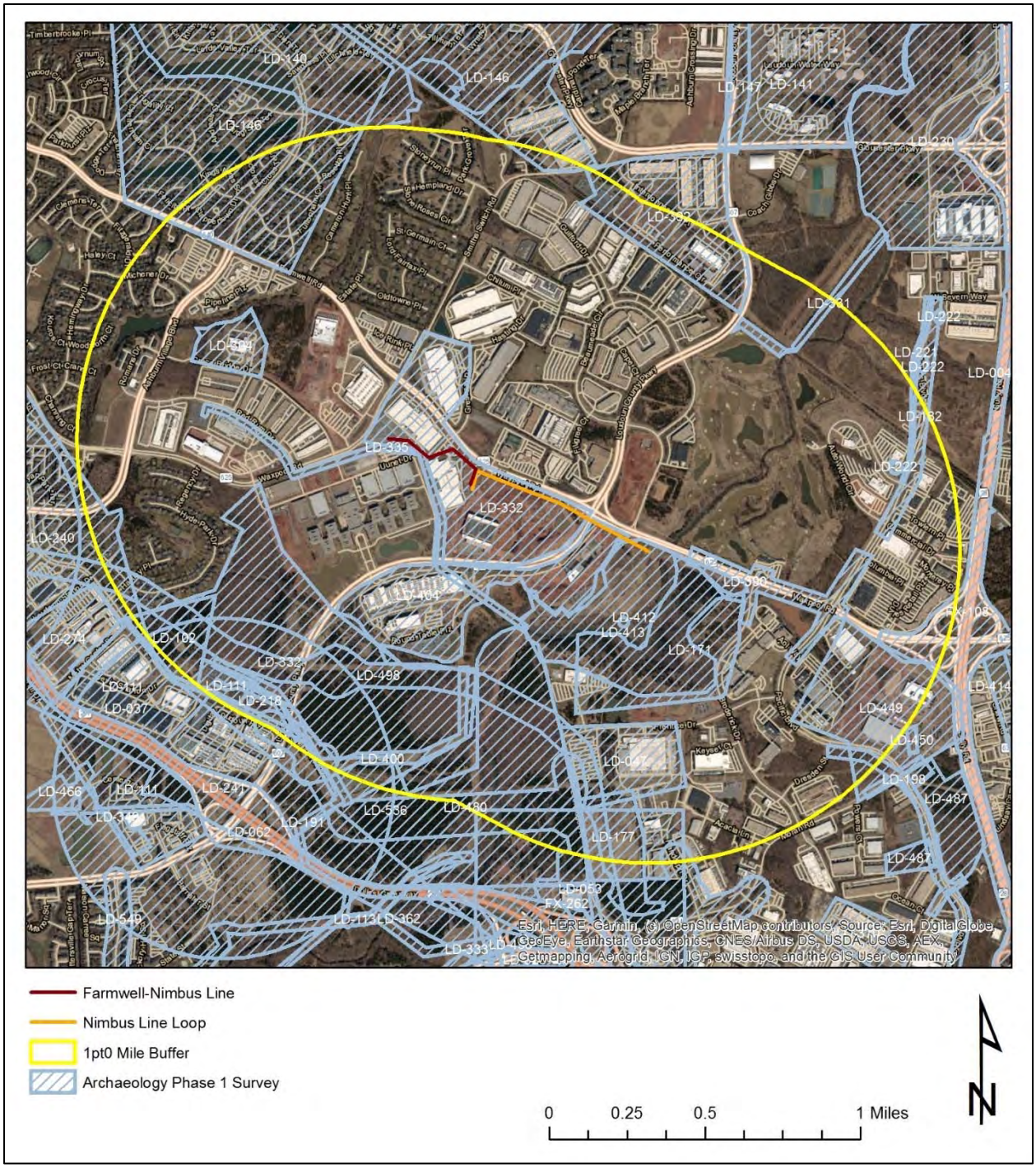

Figure 4-1: Previously conducted phase I surveys within 1-mile of the project. Source: VCRIS

Figure 4-2: Detail of previously conducted phase I surveys that include portions of the project ROWs. Source: VCRIS

ARCHITECTURAL RESOURCES

Review of the VDHR VCRIS inventory records revealed a total of 41 previously recorded architectural resources are located within 1.5-miles of the projects. Of these, there are no NHLs located within 1.5-miles of either project, no NRHP-listed properties, battlefields, or historic landscapes located within 1-mile of either project, and one property that has been noted as potentially eligible for listing in the NRHP by the VDHR within 0.5-mile of the projects and will be treated as eligible for the purposes of this effort. This one NRHP-eligible resource is located within 0.5 mile of both the Nimbus 230kV Line Loop and Nimbus Substation project and the 230kV Farmwell-Nimbus Transmission Line project. It is further noted that no previously recorded architectural resources are located directly within the ROW of the projects.

Table 4-2 lists NRHP-listed and eligible resources within their respective buffered tiers. A map of all previously recorded architectural resources within 1.5-miles of the project is depicted in Figure 4-3 and the location of NRHP-listed and eligible resources is illustrated in Figure 4-4.

Table 4-2: Previously recorded architectural resources within their respective tiered buffer zones

Buffer (miles)	Considered Resources	VDHR #	Description	Associated Project
1.5	National Historic Landmarks	None	None	N/A
1.0	National Historic Landmarks	None	None	N/A
	National Register- Listed	None	None	N/A
	Battlefields	None	None	N/A
	Historic Landscapes	None	None	N/A
0.5	National Historic Landmarks	None	None	N/A
	National Register- Listed	None	None	N/A
	National Register- Listed	None	None	N/A
	National Register-Eligible	053-6416	Broad Run Ford and Ox Road	Nimbus 230kV Line Loop and Nimbus Substation/ 230kV Farmwell-Nimbus Transmission Line
0.0 (ROW)	All Above	None	None	N/A

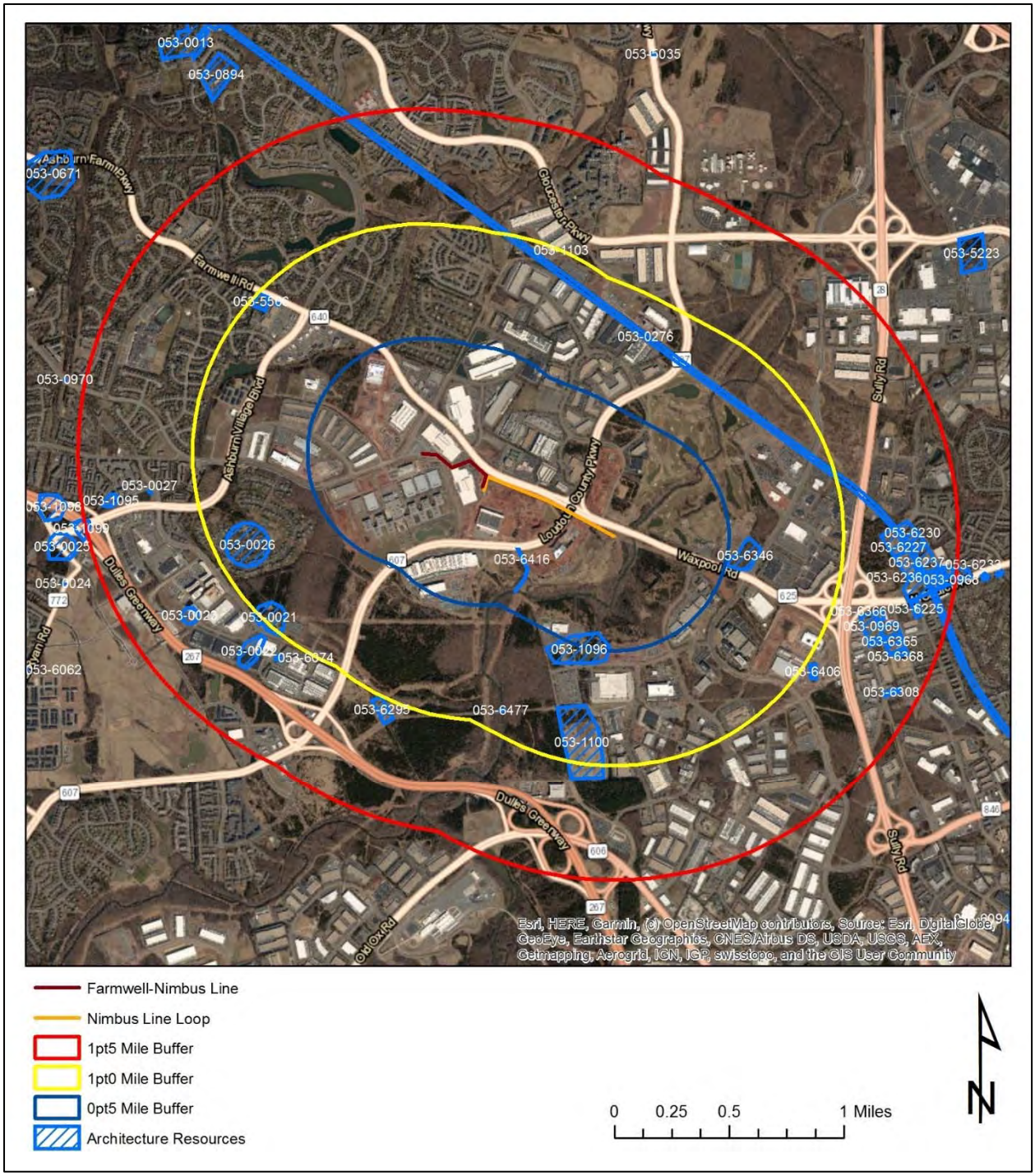

Figure 4-3: All previously identified architectural resources within 1.5-miles of the project. Source: VCRIS

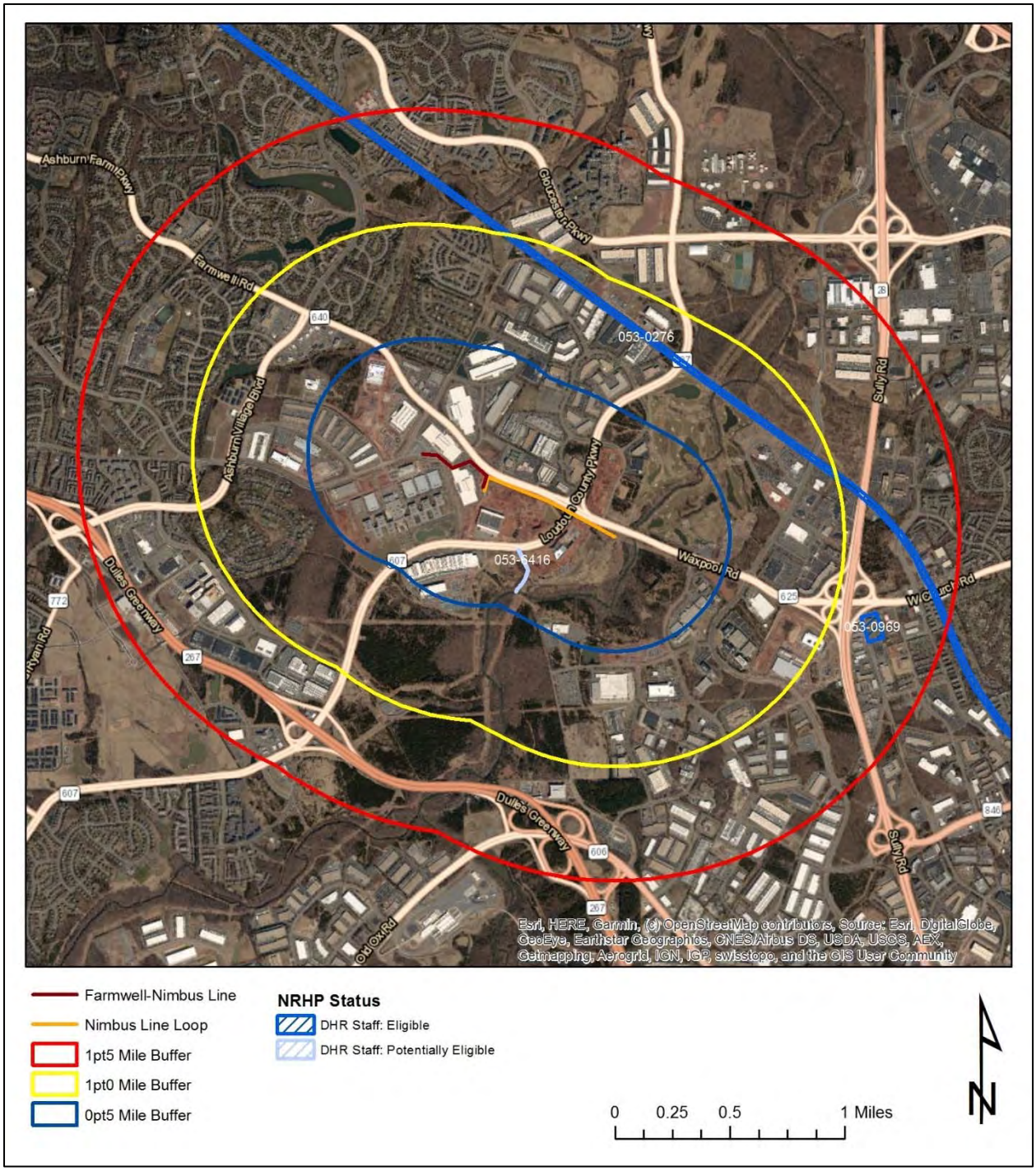

Figure 4-4: NRHP-Listed and Eligible architectural resources within 1.5-miles of the study area. Source: VCRIS

NPS AMERICAN BATTLEFIELD PROTECTION PROGRAM (ABPP)

A review of the National Park Service (NPS) ABPP records reveals that the project is not located within one mile of any portions of any delineated battlefields.

ARCHAEOLOGICAL SITES

Review of the VDHR VCRIS records reveals there are forty-one (41) previously recorded archaeological sites within one mile of the projects. These include prehistoric lithic scatters and camps; as well as historic domestic sites, farmsteads, trash scatters, a cemetery, and road trace. Of these, nine (9) have been determined not eligible for listing in the NRHP by the VDHR and the remaining sites have not been formally evaluated. Two of these sites are located directly within the ROW for the projects, including one (1) within the ROW for the Nimbus 230kV Line Loop and Nimbus Substation Project and one (1) within the ROW for the 230kV Farmwell-Nimbus Transmission Line Project. Neither of the sites within the project ROWs have been formally evaluated for NRHP-eligibility by the VDHR.

Table 4-3 lists the previously recorded archaeological resources within one-mile of the projects and Figure 4-5 illustrates the locations of the previously recorded sites in relation to the projects. Figure 4-6 details the locations of previously recorded sites in the vicinity of the project ROWs.

Table 4-3: Previously recorded archaeological resources within 1- mile of the projects. Orange highlight denotes site is located within the project ROWs

VDHR #	Type	Temporal Association	NRHP Status	Associated Project
44LD0027	Camp	Middle Archaic Period (6500 - 3001 B.C.), Early Woodland (1200 B.C. - 299 A.D.), Middle Woodland (300 - 999 A.D.), Late Woodland (1000 - 1606)	Not Evaluated	N/A
44LD0110	Artifact scatter	Late Archaic Period (3000 - 1201 B.C.E), Early Woodland (1200 B.C.E - 299 C.E)	DHR Staff: Not Eligible	N/A
44LD0111	Camp, temporary	Early Archaic Period (8500 - 6501 B.C.E)	Not Evaluated	N/A
44LD0137	Camp, temporary	Archaic (8500 - 1201 B.C.)	Not Evaluated	N/A
44LD0138	Camp, temporary	Historic/Unknown, Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated	N/A
44LD0140	Barn, Camp, temporary, Dwelling, single	Prehistoric/Unknown (15000 B.C. - 1606 A.D.), 19th Century (1800 - 1899), 20th Century: 1st half (1900 - 1949)	Not Evaluated	N/A
44LD0141	Camp, temporary	Woodland (1200 B.C. - 1606 A.D.)	Not Evaluated	N/A
44LD0142	Camp, temporary	Pre-Contact	DHR Staff: Not Eligible	N/A
44LD0143	Camp, temporary	Late Woodland (1000 - 1606)	Not Evaluated	N/A
44LD0144	Camp, temporary	Pre-Contact	Not Evaluated	N/A
44LD0147	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated	N/A
44LD0149	Camp, temporary	Pre-Contact	Not Evaluated	N/A
44LD0150	Camp, temporary	Pre-Contact	Not Evaluated	N/A
44LD0154	Camp, temporary	<Null>	Not Evaluated	N/A
44LD0374	Dwelling, single, Farmstead	Historic/Unknown	Not Evaluated	N/A
44LD0409	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated	N/A
44LD0435	Camp	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated	N/A

VDHR #	Type	Temporal Association	NRHP Status	Associated Project
44LD0445	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated	N/A
44LD0447	Farmstead	19th Century: 4th quarter (1875 - 1899), 20th Century (1900 - 1999)	Not Evaluated	N/A
44LD0537	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated	N/A
44LD0646	Farmstead	20th Century (1900 - 1999)	Not Evaluated	N/A
44LD0844	Dwelling, single	19th Century (1800 - 1899), 19th Century: 2nd half (1850 - 1899), 20th Century (1900 - 1999), 20th Century: 1st half (1900 - 1949)	Not Evaluated	N/A
44LD0845	Trash scatter	19th Century: 2nd half (1850 - 1899), 20th Century: 1st half (1900 - 1949)	Not Evaluated	N/A
44LD0994	<Null>	World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Not Evaluated	N/A
44LD1240	Trash scatter	19th Century: 4th quarter (1875 - 1899), 20th Century (1900 - 1999)	DHR Staff: Not Eligible	N/A
44LD1242	Farmstead	Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991), Post Cold War (1992 - Present)	DHR Staff: Not Eligible	N/A
44LD1340	Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible	N/A
44LD1435	Farmstead	19th Century: 2nd half (1850 - 1899), 20th Century: 1st quarter (1900 - 1924)	Not Evaluated	N/A
44LD1436	Outbuilding, Road	18th Century: 4th quarter (1775 - 1799), 19th Century: 4th quarter (1875 - 1899), 20th Century: 1st half (1900 - 1949)	Not Evaluated	N/A
44LD1456	Lithic scatter	Pre-Contact	Not Evaluated	N/A
44LD1467	Farmstead	19th Century: 4th quarter (1875 - 1899), 20th Century (1900 - 1999)	Not Evaluated	N/A
44LD1594	Dwelling, single	18th Century: 4th quarter (1775 - 1799), 19th Century (1800 - 1899), 19th Century: 1st quarter (1800 - 1825)	DHR Staff: Not Eligible	N/A
44LD1595	Dwelling, single	20th Century (1900 - 1999)	DHR Staff: Not Eligible	N/A
44LD1601	Trash scatter	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Not Evaluated	N/A
44LD1602	Road	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Not Evaluated	230kV Farmwell-Nimbus Transmission Line
44LD1603	Dwelling, single	20th Century: 1st half (1900 - 1949)	Not Evaluated	Nimbus 230kV Line Loop and Nimbus Substation

VDHR #	Type	Temporal Association	NRHP Status	Associated Project
44LD1723	Farmstead	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991), Post Cold War (1992 - Present)	DHR Staff: Not Eligible	N/A
44LD1743	Artifact scatter, Cemetery, Church	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991), Post Cold War (1992 - Present)	Not Evaluated	N/A
44LD1908	Artifact scatter	World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991), Post Cold War (1992 - Present)	Not Evaluated	N/A
44LD1909	Dwelling, single	The New Dominion (1946 - 1991), Post Cold War (1992 - Present)	Not Evaluated	N/A
44LD1916	Lithic scatter	Pre-Contact	DHR Staff: Not Eligible	N/A

Redacted – Contains Archaeological Site Information

Figure 4-5: Previously recorded archaeological resources located within 1- mile of projects. (Source: VCRIS)

Redacted – Contains Archaeological Site Information

Figure 4-6: Previously recorded archaeological resources located within the vicinity of the project ROWs. (Source: VCRIS)

5. RESULTS OF FIELD RECONNAISSANCE

In accordance with the VDHR guidelines for assessing impacts of proposed electric transmission lines on historic resources, each of the considered historic properties within the VDHR-defined study tiers around the projects were field verified for existing conditions and photo documented. An emphasis was given to views towards the project area in order to assess potential project impacts. The results of the field reconnaissance for each resource are summarized below.

Broad Run Ford and Ox Road (VDHR ID# 053-6416)

Ox Road was built in the 1720s, as an effort to commercially dominate Northern Virginia by competitors Thomas Lee and Robert "King" Carter. Lee endeavored to control waterways and did so by purchasing land on the Potomac River and Goose Creek. In an effort to control transportation, Carter purchased land in mountain passes. Along the Potomac, Lee had control of many of the tobacco warehouses and to avoid paying storage fees Carter instead began construction on a road that would connect his mine to his plantation. Construction began in 1728 by Carter's enslaved laborers along ridges wide enough for an ox cart. The road was completed in the 1740s by Carter's son and remained a valuable route to bring tobacco from plantations to Occoquan until 1820. At this time, the macadam Leesburg Turnpike became the primary route and Ox Road became secondary (Kimball and Covington 2014). Parts of the road were consistently used and received upgrades into major thoroughfares eliminating evidence of the old road. However, near Broad Run, the road remained largely unchanged and use of the Broad Run Ford continued into the third-quarter of the twentieth century. The Broad Run Ford and Ox Road north of Broad Run was evaluated as potentially eligible for listing in the NRHP by VDHR under Criteria A, B and C in 2016. The resource has not been formally surveyed or evaluated south of Broad Run.

The Broad Run Ford and Ox Road is located just south of the projects study area. The nearest portion of the previously recorded resource to the projects is the northern end of the recorded Ox Road trace, which is roughly 0.25 mile from the Nimbus 230kV Line Loop and 0.32 mile from the Farmwell-Nimbus Transmission Line. The Broad Run Ford portion of the resource is nearly 0.4 mile from the Nimbus Line Loop and 0.5 mile from the Farmwell-Nimbus Transmission Line. The intervening landscape between the resource and both projects is densely developed by large warehouse-styled data centers and a network of multi-lane roads.

In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around Broad Run Ford and Ox Road and photo simulation was prepared with views from the resource towards the project. Although the resource is located on private property and could not be directly accessed, inspection and analysis were performed from the northern end of the mapped boundaries of Ox Road near Loudoun County Parkway (nearest location to the project) as well as from the south side of Broad Run, immediately across from the ford.

Visual inspection revealed that the current landscape surrounding the ford and road trace has been subject to extensive development and manipulation in recent years. The ford and a short length of road trace leading to it from the north are set within a small cluster of trees bordering the creek, however, the area beyond the creek has been cleared, graded, and improved. An existing utility easement crosses Broad Run immediately to the east of the ford, and the shoreline has been heavily

altered by filling and rip-rap. The trace of Ox Road to the north of the ford extends through a narrow wooded area that borders the cleared utility easement before adjoining a graded gravel road that extends along the former Ox Road alignment. The south side of the Broad Run Ford is also next to the cleared utility easement with the filled rip-rap shoreline immediately adjacent to the former ford. Aerial photography indicates a trace of Ox Road may be present as a dirt path extending through the utility easement but then disappears into a wooded area before re-emerging as an improved dirt and gravel road that extends south to Lockridge Road. The landscape between the Broad Run Ford and Ox Road and the project is developed with multiple large data centers. The divided four-lane Loudoun County Parkway and an existing 230kV transmission line also extend through the landscape between the resource and the project.

Inspection from public right-of-way at the north end of the Ox Road trace along Loudoun County Parkway revealed that the several large data center warehouses lining the road generally block all views in the direction of the project. Because of the proximity of the buildings to the road and the angle of view, it is anticipated that both of the projects will be mostly to completely screened. The exception is looking straight up Loudoun County Parkway where the break between buildings may allow a short length of the proposed Nimbus Line Loop to be visible as it is suspended across the road, however, all proposed structures will be behind buildings. It is also noted that an existing transmission line that parallels the south side of Loudoun County Parkway and a transmission structure set immediately adjacent to the north end of the Ox Road trace is clearly visible from this location. Inspection from the south side of Broad Run in the vicinity of the ford revealed that several existing transmission lines and structures are currently visible in the immediate vicinity, however, the large data center buildings, and a patch of vegetation bordering the Ox Road trace inhibit views in the direction of the projects and will likely screen all proposed structures related to both projects. It is further noted that this location is within utility ROW and private property, and therefore not generally accessible to the public.

Photo simulation was also conducted from the south side of Broad Run in the vicinity of the ford to model the project and proposed structures. This confirmed that the project and all proposed structures will be screened by intervening development and vegetation.

As such, both visual inspection and photo simulation show that not only is the setting surrounding the Broad Run Ford and Ox Road compromised by nonhistoric development, but the ford itself is now immediately flanked by an existing utility easement that resulted in a substantial change in the character of the shoreline of Broad Run, including filling, grading, and rip-rap. The setting of the north side of the ford and road trace, between it and the project, is further compromised by ongoing large-scale private development obscuring the original landscape and its relationship to the ford and former Ox Road. On the south side of the ford, the landscape has also been heavily altered and the setting compromised by existing transportation and utility corridors. These existing intrusions dominate views from the ford and road in all directions, and will mostly to completely inhibit any visibility of improvements made as part of the Nimbus 230kV Line Loop and Substation and Farmwell-Nimbus 230kV Transmission Line projects beyond.

As proposed project improvements will be set amongst and behind existing nonhistoric development and utility corridors and are anticipated to not be visible from the resource or publicly-accessible vantage points in the vicinity with the exception of a short length of line

suspended across the road, the project will not introduce any noticeable changes to the setting or viewshed from the resource, which is already considered compromised by existing utilities and large-scale modern development. Therefore, it is D+A's opinion that the Nimbus 230kV Line Loop and Substation Project will have no more than a ***minimal impact*** on the Broad Run Ford and Ox Road and the Farmwell-Nimbus 230kV Transmission Line Project will have ***no impact*** on the Broad Run Ford and Ox Road.

Figure 5-1 illustrates the location of the Broad Run Ford and Ox Road in relation to the project, as well as the location and direction of all photographs and photo simulations. Figures 5-2 through 5-8 provide photographs of the setting and views from the resource and Figures 5-9 through 5-14 provide photo simulation including the location, and existing and proposed views.

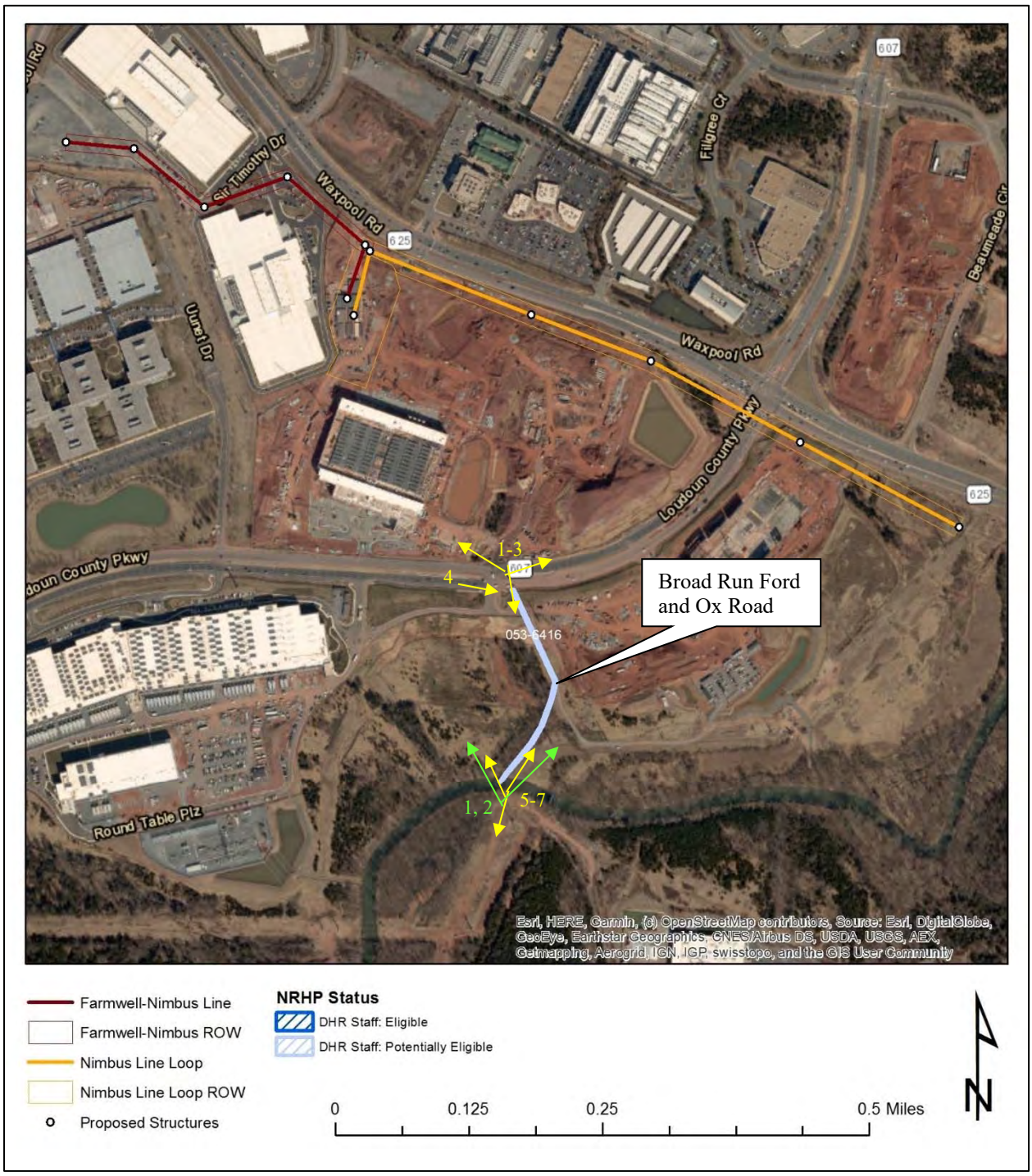

Figure 5-1: Broad Run Ford and Ox Road in relation to the projects with location and direction of representative photographs depicted in yellow and photo simulations depicted in green.

Figure 5-2: Photo location 1- View from Loudoun County Parkway at northern end of Broad Run Ford and Ox Road towards the Nimbus Line Loop Project, facing northeast.

Figure 5-3: Photo location 2- View from Loudoun County Parkway at northern end of Broad Run Ford and Ox Road towards the projects, facing northwest.

Figure 5-4: Photo location 3- View from Loudoun County Parkway towards Broad Run Ford and Ox Road, facing south.

Figure 5-5: Photo location 4- View from Loudoun County Parkway towards Broad Run Ford and Ox Road, facing east.

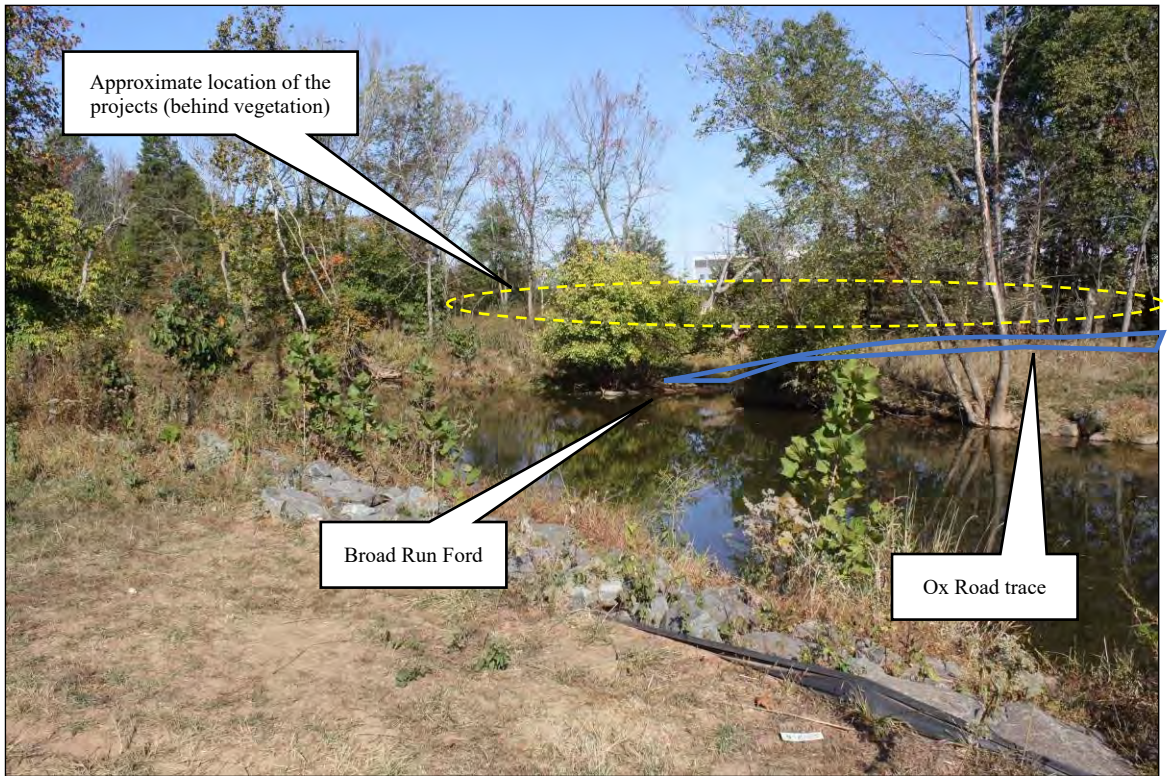

Figure 5-6: Photo location 5- View of and from Broad Run Ford and Ox Road from south bank of Broad Run towards the projects, facing northwest.

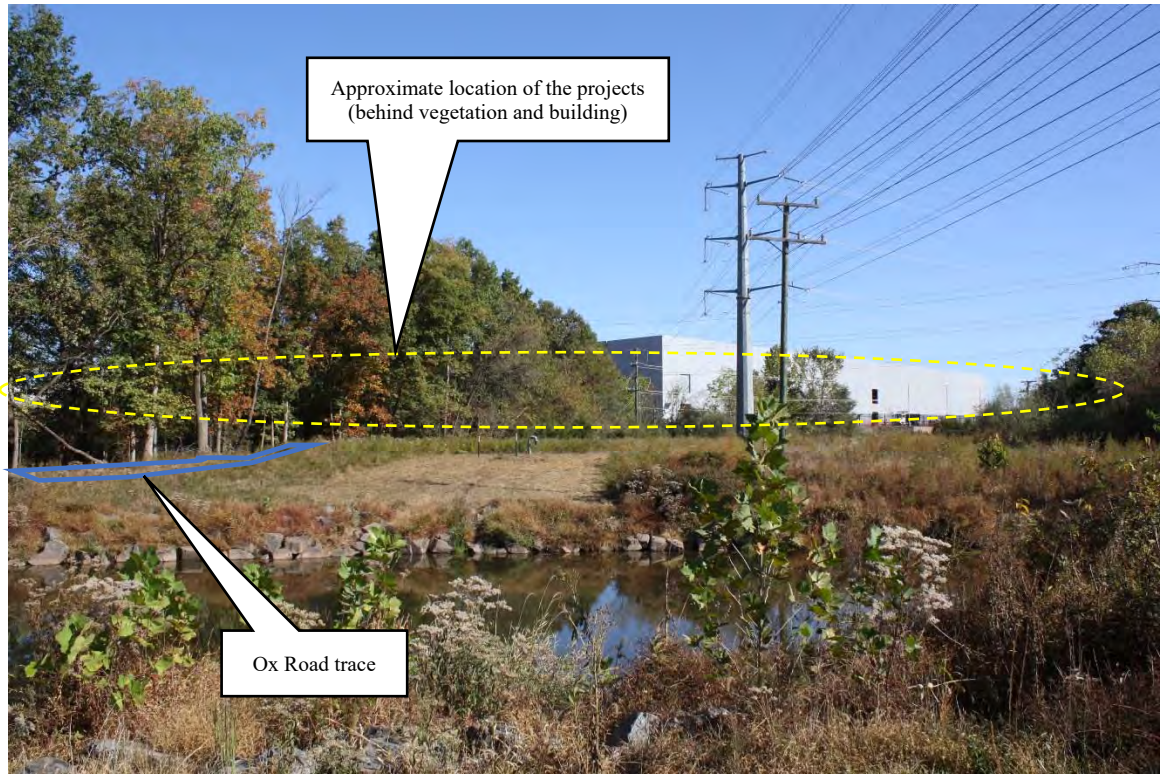

Figure 5-7: Photo location 6- View from Broad Run Ford and Ox Road towards the Nimbus Line Loop Project, facing north.

Figure 5-8: Photo location 7- View of setting to the south of Broad Run Ford and Ox Road illustrating other existing infrastructure within immediate vicinity, facing south.

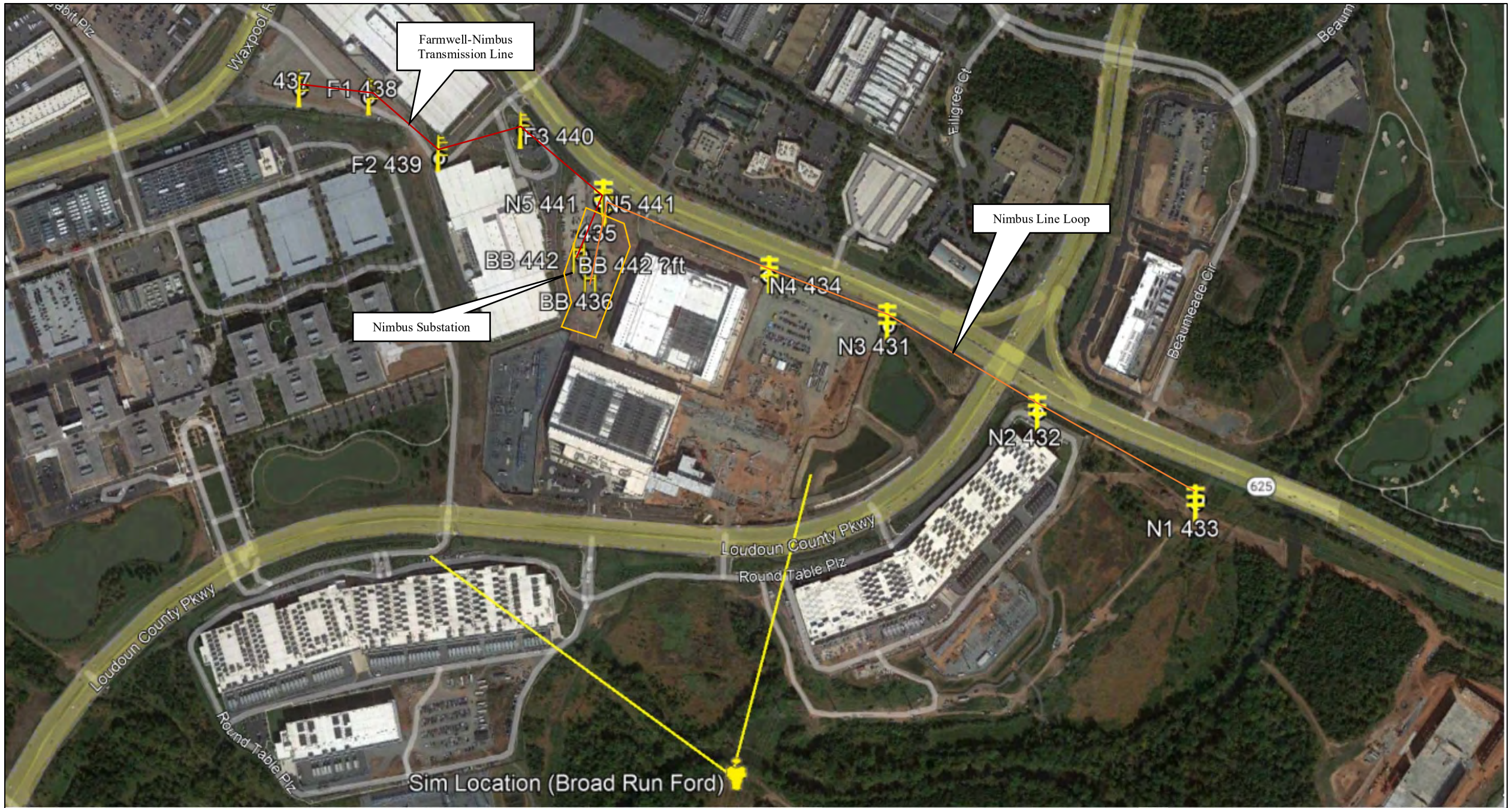

Photo simulations prepared by:
GTTE LLC
email:
info@gttellc.com
703 447 1350

Location: Broad Run Ford and Ox Road

Project:
Nimbus 230kV Line Loop and Substation

Farmwell-Nimbus Transmission Line

Structure	Distance (ft)	Height (ft)
438	3913	110.0
438	3710	110.0
439	3292	110.0
440	3268	110.0
441	2836	110.0
442	2610	70.0

Structure	Distance (ft)	Height (ft)
431	2297	140.0
432	2306	140.0
433	2632	125.0
434	2411	130.0
435	2802	120.0
436	2518	70.0

Figure 5-9: Photo Simulation 1 - Location and structures modeled from Broad Run Ford portion of the previously recorded Broad Run Ford and Ox Road. Source: GTTE

Figure 5-10: Photo Simulation 1 - Existing view from Broad Run Ford. Source: GTTE

Figure 5-11: Photo Simulation 1 - Proposed view from Broad Run Ford (structures not visible shown in yellow). Source: GTTE

Photo simulations
prepared by:
GTTE LLC
email:
info@gttellc.com
703 447 1350

Location: Broad Run Ford 2

Project:
Nimbus 230kV Line Loop and Substation

Farmwell-Nimbus Transmission Line

Structure	Distance (ft)	Height (ft)
438	3913	110.0
438	3710	110.0
439	3292	110.0
440	3268	110.0
441	2836	110.0
442	2610	70.0

Structure	Distance (ft)	Height (ft)
431	2297	140.0
432	2306	140.0
433	2632	125.0
434	2411	130.0
435	2802	120.0
436	2518	70.0

Figure 5-12: Photo Simulation 2 - Location and structures modeled. Source: GTTE

Figure 5-13: Photo Simulation 2 - Existing view from Broad Run Ford. Source: GTTE

Figure 5-14: Photo Simulation 2 - Proposed view from Broad Run Ford (structures not visible shown in yellow). Source: GTTE

6. CONCLUSIONS AND SUMMARY OF POTENTIAL IMPACTS

As part of this pre-application analysis of cultural resources for the Nimbus 230kV Line Loop and Substation and Farmwell-Nimbus Transmission Line projects, potential impacts to previously recorded historic properties listed or considered eligible for listing in the NRHP within the VDHR-defined buffered tiers were assessed in accordance with the VDHR guidelines. This includes National Historic Landmark (NHL) properties located within a 1.5-mile buffer area established around the projects, properties listed on the National Register of Historic Places (NRHP), battlefields, and historic landscapes located within a 1-mile buffer around the projects, and properties previously determined eligible for listing in the NRHP located within a 0.5-mile buffer area around the projects; as well as previously identified archaeological resources directly within the project ROWs.

A review of VDHR records in VCRIS reveals there are no NHLs located within 1.5-miles of the projects, no NRHP-listed properties, battlefields, or historic landscapes located within 1-mile of the projects, one property that is considered potentially eligible for listing in the NRHP within 0.5-miles of the projects, and two archaeological sites located directly within or crossed by the project ROWs (Table 6-1).

Table 6-1: Previously recorded historic properties within their respective tiered buffer zones

Buffer (miles)	Considered Resources	VDHR #	Description	Associated Project
1.5	National Historic Landmarks	None	None	N/A
1.0	National Historic Landmarks	None	None	N/A
	National Register- Listed	None	None	N/A
	Battlefields	None	None	N/A
	Historic Landscapes	None	None	N/A
0.5	National Historic Landmarks	None	None	N/A
	National Register- Listed	None	None	N/A
	Battlefields	None	None	N/A
	Historic Landscapes	None	None	N/A
	National Register-Eligible	053-6416	Broad Run Ford and Ox Road	Nimbus 230kV Line Loop and Nimbus Substation/ 230kV Farmwell-Nimbus Transmission Line

0.0 (ROW)	All Above	None	None	N/A
	Archaeology Sites	44LD1602	Twentieth Century Domestic Site (Not Evaluated)	230kV Farmwell-Nimbus Transmission Line
		44LD1603	Twentieth Century Road Trace (Not Evaluated)	Nimbus 230kV Line Loop and Nimbus Substation

For the purposes of this analysis, an impact is one that alters, either directly or indirectly, those qualities or characteristics that qualify a particular property for listing in the NRHP and does so in a manner that diminishes the integrity of a property's materials, workmanship, design, location, setting, feeling, and/or association. With respect to transmission lines, direct impacts typically are associated with ground disturbance resulting from ROW clearing and structure construction. Indirect impacts typically are associated with the introduction of new visual elements or changes to the physical features of a property's setting or viewshed. According to VDHR guidance, project impacts are characterized as such:

- **None** – Project is not visible from the property
- **Minimal** – Occur within viewsheds that have existing transmission lines, locations where there will only be a minor change in tower height, and/or views that have been partially obstructed by intervening topography and vegetation.
- **Moderate** – Include viewsheds with expansive views of the transmission line, more dramatic changes in the line and tower height, and/or an overall increase in the visibility of the route from the historic properties.
- **Severe** – Occur within viewsheds that do not have existing transmission lines and where the views are primarily unobstructed, locations where there will be a dramatic increase in tower visibility due to the close proximity of the route to historic properties, and viewsheds where the visual introduction of the transmission line is a significant change in the setting of the historic properties.

With regard to architectural resources, just one considered property is located within the defined tiers for assessment. This is the potentially NRHP-eligible Broad Run Ford and Ox Road. Field inspection and desktop analysis reveal that this resource has historical significance related to early transportation in the region and is considered significant for its representation of a colonial-era ford and road, however, its setting has been compromised by a variety of nonhistoric development in the vicinity. This includes private development in the form of large warehouse-style data centers, and public utility corridors, including an existing transmission line corridor between it and the project. As shown by ground-based photography, views from the resource are already interrupted by these features, and the proposed projects would be set beyond the compromised setting and be completely screened, with the exception of a short length of the proposed Nimbus Line Loop that may be visible from the Ox Road trace portion of the property between buildings as it is suspended across the Loudoun County Parkway. Photo simulation confirmed that all proposed structures associated with both projects would be completely screened from view from the Broad Run portion of the property by intervening development and vegetation. As such, the project is not anticipated to introduce any substantial new or uncharacteristic features into the already compromised setting or viewshed from the resource, and therefore, the Nimbus 230kV Line Loop and Substation Project will have no more

than a ***minimal impact*** on the Broad Run Ford and Ox Road and the Farmwell-Nimbus 230kV Transmission Line Project will have ***no impact*** on the Broad Run Ford and Ox Road..

Table 6-2: Potential impacts summary for architectural resources.

VDHR#	Resource Name	NRHP Status	Impact
053-6416	Broad Run Ford and Ox Road	Potentially NRHP-Eligible	Nimbus Line Loop - Minimal Impact Farmwell-Nimbus - No Impact

With regard to archaeology, there are two previously recorded sites located within the proposed ROW for the projects. Site 44LD1602 is located within the proposed ROW of the Farmwell-Nimbus Transmission Line Project and Site 44LD1603 is located within the proposed ROW of the Nimbus Line Loop Project. Neither site has been formally evaluated for NRHP-eligibility by the VDHR, and their current condition is unknown as they were not subject to investigation as part of this effort, although recent aerial photography suggests substantial disturbance has occurred as a result of development in the vicinity of both sites. Therefore, these two sites should be investigated further and assessed for impacts as additional project details become available.

Table 6-3: Potential impacts summary for archaeological resources.

VDHR#	Resource Name	NRHP Status	Impact
44LD1602	Twentieth Century Domestic Site (Not Evaluated)	Not Evaluated	Farmwell-Nimbus - TBD
44LD1603	Twentieth Century Road Trace (Not Evaluated)	Not Evaluated	Nimbus Line Loop - TBD

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7. REFERENCES

National Park Service
2009 "Civil War Sites Advisory Commission Report Update and Resurvey," American Battlefield Protection Program

Virginia Department of Historic Resources
2008 *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia*

Virginia Department of Historic Resources
2022 Virginia Cultural Resource Information System (VCRIS) database and GIS server.

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From: Rhur, Roberta
To: james.p.young@dominionenergy.com
Subject: [EXTERNAL] Re: Re: Nimbus 230 kV Line Loop & Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line
Date: Wednesday, January 19, 2022 12:41:08 PM

I appreciate your quick response. DCR PRR has no comment regarding the project, there does not appear to be impacts to recreation resources. As Always, we recommend coordination with the Division of Natural Heritage as well.

On Tue, Jan 18, 2022 at 6:51 PM james.p.young@dominionenergy.com <james.p.young@dominionenergy.com> wrote:

> Evening,
>
> Please see the attached Shapefile. Please let me know if you need any additional information.
>
> Much appreciated.
>
> James P. Young, PWS
>
> DEES ET Contractor
>
> Dominion Energy
>
> 120 Tredegar Street, Richmond, VA 23219
>
> C: (804) 426-6648
>
> ---
>
> **From:** Rhur, Roberta <robbie.rhur@dcr.virginia.gov>
> **Sent:** Tuesday, January 18, 2022 12:42 PM
> **To:** James P Young (Services - 6) <james.p.young@dominionenergy.com>
> **Subject:** [EXTERNAL] Re: Nimbus 230 kV Line Loop & Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line

Afternoon:

I'm going to need a shapefile to confirm that local parks are not impacted by this project, that area is full of recreation

Thanks!

On Fri, Jan 14, 2022 at 2:50 PM james.p.young@dominionenergy.com <james.p.young@dominionenergy.com> wrote:

> Mr. Rhur,
>
> Please see the attached letter and project map notifying you of the Nimbus 230 kV Line Loop & Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line in Loudoun County, Virginia.
>
> Please contact me with any questions or for additional information.
>
> Thank you,
>
> James P. Young, PWS
>
> DEES ET Contractor
>
> Dominion Energy
>
> 120 Tredegar Street, Richmond, VA 23219
>
> C: (804) 426-6648

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Robbie Rhur

DCR VOP Project Planner and Environmental Review Coordinator

600 East Main Street

Richmond VA 23219

804-371-2594

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--
Robbie Rhur
DCR VOP Project Planner and Environmental Review Coordinator
600 East Main Street
Richmond VA 23219
804-371-2594

From: ImpactReview
To: Fulcher, Valerie; james.p.young@dominionenergy.com; Charles.H.Weil@dominionenergy.com
Cc: eir@deq.virginia.gov; Martha Little
Subject: [EXTERNAL] RE: NEW SCOPING NIMBUS 230 KV LINE LOOP AND SUBSTATION
Date: Friday, January 21, 2022 2:31:28 PM

Mr. Young and Mr. Weil,

The Virginia Outdoors Foundation has reviewed the project referenced above. As of January 21, 2022, there are not any existing nor proposed VOF open-space easements in the immediate vicinity of the project.

Please contact VOF again for further review if the project area changes or if this project does not begin within 24 months. Thank you for considering conservation easements.

Thanks,
Mike

Mike Hallock-Solomon, AICP
Virginia Outdoors Foundation

From: Fulcher, Valerie <valerie.fulcher@deq.virginia.gov>
Sent: Thursday, January 20, 2022 4:40 PM
Cc: james.p.young@dominionenergy.com
Subject: NEW SCOPING NIMBUS 230 KV LINE LOOP AND SUBSTATION

Alert: This email originated from outside VOF

Good afternoon—attached is a request for scoping comments on the following:

> **Dominion Energy Virginia's Proposed Nimbus 230 kV Line Loop & Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line, Loudoun County, Virginia**

If you choose to make comments, please send them directly to the project sponsor (james.p.young@dominionenergy.com) and copy the DEQ Office of Environmental Impact Review: eir@deq.virginia.gov. We will coordinate a review when the environmental document is completed.

DEQ-OEIR's scoping response is also attached.

If you have any questions regarding this request, please email our office at eir@deq.virginia.gov.

Valerie

--

Valerie A. Fulcher, CAP, OM, Admin/Data Coordinator Senior

Department of Environmental Quality

Environmental Enhancement - Office of Environmental Impact Review

1111 East Main Street

Richmond, VA 23219

NEW PHONE NUMBER: 804-659-1550

Email: Valerie.Fulcher@deq.virginia.gov

https://www.deq.virginia.gov/permits-regulations/environmental-impact-review

OUR ENFORCEABLE POLICIES HAVE BEEN UPDATED FOR 2021: https://www.deq.virginia.gov/permits-regulations/environmental-impact-review/federal-consistency

For program updates and public notices please subscribe to Constant Contact: https://lp.constantcontact.com/su/MVcCump/EIR

Robert Farrell
State Forester

COMMONWEALTH of VIRGINIA

Department of Forestry

900 Natural Resources Drive, Suite 800 • Charlottesville, Virginia 22903
(434) 977-6555 • Fax: (434) 296-2369 • www.dof.virginia.gov

Monday, January 24, 2022

James P. Young, PWS
DEES ET Contractor
Dominion Energy
120 Tredegar Street,
Richmond, VA 23219

Subject: Dominion Energy Virginia's Proposed Nimbus 230 kV Line Loop & Nimbus Substation and 230 kV Farmwell-Nimbus Transmission Line, Loudoun County, Virginia

Dear James,

Thank you for the opportunity to provide comments for the Environmental Impact Review of Dominion Energy Virginia's proposed Nimbus 230 kV line loop & Nimbus Substation and 230 kV Farmwell-Nimbus transmission line in Loudoun County as described in your letter to Karl Didier on January 14th, 2022.

The Virginia Department of Forestry has no comments to provide on the proposed project.

Sincerely

Sarah Parmelee

Sarah Parmelee
Forestland Conservation Coordinator