Dominion Energy®

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

Before the State Corporation Commission of Virginia

500 kV Line #514 Partial Rebuild Project

Application No. 310

Case No. PUR-2021-00276

Filed: November 18, 2021

Volume 2 of 2

BEFORE THE
STATE CORPORATION COMMISSION
OF VIRGINIA

APPLICATION OF
VIRGINIA ELECTRIC AND POWER COMPANY
FOR APPROVAL OF ELECTRIC FACILITIES

500 kV Line #514 Partial Rebuild Project

Application No. 310

DEQ Supplement

Case No. PUR-2021-00276

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Based upon consultations with the Virginia 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 Partial Rebuild Project by DEQ and other relevant agencies.

1. Project Description

In order to maintain the structural integrity and reliability of its transmission system in compliance with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards, Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company") proposes in Loudoun County, Virginia, the following (collectively, the "Partial Rebuild Project"):

- Rebuild approximately 2.8 miles of the existing overhead 500 kV Doubs-Goose Creek Line #514 from existing Structure #514/1854, which is not being replaced, located two spans outside of the Company's existing Goose Creek Substation to Structure #514/1841 located at the Virginia-Maryland border. Specifically, replace 12 single circuit 500 kV weathering steel lattice towers and one single circuit 500 kV galvanized H-frame structure supporting the existing Line #514 with 13 single circuit 500 kV chemically dulled, galvanized steel lattice towers, and the existing 3-phase twin-bundled 2049.5 AAAC conductors with 3-phase triple-bundled 1351.5 ACSR conductors; and

- Perform related work at the Company's existing Goose Creek Switching Station to support the new line rating for rebuilt Line #514.

2. Environmental Analysis

The Company solicited comments from all relevant state and local agencies about the proposed Partial Rebuild Project in October 2021. Copies of these letters are included as Attachment 2. The DEQ provided a letter in response to the Company's scoping request for the proposed Partial Rebuild Project on October 19, 2021. A copy of this letter is included as Attachment 2.A.1.

A. Air Quality

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 sediment control is addressed in Section 2.G, below. Equipment and vehicles that are powered by gasoline or diesel motors will also be used during the construction of the line so there will be exhaust from those motors.

The entire width of the existing transmission corridor is currently maintained for transmission facility operations. However, the Partial Rebuild Project may require some trimming of tree limbs along the right-of-way edges to support construction activities. The Company does not expect to burn cleared material, but if necessary, the Company will coordinate with the responsible locality to

ensure all local ordinances are met. 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 potential waterbodies to be crossed by the proposed transmission line rebuild.)

The Partial Rebuild Project is located within the Middle Potomac-Catoctin watershed, Hydrologic Unit Code 02070008. According to the U.S. Geological Survey ("USGS") topographic quadrangles (Leesburg [1988]) the existing transmission line crosses two named perennial streams, Tuscarora Creek and Cattail Branch. Any clearing required in the vicinity of streams will be performed by hand within 100 feet of both sides, and vegetation less than three inches in diameter will be left undisturbed.

The Company solicited comments from the Virginia Marine Resources Commission ("VMRC") regarding the proposed Partial Rebuild Project in October 2021. According to a response dated November 8, 2021, the VMRC indicated that the proposed Partial Rebuild Project may be within the jurisdictional areas of the VMRC and may require a permit. See Attachment 2.B.1. If necessary, a Joint Permit Application will be submitted for review by the VMRC, DEQ, and the U.S. Army Corps of Engineers (the "Corps") to authorize jurisdictional crossings and for any impacts to jurisdictional features.

C. Discharge of Cooling Waters

No discharge of cooling waters is associated with the Partial Rebuild Project.

D. Tidal and Non-tidal Wetlands

No tidal wetlands were identified within the proposed Partial Rebuild Project area.

Wetlands Impact Consultation

Within the Partial Rebuild Project corridor, the Company delineated 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 *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* (Version 2.0). The Company submitted the results of this Preliminary Jurisdictional Delineation ("PJD") to the Corps on October 18, 2021, for confirmation. A copy of the PJD submittal is included as Attachment 2.D.1. Total preliminary jurisdictional resources within the proposed Partial Rebuild Project right-of-way and Company-owned property is provided in Tables 1 and 2 and detailed in Attachment 2.D.1.

Table 1. Jurisdictional resources within 500 kV Line #514 Partial Rebuild Project Right-of-Way

Palustrine Forested Wetlands (PFO)	Palustrine Emergent Wetlands (PEM)	Lower Perennial Stream Channels (R2)	Upper Perennial Stream Channels (R3)	Intermittent Stream Channels (R4)
0.01 Acres ±	0.98 Acres ±	0.32 Acres ± (250 L.F. ±)	0.45 Acres ± (546 L.F. ±)	0.02 Acres ± (235 L.F. ±)

The Company solicited comments from the Corps and the DEQ Office of Wetlands and Stream Protection in October 2021. The Company received a response on October 19, 2021, from the DEQ Office of Wetlands and Streams Protection, which recommended that measures should be taken to avoid and minimize impacts to surface waters and wetlands during construction activities. In addition, the applicant should contact Virginia Water Protection Permit Program staff to determine the need for any permits prior to commencing work that could impact surface waters or wetlands. The Company received a response from the Corps on October 28, 2021, which concluded that the Partial Rebuild Project may affect historic and cultural resources, the northern long-eared bat and dwarf wedgemussel and that permits may be required for the planned improvements. See Attachments 2.D.2 and 2.D.3.

Prior to construction, the Company will obtain any necessary permits to impact jurisdictional resources.

E. Solid and Hazardous Waste

On behalf of the Company, Stantec Consulting Services Inc. ("Stantec") conducted database searches for solid and hazardous wastes and petroleum release sites within a 0.5-mile radius (the "search radius") of the proposed Partial Rebuild Project to identify sites that may impact the proposed Partial Rebuild Project. This report is included as Attachment 2.E.1. Publicly available data from the U.S. Environmental Protection Agency ("EPA") Facility Registry System was obtained, which provides information about facilities, sites, or places subject to environmental regulation or of environmental interest. Although this data set contains all sites subject to environmental regulation by the EPA or other regulatory authorities, including sites that fall under air emissions or wastewater programs, the results reported here only include those sites which fall under the EPA's hazardous waste, solid waste, remediation, and underground storage tank programs *(i.e.*, Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), Resource Conservation and Recovery Act ("RCRA"), or brownfield sites). According to this database six registered RCRA sites (three very small quantity generators, one gas station, one gas storage for fleet vehicles, and one concrete plant) and three toxic releases (minor emissions) are present within the 0.5-mile radius of the Partial Rebuild Project. All sites are located outside of the right-of-way of the proposed Partial Rebuild Project and no violations have been reported for these sites. A table identifying RCRA sites as

falling within 0.5-mile radius of the Partial Rebuild Project is included as part of Attachment 2.E.1.

DEQ records were also searched for the presence of solid waste management facilities, Voluntary Remediation Program sites and petroleum releases. DEQ identified one solid waste site and five petroleum release sites within the search radius, none of which fall within the right-of-way of the Partial Rebuild Project. These petroleum release sites may include aboveground and underground storage tank releases, as well as aboveground spills. The Company has a procedure in place to handle petroleum contaminated soil, if encountered; however, as all of the release sites are located outside of the area of the Partial Rebuild Project, none of the petroleum release sites are expected to impact the Partial Rebuild Project. A table listing these sites is included in Attachment 2.E.1.

F. Natural Heritage, Threatened and Endangered Species

On behalf of the Company, Stantec conducted online database searches for threatened and endangered species in the vicinity of the Partial Rebuild Project, including the U.S. Fish and Wildlife Service ("USFWS") Information, Planning, and Conservation ("IPaC") system, the Virginia Department of Wildlife Resources ("DWR") Virginia Fish and Wildlife Information Service ("VAFWIS"), Virginia Department of Conservation and Recreation ("DCR"), Natural Heritage Data Explorer ("NHDE"), and the Center for Conservation Biology ("CCB") Bald Eagle Nest Locator. The results are summarized in a report, included as Attachment 2.F.1, and are presented in Table 2 below. Below the table, additional information about the potential impacts of the Partial Rebuild Project on the species noted in the table is discussed.

Table 2. Threatened, Endangered, and Natural Heritage species within the vicinity of the Partial Rebuild Project

Species	Results
Northern long-eared bat (*Myotis septentrionalis*) Status: FT, ST Database: USFWS-IPaC, DWR-NLEB Winter Habitat and Roost Tree Map	Identified as potentially occurring in the Partial Rebuild Project vicinity. No known hibernacula or maternity roost trees in the vicinity of the Partial Rebuild Project. The proposed project will take place within existing, cleared, and maintained transmission line right-of-way, although limited removal of danger trees and forestry work for construction access may be necessary. The standard time-of-year restriction for tree removal for the northern long eared bat is June 1 – July 31 within 150 feet of a documented maternity roost in adherence with the 4(d)Rule to avoid potential adverse effects.

Dwarf wedgemussel (*Alasmidonta heterodon*) Status: FE, SE Database: USFWS-IPaC	Identified as potentially occurring near the Partial Rebuild Project. No suitable habitat present within the Partial Rebuild Project area and no in-stream work is proposed. Therefore, the Partial Rebuild Project is expected to have no effect on the dwarf wedgemussel.
Brook floater (*Alasmidonta varicosa*) Status: SE Database: DWR-VaFWIS	Identified as potentially occurring within or near the Partial Rebuild Project. While suitable habitat is present in Maryland waters (the Potomac River) within the Partial Rebuild Project area, all transmission line construction work will occur within existing, cleared, and maintained right-of-way with no in-stream work proposed. Additionally, appropriate erosion and sediment controls will be utilized to protect downstream waters from construction stormwater. Therefore, the Partial Rebuild Project is not likely to adversely affect the brook floater.
Peregrine falcon (*Falco peregrinus*) Status: ST Database: DCR NHDE	Identified as potentially occurring near the Partial Rebuild Project and suitable habitat is present. All work will occur within the existing cleared and maintained transmission line right-of-way. Therefore, the Partial Rebuild Project is not likely to adversely affect the peregrine falcon.
Green floater (*Lasmigona subviridis*) Status: ST Database: DWR-VaFWIS, DCR NHDE	Identified as potentially occurring within or near the Partial Rebuild Project. While suitable habitat is present in Maryland waters (the Potomac River) within the Partial Rebuild Project area, all transmission line construction work will occur within existing, cleared, and maintained right-of-way with no in-stream work proposed. Additionally, appropriate erosion and sediment controls will be utilized to protect downstream waters from construction stormwater. Therefore, the Partial Rebuild Project is not likely to adversely affect the green floater.
Wood turtle (*Glyptemys insculpta*) Status: ST Database: DCR NHDE	Identified as potentially occurring within or near the Partial Rebuild Project. While potential habitat is present, the Partial Rebuild Project is not likely to adversely affect the wood turtle as no conversion of habitat is expected and all transmission line construction work will occur within existing, cleared, and maintained right-of-way.

FT: federally threatened, FE: federally endangered, ST: state threatened, SE: state endangered

Northern Long-eared Bat

The federally and state threatened northern long-eared bat has been identified by USFWS-IPaC as potentially occurring within the vicinity of the Partial Rebuild Project; however, DWR records indicate that no known hibernacula or maternity roost trees occur within the vicinity of the Partial Rebuild Project. The northern long-eared bat is typically found in intact forest habitats with mixed hardwoods and often nests in and breeds in tree hollows and in woody debris (Source: NatureServe). The Partial Rebuild Project will occur within an existing maintained transmission line right-of-way; however, additional tree removal may be required. Given that no northern long-eared bat hibernacula or maternity roost trees occur in the vicinity of the Partial Rebuild Project, no impacts are expected. To the extent that impact may be possible, the Company would plan to rely upon and comply with the USFWS Endangered Species Act ("ESA") § 4(d) Rule for NLEB.

Dwarf wedgemussel

The federally and state endangered dwarf wedgemussel was identified by USFWS-IPaC as potentially occurring within or near the Partial Rebuild Project area. The species inhabits shallow to deep quick running water on fine gravel, cobble, or on firm silt or sandy bottoms. The dwarf wedgemussel requires areas of slow to moderate current, good water quality, and little silty deposits (Source: NatureServe). It appears that no suitable habitat is present within the Partial Rebuild Project area, and all transmission line construction work will occur within existing, cleared, and maintained right-of-way. Therefore, the Partial Rebuild Project is expected to have no effect on the dwarf wedgemussel.

Brook floater

The state endangered brook floater was identified by DWR-VAFWIS as potentially occurring within or near the Partial Rebuild Project area. The species only inhabits flowing water habitats and is typically found in riffles and moderate rapids with sandy shoals or riffles with gravel bottoms, although it can also be found in a range of flow conditions. DWR-VAFWIS has records of brook floater in Maryland waters (the Potomac River) within the Partial Rebuild Project area; however, all of the Company's transmission line construction work will occur within existing, cleared, and maintained right-of-way with no in-stream work proposed. Additionally, appropriate erosion and sediment controls will be utilized to protect downstream waters from construction stormwater. Therefore, the Partial Rebuild Project is not likely to adversely affect the brook floater.

Peregrine falcon

The state threatened peregrine falcon was identified by DCR NHDE as potentially occurring within or near the Partial Rebuild Project area. The peregrine falcon typically nests on ledges of rocky cliffs, usually with a sheltering overhang, as

well as tree hollows, and man-made structures including ledges of city buildings. While potential habitat is present all work will occur within existing, cleared, and maintained right-of-way. Therefore, the Partial Rebuild Project is not likely to adversely affect the peregrine falcon.

Green floater

The DWR-VAFWIS and DCR NHDE databases identified the state threatened green floater as potentially occurring within or near the Partial Rebuild Project area. The species inhabits smaller streams, and calm water areas and is intolerant of strong currents and poor water quality. While suitable habitat is present within the Partial Rebuild Project area, all of the Company's transmission line construction work will occur within existing, cleared, and maintained right-of-way with no in-stream work proposed. Additionally, appropriate erosion and sediment controls will be utilized to protect downstream waters from construction stormwater. Therefore, the Partial Rebuild Project is not likely to adversely affect the green floater.

Wood turtle

The state threatened wood turtle was identified by DCR NHDE as potentially occurring within or near the Partial Rebuild Project area. This species typically lives along permanent streams during most of the year but can be found in a variety of habitats such as cultivated fields, marshy pastures, deciduous woods, and woodland bogs near streams during the summer months. While potential habitat is present, the Partial Rebuild Project is not likely to adversely affect the wood turtle as no conversion of habitat is expected and all transmission line construction work will occur within existing, cleared, and maintained right-of-way.

Bald Eagle

According to the CCB Bald Eagle Nest Locator database, no known nests or roost areas are located near the Partial Rebuild Project. The closest bald eagle nest, LD1602, is approximately 3.81-miles from the Partial Rebuild Project. Since no work is occurring within 660 feet of an active eagle nest it is unlikely that bald eagles will be adversely affected by construction.

The Company requested comments from the USFWS, DWR, and DCR regarding the proposed Partial Rebuild Project in October 2021. The DCR responses are included as Attachments 2.F.2 and 2.F.3.

As the Company will obtain all necessary permits prior to construction, such as authorization from the VMRC, DEQ, and the Corps, coordination with the DWR, DCR, and USFWS will take place through the respective permit processes to avoid and minimize impacts to listed species.

New and updated information is continually added to the DCR's Biotics database. Following the DCR-DNH SCC planning stage project review, the Company shall resubmit project information with completed information services order form and a map to DCR-DNH or submit the project on-line through the Natural Heritage Data Explorer. This review shall occur during the final stage of engineering and upon any major modifications of the project during construction (*e.g.*, 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 to 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

Stantec was retained by the Company to conduct a Stage I Pre-Application Analysis for the proposed Partial Rebuild Project. This analysis was completed in October 2021, and submitted to Virginia Department of Historic Resources ("VDHR") in November 2021. 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) for proposed transmission line improvements. As detailed by VDHR guidance, consideration was given to: National Historic Landmark ("NHL") properties located within a 1.5-mile radius of the centerline of the Partial Rebuild Project; National Register of Historic Places ("NRHP") listed properties, battlefields, and historic landscapes located within a 1.0-mile radius of the centerline of the Partial Rebuild Project; NRHP-eligible sites located within a 0.5-mile radius of the centerline of the Partial Rebuild Project; and archaeological sites located within the Partial Rebuild Project right-of-way corridor.

Archaeological Resources

One previously recorded archaeological resource was identified within the right-of-way during the background research. A prehistoric temporary camp (44LD1341) has been determined potentially eligible for listing on the NRHP by VDHR. The archaeological resource is listed in Table 3, below.

Table 3. Previously Recorded Archaeological Resource within the Existing Right-of-Way of the Partial Rebuild Project

VDHR #	Resource Name	DHR/NRHP Status
44LD1341	Prehistoric Temporary Camp	Determined Potentially Eligible for Listing on the NRHP by DHR

Architectural Resources

No NHLs are located within the 1.5-mile radius of the Partial Rebuild Project centerline. One NRHP-listed resource is located within 1.0-mile and two NRHP-eligible resources are located within 0.5-miles of the centerline. Additionally, one NRHP-eligible and one potentially eligible battlefield are also present within 1.0-mile of the transmission line. The battlefield resources also cross the transmission line right-of-way corridor. Distances of architectural resources to the proposed Partial Rebuild Project are provided in the table below.

Table 4. Architectural Resources within the Vicinity of the Partial Rebuild Project

DHR #	Resource Name	DHR/NRHP Status	Distance to Line (Feet)	Impact
053-0276	Alexandria, Loudoun and Hampshire Railroad	NRHP-Eligible	1,156	Minimal
053-5058	Ball's Bluff Battlefield	NRHP-Potentially Eligible	0	Minimal
053-5783	Murray Hill, 42910 Edwards Ferry Road NE	NRHP-Listed	1,783	Minimal
053-6078	Edwards Ferry Road	NRHP-Eligible	1,340	Minimal
253-5182	Ball's Bluff Battlefield & National Cemetery Historic District Boundary Increase	NRHP-Eligible	0	Minimal

I. Chesapeake Bay Preservation Areas

Construction, installation, operation, and maintenance of electric transmission lines are conditionally exempt from the Chesapeake Bay Preservation Act as

stated in the exemption for public utilities, railroads, public roads, and facilities in 9 VAC 25-830-150. The Company will meet those conditions.

J. Wildlife Resources

Agency databases were reviewed and agency consultations initiated with the USFWS, DWR, and DCR to determine if the proposed Partial Rebuild Project has the potential to affect any threatened or endangered species. As discussed in Section 2.F, certain federal and state listed species were identified as potentially occurring in the area of the Partial Rebuild Project. The Company will coordinate with the USFWS, DWR, and DCR as appropriate to determine whether surveys are necessary and to minimize impacts on wildlife resources. Since the proposed Partial Rebuild Project is a rebuild of a transmission line within existing right-of-way, no loss of wildlife habitat is anticipated.

K. Recreation, Agricultural and Forest Resources

The Partial Rebuild Project is expected to have minimal permanent impacts on recreational, agricultural, and forest resources since no additional right-of-way is required. The general character of the area of the Partial Rebuild Project is predominantly suburban with open spaces and residential uses.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. Land that does not meet the criteria for prime farmland can be considered to be "farmland of statewide importance." The criteria for defining and delineating farmland of statewide importance are determined by the Virginia Department of Agriculture and Consumer Services. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Other areas that are not identified as having national or statewide importance can be considered to be "farmland of local importance." This farmland is identified by the appropriate local agencies. Farmland of local importance may include tracts of land that have been designated for agriculture by local ordinance. Acreages of prime farmland and farmland of statewide importance within each segment are provided in the following table.

Table 5. Farmland within the Partial Rebuild Project

Prime Farmland (ac)	Farmland of Statewide Importance (ac)
19.59	29.97

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 five years in duration and can be held in perpetuity. One existing conservation easement is located within the right-of-way on the north side of River Creek Parkway in Loudoun County. The easement is open to the public and held by the Northern Virginia Regional Park Authority. The easement was established in June 1999. The initial construction and acquisition of Company easements for the right-of-way preceded the designation of this conservation easement. The proposed Partial Rebuild Project is the rebuild of an existing transmission line and no additional right-of-way is required. In October 2021, the Company solicited Virginia Outdoors Foundation ("VOF") for comments on the proposed Partial Rebuild Project. In a response letter dated October 28, 2021, VOF concluded that there are three (3) existing open-space easements within one (1) mile that may be impacted by the Partial Rebuild Project. VOF strongly advocates for any replacement structures and the associated Partial Rebuild Project components to have less of a presence on the landscape, at the least, mimic the characteristics of the existing towers in height, size, and color, specifically regarding reflectivity. A copy of the response is included as Attachment 2.K.1.

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. Scenic river Goose Creek is in close proximity to the right-of-way but does not lie within or adjacent to the Partial Rebuild Project right-of-way.

The Partial Rebuild Project crosses through one park, Red Rock Wilderness Overlook Regional Park, and there is one additional park, Keep Loudoun Beautiful Park, within one half-mile. In October 2021, the Company solicited DCR for comments on the proposed Partial Rebuild Project. In an email dated October 18, 2021, DCR stated that the proposed Partial Rebuild Project would not impact any scenic resources or other recreation resources that they track; however, Red Rock Wilderness Overlook Regional Park has 6(f) protection through the National Park Land and Water Conservation Fund ("NP/LWCF") program and coordination with the NOVA Regional Park Authority is required. See Attachment 2.K.2. In an email dated October 19, 2021, the Northern Virginia Regional Park Authority noted that coordination with the Park Authority is required prior to construction activities. See Attachment 2.K.3. Table 6 provides parks within one half-mile of the Partial Rebuild Project.

Table 6. Parks within 0.5 mile of the Partial Rebuild Project

Park	Managing Authority	Distance to Centerline (ft)
Red Rock Wilderness Overlook Regional Park	Loudoun County	0
Keep Loudoun Beautiful Park	Loudoun County	950

The entire width of the existing transmission corridor is currently cleared and maintained for transmission facility operations. However, the Partial Rebuild Project may require some trimming of tree limbs along the right-of-way edges to support construction activities. Trees and brush located within 100 feet of streams will be cleared by hand in accordance with the Company approved Erosion and Sediment Control specifications.

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 towards 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 Partial Rebuild Project is expected to have minimal, if any, impact on agricultural or forest resources as the proposed Partial Rebuild Project involve rebuilding a portion of an existing line which is already cleared and maintained for existing facility operation and no additional right-of-way is required. In October 2021, the Company solicited Virginia Department of Forestry ("DOF") for comments on the proposed Partial Rebuild Project. A response letter from DOF dated October 27, 2021, indicated that DOF had no comments on the Partial Rebuild Project. This letter is included as Attachment 2.K.4.

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 the 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. However, 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

According to the Division of Geology and Mineral Resources Interactive Geologic Map, the area of the Partial Rebuild Project consists primarily of sands, silts, and shale. According to the USGS topographic maps and aerial imagery, there are no active mines or stone quarries within the limits of the Partial Rebuild Project. A search of the Virginia Department of Mines, Minerals, and Energy online map indicates no abandoned mines within the right-of-way. There is one active mine and two abandoned mines within a 1.0-mile radius of the right-of-way. Coordinates of these mines are provided in Table 7. The Company does not anticipate that the rebuild of the existing transmission lines will result in negative impacts on the geology or mineral resources.

Table 7. Mines within 1.0-Mile of the Partial Rebuild Project Right-of-way

Mine ID	Mineral	Status	Latitude	Longitude
05769AC	Sand	Active	39.0800063	-77.519966
DMM03758	Copper	Abandoned	39.087458	-77.511231
DMM03759	Copper	Abandoned	39.093534	-77.506257

N. Transportation Infrastructure

The existing variable width transmission line corridor extends approximately 2.8 miles beginning at Structure #514/1854 in Loudoun County, traverses north and terminates at the Virginia-Maryland border. The 500 kV Line #514 Partial Rebuild Project will cross 14 public roads; out of 14, three are on/off exit ramps to Route 7. Roads within the Partial Rebuild Project area range from moderate traffic volume county roads to urban arterials. The only major road crossed by the right-of-way is E Market Street (Route 7).

The Company plans to apply for land use permits from the Virginia Department of Transportation ("VDOT") for the aerial crossings of VDOT maintained roads and any construction entrances from the VDOT right-of-way. All permits will be obtained prior to construction. The Company will prepare traffic control plans and submit to VDOT for approval concerning the line pull over Route 7. In

October 2021, the Company solicited VDOT for comments on the proposed Partial Rebuild Project. VDOT responded via an email dated November 8, 2021, stating the Company is responsible for obtaining applicable environmental regulatory clearances or approvals pertaining to any Partial Rebuild Project activities within the VDOT right of way. This response is included as Attachment 2.N.1.

The Company solicited comments from the Virginia Department of Aviation ("DOAv") regarding the proposed Partial Rebuild Project. The DOAv responded via an email dated October 18, 2021, stating the requirement for the Company to submit Form 7460 to the Federal Aviation Administration ("FAA") to initiate an aeronautical study. This response is included as Attachment 2.N.2. The design of the proposed Partial Rebuild Project must prevent interference with pilots' safe ingress and egress at the airport. Such hazard or impediments include interference with navigation and communication equipment and glare from materials and external lights.

Finally, the Company has reviewed the FAA's website (https://oeaaa.faa.gov/oeaaa/external/portal.jsp) to identify airports within 10 miles of the Partial Rebuild Project. Based on this review, two FAA-restricted airports are located within 10 miles of the Partial Rebuild Project:

Table 8. Airports within 10 nautical miles (NM)* of the Partial Rebuild Project

Airport	Distance to Line (NM)
Leesburg Executive	1.25
Washington Dulles International Airport	9.12

* Distances based upon center coordinate of airport provided by FAA.

Several private airports/helipads are located within 10 miles of the line and the Company will work with private entities as appropriate.

The Company will coordinate with VDOT, DOAv, and the FAA as necessary to obtain all appropriate permits.

Attachments

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

October 14, 2021

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 500 kV Line #514 Partial Rebuild Project
Loudoun County, Virginia

Dear Ms. Rayfield,

Dominion Energy Virginia (the "Company") is proposing the 500 kV Line #514 Partial Rebuild Project (the "Project") within Loudoun County, Virginia. The Project will replace aging infrastructure that is at the end of its service life in order to maintain the overall long-term reliability of its transmission system.

Specifically, the Company is proposing to rebuild approximately 2.8 miles of the existing overhead 500 kV Doubs-Goose Creek Line #514 from existing Structure #514/1854, which is not being replaced, located two spans outside of the Company's existing Goose Creek Substation to Structure #514/1841 located at the Virginia-Maryland border.

The Company is in the process of preparing an application for a Certificate of Public Convenience and Necessity ("CPCN") from the State Corporation Commission ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that you submit any comments or additional information 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 Rachel Studebaker at (804) 217-1847 or rachel.m.studebaker@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

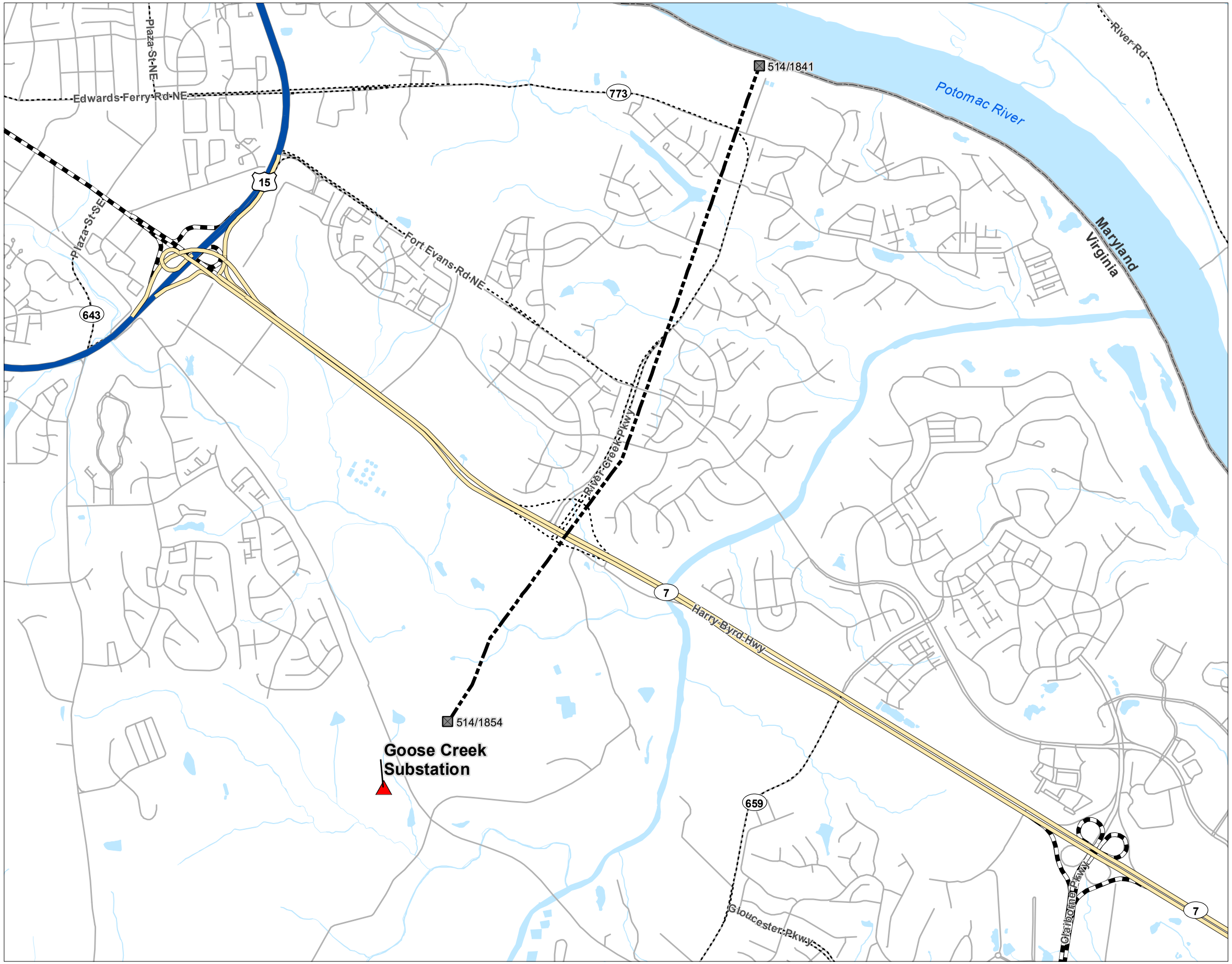


Figure No.
V.A.

Title
Notification Map

Client/Project 203401646
Dominion Energy Virginia
500 kV Line # 514 Partial Rebuild Project

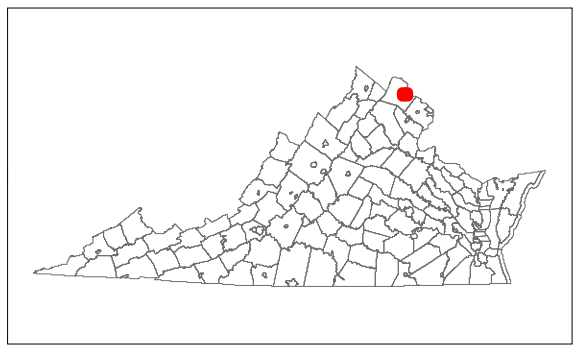
Project Location
Loudoun County, Virginia

Prepared by MGS on 2021-07-09
TR by TPS on 2021-09-03
IR by CPG on 2021-09-02

N

0 1,000 2,000 Feet
(At original document size of 11x17)
1:24,000

- Substation
- Beginning/Endpoint Structures
- 500 kV Line # 514 Partial Rebuild Project Centerline
- Other Major Road
- Secondary Road
- Local Connecting Road
- Important Local Road
- Street



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, ESRI, DCR, NADS, USFWS National Wetlands Inventory (NWI) and USGS National Hydrography Dataset (NHD)

Stantec

U:\203401646\03_data\gis_cad\gis\01646_p_scc_v.a.mxd Revised: 2021-10-13 By: ljjones

Attachment 2
Page 2 of 17

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

October 14, 2021

BY EMAIL

Mr. Troy Andersen
US Fish and Wildlife Service
Ecological Services Virginia Field Office
6669 Short Lane
Gloucester, Virginia 23061

RE: Dominion Energy Virginia's 500 kV Line #514 Partial Rebuild Project
Loudoun County, Virginia

Dear Mr. Andersen,

Dominion Energy Virginia (the "Company") is proposing the 500 kV Line #514 Partial Rebuild Project (the "Project") within Loudoun County, Virginia. The Project will replace aging infrastructure that is at the end of its service life in order to maintain the overall long-term reliability of its transmission system.

Specifically, the Company is proposing to rebuild approximately 2.8 miles of the existing overhead 500 kV Doubs-Goose Creek Line #514 from existing Structure #514/1854, which is not being replaced, located two spans outside of the Company's existing Goose Creek Substation to Structure #514/1841 located at the Virginia-Maryland border.

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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

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

October 14, 2021

BY EMAIL

Mr. Mark Eversole
Habitat Management Division
Virginia Marine Resources Commission
Building 96, 380 Fenwick Road
Fort Monroe, Virginia 23651

RE: Dominion Energy Virginia's 500 kV Line #514 Partial Rebuild Project
Loudoun County, Virginia

Dear Mr. Eversole,

Dominion Energy Virginia (the "Company") is proposing the 500 kV Line #514 Partial Rebuild Project (the "Project") within Loudoun County, Virginia. The Project will replace aging infrastructure that is at the end of its service life in order to maintain the overall long-term reliability of its transmission system.

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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

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

October 14, 2021

BY EMAIL

Regulator of the Day
US Army Corps of Engineers
Norfolk District
803 Front Street
Norfolk, Virginia 23510

RE: Dominion Energy Virginia's 500 kV Line #514 Partial Rebuild Project
Loudoun County, Virginia

Dear Regulator of the Day,

Dominion Energy Virginia (the "Company") is proposing the 500 kV Line #514 Partial Rebuild Project (the "Project") within Loudoun County, Virginia. The Project will replace aging infrastructure that is at the end of its service life in order to maintain the overall long-term reliability of its transmission system.

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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

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

October 14, 2021

BY EMAIL

Ms. Robbie Rhur
Planning Bureau
Department of Conservation and Recreation
600 East Main Street, 17th Floor
Richmond, Virginia 23219

RE: Dominion Energy Virginia's 500 kV Line #514 Partial Rebuild Project
Loudoun County, Virginia

Dear Ms. Rhur,

Dominion Energy Virginia (the "Company") is proposing the 500 kV Line #514 Partial Rebuild Project (the "Project") within Loudoun County, Virginia. The Project will replace aging infrastructure that is at the end of its service life in order to maintain the overall long-term reliability of its transmission system.

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Sincerely,

Dominion Energy Virginia

Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map

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

October 14, 2021

BY EMAIL

Ms. Amy M. Ewing
Virginia Department of Wildlife Resources
P.O. Box 90778
Henrico, Virginia 23228

RE: Dominion Energy Virginia's 500 kV Line #514 Partial Rebuild Project
Loudoun County, Virginia

Dear Ms. Ewing,

Dominion Energy Virginia (the "Company") is proposing the 500 kV Line #514 Partial Rebuild Project (the "Project") within Loudoun County, Virginia. The Project will replace aging infrastructure that is at the end of its service life in order to maintain the overall long-term reliability of its transmission system.

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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

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

October 14, 2021

BY EMAIL

Ms. Rene Hypes
Virginia Department of Conservation and Recreation
Environmental Review Coordinator, Natural Heritage Program
600 East Main Street, Suite 1400
Richmond, Virginia 23219

RE: Dominion Energy Virginia's 500 kV Line #514 Partial Rebuild Project
Loudoun County, Virginia

Dear Ms. Hypes,

Dominion Energy Virginia (the "Company") is proposing the 500 kV Line #514 Partial Rebuild Project (the "Project") within Loudoun County, Virginia. The Project will replace aging infrastructure that is at the end of its service life in order to maintain the overall long-term reliability of its transmission system.

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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

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

October 14, 2021

BY EMAIL

Mr. Terry Lasher
Forestland Conservation Division
Virginia Department of Forestry
900 Natural Resources Drive, Suite 800
Charlottesville, Virginia 22903

RE: Dominion Energy Virginia's 500 kV Line #514 Partial Rebuild Project
Loudoun County, Virginia

Dear Mr. Lasher,

Dominion Energy Virginia (the "Company") is proposing the 500 kV Line #514 Partial Rebuild Project (the "Project") within Loudoun County, Virginia. The Project will replace aging infrastructure that is at the end of its service life in order to maintain the overall long-term reliability of its transmission system.

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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

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

October 18, 2021

BY EMAIL

Mr. Brian Nolan
Planning & Development Director
Northern Virginia Regional Park Authority
5400 Ox Road
Fairfax Station, Virginia 22039

RE: Dominion Energy Virginia's 500 kV Line #514 Partial Rebuild Project
Loudoun County, Virginia

Dear Mr. Nolan,

Dominion Energy Virginia (the "Company") is proposing the 500 kV Line #514 Partial Rebuild Project (the "Project") within Loudoun County, Virginia. The Project will replace aging infrastructure that is at the end of its service life in order to maintain the overall long-term reliability of its transmission system.

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Sincerely,

Dominion Energy Virginia

Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map

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

October 14, 2021

BY EMAIL

Mr. Keith Tignor
Endangered Plant and Insect Species Program
Virginia Department of Agriculture and Consumer Affairs
102 Governor Street
Richmond, Virginia 23219

RE: Dominion Energy Virginia's 500 kV Line #514 Partial Rebuild Project
Loudoun County, Virginia

Dear Mr. Tignor,

Dominion Energy Virginia (the "Company") is proposing the 500 kV Line #514 Partial Rebuild Project (the "Project") within Loudoun County, Virginia. The Project will replace aging infrastructure that is at the end of its service life in order to maintain the overall long-term reliability of its transmission system.

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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

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

October 14, 2021

BY EMAIL

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

RE: Dominion Energy Virginia's 500 kV Line #514 Partial Rebuild Project
Loudoun County, Virginia

Dear Mr. Kirchen,

Dominion Energy Virginia (the "Company") is proposing the 500 kV Line #514 Partial Rebuild Project (the "Project") within Loudoun County, Virginia. The Project will replace aging infrastructure that is at the end of its service life in order to maintain the overall long-term reliability of its transmission system.

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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 & Permitting Engineer, Electric Transmission

Attachment: Project Notice Map
Cc: Timothy Roberts

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

October 14, 2021

BY EMAIL

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

RE: Dominion Energy Virginia's 500 kV Line #514 Partial Rebuild Project
Loudoun County, Virginia

Dear Mr. Denny,

Dominion Energy Virginia (the "Company") is proposing the 500 kV Line #514 Partial Rebuild Project (the "Project") within Loudoun County, Virginia. The Project will replace aging infrastructure that is at the end of its service life in order to maintain the overall long-term reliability of its transmission system.

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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 & Permitting Engineer, Electric Transmission

Attachment: Project Notice Map

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

October 14, 2021

BY EMAIL

Mr. Mike Helvey
Federal Aviation Administration
FAA Eastern Regional Office
800 Independence Ave, SW
Room 400 East
Washington, D.C. 20591

RE: Dominion Energy Virginia's 500 kV Line #514 Partial Rebuild Project
Loudoun County, Virginia

Dear Mr. Helvey,

Dominion Energy Virginia (the "Company") is proposing the 500 kV Line #514 Partial Rebuild Project (the "Project") within Loudoun County, Virginia. The Project will replace aging infrastructure that is at the end of its service life in order to maintain the overall long-term reliability of its transmission system.

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Sincerely,

Dominion Energy Virginia

Charles H. Weil, PE
Siting & Permitting Engineer, Electric Transmission

Attachment: Project Notice Map

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

October 14, 2021

BY EMAIL

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

RE: Dominion Energy Virginia's 500 kV Line #514 Partial Rebuild Project
Loudoun County, Virginia

Dear Mr. Suliman,

Dominion Energy Virginia (the "Company") is proposing the 500 kV Line #514 Partial Rebuild Project (the "Project") within Loudoun County, Virginia. The Project will replace aging infrastructure that is at the end of its service life in order to maintain the overall long-term reliability of its transmission system.

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Sincerely,

Dominion Energy Virginia

Charles H. Weil, PE
Siting & Permitting Engineer, Electric Transmission

Attachment: Project Notice Map

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

October 14, 2021

BY EMAIL

Ms. Helen Cuervo
Northern Virginia District Engineer
Virginia Department of Transportation
Northern Virginia District Office
4975 Alliance Drive
Fairfax, Virginia 22030

RE: Dominion Energy Virginia's 500 kV Line #514 Partial Rebuild Project
Loudoun County, Virginia

Dear Ms. Cuervo,

Dominion Energy Virginia (the "Company") is proposing the 500 kV Line #514 Partial Rebuild Project (the "Project") within Loudoun County, Virginia. The Project will replace aging infrastructure that is at the end of its service life in order to maintain the overall long-term reliability of its transmission system.

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Sincerely,

Dominion Energy Virginia

Charles H. Weil, PE
Siting & Permitting Engineer, Electric Transmission

Attachment: Project Notice Map

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

October 14, 2021

BY EMAIL

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

RE: Dominion Energy Virginia's 500 kV Line #514 Partial Rebuild Project
Loudoun County, Virginia

Dear Ms. Little,

Dominion Energy Virginia (the "Company") is proposing the 500 kV Line #514 Partial Rebuild Project (the "Project") within Loudoun County, Virginia. The Project will replace aging infrastructure that is at the end of its service life in order to maintain the overall long-term reliability of its transmission system.

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Sincerely,

Dominion Energy Virginia

Charles H. Weil, PE
Siting & Permitting Engineer, Electric Transmission

Attachment: Project Notice Map

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

Ann F. Jennings
Secretary of Natural and Historic Resources

David K. Paylor
Director
(804) 698-4000

October 19, 2021

Rachel Studebaker
Dominion Energy Services
120 Tredegar Street
Richmond, VA 23219

RE: Dominion Energy Virginia's 500 kV Line #514 Partial Rebuild Project, Loudoun County, Virginia

Dear Ms. Studebaker:

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) 698-4204 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

COMMONWEALTH of VIRGINIA

Marine Resources Commission
380 Fenwick Road
Bldg 96
Fort Monroe, VA 23651-1064

Ann F. Jennings
Secretary of Natural and Historic Resources

Steven G. Bowman
Commissioner

November 8, 2021

Dominion Energy Services
120 Tredegar Street
Richmond, VA 23219

Re: 500 kV Line #514 Partial Rebuild Project - Loudoun County, Virginia

Dear Ms. Studebaker,

This will respond to the request for comments regarding the 500 kV Line #514 Partial Rebuild Project, prepared by Dominion Energy Services, Inc. Specifically, Dominion Energy Services, Inc. has proposed to rebuild approximately 2.8 miles of the existing overhead 500 kV Doubs-Goose Creek Line #514 from existing Structure #514/1854 to Structure #514/1841 located at the Virginia-Maryland border in Loudoun County, Virginia. We reviewed the provided documents and found that the proposed project as it is currently presented may be within the jurisdictional areas of the Virginia Marine Resources Commission (VMRC) and may require a permit from this agency.

Please be advised that the VMRC, pursuant to §28.2-1200 et seq of the Code of Virginia, has jurisdiction over encroachments in, on, or over the beds of the bays, ocean, rivers, streams, or creeks which are the property of the Commonwealth. Accordingly, if any portion of the subject project involves any encroachments channelward of ordinary high water along non-tidal, natural rivers and streams with a drainage area greater than 5-square miles, a permit may be required from our agency. Any jurisdictional impacts will be reviewed by the VMRC during the JPA process.

Please contact me at (757) 247-8028 or by email at mark.eversole@mrc.virginia.gov if you have any questions. Thank you for the opportunity to comment.

Sincerely,

Mark Eversole
Environmental Engineer, Habitat Management

ME/cg
HM

Stantec Consulting Services Inc.
150 Riverside Parkway Suite 301, Fredericksburg VA 22406-1094

October 14, 2021
File: 203401646

Attention: Regulator of the Day
U.S. Army Corps of Engineers
803 Front Street
Norfolk, Virginia 23510-1096
Via Email: CENAO.REG_ROD@usace.army.mil

Reference: Request for Preliminary Jurisdictional Determination
500 kV Line #514 Partial Rebuild Project, Loudoun County, Virginia

Start:	Latitude: 39.075423˚	Longitude: -77.531433˚
Terminus:	Latitude: 39.114643˚	Longitude: -77.504399˚

Applicant: Mr. Mark Allen
Dominion Energy Virginia
10900 Nuckols Road, 4th Floor
Glen Allen, Virginia 23060

Dear Regulator of the Day:

Stantec Consulting Services Inc. (Stantec) has been retained by Virginia Electric and Power Company, doing business as Dominion Energy Virginia, to conduct a detailed investigation of waters of the U.S., including wetlands, on the above-referenced project. The study area consists of a 3.14-mile (99.86 acres) existing transmission line right-of-way (ROW) located within the Sycolin Creek, Tuscarora Creek, Cattail Branch, and Potomac River drainage basins in Loudoun County, Virginia (Figure 1). The study area starts at the Goose Creek Substation northeast of the terminus of Claudia Drive, southeast of Rhonda Place Southeast, southwest of Samuels Mill Court, northwest of Cochran Mill Road (Route 653), runs generally northeast and terminates at the Potomac River and Virginia-Maryland border north of River Creek Parkway (Route 773). The study area can be accessed via, but is not limited to, Cochran Mill Road, Samuels Mill Court, Gold Club Road, Potomac Station Drive, Riverside Parkway, and River Creek Parkway (Figure 2). For the purposes of this submittal, the study area terminates at the Virginia-Maryland border at the Potomac River. However, the overall project area continues north into Maryland through portions of Montgomery and Frederick Counties for approximately 15 miles and terminates at the Doubs Substation in Frederick County, Maryland. A copy of the Pre-Application and/or Jurisdictional Waters Determination Request Form is provided in Appendix A.

Off-site Evaluation

Prior to conducting fieldwork, Stantec consulted the U.S. Geological Survey (USGS) 7.5-minute Topographical Quadrangle Map for Leesburg, Virginia (1994 revision), the National Wetlands Inventory Interactive Mapper (NWI), administered by the U.S. Fish and Wildlife Service (USFWS), the SSURGO Soils Survey, administered by the Natural Resources Conservation Service (NRCS), and flood plain maps available at the Flood Map Service Center, administered by the Federal Emergency Management Agency (FEMA). The USGS quad map depicts a study area consisting of cleared land associated with the existing ROW situated on gentle to moderately sloping terrain. Tuscarora Creek, Cattail Branch and several unnamed intermittent streams are depicted with the study area. The NWI map (Figure 3) depicts palustrine forested/shrub wetlands along with intermittent and perennial streams within the study limits. The soil survey (Figure 4) indicates that the site is underlain primarily by Penn silt loam, Nestoria Channery silt loam, Sycoline-Kelly complex, Sycoline-Catlett complex, Waxpool silt loam, Jackland and Haymarket soils, Ashburn silt loam, Dulles silt loam, Albano silt loam, and Elbert silty clay loam. Waxpool silt loam, Elbert silty clay loam, and Albano silt loam are classified by the NRCS as hydric in Loudoun County, Virginia. All other soils are listed as non-hydric, however, Sycoline-Catlett complex, Jackland and Haymarket Soils, Nestoria Channery silt loam, Ashburn silt loam, and Dulles silt loam may contain hydric inclusions. Additionally, the Flood Hazard Map (Figure 5) shows portions of the study area as occurring within the 100-year floodplain (Zone AE).

Reference: 500 kV Line #514 Partial Rebuild Project

On-site Evaluation

Fieldwork was conducted during July 2021 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).* Wetland flags were placed in the field by Stantec and sequentially numbered to provide an on-site record of the delineation. The data sheets (Appendix B) used in this investigation are attached along with the Delineation Map (Figure 6) showing the GPS located limits of wetlands and other water features, as well as data point locations. Representative site photos are included in Appendix C.

Site Description

Jurisdictional features identified by Stantec within the project limits may be classified as palustrine forested and emergent wetlands along with intermittent and perennial streams. Wetland vegetation is typified by green ash (*Fraxinus pennsylvanica*), American elm (*Ulmus americana*), broadleaf cattail (*Typha latifolia*), soft rush (*Juncus effusus*), Japanese stiltgrass (*Microstegium vimineum*), Pennsylvania smartweed (*Persicaria pensylvanica*), small carpetgrass (*Arthraxon hispidus*), straw-colored flatsedge (*Cyperus strigosus*), and poison ivy (*Toxicodendron radicans*). The transition from wetland to upland is generally identified by a shift in the vegetative community and a shift from hydric to non-hydric soils. Table 1 shows the dimensions of the identified jurisdictional resources within the project area.

Table 1. Wetlands and WOUS Calculations

PFO (Acres)	**PEM** (Acres)	**Stream Channels** R2 Acres (LF)	**Stream Channels** R3 Acres (LF)	**Stream Channels** R4 Acres (LF)
0.01	0.98	0.32 (250)	0.45 (546)	0.02 (235)

On behalf of our client, Stantec respectfully requests that the Corps confirm our delineation. We would appreciate the opportunity to meet with you on site to present our fieldwork. Please call to set up a meeting date or to discuss any questions regarding our investigation.

Thank you for your cooperation in this matter.

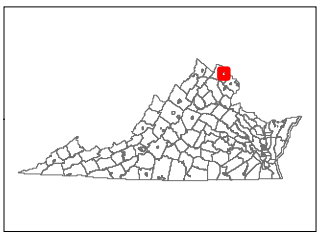
Regards,

Stantec Consulting Services Inc.

Brendan Young
Ecologist
Phone: (540) 785-5544
Fax: (540) 785-1742
brendan.young@stantec.com

Attachment: Figures 1-6 & Appendices A-C

c. Mark Allen – Dominion Energy Virginia
Rachel Roberts – Stantec



Project Limits

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(At original document size of 8.5x11)
1:120,000

N

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia
3. Orthoimagery © Bing Maps
4. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

Stantec

Project Location
Loudoun County, Virginia

Prepared by ECL on 2021-07-12
TR by MGS on 2021-07-20
IR by JMM on 2021-07-20

Client/Project 203401646
Dominion Energy Virginia
500 kV Line #514 Partial Rebuild Project
Virginia Portion

Figure No.
1

Title
Project Vicinity Map

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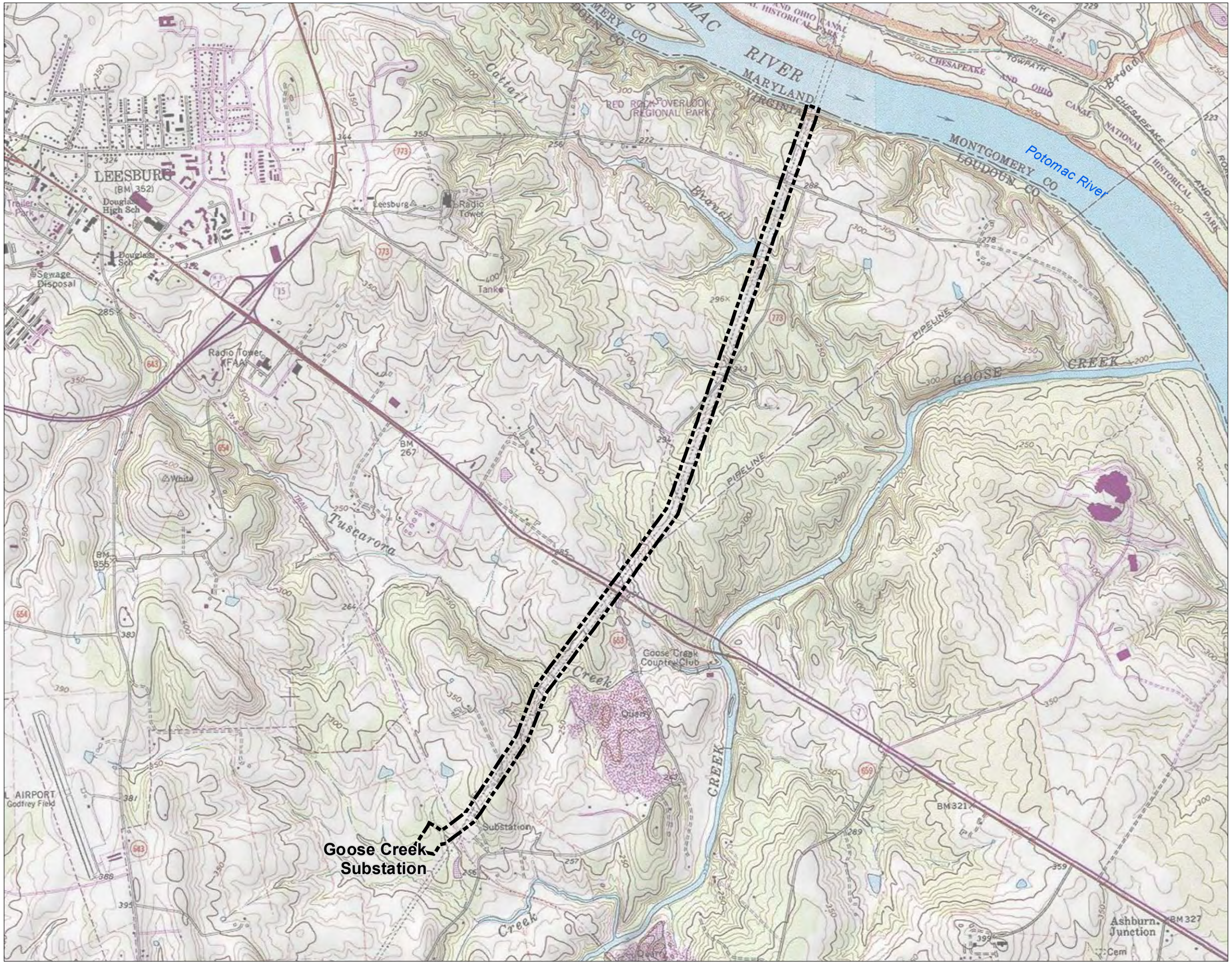


Figure No.

2

Title

Project Location Map

Client/Project 203401646

Dominion Energy Virginia
500 kV Line #514 Partial Rebuild Project
Virginia Portion

Project Location

Loudoun County, Virginia

Prepared by ECL on 2021-07-12
TR by MGS on 2021-07-20
IR by JMM on 2021-07-20

N

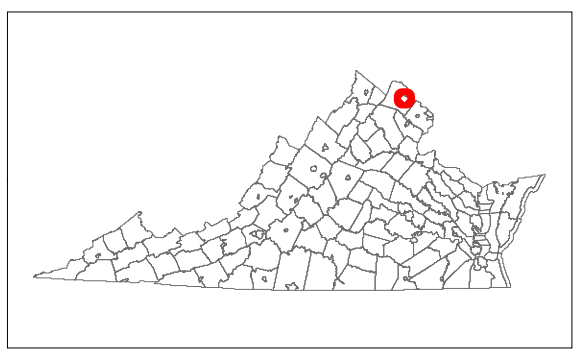
0 2,000 4,000 Feet

(At original document size of 11x17)
1:24,000

Project Limits

Start
Latitude: 39.075423°
Longitude: -77.531433°

Terminus
Latitude: 39.114643°
Longitude: -77.504399°



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia, DCR
3. Topographic map © USGS 7.5 Minute Series Topographic Map, Leesburg, VA Quadrangle,1994 and Sterling, VA Quadrangle, 1998

Stantec

U:\203401646\03_data\gis_cad\gis\t01646_e_loc.mxd Revised: 2021-10-04 By: ellko

Attachment 2.D.1
Page 4 of 59

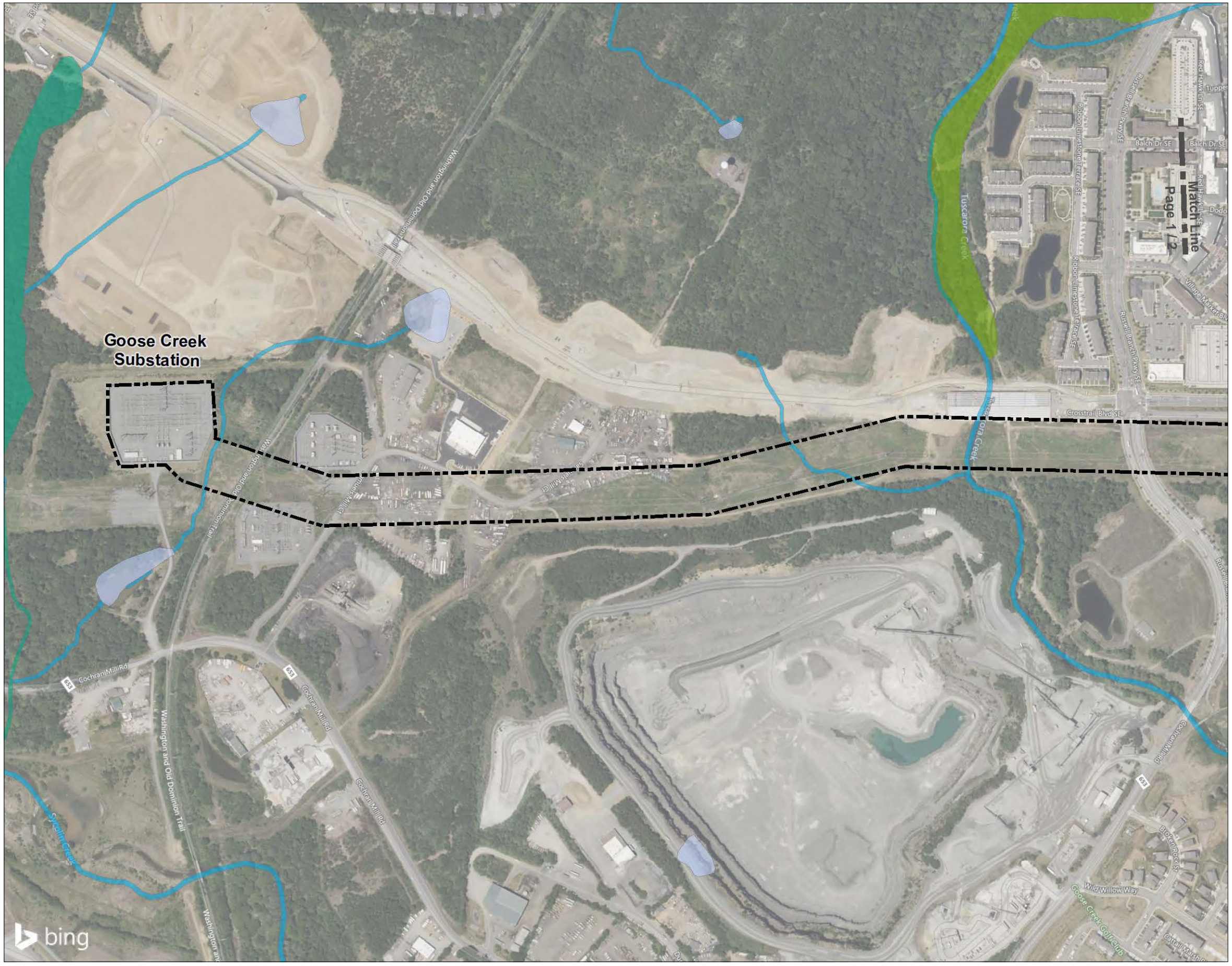


Figure No.

3

Title

National Wetlands Inventory Map

Client/Project 203401646

Dominion Energy Virginia
500 kV Line #514 Partial Rebuild Project
Virginia Portion

Project Location

Loudoun County, Virginia

Prepared by ECL on 2021-07-12
TR by MGS on 2021-07-20
IR by JMM on 2021-07-20

0 500 1,000 Feet

(At original document size of 11x17)
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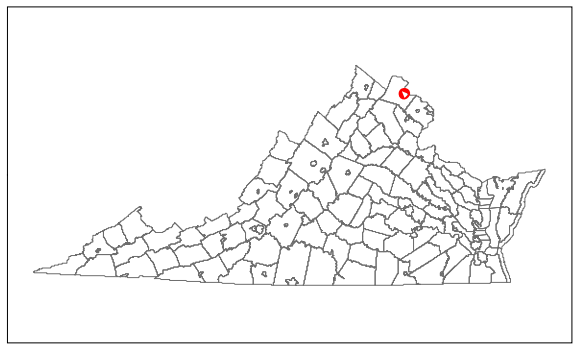
- Project Limits
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: DCR, Stantec, USFWS National Wetlands Inventory (NWI)
3. Orthoimagery © Bing Maps
4. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

Stantec

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Attachment 2.D.1
Page 5 of 59

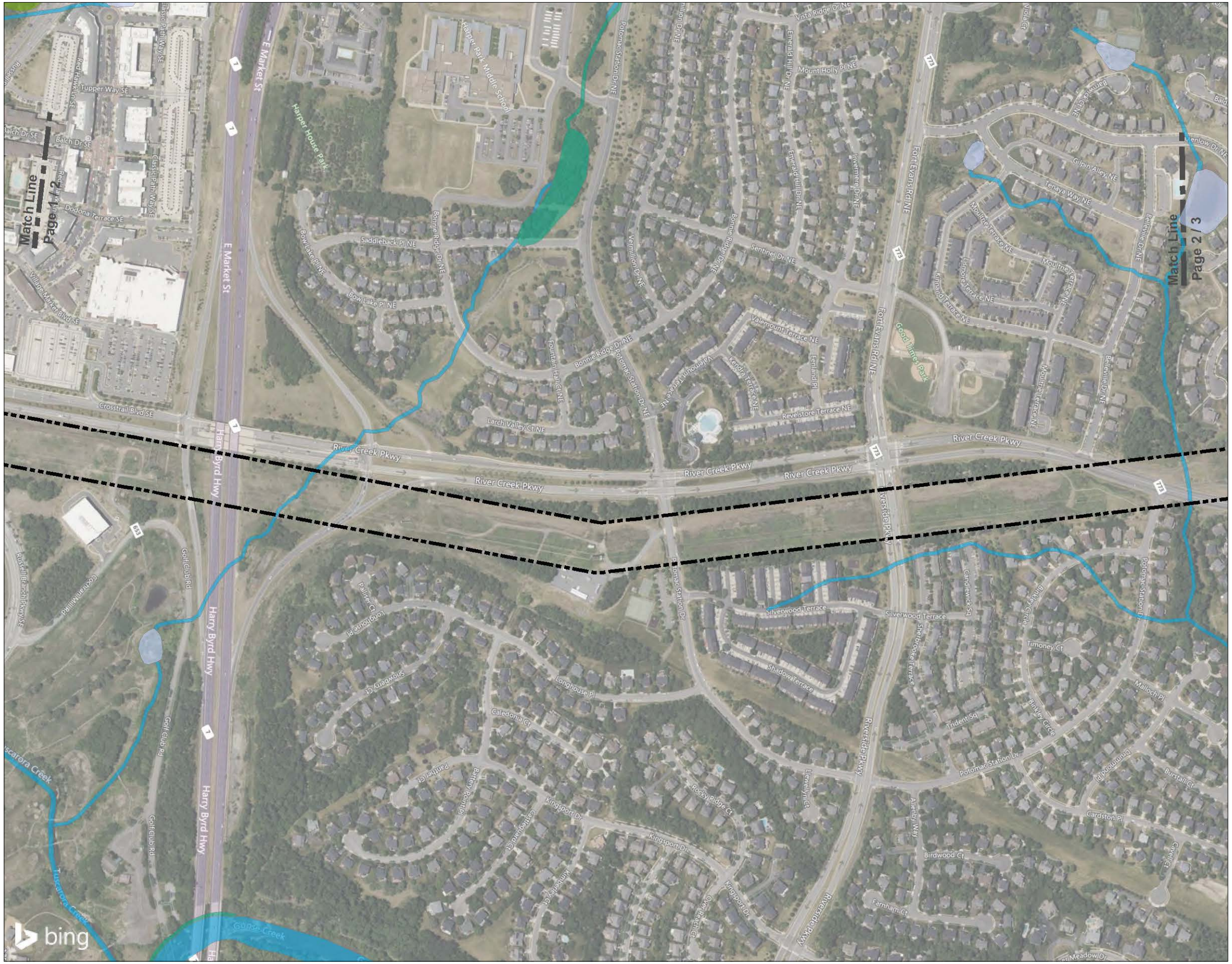

Figure No.

3

Title

National Wetlands Inventory Map

Client/Project 203401646

Dominion Energy Virginia
500 kV Line #514 Partial Rebuild Project
Virginia Portion

Project Location

Loudoun County, Virginia

Prepared by ECL on 2021-07-12
TR by MGS on 2021-07-20
IR by JMM on 2021-07-20

N

500 1,000 Feet

(At original document size of 11x17)
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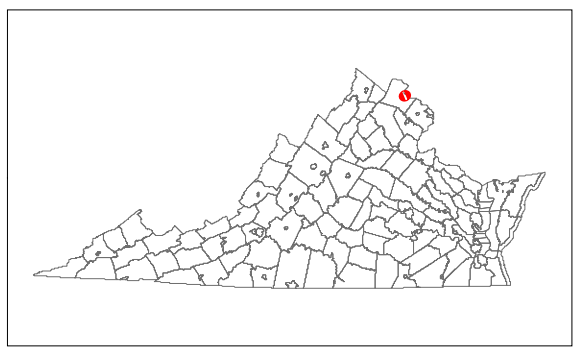
- Project Limits
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: DCR, Stantec, USFWS National Wetlands Inventory (NWI)
3. Orthoimagery © Bing Maps
4. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

Stantec

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Attachment 2.D.1
Page 6 of 59

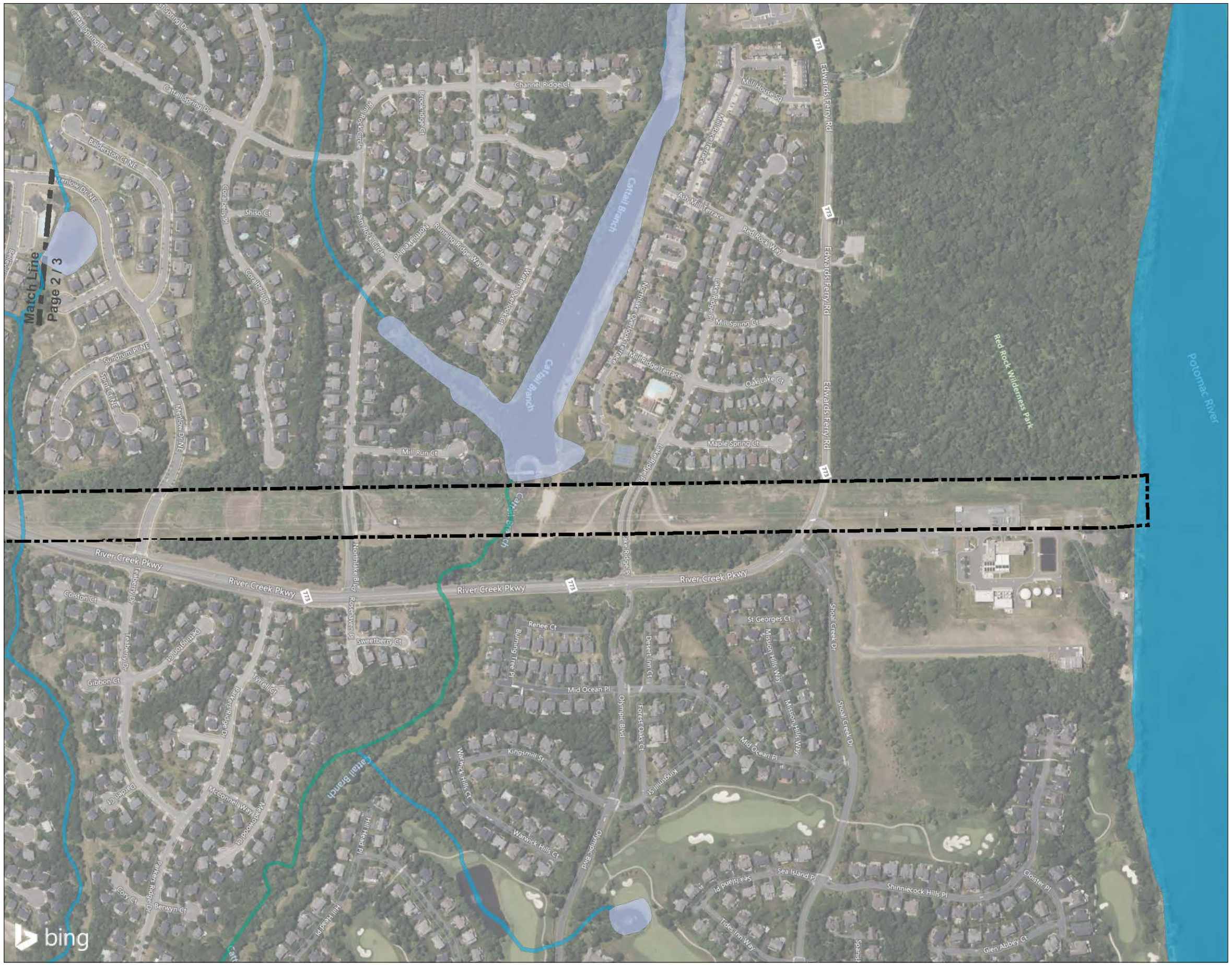

Figure No.

3

Title

National Wetlands Inventory Map

Client/Project 203401646

Dominion Energy Virginia
500 kV Line #514 Partial Rebuild Project
Virginia Portion

Project Location

Loudoun County, Virginia

Prepared by ECL on 2021-07-12
TR by MGS on 2021-07-20
IR by JMM on 2021-07-20

N

500 1,000 Feet

(At original document size of 11x17)
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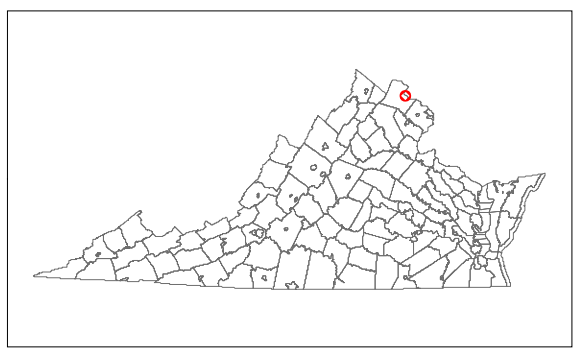
- Project Limits
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: DCR, Stantec, USFWS National Wetlands Inventory (NWI)
3. Orthoimagery © Bing Maps
4. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

Stantec

Attachment 2.D.1
Page 7 of 59

Map Unit Symbol	Description
2A	Codorus silt loam, 0 to 2 percent slopes, occasionally flooded
5A	Rowland silt loam, 0 to 2 percent slopes, occasionally flooded
14B	Manassas silt loam, 2 to 7 percent slopes
60C	Sycoline-Catlett complex, 7 to 15 percent slopes
60D	Catlett gravelly silt loam, 15 to 25 percent slopes
62B	Sycoline-Kelly complex, 2 to 7 percent slopes
63A	Kelly silt loam, 0 to 2 percent slopes
66A	Waxpool silt loam, occasionally ponded, 0 to 2 percent slopes
67B	Jackland and Haymarket soils, 2 to 7 percent slopes
67C	Jackland and Haymarket soils, 7 to 15 percent slopes
68B	Jackland and Haymarket soils, 2 to 7 percent slopes, very stony
68C	Jackland and Haymarket soils, 7 to 15 percent slopes, very stony
69A	Elbert silty clay loam, 0 to 2 percent slopes, frequently flooded
71B	Panorama silt loam, 2 to 7 percent slopes
73B	Penn silt loam, 2 to 7 percent slopes
74B	Ashburn silt loam, 0 to 7 percent slopes
77C3	Nestoria channery silt loam, 7 to 15 percent slopes, severely eroded
77D3	Nestoria channery silt loam, 15 to 25 percent slopes, severely eroded
77E3	Nestoria channery silt loam, 25 to 45 percent slopes, severely eroded
78A	Dulles silt loam, 0 to 2 percent slopes
79A	Albano silt loam, 0 to 2 percent slopes, frequently flooded
W	Water

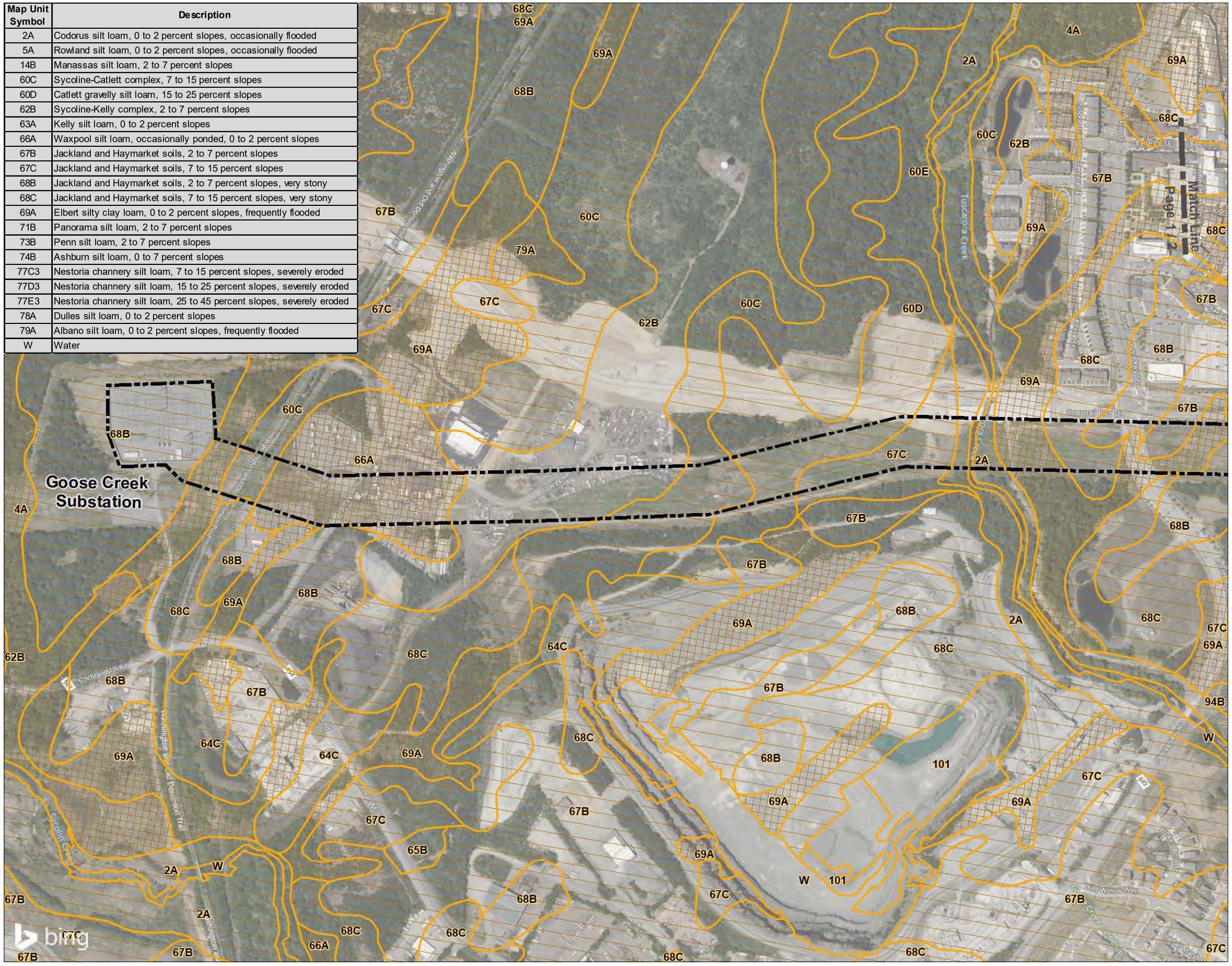


Figure No.
4

Title
Soils Map

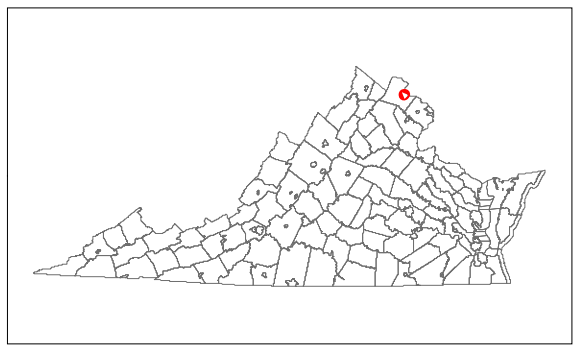
Client/Project 203401646
Dominion Energy Virginia
500 kV Line #514 Partial Rebuild Project
Virginia Portion

Project Location
Loudoun County, Virginia

Prepared by ECL on 2021-07-12
TR by MGS on 2021-07-20
IR by JMM on 2021-07-20

0 500 1,000 Feet
(At original document size of 11x17)
1:6,000

- Project Limits
- Soils
- Hydric
- Predominantly Nonhydric



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: DCR, Stantec, USDA NRCS SSURGO Soil Survey
3. Orthoimagery © Bing Maps
4. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

Stantec

Attachment 2.D.1
Page 8 of 59

Map Unit Symbol	Description
2A	Codorus silt loam, 0 to 2 percent slopes, occasionally flooded
5A	Rowland silt loam, 0 to 2 percent slopes, occasionally flooded
14B	Manassas silt loam, 2 to 7 percent slopes
60C	Sycoline-Catlett complex, 7 to 15 percent slopes
60D	Catlett gravelly silt loam, 15 to 25 percent slopes
62B	Sycoline-Kelly complex, 2 to 7 percent slopes
63A	Kelly silt loam, 0 to 2 percent slopes
66A	Waxpool silt loam, occasionally ponded, 0 to 2 percent slopes
67B	Jackland and Haymarket soils, 2 to 7 percent slopes
67C	Jackland and Haymarket soils, 7 to 15 percent slopes
68B	Jackland and Haymarket soils, 2 to 7 percent slopes, very stony
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71B	Panorama silt loam, 2 to 7 percent slopes
73B	Penn silt loam, 2 to 7 percent slopes
74B	Ashburn silt loam, 0 to 7 percent slopes
77C3	Nestoria channery silt loam, 7 to 15 percent slopes, severely eroded
77D3	Nestoria channery silt loam, 15 to 25 percent slopes, severely eroded
77E3	Nestoria channery silt loam, 25 to 45 percent slopes, severely eroded
78A	Dulles silt loam, 0 to 2 percent slopes
79A	Albano silt loam, 0 to 2 percent slopes, frequently flooded
W	Water

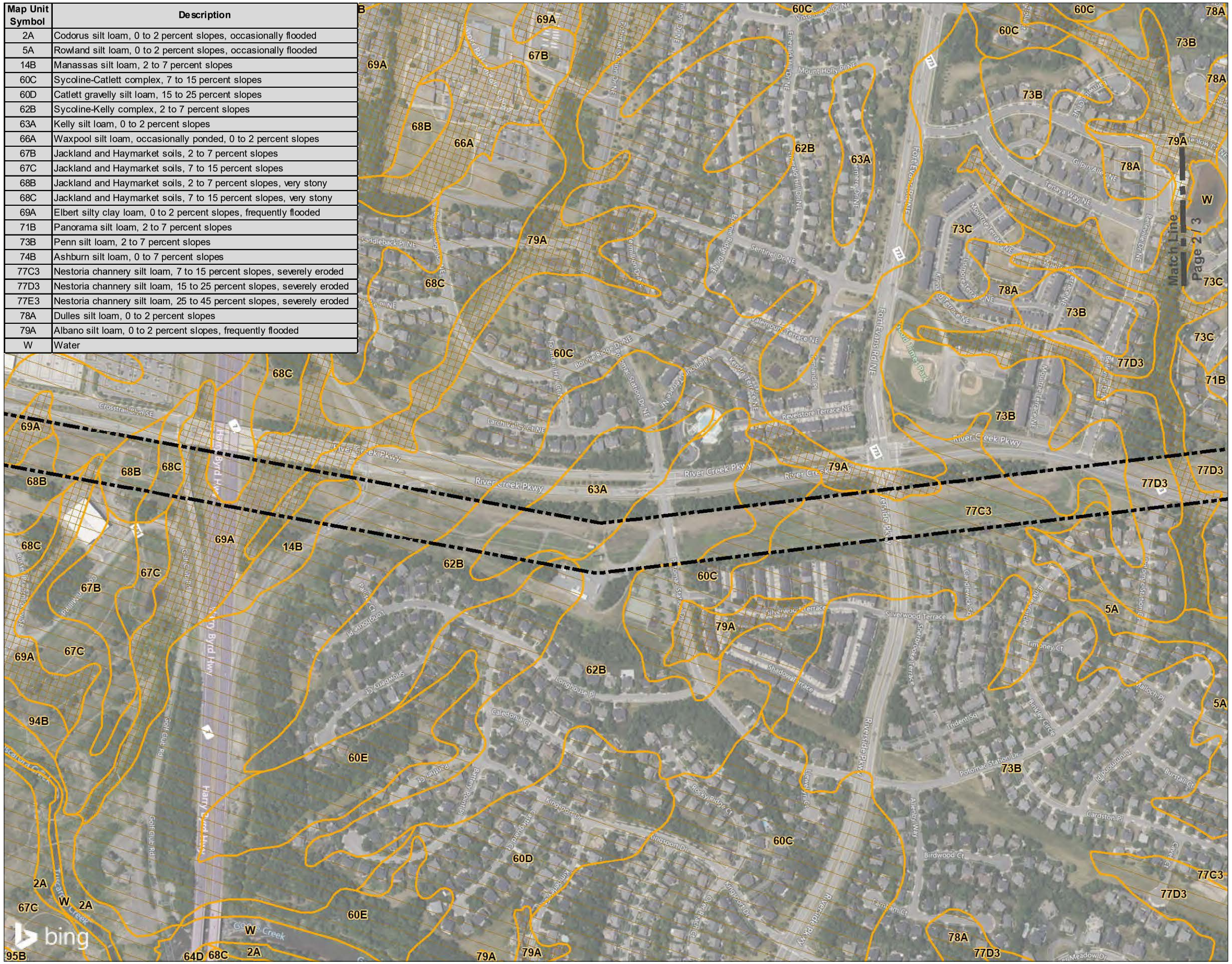


Figure No.
4

Title
Soils Map

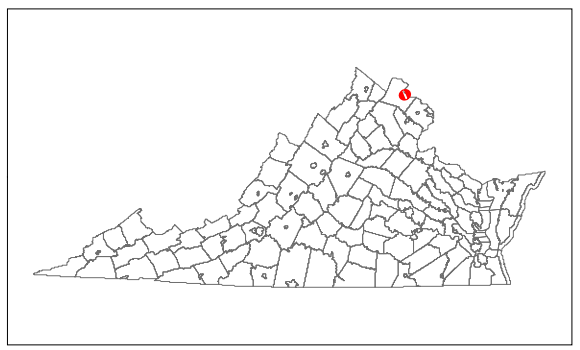
Client/Project 203401646
Dominion Energy Virginia
500 kV Line #514 Partial Rebuild Project
Virginia Portion

Project Location
Loudoun County, Virginia

Prepared by ECL on 2021-07-12
TR by MGS on 2021-07-20
IR by JMM on 2021-07-20

N
500 1,000 Feet
(At original document size of 11x17)
1:6,000

- Project Limits
- Soils
- Hydric
- Predominantly Nonhydric



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: DCR, Stantec, USDA NRCS SSURGO Soil Survey
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4. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

Stantec

Attachment 2.D.1
Page 9 of 59

Map Unit Symbol	Description
2A	Codorus silt loam, 0 to 2 percent slopes, occasionally flooded
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67B	Jackland and Haymarket soils, 2 to 7 percent slopes
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68B	Jackland and Haymarket soils, 2 to 7 percent slopes, very stony
68C	Jackland and Haymarket soils, 7 to 15 percent slopes, very stony
69A	Elbert silty clay loam, 0 to 2 percent slopes, frequently flooded
71B	Panorama silt loam, 2 to 7 percent slopes
73B	Penn silt loam, 2 to 7 percent slopes
74B	Ashburn silt loam, 0 to 7 percent slopes
77C3	Nestoria channery silt loam, 7 to 15 percent slopes, severely eroded
77D3	Nestoria channery silt loam, 15 to 25 percent slopes, severely eroded
77E3	Nestoria channery silt loam, 25 to 45 percent slopes, severely eroded
78A	Dulles silt loam, 0 to 2 percent slopes
79A	Albano silt loam, 0 to 2 percent slopes, frequently flooded
W	Water

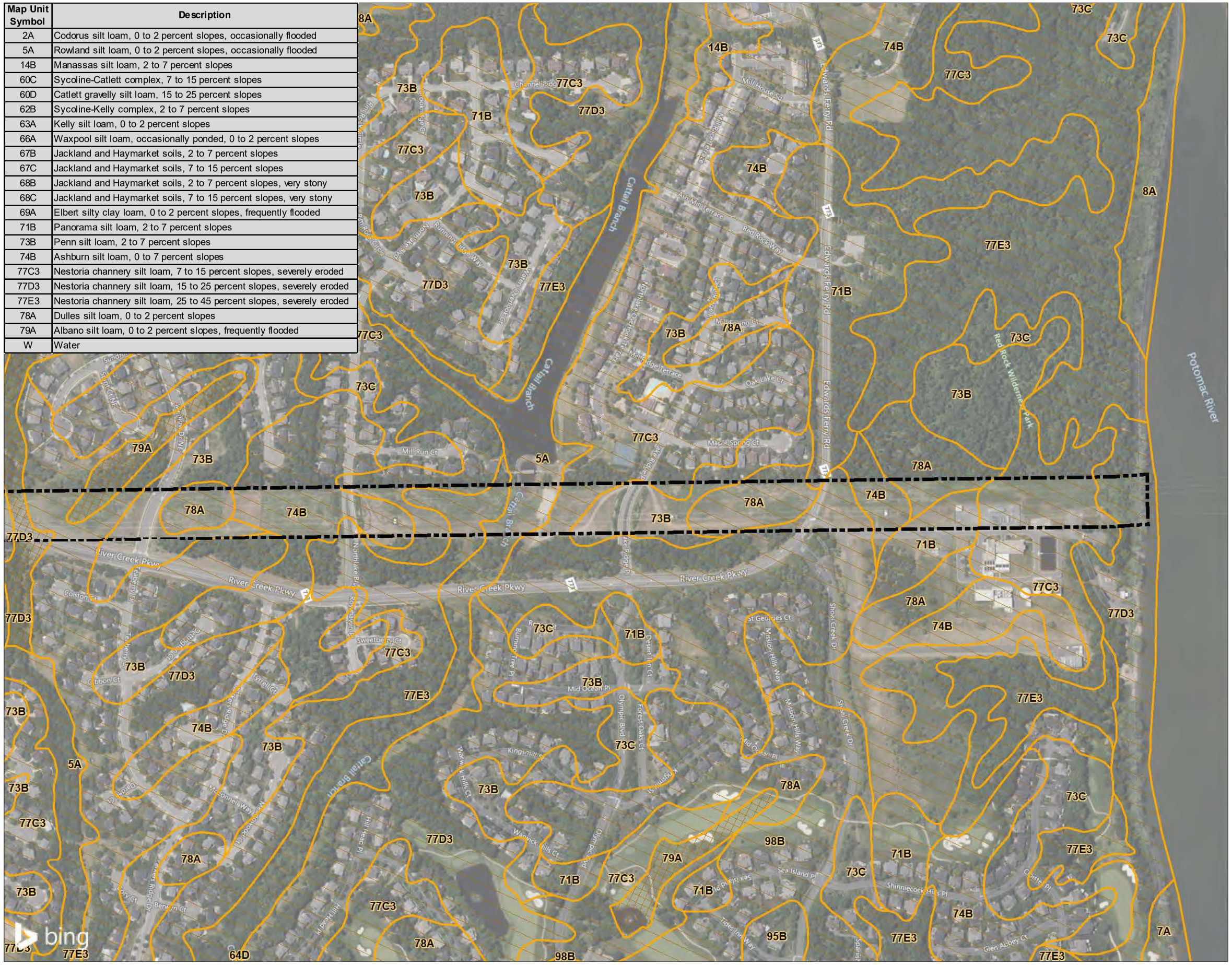


Figure No.
4

Title
Soils Map

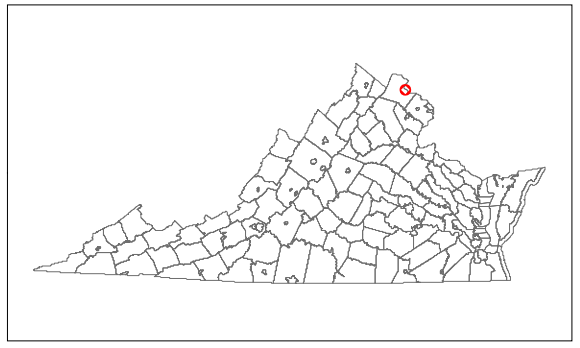
Client/Project 203401646
Dominion Energy Virginia
500 kV Line #514 Partial Rebuild Project
Virginia Portion

Project Location
Loudoun County, Virginia

Prepared by ECL on 2021-07-12
TR by MGS on 2021-07-20
IR by JMM on 2021-07-20

N
500 1,000 Feet
(At original document size of 11x17)
1:6,000

- Project Limits
- Soils
- Hydric
- Predominantly Nonhydric



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: DCR, Stantec, USDA NRCS SSURGO Soil Survey
3. Orthoimagery © Bing Maps
4. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

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Page 10 of 59

Figure No.
5

Title
Flood Hazard Map

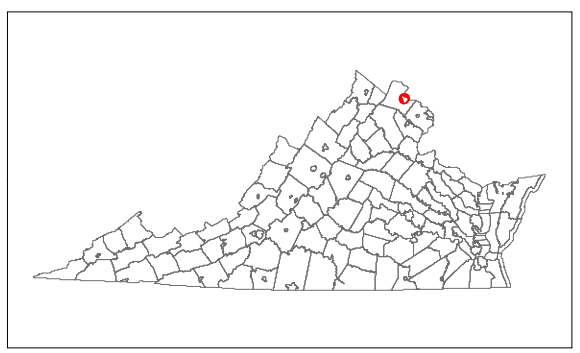
Client/Project 203401646
Dominion Energy Virginia
500 KV Line #514 Partial Rebuild Project
Virginia Portion

Project Location
Loudoun County, Virginia

Prepared by ECL on 2021-07-12
TR by MGS on 2021-07-20
IR by JMM on 2021-07-20

0 500 1,000 Feet
(At original document size of 11x17)
1:6,000

- Project Limits
- 100-Year Flood Zone
- 100-Year Floodway
- 500-Year Flood Zone
- No Flood Possibility



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, FEMA, DCR
3. Orthoimagery © Bing Maps
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Figure No.

5

Title

Flood Hazard Map

Client/Project 203401646

Dominion Energy Virginia
500 KV Line #514 Partial Rebuild Project
Virginia Portion

Project Location

Loudoun County, Virginia

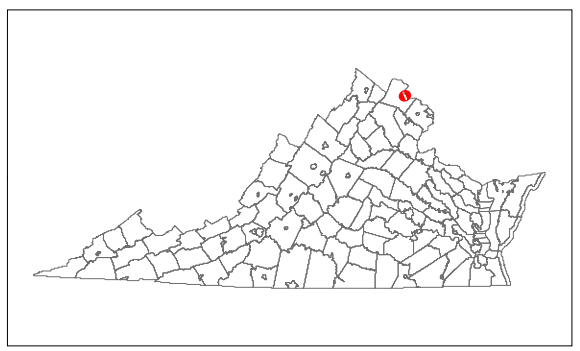
Prepared by ECL on 2021-07-12
TR by MGS on 2021-07-20
IR by JMM on 2021-07-20

N

500 1,000 Feet

(At original document size of 11x17)
1:6,000

- Project Limits
- 100-Year Flood Zone
- 100-Year Floodway
- 500-Year Flood Zone
- No Flood Possibility



Notes

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2. Data Sources: Dominion Energy Virginia, FEMA, DCR
3. Orthoimagery © Bing Maps
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Attachment 2.D.1
Page 12 of 59

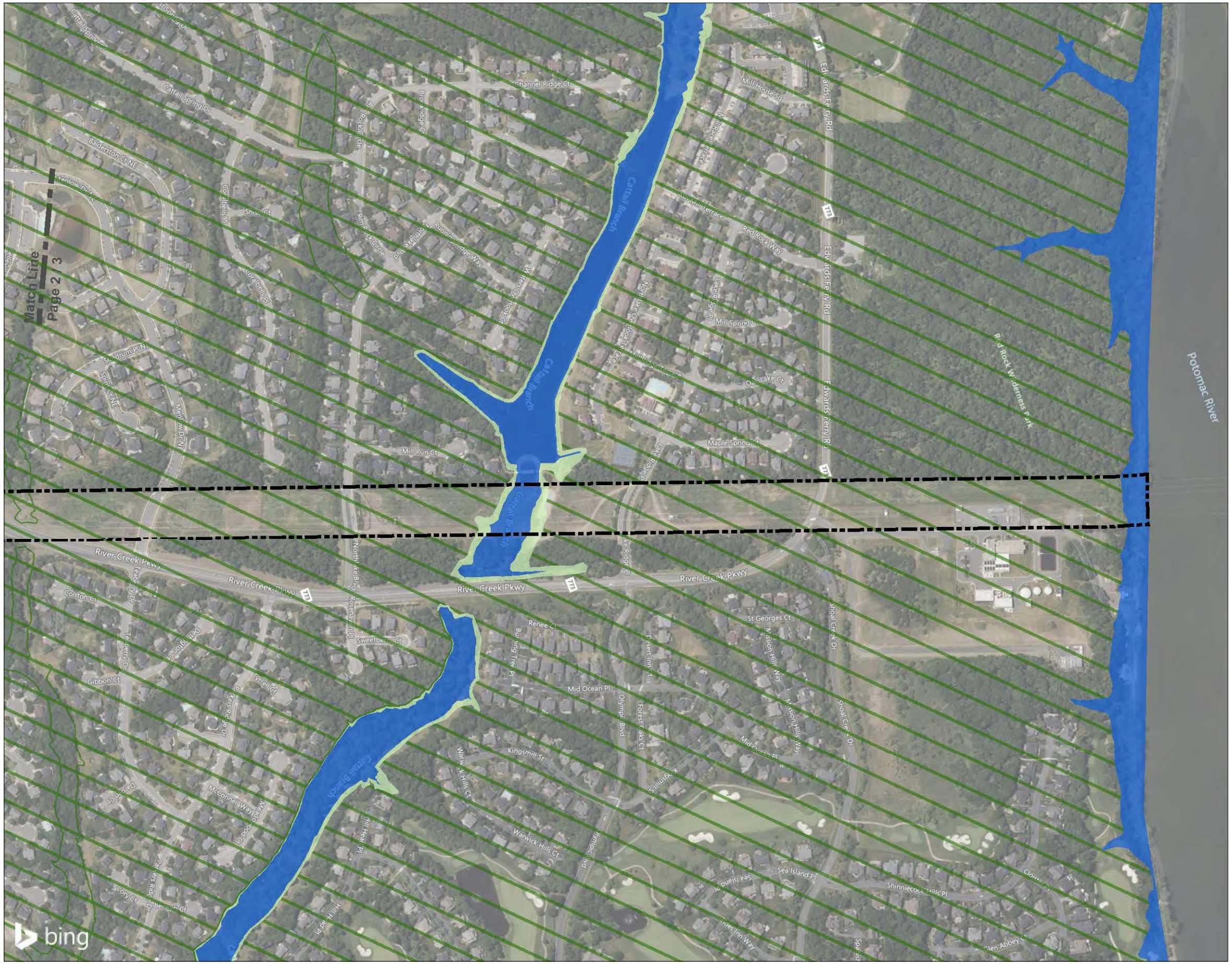

Figure No.

5

Title

Flood Hazard Map

Client/Project 203401646

Dominion Energy Virginia
500 KV Line #514 Partial Rebuild Project
Virginia Portion

Project Location

Loudoun County, Virginia

Prepared by ECL on 2021-07-12
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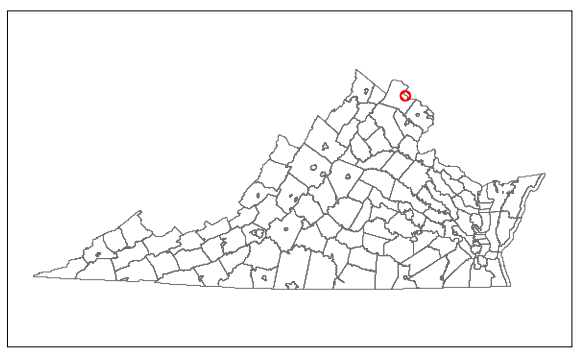
IR by JMM on 2021-07-20

N

500 1,000 Feet

(At original document size of 11x17)
1:6,000

- Project Limits
- 100-Year Flood Zone
- 500-Year Flood Zone
- No Flood Possibility



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, FEMA, DCR
3. Orthoimagery © Bing Maps
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Page 13 of 59

Site Data	
Project Area	99.86 Acres ±
Project Length	3.14 Miles ±
Palustrine Forested Wetlands (PFO)	0.01 Acres ±
Palustrine Emergent Wetlands (PEM)	0.98 Acres ±
Lower Perennial Stream Channels (R2)	0.32 Acres ± (250 L.F. ±)
Upper Perennial Stream Channels (R3)	0.45 Acres ± (546 L.F. ±)
Intermittent Stream Channels (R4)	0.02 Acres ± (235 L.F. ±)

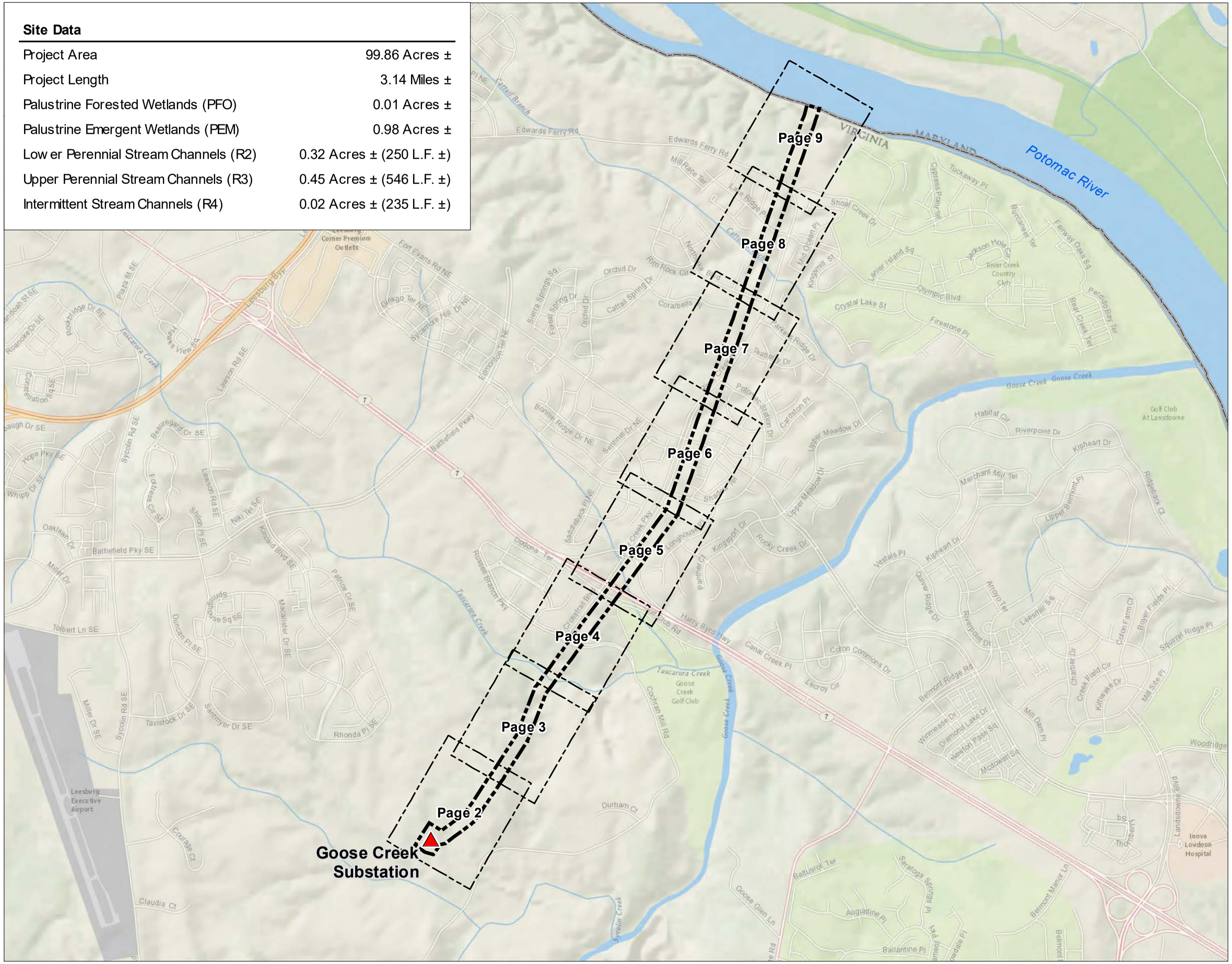


Figure No.
6

Title
Delineation Map

Client/Project 203401646
Dominion Energy Virginia
500 KV Line #514 Partial Rebuild Project
Virginia Portion

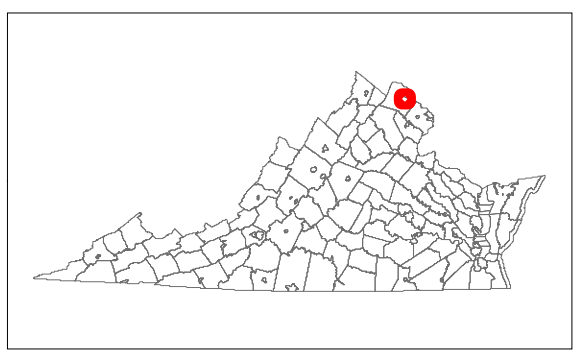
Project Location
Loudoun County, Virginia

Prepared by ECL on 2021-07-12
TR by MGS on 2021-07-20
IR by JMM on 2021-07-20

N

0 2,000 4,000 Feet
(At original document size of 11x17)
1:24,000

Substation
Project Limits
Page Index



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, DCR
3. Base Map © National Geographic

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Page 14 of 59

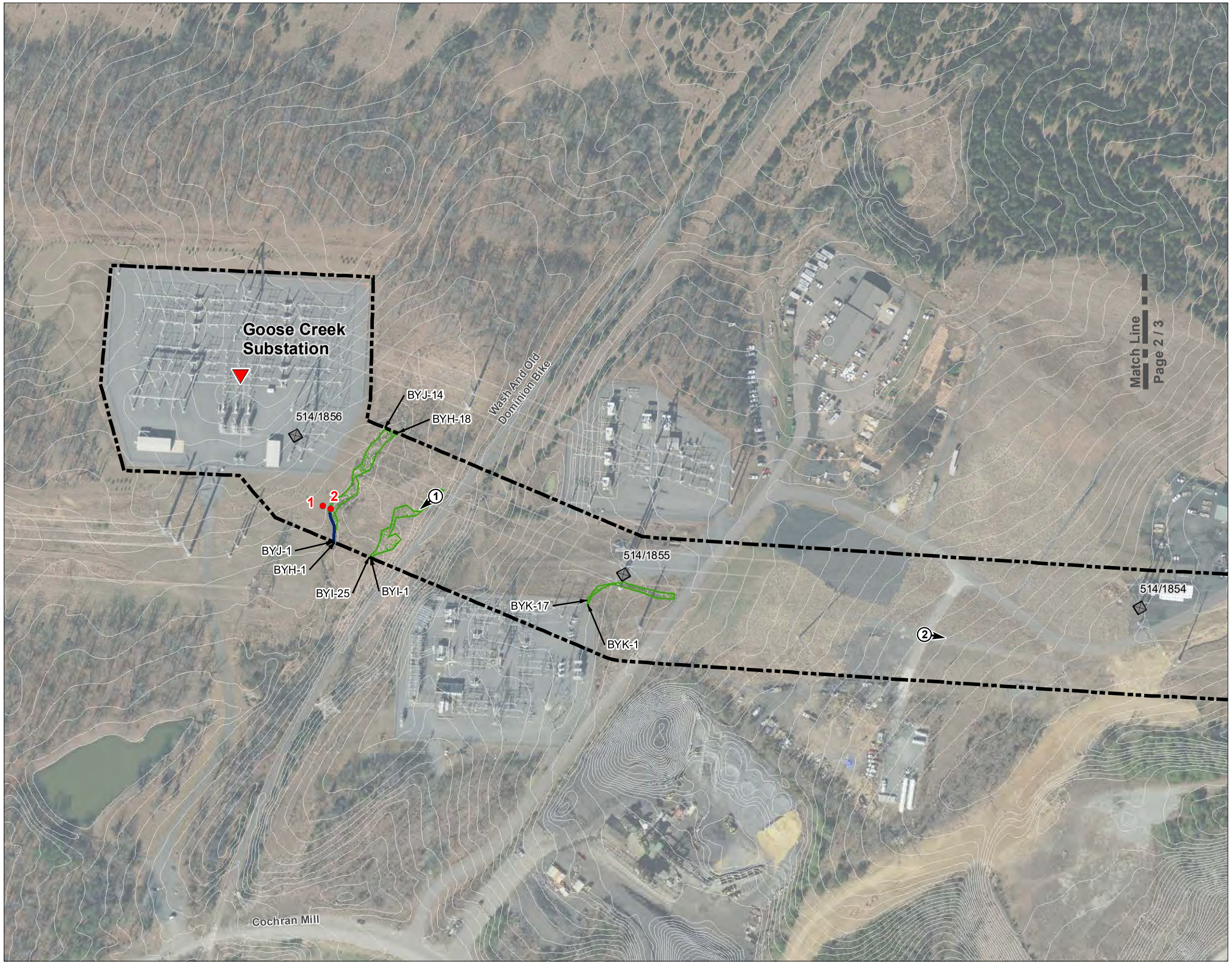

Figure No.

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Delineation Map

Client/Project 203401646

Dominion Energy Virginia
500 KV Line #514 Partial Rebuild Project
Virginia Portion

Project Location

Loudoun County, Virginia

Prepared by ECL on 2021-07-12
TR by MGS on 2021-07-20
IR by JMM on 2021-07-20

N

0 200 400 Feet

(At original document size of 11x17)
1:2,400

- Photo Location
- Substation
- Existing Structure
- Data Point
- Flag Location
- Project Limits
- Approximate Palustrine Emergent Wetland Limits (PEM)
- Approximate Palustrine Forested Wetland Limits (PFO)
- Approximate Lower Perennial Stream Channel Limits (R2)
- Approximate Upper Perennial Stream Channel Limits (R3)
- Approximate Intermittent Stream Channel Limits (R4)
- 2-Foot Contour

Notes

1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, DCR
3. Topography generated from digital elevation model derived from VGIN LiDAR. Two-foot contours do not meet National Map Accuracy Standards and are for planning purposes only.
4. The limits of waters of the U.S., including wetlands, shown on this map have been field located by means of sub-meter capable GPS technology and are for planning purposes only.
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Attachment 2.D.1
Page 15 of 59

Figure No.

6

Title

Delineation Map

Client/Project 203401646

Dominion Energy Virginia
500 KV Line #514 Partial Rebuild Project
Virginia Portion

Project Location

Loudoun County, Virginia

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Figure No.

6

Title

Delineation Map

Client/Project 203401646

Dominion Energy Virginia
500 KV Line #514 Partial Rebuild Project
Virginia Portion

Project Location

Loudoun County, Virginia

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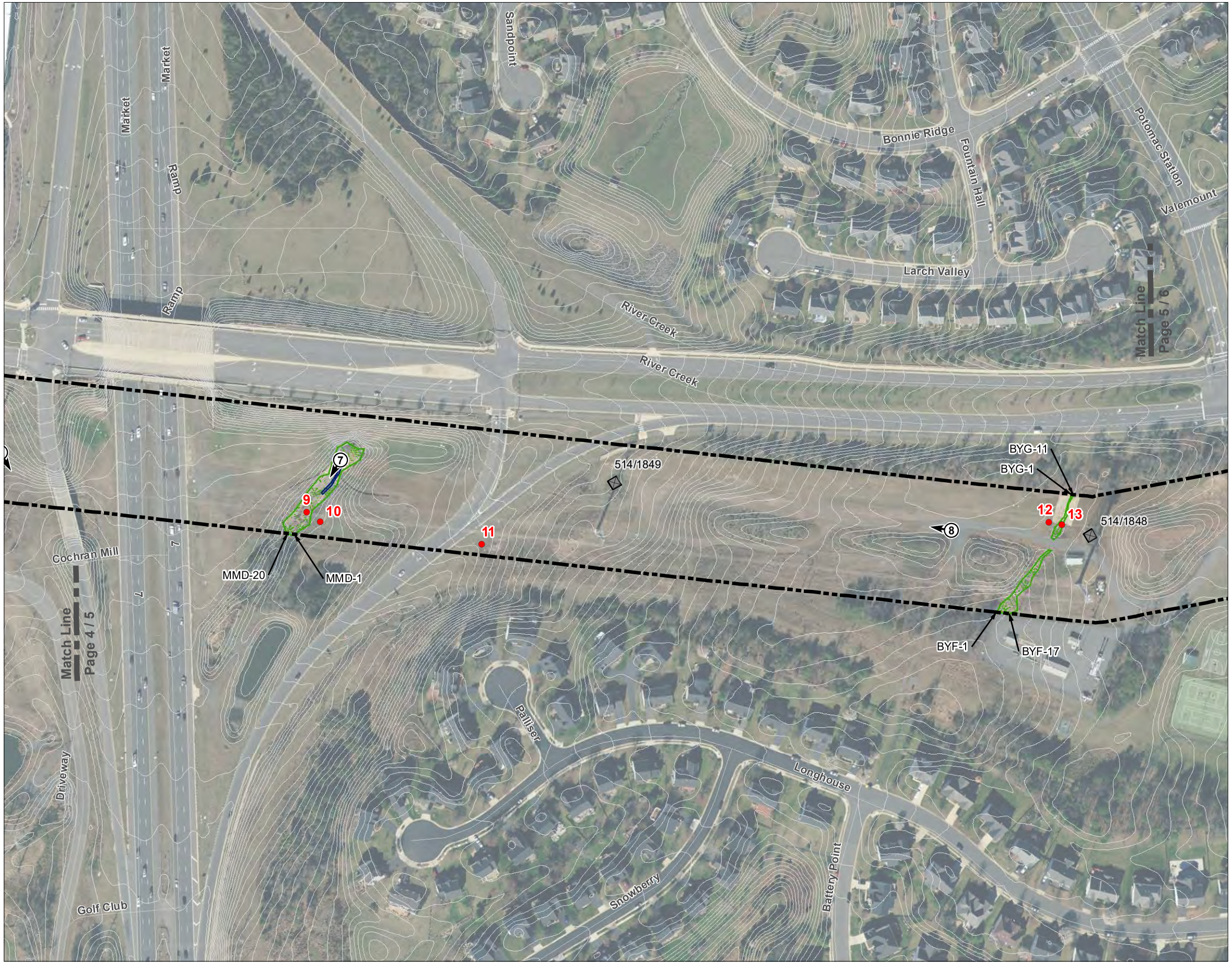

Figure No.

6

Title

Delineation Map

Client/Project 203401646

Dominion Energy Virginia
500 KV Line #514 Partial Rebuild Project
Virginia Portion

Project Location

Loudoun County, Virginia

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IR by JMM on 2021-07-20

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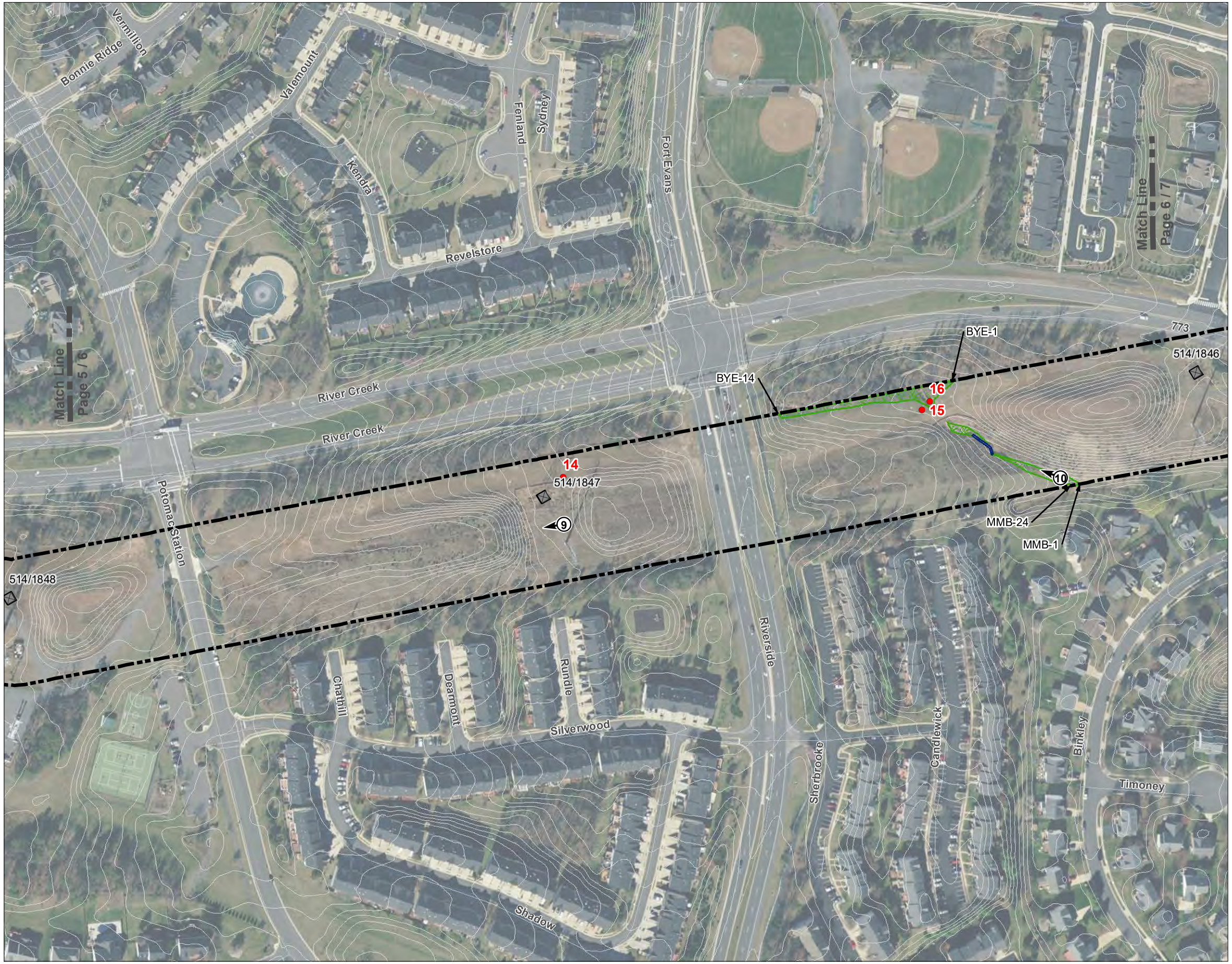

Figure No.

6

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Delineation Map

Client/Project 203401646

Dominion Energy Virginia
500 KV Line #514 Partial Rebuild Project
Virginia Portion

Project Location

Loudoun County, Virginia

Prepared by ECL on 2021-07-12
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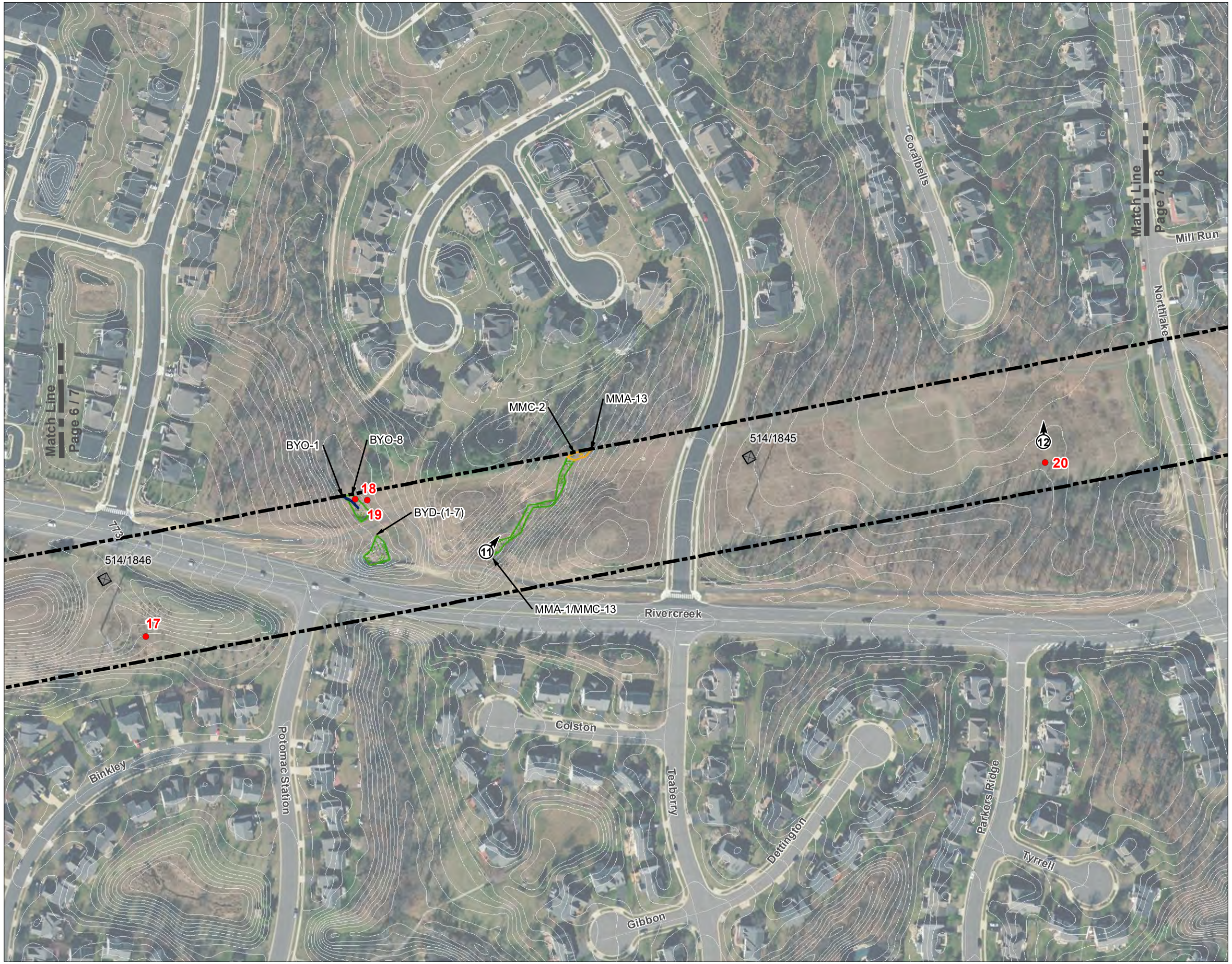

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Delineation Map

Client/Project 203401646

Dominion Energy Virginia
500 KV Line #514 Partial Rebuild Project
Virginia Portion

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Loudoun County, Virginia

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Figure No.

6

Title

Delineation Map

Client/Project 203401646

Dominion Energy Virginia
500 KV Line #514 Partial Rebuild Project
Virginia Portion

Project Location

Loudoun County, Virginia

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Figure No.
6

Title
Delineation Map

Client/Project 203401646
Dominion Energy Virginia
500 KV Line #514 Partial Rebuild Project
Virginia Portion

Project Location
Loudoun County, Virginia

Prepared by ECL on 2021-07-12
TR by MGS on 2021-07-20
IR by JMM on 2021-07-20

N

0 200 400 Feet
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APPENDIX A
PRE-APPLICATION AND JURISDICTIONAL DETERMINATION REQUEST FORM

NORFOLK DISTRICT REGULATORY OFFICE PRE-APPLICATION AND/OR JURISDICTIONAL WATERS DETERMINATION REQUEST FORM

This form is used when you want to determine if areas on your property fall under regulatory requirements of the U.S. Army Corps of Engineers (USACE). Please supply the following information and supporting documents described below. This form can be filled out online and/or printed and then mailed, faxed, or e-mailed to the Norfolk District. Submitting this request authorizes the US Army Corps of Engineers to field inspect the property site, if necessary, to help in the determination process. **THIS FORM MUST BE SIGNED BY THE PROPERTY OWNER TO BE CONSIDERED A FORMAL REQUEST.**

The printed form and supporting documents should be mailed to:

U.S. Army Corps of Engineers, Norfolk District
Regulatory Office
803 Front Street
Norfolk, Virginia 23510-1096

Or faxed to (757) 201-7678

Or sent via e-mail to: CENAO.REG_ROD@usace.army.mil

Additional information on the Regulatory Program is available on our website at:
http://www.nao.usace.army.mil/
Please contact us at 757-201-7652 if you need any assistance with filling out this form.

Location and Information about Property to be subject to a Jurisdictional Determination:

1. Date of Request: **October 14, 2021**

2. Project Name: **500 kV Line #514 Partial Rebuild Project**

3. City or County where property located: **Loudoun County, Virginia**

4. Address of property and directions (attach a map of the property location and a copy of the property plat): **The study area consists of a 3.14-mile (99.86 acres) existing transmission line right-of-way (ROW) located within the Tuscarora Creek, Cattail Branch, and Potomac River drainage basins in Loudoun County, Virginia. The study area starts at the Goose Creek Substation northeast of the terminus of Claudia Drive, southeast of Rhonda Place Southeast, southwest of Samuels Mill Court, northwest of Cochran Mill Road (Route 653), runs generally northeast and terminates at the Potomac River north of River Creek Parkway (Route 773). The study area can be accessed via, but is not limited to, Cochran Mill Road, Samuels Mill Court, Gold Club Road, Potomac Station Drive, Riverside Parkway, and River Creek Parkway.**

5. Coordinates of property (if known): **Start: Latitude: 39.075423° Longitude: -77.531433°**
Terminus: Latitude: 39.114643° Longitude: -77.504399°

6. Size of property in acres: **99.86**

7. Tax Parcel Number / GPIN (if available):

8. Name of Nearest Waterway: **Tuscarora Creek, Cattail Branch, Potomac River**

9. Brief Description of Proposed Activity, Reason for Preapplication Request, and/or Reason for Jurisdictional Waters Determination Request: **Environmental constraints analysis.**

10. Has a wetland delineation/determination been completed by a consultant or the Corps on the property previously? ☐ YES ☐ NO ☒ UNKNOWN,

If yes, please provide the name of the consultant and/or Corps staff and Corps permit number, if available:

Property Owner Contact Information:

Property Owner Name: **Various – Legal rights of entry are secured for access to the right-of-way (ROW).**
Mailing Address: **The project is within existing transmission line ROW managed and maintained by Virginia Electric and Power Company d/b/a Dominion Energy Virginia (c/o Mark Allen)**
City: State: Zip:
Daytime Telephone:
E-mail Address:

Requestor Name: **Mr. Mark Allen – Virginia Electric and Power Company**
Mailing Address: **10900 Nuckols Road, 4th Floor**
City: State: Zip: **Glen Allen, Virginia 23060**
Daytime Telephone: **(804) 257-4711**
E-mail Address: **mark.allen@dominionenergy.com**

Consultant Name: **Brendan Young, Stantec Consulting Services Inc.**
Mailing Address: **150 Riverside Parkway, Suite 301**
City: State: Zip: **Fredericksburg, Virginia 22406**
Daytime Telephone: **(540) 785-5544**
Email Address: **brendan.young@stantec.com**

Additionally, if you have any of the following information, please include it with your request: wetland delineation map, other relevant maps, drain tile survey, topographic survey, and/or site photographs.

CERTIFICATION: I am hereby requesting a preapplication consultation or jurisdictional waters and/or wetlands determination from the U.S. Army Corps of Engineers, for the property(ies) I have described herein. I agree to allow the duly authorized representatives of the Norfolk District Corps of Engineers and other regulatory or advisory agencies to enter upon the premises of the project site at reasonable times to evaluate inspect and photograph site conditions. This consent to enter the property is superior to, takes precedence over, and waives any communication to the contrary. For example, if the property is posted as "no trespassing" this consent specifically supercedes and waives that prohibition and grants permission to enter the property despite such posting. I hereby certify that the information contained in the Request for a Jurisdictional Determination is accurate and complete:

Mark D Allen

Requestor's Signature

10/16/2021

Date

APPENDIX B
WETLAND DETERMINATION DATA FORMS

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 1

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	B. YOUNG	Site Longitude:	39.114643° -77.504399°
Date:	7/8/2021	Soil Map Unit Name:	ELBERT SILTY CLAY LOAM

Summary of Findings: **UPLAND AT SOUTHERN END OF STUDY CORRIDOR NEAR FLAG BYJ-4;**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	FLAT
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

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

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil:

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Lespedeza cuneata	Herbaceous	FACU	65
Apocynum cannabinum	Herbaceous	FACU	20

Non-Dominant Species	Stratum	IND	%
Solanum carolinense	Herbaceous	FACU	5

% Dominant species FAC or wetter: O

Prevalence Index: 4.0

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%:
Prevalence Index is ≤ 3.0:
Morphological Adaptations:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-20	7.5YR 5/6	100					CLAY LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 2

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	B. YOUNG	Site Longitude:	39.114643° -77.504399°
Date:	7/8/2021	Soil Map Unit Name:	ELBERT SILTY CLAY LOAM

Summary of Findings: **PEM WETLAND AT SOUTHERN END OF STUDY CORRIDOR NEAR FLAG BYJ-4;**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	R4SBC
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:	X	Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		***Secondary Indicators:***
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
X High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
X Saturation (A3)	___ True Aquatic Plants (B14)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ Microtopographic Relief (D4)
		X FAC-Neutral Test (D5)

Water Depths (inches):
Surface Water:
Water Table: 1
Saturated soil: 1

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Typha latifolia	Herbaceous	OBL	50
Cyperus strigosus	Herbaceous	FACW	45

Non-Dominant Species	Stratum	IND	%
Persicaria pensylvanica	Herbaceous	FACW	15
Microstegium vimineum	Herbaceous	FAC	10
Arthraxon hispidus	Herbaceous	FAC	10

% Dominant species FAC or wetter: 100%
Prevalence Index: 1.8
NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST
Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: X
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Morphological Adaptations:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-1	10YR 3/2	100					LOAM
1-20	10YR 5/1	80	10YR 4/6	20	C	M	CLAY LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	X Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 3

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	B. YOUNG	Site Longitude:	39.114643° -77.504399°
Date:	7/8/2021	Soil Map Unit Name:	SYCOLINE-CATLETT COMPLEX

Summary of Findings: **UPLAND IN SWALE IN SOUTHERN PORTION OF STUDY CORRIDOR, SOUTH OF STRUCTURE 1853;**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-3

Hydrology Parameter:

Primary Indicators:		***Secondary Indicators:***
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
X Saturation (A3)	___ True Aquatic Plants (B14)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ Microtopographic Relief (D4)
		___ FAC-Neutral Test (D5)

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil: 1

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Elaeagnus umbellata	Shrub	UPL	10
Celtis occidentalis	Shrub	FACU	5
Rubus argutus	Herbaceous	FACU	40
Microstegium vimineum	Herbaceous	FAC	20
Parthenocissus quinquefolia	Vine	FACU	5

Non-Dominant Species	Stratum	IND	%
Dichanthelium clandestinum	Herbaceous	FAC	15
Arthraxon hispidus	Herbaceous	FAC	15

% Dominant species FAC or wetter: 20%
Prevalence Index: 3.6
NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST ***Calculated using all species present.***

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%:
Prevalence Index is ≤ 3.0:
Morphological Adaptations:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-20	2.5Y 4/4	100					CLAY LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 4

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	B. YOUNG	Site Longitude:	39.114643° -77.504399°
Date:	7/8/2021	Soil Map Unit Name:	JACKLAND & HAYMARKET COMPLEX

Summary of Findings: **UPLAND IN SOUTHERN PORTION OF STUDY CORRIDOR, SOUTH OF STRUCTURE 1852;**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	R4SBC
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-3

Hydrology Parameter:

Primary Indicators:		***Secondary Indicators:***
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ True Aquatic Plants (B14)	X Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ Microtopographic Relief (D4)
		___ FAC-Neutral Test (D5)

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil:

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Elaeagnus umbellata	Sapling	UPL	25
Rosa multiflora	Shrub	FACU	5
Rubus argutus	Herbaceous	FACU	15
Ipomoea cairica	Herbaceous	FACU	80

Non-Dominant Species	Stratum	IND	%
Verbesina alternifolia	Herbaceous	FAC	5

% Dominant species FAC or wetter: O

Prevalence Index: 4.2

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%:
Prevalence Index is ≤ 3.0:
Morphological Adaptations:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-20	10YR 5/4	100					CLAY LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 5

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	M. MCGRAW	Site Longitude:	39.114643° -77.504399°
Date:	7/8/2021	Soil Map Unit Name:	ELBERT SILTY CLAY LOAM

Summary of Findings: **UPLAND IN SOUTHERN PORTION OF STUDY CORRIDOR NEAR FLAG MMG-5;**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONVEX
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	SLOPE
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-2

Hydrology Parameter:

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

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil:

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Symphoricarpos orbiculatus	Shrub	FACU	5
Juniperus virginiana	Shrub	FACU	5
Robinia pseudoacacia	Shrub	FACU	5
Rubus argutus	Herbaceous	FACU	20
Dichanthelium clandestinum	Herbaceous	FAC	20
Lespedeza cuneata	Herbaceous	FACU	20
Lonicera japonica	Vine	FACU	10

Non-Dominant Species	Stratum	IND	%
Solidago altissima	Herbaceous	FACU	15
Achillea millefolium	Herbaceous	FACU	10
Microstegium vimineum	Herbaceous	FAC	5
Andropogon virginicus	Herbaceous	FACU	5
Verbesina alternifolia	Herbaceous	FAC	3
Asclepias syriaca	Herbaceous	FACU	3
Elymus hystrix	Herbaceous	UPL	3

% Dominant species FAC or wetter: 14%
Prevalence Index: 3.8
NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST ***Calculated using all species present.***

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%:
Prevalence Index is ≤ 3.0:
Morphological Adaptations:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-12	10YR 4/3	95	10YR 5/6	5	C	M	CLAY
12-20	10YR 5/3	85	10YR 5/6	15	C	M	GRAVELLY CLAY

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 6

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	M. MCGRAW	Site Longitude:	39.114643° -77.504399°
Date:	7/8/2021	Soil Map Unit Name:	ELBERT SILTY CLAY LOAM

Summary of Findings: **PEM WETLAND IN SOUTHERN PORTION OF STUDY CORRIDOR NEAR FLAG MMG-5;**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	R5UBH
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:	X	Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		***Secondary Indicators:***
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
X High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
X Saturation (A3)	___ True Aquatic Plants (B14)	X Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ Microtopographic Relief (D4)
		X FAC-Neutral Test (D5)

Water Depths (inches):
Surface Water: ___
Water Table: 1
Saturated soil: 1

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Fraxinus pennsylvanica	Shrub	FACW	5
Ulmus americana	Shrub	FACW	5
Juncus effusus	Herbaceous	FACW	30
Scirpus pendulus	Herbaceous	OBL	15
Persicaria pensylvanica	Herbaceous	FACW	15
Toxicodendron radicans	Vine	FAC	5

Non-Dominant Species	Stratum	IND	%
Arthraxon hispidus	Herbaceous	FAC	10
Scirpus atrovirens	Herbaceous	OBL	10
Juncus tenuis	Herbaceous	FAC	5
Microstegium vimineum	Herbaceous	FAC	5
Agrimonia parviflora	Herbaceous	FACW	5

% Dominant species FAC or wetter: 100%
Prevalence Index: 2.0
NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST
Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ___
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Morphological Adaptations: ___
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-20	2.5Y 5/2	90	10YR 4/4	10	C	M	CLAY LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	X Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type: ___
Depth (inches):

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 7

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	M. MCGRAW	Site Longitude:	39.114643° -77.504399°
Date:	7/8/2021	Soil Map Unit Name:	ELBERT SILTY CLAY LOAM

Summary of Findings: **UPLAND SWALE IN SOUTHERN PORTION OF STUDY CORRIDOR, EAST OF STRUCTURE 1851;**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-2

Hydrology Parameter:

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

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil:

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Symphoricarpos orbiculatus	Shrub	FACU	5
Juniperus virginiana	Shrub	FACU	5
Fraxinus pennsylvanica	Shrub	FACW	3
Rubus argutus	Herbaceous	FACU	40
Arthraxon hispidus	Herbaceous	FAC	25
Lonicera japonica	Vine	FACU	15
Toxicodendron radicans	Vine	FAC	10

Non-Dominant Species	Stratum	IND	%
Elaeagnus umbellata	Shrub	UPL	2
Lespedeza cuneata	Herbaceous	FACU	10
Achillea millefolium	Herbaceous	FACU	5
Asclepias syriaca	Herbaceous	FACU	5
Andropogon virginicus	Herbaceous	FACU	5
Verbascum thapsus	Herbaceous	FACU	5
Rudbeckia hirta	Herbaceous	FACU	2

% Dominant species FAC or wetter: 43%
NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST

Prevalence Index: 3.7
Calculated using all species present.

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%:
Prevalence Index is ≤ 3.0:
Morphological Adaptations:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-8	10YR 4/2	95	10YR 4/6	5	C	M	CLAY
8-20	10YR 4/6	85	10YR 5/6	10	C	M	CLAY LOAM
			10YR 5/2	5	D	M	

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	**X** Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 8

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	M. MCGRAW	Site Longitude:	39.114643° -77.504399°
Date:	7/8/2021	Soil Map Unit Name:	JACKLAND & HAYMARKET SOILS

Summary of Findings: **UPLAND SWALE IN SOUTHERN PORTION OF STUDY CORRIDOR, SOUTHWEST OF STRUCTURE 1850;**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-2

Hydrology Parameter:

Primary Indicators:		***Secondary Indicators:***
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ True Aquatic Plants (B14)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ Microtopographic Relief (D4)
		___ FAC-Neutral Test (D5)

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil:

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Juniperus virginiana	Shrub	FACU	5
Rosa multiflora	Shrub	FACU	5
Arthraxon hispidus	Herbaceous	FAC	25
Solidago altissima	Herbaceous	FACU	20

Non-Dominant Species	Stratum	IND	%
Rubus argutus	Herbaceous	FACU	15
Lespedeza cuneata	Herbaceous	FACU	10
Juncus tenuis	Herbaceous	FAC	5
Xanthium strumarium	Herbaceous	FAC	5
Asclepias syriaca	Herbaceous	FACU	3

% Dominant species FAC or wetter: 25%
Prevalence Index: 3.6
NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST ***Calculated using all species present.***

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%:
Prevalence Index is ≤ 3.0:
Morphological Adaptations:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-20	10YR 4/4	95	10YR 5/8	5	C	M	CLAY LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 9

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	M. MCGRAW	Site Longitude:	39.114643° -77.504399°
Date:	7/8/2021	Soil Map Unit Name:	ALBANO SILT LOAM

Summary of Findings: **PEM WETLAND IN CENTRAL PORTION OF STUDY CORRIDOR NEAR FLAG MMD-5;**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	R4SBC
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:	X	Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		***Secondary Indicators:***
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
X Saturation (A3)	___ True Aquatic Plants (B14)	X Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	X Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ Microtopographic Relief (D4)
		X FAC-Neutral Test (D5)

Water Depths (inches):
Surface Water: ___
Water Table: ___
Saturated soil: 1

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Typha latifolia	Herbaceous	OBL	40
Arthraxon hispidus	Herbaceous	FAC	30
Microstegium vimineum	Herbaceous	FAC	20
Persicaria pensylvanica	Herbaceous	FACW	20

Non-Dominant Species	Stratum	IND	%
Juncus effusus	Herbaceous	FACW	10
Carex frankii	Herbaceous	OBL	10
Impatiens capensis	Herbaceous	FACW	5
Schoenoplectus tabernaemontani	Herbaceous	OBL	5
Scirpus atrovirens	Herbaceous	OBL	5
Mentha arvensis	Herbaceous	FACW	5
Glyceria striata	Herbaceous	OBL	5

% Dominant species FAC or wetter: 100%
Prevalence Index: 1.9
NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST
Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ___
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Morphological Adaptations: ___
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-20	5Y 4/1	85	10YR 4/6	10	C	M	GRAVELLY SANDY CLAY LOAM
			10YR 4/6	5	C	PL	

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	X Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type: ___
Depth (inches):

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 10

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	M. MCGRAW	Site Longitude:	39.114643° -77.504399°
Date:	7/8/2021	Soil Map Unit Name:	ALBANO SILT LOAM

Summary of Findings: **UPLAND IN CENTRAL PORTION OF STUDY CORRIDOR NEAR FLAG MMD-5;**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	SLOPE
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-2

Hydrology Parameter:

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

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil:

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Juniperus virginiana	Shrub	FACU	10
Symphoricarpos orbiculatus	Shrub	FACU	5
Tripsacum dactyloides	Herbaceous	FACW	75
Lonicera japonica	Vine	FACU	15

Non-Dominant Species	Stratum	IND	%
Lespedeza cuneata	Herbaceous	FACU	15
Rubus argutus	Herbaceous	FACU	15
Rumex crispus	Herbaceous	FAC	10
Cirsium arvense	Herbaceous	FACU	5
Dipsacus fullonum	Herbaceous	FACU	5

% Dominant species FAC or wetter: 25%

Prevalence Index: 3.0

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%:
Prevalence Index is ≤ 3.0: **X**
Morphological Adaptations:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-10	7.5YR 4/3	90	10YR 4/1	5	D	M	GRAVELLY SANDY CLAY LOAM
			10YR 6/8	5	C	M	
10-20	2.5Y 5/1	95	7.5YR 4/4	5	C	M	GRAVELLY SANDY CLAY LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	**X** Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	**X** Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 11

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	M. MCGRAW	Site Longitude:	39.114643° -77.504399°
Date:	7/8/2021	Soil Map Unit Name:	SYCOLINE-CATLETT COMPLEX

Summary of Findings: **UPLAND SWALE IN CENTRAL PORTION OF STUDY CORRIDOR, SOUTH OF STRUCTURE 1849;**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-3

Hydrology Parameter:

Primary Indicators:		***Secondary Indicators:***
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
X Saturation (A3)	___ True Aquatic Plants (B14)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ Microtopographic Relief (D4)
		___ FAC-Neutral Test (D5)

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil: 1

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Dipsacus fullonum	Herbaceous	FACU	40
Tripsacum dactyloides	Herbaceous	FACW	25
Lespedeza cuneata	Herbaceous	FACU	20
Lonicera japonica	Vine	FACU	20

Non-Dominant Species	Stratum	IND	%
Centaurea stoebe	Herbaceous	UPL	10
Ambrosia artemisiifolia	Herbaceous	FACU	5
Symphyotrichum pilosum	Herbaceous	FAC	5
Poa pratensis	Herbaceous	FACU	5

% Dominant species FAC or wetter: 25%
Prevalence Index: 3.7
NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST ***Calculated using all species present.***

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%:
Prevalence Index is ≤ 3.0:
Morphological Adaptations:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-20	2.5Y 4/3	85	7.5YR 4/4	10	C	M	GRAVELLY SANDY CLAY LOAM
			10YR 6/1	5	D	M	

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 12

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	B. YOUNG	Site Longitude:	39.114643° -77.504399°
Date:	7/8/2021	Soil Map Unit Name:	KELLY SILT LOAM

Summary of Findings: **UPLAND IN CENTRAL PORTION OF STUDY CORRIDOR NEAR FLAG BYG-4;**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONVEX
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	SLOPE
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-2

Hydrology Parameter:

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

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil:

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Schedonorus arundinaceus	Herbaceous	FACU	60
Lespedeza cuneata	Herbaceous	FACU	20

Non-Dominant Species	Stratum	IND	%
Trifolium repens	Herbaceous	FACU	3

% Dominant species FAC or wetter: O

Prevalence Index: 4.0

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%:
Prevalence Index is ≤ 3.0:
Morphological Adaptations:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-20	2.5Y 4/4	100					CLAY LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 13

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	B. YOUNG	Site Longitude:	39.114643° -77.504399°
Date:	7/8/2021	Soil Map Unit Name:	KELLY SILT LOAM

Summary of Findings: **PEM WETLAND IN CENTRAL PORTION OF STUDY CORRIDOR NEAR FLAG BYG-8;**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:	X	Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		***Secondary Indicators:***
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
X Saturation (A3)	___ True Aquatic Plants (B14)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ Microtopographic Relief (D4)
		X FAC-Neutral Test (D5)

Water Depths (inches):
Surface Water: ___
Water Table: ___
Saturated soil: 4

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Juncus effusus	Herbaceous	FACW	20
Arthraxon hispidus	Herbaceous	FAC	15

Non-Dominant Species	Stratum	IND	%
Microstegium vimineum	Herbaceous	FAC	10
Solidago altissima	Herbaceous	FACU	5
Solidago rugosa	Herbaceous	FAC	5
Rubus argutus	Herbaceous	FACU	3

% Dominant species FAC or wetter: 100%
Prevalence Index: 2.8
NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST ***Calculated using all species present.***

Rapid Test for Hydrophytic Vegetation: ___
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Morphological Adaptations: ___
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-3	7.5YR 4/2	100					LOAM
3-20	10YR 5/1	85	10YR 4/6	15	C	M	CLAY LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	X Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type: ___
Depth (inches):

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 14

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	B. YOUNG	Site Longitude:	39.114643° -77.504399°
Date:	7/8/2021	Soil Map Unit Name:	NESTORIA CHANNERY SILT LOAM

Summary of Findings: **UPLAND IN CENTRAL PORTION OF STUDY CORRIDOR, NORTH OF STRUCTURE 1847;**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	SLOPE
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-2

Hydrology Parameter:

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

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil:

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Pyrus calleryana	Sapling	UPL	15
Pyrus calleryana	Shrub	UPL	10
Lespedeza cuneata	Herbaceous	FACU	30
Schedonorus arundinaceus	Herbaceous	FACU	25
Toxicodendron radicans	Vine	FAC	10

Non-Dominant Species	Stratum	IND	%
Cirsium arvense	Herbaceous	FACU	5
Arthraxon hispidus	Herbaceous	FAC	5
Andropogon virginicus	Herbaceous	FACU	5
Rubus argutus	Herbaceous	FACU	3

% Dominant species FAC or wetter: 20%
Prevalence Index: 3.7
NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST ***Calculated using all species present.***

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%:
Prevalence Index is ≤ 3.0:
Morphological Adaptations:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-4	10YR 4/4	100					LOAM
4-20	10YR 5/4	100					CLAY LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 15

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	B. YOUNG	Site Longitude:	39.114643° -77.504399°
Date:	7/8/2021	Soil Map Unit Name:	NESTORIA CHANNERY SILT LOAM

Summary of Findings: **UPLAND IN CENTRAL PORTION OF STUDY CORRIDOR NEAR FLAG BYE-6;**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONVEX
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	SLOPE
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-2

Hydrology Parameter:

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

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil:

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Schedonorus arundinaceus	Herbaceous	FACU	80

Non-Dominant Species	Stratum	IND	%
Lespedeza cuneata	Herbaceous	FACU	15
Trifolium repens	Herbaceous	FACU	5

% Dominant species FAC or wetter: O

Prevalence Index: 4.0

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%:
Prevalence Index is ≤ 3.0:
Morphological Adaptations:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-20	7.5YR 4/6	100					LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 16

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	B. YOUNG	Site Longitude:	39.114643° -77.504399°
Date:	7/8/2021	Soil Map Unit Name:	NESTORIA CHANNERY SILT LOAM

Summary of Findings: **PEM WETLAND IN CENTRAL PORTION OF STUDY CORRIDOR NEAR FLAG BYE-3;**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:	X	Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		***Secondary Indicators:***
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
X High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
X Saturation (A3)	___ True Aquatic Plants (B14)	X Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ Microtopographic Relief (D4)
		X FAC-Neutral Test (D5)

Water Depths (inches):
Surface Water:
Water Table: 10
Saturated soil: 1

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Typha latifolia	Herbaceous	OBL	45
Poa trivialis	Herbaceous	FACW	25

Non-Dominant Species	Stratum	IND	%
Juncus effusus	Herbaceous	FACW	15
Carex lurida	Herbaceous	OBL	5
Mentha arvensis	Herbaceous	FACW	3
Cirsium arvense	Herbaceous	FACU	3
Lespedeza cuneata	Herbaceous	FACU	3

% Dominant species FAC or wetter: 100%
Prevalence Index: 1.6
NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST
Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: X
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Morphological Adaptations:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-4	5YR 4/3	100					CLAY LOAM
4-20	5YR 5/2	90	5YR 4/6	10	C	M	CLAY LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	X Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	X Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 17

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	B. YOUNG	Site Longitude:	39.114643° -77.504399°
Date:	7/8/2021	Soil Map Unit Name:	NESTORIA CHANNERY SILT LOAM

Summary of Findings: **UPLAND IN NORTHERN PORTION OF STUDY CORRIDOR, EAST OF STRUCTURE 1846;**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	SLOPE
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	2-4

Hydrology Parameter:

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

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil:

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Pyrus calleryana	Sapling	UPL	10
Symphoricarpos orbiculatus	Shrub	FACU	30
Juniperus virginiana	Shrub	FACU	15
Juncus effusus	Herbaceous	FACW	25
Cirsium arvense	Herbaceous	FACU	20
Campsis radicans	Vine	FAC	5

Non-Dominant Species	Stratum	IND	%
Lespedeza cuneata	Herbaceous	FACU	10
Rubus argutus	Herbaceous	FACU	5
Fragaria vesca	Herbaceous	FACU	5

% Dominant species FAC or wetter: 33%
Prevalence Index: 3.6
NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST ***Calculated using all species present.***

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%:
Prevalence Index is ≤ 3.0:
Morphological Adaptations:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-3	7.5YR 4/4	100					LOAM
3-20	7.5YR 4/6	100					CLAY LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 18

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	B. YOUNG	Site Longitude:	39.114643° -77.504399°
Date:	7/7/2021	Soil Map Unit Name:	NESTORIA CHANNERY SILT LOAM

Summary of Findings: **PEM WETLAND IN NORTHERN PORTION OF STUDY CORRIDOR, NEAR FLAG BYC-7;**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	R4SBC
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:	X	Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		***Secondary Indicators:***
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ True Aquatic Plants (B14)	X Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ Microtopographic Relief (D4)
		X FAC-Neutral Test (D5)

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil:

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Persicaria pensylvanica	Herbaceous	FACW	60
Microstegium vimineum	Herbaceous	FAC	25

Non-Dominant Species	Stratum	IND	%
Mentha arvensis	Herbaceous	FACW	15
Typha latifolia	Herbaceous	OBL	5
Impatiens capensis	Herbaceous	FACW	5
Cirsium arvense	Herbaceous	FACU	3

% Dominant species FAC or wetter: 100%
Prevalence Index: 2.2
NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST
Calculated using all species present.

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%: **X**
Prevalence Index is ≤ 3.0: **X**
Morphological Adaptations:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-4	7.5YR 5/3	95	10YR 3/2	5	D	M	CLAY LOAM
4-20	7.5YR 5/2	90	10YR 4/6	5	C	M	CLAY LOAM
			10YR 3/2	5	D	M	

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	X Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	X Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 19

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	B. YOUNG	Site Longitude:	39.114643° -77.504399°
Date:	7/7/2021	Soil Map Unit Name:	NESTORIA CHANNERY SILT LOAM

Summary of Findings: **UPLAND IN NORTHERN PORTION OF STUDY CORRIDOR NEAR FLAG BYC-7;**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	R4SBC
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	SLOPE
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-2

Hydrology Parameter:

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

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil:

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Rosa multiflora	Shrub	FACU	10
Schedonorus arundinaceus	Herbaceous	FACU	45
Toxicodendron radicans	Vine	FAC	25

Non-Dominant Species	Stratum	IND	%
Asclepias syriaca	Herbaceous	FACU	3
Parthenocissus quinquefolia	Vine	FACU	3

% Dominant species FAC or wetter: 33%

Prevalence Index: 3.7

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%:
Prevalence Index is ≤ 3.0:
Morphological Adaptations:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-20	7.5YR 5/4	100					LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 20

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	M. MCGRAW	Site Longitude:	39.114643° -77.504399°
Date:	7/7/2021	Soil Map Unit Name:	ASHBURN SILT LOAM

Summary of Findings: **UPLAND IN SWALE AT NORTHERN END OF STUDY CORRIDOR, BETWEEN STRUCTURES 1844/1845;**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		***Secondary Indicators:***
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ True Aquatic Plants (B14)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ Microtopographic Relief (D4)
		___ FAC-Neutral Test (D5)

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil:

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Rosa multiflora	Shrub	FACU	25
Rubus argutus	Herbaceous	FACU	50
Toxicodendron radicans	Vine	FAC	15
Parthenocissus quinquefolia	Vine	FACU	5

Non-Dominant Species	Stratum	IND	%
Symphoricarpos orbiculatus	Shrub	FACU	5
Eupatorium perfoliatum	Herbaceous	FACW	15
Microstegium vimineum	Herbaceous	FAC	15
Achillea millefolium	Herbaceous	FACU	5
Dichanthelium clandestinum	Herbaceous	FAC	3
Juncus effusus	Herbaceous	FACW	3

% Dominant species FAC or wetter: 25%
Prevalence Index: 3.5
NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST ***Calculated using all species present.***

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%:
Prevalence Index is ≤ 3.0:
Morphological Adaptations:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-3	10YR 4/3	100					SANDY LOAM
3-12	10YR 4/4	100					SANDY LOAM
12-20	7.5YR 4/6	100					CLAY LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 21

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	B. YOUNG	Site Longitude:	39.114643° -77.504399°
Date:	7/7/2021	Soil Map Unit Name:	NESTORIA CHANNERY SILT LOAM

Summary of Findings: **UPLAND IN SWALE IN NORTHERN PORTION OF STUDY CORRIDOR, NORTH OF STRUCTURE 1844;**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-3

Hydrology Parameter:

Primary Indicators:		***Secondary Indicators:***
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ True Aquatic Plants (B14)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ Microtopographic Relief (D4)
		___ FAC-Neutral Test (D5)

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil:

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Elaeagnus umbellata	Sapling	UPL	35
Diospyros virginiana	Sapling	FAC	15
Rosa multiflora	Shrub	FACU	25
Elaeagnus umbellata	Shrub	UPL	20
Rubus argutus	Herbaceous	FACU	40
Lonicera japonica	Vine	FACU	15

Non-Dominant Species	Stratum	IND	%
Celtis occidentalis	Sapling	FACU	10
Lespedeza cuneata	Herbaceous	FACU	5
Impatiens capensis	Herbaceous	FACW	3

% Dominant species FAC or wetter: 17%
Prevalence Index: 4.2
NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST
Calculated using all species present.

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%:
Prevalence Index is ≤ 3.0:
Morphological Adaptations:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-4	7.5YR 4/6	100					LOAM
4-20	7.5YR 5/8	100					CLAY LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 22

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	B. YOUNG	Site Longitude:	39.114643° -77.504399°
Date:	7/7/2021	Soil Map Unit Name:	NESTORIA CHANNERY SILT LOAM

Summary of Findings: **UPLAND IN NORTHERN PORTION OF STUDY CORRIDOR, WEST OF STRUCTURE 1843;**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	SLOPE
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-3

Hydrology Parameter:

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

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil:

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Ligustrum sinense	Shrub	FACU	5
Pyrus calleryana	Shrub	UPL	5
Symphoricarpos orbiculatus	Shrub	FACU	5
Arthraxon hispidus	Herbaceous	FAC	35
Juncus effusus	Herbaceous	FACW	15
Lonicera japonica	Vine	FACU	10

Non-Dominant Species	Stratum	IND	%
Athyrium angustum	Herbaceous	FAC	10
Rubus argutus	Herbaceous	FACU	5
Cirsium arvense	Herbaceous	FACU	5

% Dominant species FAC or wetter: 33%
Prevalence Index: 3.3
NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST ***Calculated using all species present.***

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%:
Prevalence Index is ≤ 3.0:
Morphological Adaptations:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-2	10YR 6/6	100					LOAM
2-20	10YR 6/8	100					CLAY LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 23

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	B. YOUNG	Site Longitude:	39.114643° -77.504399°
Date:	7/7/2021	Soil Map Unit Name:	NESTORIA CHANNERY SILT LOAM

Summary of Findings: **UPLAND AT NORTHERN END OF STUDY CORRIDOR, SOUTH OF STRUCTURE 1842;**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

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

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil:

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Schedonorus arundinaceus	Herbaceous	FACU	50
Lespedeza cuneata	Herbaceous	FACU	25

Non-Dominant Species	Stratum	IND	%
Trifolium repens	Herbaceous	FACU	15

% Dominant species FAC or wetter: O

Prevalence Index: 4.0

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%:
Prevalence Index is ≤ 3.0:
Morphological Adaptations:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-4	7.5YR 5/6	100					CLAY LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type: COMPACTION
Depth (inches): 4

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Eastern Mountains and Piedmont Region

Sampling Point Number: 24

Stantec

Project:	500 KV LINE #514 PARTIAL REBUILD PROJECT		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	LOUDOUN COUNTY	Subregion (LRR or MLRA):	LRR S
State:	VIRGINIA	Site Latitude:	39.075423° -77.531433°
Investigator(s):	B. YOUNG	Site Longitude:	39.114643° -77.504399°
Date:	7/7/2021	Soil Map Unit Name:	NESTORIA CHANNERY SILT LOAM

Summary of Findings: **UPLAND AT NORTHERN END OF STUDY CORRIDOR, SOUTH OF STRUCTURE 1841;**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	FLAT
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-2

Hydrology Parameter:

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

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil:

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Schedonorus arundinaceus	Herbaceous	FACU	85

Non-Dominant Species	Stratum	IND	%
Lespedeza cuneata	Herbaceous	FACU	15
Trifolium repens	Herbaceous	FACU	10

% Dominant species FAC or wetter: O

Prevalence Index: 4.0

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%:
Prevalence Index is ≤ 3.0:
Morphological Adaptations:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-6	10YR 5/4	100					CLAY LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)	___ 2cm Muck (A10)
___ Histic Epipedon (A2)	___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Stripped Matrix (S6)	___ Redox Depressions (F8)	___ Red Parent Material (TF2)
___ Stratified Layers (A5)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Very Shallow Dark Surface (TF12)
___ 2 cm Muck (A10)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Other
___ Depleted Below Dark Surface (A11)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)	
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)		

Restrictive Layer (If Observed)
Type: COMPACTION
Depth (inches): 6

Remarks: **SOIL PARAMETER NOT MET.**

APPENDIX C
REPRESENTATIVE PHOTOS

Photo: #1

Description:

Representative photo of PEM wetland at southern end of study corridor, facing southeast.

Photographer:

B. Young

Stantec

Photo date:
07/08/2021

Photo: #2

Description:

Representative photo of uplands in southern end of project corridor, facing northeast.

Photographer:

B. Young

Stantec

Photo date:
07/08/2021

Photo: #3

Description:

Representative photo of upland swale in southern portion of study corridor, facing west.

Photographer:

B. Young

Stantec

Photo date:
07/08/2121

Photo: #4

Description:

Representative photo of perennial stream (Tuscarora Creek) in southern portion of study corridor, facing northwest.

Photographer:

M. McGraw

Stantec

Photo date:
07/08/2021

Photo: #5

Description:

Representative photo of upland swale in southern portion of study corridor, facing north.

Photographer:

M. McGraw

Stantec

Photo date:
07/08/2021

Photo: #6

Description:

Representative photo of upland swale in southern portion of study corridor, facing west.

Photographer:

M. McGraw

Stantec

Photo date:
07/08/2021

Photo: #7

Description:

Representative photo of PEM wetland in central portion of study corridor, facing south.

Photographer:

M. McGraw

Stantec

Photo date:
07/08/2021

Photo: #8

Description:

Representative photo of uplands in central portion of study corridor, facing southwest.

Photographer:

B. Young

Stantec

Photo date:
07/08/2021

Photo: #9

Description:

Representative photo of uplands in central portion of study corridor, facing south.

Photographer:

B. Young

Stantec

Photo date:
07/08/2021

Photo: #10

Description:

Representative photo of PEM wetland in central portion of study corridor, facing southwest.

Photographer:

M. McGraw

Stantec

Photo date:
07/07/2021

Photo: #11

Description:

Representative photo of PEM wetland in northern portion of study corridor, facing north.

Photographer:

M. McGraw

Stantec

Photo date:
07/07/2021

Photo: #12

Description:

Representative photo of upland swale in northern portion of study corridor, facing northwest.

Photographer:

M. Mcgraw

Stantec

Photo date:
07/07/2021

Photo: #13

Description:

Representative photo of perennial stream (Cattail Branch) in northern portion of study corridor, facing northwest.

Photographer:

B. Young

Stantec

Photo date:
07/07/2021

Photo: #14

Description:

Representative photo of uplands in northern portion of study corridor, facing north.

Photographer:

B. Young

Stantec

Photo date:
07/07/2021

Photo: #15

Description:

Representative photo of uplands at northern end of study corridor, facing north.

Photographer:

B. Young

Stantec

Photo date:
07/07/2021

Photo: #16

Description:

Representative photo of uplands at northern end of study corridor, facing south.

Photographer:

B. Young

Stantec

Photo date:
07/07/2021

Rachel M Studebaker (Services - 6)

From: Holland, Benjamin <benjamin.holland@deq.virginia.gov>
Sent: Tuesday, October 19, 2021 5:12 PM
To: Rachel M Studebaker (Services - 6)
Cc: rr Environmental Impact Review; Miller, Mark
Subject: [EXTERNAL] DEQ Northern Regional Office comments: Dominion Energy Virginia's 500 kV Line #514 Partial Rebuild Project Loudoun County, Virginia

Follow Up Flag: Follow up
Flag Status: Completed

Northern Regional Office comments regarding the scoping request for *Dominion Energy Virginia's 500 kV Line #514 Partial Rebuild Project Loudoun County, Virginia*, are as follows:

Land Protection Division – The project manager is reminded that if any solid or hazardous waste is generated/encountered during construction, the project manager would follow applicable federal, state, and local regulations for their disposal.

Air Compliance/Permitting - The project manager is reminded that during the construction phases that occur with this project; the project is subject to the Fugitive Dust/Fugitive Emissions Rule 9 VAC 5-50-60 through 9 VAC 5-50-120. In addition, should any open burning or use of special incineration devices be employed in the disposal of land clearing debris during demolition and construction, the operation would be subject to the Open Burning Regulation 9 VAC 5-130-10 through 9 VAC 5-130-60 and 9 VAC 5-130-100.

Virginia Water Protection Permit (VWPP) Program – The project manager is reminded that a VWP permit from DEQ may be required should impacts to surface waters be necessary. Measures should be taken to avoid and minimize impacts to surface waters and wetlands during construction activities. The disturbance of surface waters or wetlands may require prior approval by DEQ and/or the U.S. Army Corps of Engineers. The Army Corps of Engineers is the authority for an official confirmation of whether there are federal jurisdictional waters, including wetlands, which may be impacted by the proposed project. DEQ may confirm additional waters as jurisdictional beyond those under federal authority. Review of National Wetland Inventory maps or topographic maps for locating wetlands or streams may not be sufficient; there may need to be a site-specific review of the site by a qualified professional. Even if there will be no intentional placement of fill material in jurisdictional waters, potential water quality impacts resulting from construction site surface runoff must be minimized. This can be achieved by using Best Management Practices (BMPs). If construction activities will occur in or along any streams (perennial, intermittent, or ephemeral), open water or wetlands, the applicant should contact DEQ-NRO VWPP staff to determine the need for any permits prior to commencing work that could impact surface waters or wetlands. Upon receipt of a Joint Permit Application for the proposed surface water impacts, DEQ VWP Permit staff will review the proposed project in accordance with the VWP permit program regulations and current VWP permit program guidance. VWPP staff reserve the right to provide comment upon receipt of a permit application requesting authorization to impact state surface waters, and at such time that a wetland delineation has been conducted and associated jurisdiction determination made by the U.S. Army Corps of Engineers.

Erosion and Sediment Control, Storm Water Management – DEQ has regulatory authority for the Virginia Pollutant Discharge Elimination System (VPDES) programs related to municipal separate storm sewer systems (MS4s) and construction activities. Erosion and sediment control measures are addressed in local ordinances and State regulations. Additional information is available

at http://www.deq.virginia.gov/Programs/Water/StormwaterManagement.aspx. Non-point source pollution resulting from this project should be minimized by using effective erosion and sediment control practices and structures. Consideration should also be given to using permeable paving for parking areas and walkways where appropriate, and denuded areas should be promptly revegetated following construction work. If the total land disturbance exceeds 10,000 square feet, an erosion and sediment control plan will be required. Some localities also require an E&S plan for disturbances less than 10,000 square feet. A stormwater management plan may also be required. For any land disturbing activities equal to one acre or more, you are required to apply for coverage under the VPDES General Permit for Discharges of Storm Water from Construction Activities. The Virginia Stormwater Management Permit Authority may be DEQ or the locality.

--

BENJAMIN D. HOLLAND, MPH
DEQ Regional Enforcement Specialist, Senior

VA Department of Environmental Quality
Northern Regional Office
13901 Crown Court
Woodbridge, VA 22193

Phone: (703) 583-3812
Email: benjamin.holland@deq.virginia.gov
Website: www.deq.virginia.gov

Rachel M Studebaker (Services - 6)

From: Bronson, Regena D CIV USARMY CENAO (USA) <Regena.D.Bronson@usace.army.mil>
Sent: Thursday, October 28, 2021 1:41 PM
To: Rachel M Studebaker (Services - 6)
Cc: Bronson, Regena D CIV USARMY CENAO (USA)
Subject: [EXTERNAL] RE: Proposed 500 kV Line #514 Partial Rebuild Project comments

Rachel
Reviewing the recent October 14, 2021 submittal for comments in regards to **Dominion Energy Virginia's 500 kV Line #514 Partial Rebuild,** the following comments are from an initial review:

1. The project may affect historic and cultural resources. Historic places found within the project area: 053-0276 (Alexandria, Loudoun and Hampshire Railroad) eligible for listing on the National registrar of Historic Places.

053-5058 (Ball's Bluff Battlefield) potentially eligible for listing on the National registrar of Historic Places

053-6392 (Luck Stone Quarry) not eligible for listing on the National registrar of Historic Places

253-5182 (Ball's Bluff Battlefield and National Cemetery) Eligible for listing on the National registrar of Historic Places

2. Endangered species : Northern Long-eared Bat and the Dwarf Wedgemussel may be found within the project area.
3. The project may impact waters and/or wetlands regulated by the Norfolk District under Section 404 of the Clean Water Act (33 U.S.C. 1344), and a permit or permits may be required for the planned improvements.

Our regulations require that we consider a full range of public interest factors and conduct an alternatives analysis in order to identify the least environmentally damaging practicable alternative (LEDPA), which is the only alternative we can authorize. In addition to wetland and waters impacts, we must consider factors such as land use (including displacements of homes and businesses), floodplain hazards and values, water supply and conservation, water quality, safety, cost, economics, threatened and endangered species, historic and cultural resources, and environmental justice.

The project has been assigned the Number NAO-2021-02802. Please use this to reference the project the future.

Please note that our review time may exceed 90+ days due to an increased workload.

V/r,

Regena Bronson
Fredericksburg Field Office
1329 Alum Spring Road, Suite 102
Fredericksburg, VA 22401
757-201-7828
Regena.d.bronson@usace.army.mil

Regulator of the Day (ROD) Help: (757) 201-7652

The Norfolk District is committed to providing the highest level of support to the public. In order for us to better serve you, we would appreciate you completing our Customer Satisfaction Survey located at: https://regulatory.ops.usace.army.mil/customer-service-survey/

We value your comments and appreciate your taking the time to complete the survey.

HELPFUL LINKS:
- Direct Link to Norfolk District Regulatory Website: https://www.nao.usace.army.mil/Missions/Regulatory/

- Direct Link to Joint Permit Application: https://www.nao.usace.army.mil/Missions/Regulatory/JPA.aspx

- Direct Link to Commonly Used Forms (i.e. Pre-Application Request Form, Pre-Application Jurisdictional Determination Checklist): hhttps://www.nao.usace.army.mil/Missions/Regulatory/Commonly-Used-Forms/

From: Rachel.M.Studebaker@dominionenergy.com <Rachel.M.Studebaker@dominionenergy.com>
Sent: Thursday, October 14, 2021 5:14 PM
To: CENAO-REG_ROD <CENAO.REG_ROD@usace.army.mil>
Subject: [Non-DoD Source] Proposed 500 kV Line #514 Partial Rebuild Project

Regulator of the Day,

Please see the attached letter and project map notifying you of the 500 kV Line #514 Partial Rebuild Project located in Loudoun County, Virginia.

Please contact me with any questions or for additional information.

Thank you,

Rachel Studebaker
Environmental Specialist III
Dominion Energy Services
120 Tredegar Street, Richmond, VA 23219
Cell: (804) 217-1847

Stantec

Memo

To:	Rachel Studebaker Dominion Energy 120 Tredegar Street Richmond, VA 23219	From:	Rachel Roberts Stantec Consulting Services, Inc. 5209 Center Street Williamsburg, VA 23188
File:	203401646	Date:	September 22, 2021

Reference: 500 kV Line #514 Partial Rebuild Project, Loudoun County, Virginia: Solid & Hazardous Waste Search

Stantec conducted database searches for solid and hazardous wastes and petroleum release sites within a 0.5-mile radius of the proposed 500 kV Line #514 Partial Rebuild Project. The project begins at Structure 514/1854, which is not being replaced, located two spans outside of the Company's existing Goose Creek Substation in Loudoun County, Virginia and extends for 2.8 miles, terminating at Structure 514/1841 located at the Virginia-Maryland border. The project will take place within the existing cleared and maintained transmission line right-of-way (ROW) and no additional ROW appears to be required. The project involves the rebuild of approximately 2.8 miles of an existing overhead 500 kV transmission line

Stantec obtained publicly available data from the Environmental Protection Agency (EPA) Facility Registry System (FRS), which provides information about facilities, sites, or places subject to environmental regulation or of environmental interest. Although this data set includes all sites subject to environmental regulation by the EPA or other state authority, such as sites that fall under air emissions or wastewater programs, the results reported here only include those sites which fall under the EPA's hazardous waste, solid waste, remediation, and underground storage tank programs. These sites include Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)/Superfund; Resource Conservation and Recovery Act (RCRA); and brownfield sites. Per this database, there are 0 registered sites present within a 0.5-mile radius of the project.

The Virginia Department of Environmental Quality (DEQ) records were also searched for the presence of solid waste management facilities, Voluntary Remediation Program sites, and petroleum releases within 0.5 mile of the proposed project. One solid waste permit site (Permit Number 900000001009, Table 1) is located approximately 1,987 linear feet from the project area and falls outside of the ROW. A total of five petroleum release sites were identified within the search radius with the closest site (PC Number 19930477) located approximately 1,754 linear feet cross to down-gradient of the project area. Additionally, none of the identified petroleum release sites identified within 0.5 mile of the proposed project intersect with the project ROW and all cases have been closed (Table 2). Dominion Energy has a procedure in place to handle petroleum contaminated soil, if encountered; however, as all the release sites are located outside of the project area, none of the petroleum release sites are expected to have an impact on the proposed project. Per this database, there are no Voluntary Remediation Program Sites within 0.5 mile of the project.

A search of the NEPAssist tool was conducted for the presence of the following EPA facilities: hazardous wastes (RCRAInfo), Toxic Releases, Superfund sites, and Brownfields (ACRES). A total of six hazardous waste sites (three very small quantity generators, one gas station, one gas storage for fleet vehicles, and one concrete plant) and three toxic releases (minor emissions) are present within 0.5 mile of the project area. Two hazardous waste sites are immediately adjacent to the project area, but they do not intersect with the ROW. A summary of these resources is provided in Table 3. No violations have been reported for these hazardous waste and toxic release sites.

Reference: 500 kV Line #514 Partial Rebuild Project, Loudoun County, Virginia: Solid & Hazardous Waste Search

In summary, a total of five petroleum release sites, one solid waste permit site, six hazardous waste sites, and three toxic release sites are located within a 0.5 mile radius of the project area; however, none of the sites are located within the project ROW. No EPA registered brownfield sites, or CERCLA/Superfund sites are located within 0.5 mile of the project area.

Stantec

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Table 1. Solid waste sites identified by the DEQ as occurring within 0.5-mile of the 500 kV Line #514 Partial Rebuild Project.

Site Name	Permit Number	Interest Type	Location	Latitude	Longitude	Status	Proximity to Centerline (feet)
Leesburg Transfer Station	900000001009	Solid Waste Permit	Loudoun County	39.075281	-77.520907	Active	1987

Table 2. Petroleum releases identified by the DEQ as occurring within 0.5-mile of the 500 kV Line #514 Partial Rebuild Project.

Site Name	PC Number	Location	Latitude	Longitude	Status	Type of Release	Federally Registered Tank?	Proximity to Centerline (feet)
Goose Creek Golf Course	20003236	Loudoun	39.084425801	-77.5120827	Closed	Confirmed	Y	2331
Virginia Trap Rock	19930477	Loudoun	39.08255537	-77.5164848	Closed	Confirmed	Y	1754
Tri County Asphalt	19920847	Loudoun	39.07694149	-77.5167833	Closed	Confirmed	Y	2741
Waste Management of Northern Virginia	19921766	Loudoun	39.07548049	-77.5214695	Closed	Confirmed	Y	1882
Goose Creek STP - S P Jones	19880981	Loudoun	39.07466333	-77.5188884	Closed	Confirmed	N	2723

Attachment 2.E.1
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Table 3. EPA Facilities identified by the NEPAssist Tool as occurring within 0.5-mile of the 500 kV Line #514 Partial Rebuild Project.

Site Name	FRS Identifier	Location	Latitude	Longitude	Status	Type of Facility	Proximity to Centerline (feet)
Mobil Oil Corp	110008197922	Loudoun	39.110691	-77.505538	Inactive	RCRA	233
Leesburg Measuring and Regulating Station	110070205543	Loudoun	39.09412	-77.51339	Active	RCRA	171
LCPS - Harper Park Middle School*	110005290915	Loudoun	39.09648	-77.52176	Active	RCRA	3,018
Wegmans Food Market	110070435518	Loudoun	39.088	-77.52042	Active	RCRA	284
Baker DC Concrete	110064665492	Loudoun	39.07498	-77.52596	Inactive	RCRA	1,258
Southern States Leesburg – Fairfax Petroleum Service	110069459605	Loudoun	39.07087	-77.53022	Inactive	RCRA	2,027
Titan Virginia Ready-Mix LLC – Leesburg Plant	110055129427	Loudoun	39.07492	-77.52525	N/A	Toxic Release	1,507
Supreme Concrete Block Incorporated*	110007320069	Loudoun	39.0768	-77.51974	N/A	Toxic Release	2,702
Vulcan Materials - Cochran Mill Plant*	110010407032	Loudoun	39.08089	-77.5152	N/A	Toxic Release	3,046

*The listed lat/long indicates the center point of the facility however the parcel is within 0.5-mile radius of the center line

Attachment 2.E.1
Page 4 of 5

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Memo

If you have any questions regarding the details presented in this report, please feel free to contact me at your convenience.

Stantec Consulting Services Inc.

Rachel Roberts
Senior Associate
Phone: 757 298 4234
Rachel.Roberts@stantec.com

Stantec

Memo

To:	Rachel Studebaker	From:	Rachel Roberts
	Dominion Energy Virginia 120 Tredegar Street Richmond, VA 23219		Stantec Consulting Services, Inc. 5209 Center Street Williamsburg, VA 23188
File:	203401646	Date:	September 20, 2021

Reference: 500 kV Line #514 Partial Rebuild Project, Loudoun County, Virginia: Threatened and Endangered Species Review

Online database searches for federal and state threatened and endangered species were completed by Stantec for the 500 kV Line #514 Partial Rebuild Project. The project begins at Structure 514/1854, which is not being replaced, located two spans outside of the Company's existing Goose Creek Substation in Loudoun County, Virginia and extends for 2.8 miles, terminating at Structure 514/1841 located at the Virginia-Maryland border. The project will take place within the existing, cleared and maintained transmission line right-of-way (ROW) and no additional ROW appears to be required. The project involves the rebuild of approximately 2.8 miles of an existing overhead 500 kV transmission line. The online database searches included the following:

- U.S. Fish & Wildlife (USFWS) Information, Planning, and Consultation (IPaC)
- Department of Wildlife Resources (DWR) Virginia Fish and Wildlife Information Service (VAFWIS)
- DWR Northern Long-eared Bat (NLEB) Winter Habitat and Roost Trees Map
- Virginia Department of Conservation and Recreation (DCR) Natural Heritage Data Explorer (NHDE)
- USFWS Bald Eagle Concentration Area Map
- Center for Conservation Biology (CCB) Bald Eagle Nest Locator for Virginia

Results

Species with confirmed or potential presence within the project vicinity have been identified by database searches and are provided below in Table 1.

Table 1. Database Search Results

Species	Status	Database	Results
Northern long-eared bat (*Myotis septentrionalis*)	FT, ST	USFWS-IPaC, DWR-NLEB Winter Habitat and Roost Tree Map	Identified as potentially occurring near the project. No known hibernacula or maternity roost trees within the vicinity of the project. Limited removal of danger trees may be necessary during the project. Standard time-of-year restriction on tree removal is June 1 – July 31 within 150 feet of a documented maternity roost.
Dwarf wedgemussel (*Alasmidonta heterodon*)	FE, SE	USFWS-IPaC	Identified as potentially occurring near the project. No suitable habitat present within the

Reference: 500 kV Line #514 Partial Rebuild Project, Loudoun County, Virginia: Threatened and Endangered Species Review

			project area and no in-stream work is proposed.
Brook floater (*Alasmidonta varicosa*)	SE	DWR-VaFWIS	Identified as potentially occurring near the project. No suitable habitat present within the project area and no in-stream work is proposed.
Peregrine falcon (*Falco peregrinus*)	ST	DCR NHR	Identified as potentially occurring near the project and suitable habitat is present. All work is within the existing cleared and maintained transmission line ROW.
Green floater (*Lasmigona subviridis*)	ST	DWR-VaFWIS, DCR NHR	Identified as potentially occurring near the project. No suitable habitat present within the project area and no in-stream work is proposed.
Wood turtle (*Glyptemys insculpta*)	ST	DCR NHR	Identified as potentially occurring near the project and suitable habitat is present. All work is within the existing cleared and maintained transmission line ROW.

FT: federally threatened, FE: federally endangered, ST: state threatened, SE: state endangered

Conclusion

The following conclusions are based upon the proposed scope of work, as described by Dominion Energy. This scope of work assumes construction access will avoid stream crossings where practical or use crane mats to span stream crossings with no in-stream work proposed. All transmission line construction work will take place within existing cleared and maintained transmission line ROW. Erosion and sediment controls will be used as appropriate throughout the project to protect wetlands and water resources.

The USFWS-IPaC database identified the federally and state threatened northern long-eared bat as potentially occurring within or near the project area; however, the DWR-NLEB *Winter Habitat and Roost Tree Map* shows no known hibernacula or maternity roost trees are within the project vicinity. The northern long-eared bat is typically found in intact forest habitats with mixed hardwoods and often nests in and breeds in tree hollows and in woody debris (Source: NatureServe).

The proposed project will take place within existing, cleared, and maintained transmission line ROW, although limited removal of danger trees and forestry work for construction access may be necessary. The standard time-of-year restriction for tree removal for the northern long eared bat is June 1 – July 31 within 150 feet of a documented maternity roost in adherence with the 4(d) Rule to avoid potential adverse effects.

The federally and state endangered dwarf wedgemussel was identified by USFWS-IPaC as potentially occurring within or near the project area. The species inhabits shallow to deep quick running water on fine gravel, cobble, or on firm silt or sandy bottoms. The dwarf wedgemussel requires areas of slow to moderate current, good water quality, and little silty deposits (Source: NatureServe). It appears that no suitable habitat is present within the project area, and all

Reference: 500 kV Line #514 Partial Rebuild Project, Loudoun County, Virginia: Threatened and Endangered Species Review

transmission line construction work will occur within existing, cleared, and maintained ROW. Therefore, the project is expected to have no effect on the dwarf wedgemussel.

The state endangered brook floater was identified by DWR-VAFWIS as potentially occurring within or near the project area. The species only inhabits flowing water habitats and is typically found in riffles and moderate rapids with sandy shoals or riffles with gravel bottoms, although it can also be found in a range of flow conditions. DWR-VAFWIS has records of brook floater in Maryland waters (the Potomac River) within the project area; however, all transmission line construction work will occur within existing, cleared, and maintained ROW with no in-stream work required. Additionally, appropriate erosion and sediment controls will be utilized to protect downstream waters from construction stormwater. Therefore, the project is not likely to adversely affect the brook floater.

The state threatened peregrine falcon was identified by DCR NHR as potentially occurring within or near the project area. The peregrine falcon typically nests on ledges of rocky cliffs, usually with a sheltering overhang, as well as tree hollows, and man-made structures including ledges of city buildings. While potential habitat is present, all work will occur within existing, cleared, and maintained ROW. Therefore, the project is not likely to adversely affect the peregrine falcon.

The DWR-VAFWIS and DCR NHR databases identified the state threatened green floater as potentially occurring within or near the project area. The species inhabits smaller streams, and calm water areas and is intolerant of strong currents and poor water quality. While suitable habitat is present in Maryland waters (the Potomac River) within the project area, all transmission line construction work will occur within existing, cleared, and maintained ROW with no in-stream work proposed. Additionally, appropriate erosion and sediment controls will be utilized to protect downstream waters from construction stormwater. Therefore, the project is not likely to adversely affect the green floater.

The state threatened wood turtle was identified by DCR NHR as potentially occurring within or near the project area. This species typically lives along permanent streams during most of the year but can be found in a variety of habitats such as cultivated fields, marshy pastures, deciduous woods, and woodland bogs near streams during the summer months. While potential habitat is present, the project is not likely to adversely effect the wood turtle as no conversion of habitat is expected and all transmission line construction work will occur within existing, cleared, and maintained ROW.

The USFWS *Virginia Bald Eagle Concentration Area Map* confirms that the proposed project area does not intersect with bald eagle concentration areas. No bald eagle concentration areas are located within the project area. Bald eagle nest LD1602 is located approximately 3.81-miles to the northwest of the project area and bald eagle nest LD0501 is located approximately 5.49-miles to the southwest of the project area. Since no work is occurring within 660 ft of an active eagle nest, Stantec anticipates that bald eagles are unlikely to be disturbed by construction.

Based on the scope of the proposed work, adverse effects to threatened and endangered species are not anticipated. The complete results from the database searches are provided for your reference (See Attachments) and use in agency coordination.

Reference: 500 kV Line #514 Partial Rebuild Project, Loudoun County, Virginia: Threatened and Endangered Species Review

If you have any questions, please contact me at your earliest convenience.

Regards,

Stantec Consulting Services, Inc.

Rachel Roberts
Senior Associate
Phone: 757-298-4234
Rachel.Roberts@stantec.com

Attachments:

- USFWS-IPaC Database Search Results
- DWR-VAFWIS Database Search Results
- DWR-NLEB Winter Habitat and Roost Tree Map Database Search Results
- DCR Natural Heritage Data Explorer Database Search Results
- USFWS Bald Eagle Concentration Area Map
- CCB Bald Eagle Nest Locator for Virginia Database Search Results
- CCB Bald Eagle Roost Locator for Virginia Database Search Results

USFWS-IPaC

Database Search

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:
Consultation Code: 05E2VA00-2021-SLI-4708
Event Code: 05E2VA00-2021-E-13598
Project Name: 203401646 - Goose Creek Doubs

July 14, 2021

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: 05E2VA00-2021-SLI-4708
Event Code: 05E2VA00-2021-E-13598
Project Name: 203401646 - Goose Creek Doubs
Project Type: TRANSMISSION LINE
Project Description: The project involves the wreck and rebuild of a 500 kV transmission line consisting of approximately 3 miles in Virginia, and 15 miles in Maryland. The project will be built within existing right-of-way with no new right-of-way (temporary or permanent) required.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.0948758,-77.51356181923279,14z

Counties: Loudoun County, Virginia

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	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

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.

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

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/

IPaC Record Locator: 765-103839705 July 14, 2021

Subject: Consistency letter for the '203401646 - Goose Creek Doubs' project indicating that any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Dear Tracey McDonald:

The U.S. Fish and Wildlife Service (Service) received on July 14, 2021 your effects determination for the '203401646 - Goose Creek Doubs' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. You indicated that no Federal agencies are involved in funding or authorizing this Action. This IPaC key assists users in determining whether a non-Federal action may cause "take"[1] of the northern long-eared bat that is prohibited under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the Action is not likely to result in unauthorized take of the northern long-eared bat.

Please report to our office any changes to the information about the Action that you entered into IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation.

If your Action proceeds as described and no additional information about the Action's effects on species protected under the ESA becomes available, no further coordination with the Service is required with respect to the northern long-eared bat.

The IPaC-assisted determination for the northern long-eared bat **does not** apply to the following ESA-protected species that also may occur in your Action area:

- Dwarf Wedgemussel *Alasmidonta heterodon* Endangered

You may coordinate with our Office to determine whether the Action may cause prohibited take of the animal species listed above.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

203401646 - Goose Creek Doubs

2. Description

The following description was provided for the project '203401646 - Goose Creek Doubs':

> The project involves the wreck and rebuild of a 500 kV transmission line consisting of approximately 3 miles in Virginia, and 15 miles in Maryland. The project will be built within existing right-of-way with no new right-of-way (temporary or permanent) required.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.0948758,-77.51356181923279,14z

Determination Key Result

This non-Federal Action may affect the northern long-eared bat; however, any take of this species that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o).

Determination Key Description: Northern Long-eared Bat 4(d) Rule
This key was last updated in IPaC on **May 15, 2017**. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for non-Federal actions is to assist determinations as to whether proposed actions are excepted from take prohibitions under the northern long-eared bat 4(d) rule.

If a non-Federal action may cause prohibited take of northern long-eared bats or other ESA-listed animal species, we recommend that you coordinate with the Service.

Determination Key Result

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   No

2. Will your activity purposefully **Take** northern long-eared bats?

   No

3. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered
   No

4. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

   Yes

5. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

6. Will the action involve Tree Removal?

   Yes

7. Will the action only remove hazardous trees for the protection of human life or property?

   Yes

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0

DWR VAFWIS

Database Search

Virginia Department of Game and Inland Fisheries

VaFWIS Initial Project Assessment Report Compiled on 7/19/2021, 11:00:18 AM

Known or likely to occur within a **2 mile buffer around polygon; center 39.0747000 -77.5312999** in **107 Loudoun County, VA**

View Map of Site Location

489 Known or Likely Species ordered by Status Concern for Conservation
(displaying first 26) (26 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	Yes	BOVA,SppObs
030062	ST	Ia	Turtle, wood	Glyptemys insculpta		BOVA,Habitat
040096	ST	Ia	Falcon, peregrine	Falco peregrinus		BOVA
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
040379	ST	Ia	Sparrow, Henslow's	Centronyx henslowii		BOVA
060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes	BOVA,TEWaters,Habitat,SppObs
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
030063	CC	IIIa	Turtle, spotted	Clemmys guttata		BOVA
030012	CC	IVa	Rattlesnake, timber	Crotalus horridus		BOVA
040092		Ia	Eagle, golden	Aquila chrysaetos		BOVA
040306		Ia	Warbler, golden-winged	Vermivora chrysoptera		BOVA
100248		Ia	Fritillary, regal	Speyeria idalia idalia		BOVA
040213		Ic	Owl, northern saw-whet	Aegolius acadicus		BOVA
040052		IIa	Duck, American black	Anas rubripes		BOVA
040036		IIa	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040320		IIa	Warbler, cerulean	Setophaga cerulea		BOVA
040140		IIa	Woodcock, American	Scolopax minor		BOVA
060071		IIa	Lampmussel, yellow	Lampsilis cariosa	Yes	BOVA,SppObs
040203		IIb	Cuckoo, black-billed	Coccyzus erythropthalmus		BOVA
040105		IIb	Rail, king	Rallus elegans		BOVA
100166		IIc	Skipper, Dotted	Hesperia attalus slossonae		BOVA

To view **All 489 species** View 489

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

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

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams

N/A

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters (16 Reaches)

View Map of All Threatened and Endangered Waters

Stream Name	T&E Waters Species						View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name					
Goose Creek (018820)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (023151)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (023631)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (025464)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (026509)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (026550)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (028649)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (028926)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (031573)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (032031)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (032084)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (032856)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (034352)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (035653)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (036348)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (040279)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Habitat Predicted for Aquatic WAP Tier I & II Species (5 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					
Cattail Branch (20700081)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes
Goose Creek (20700081)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Sycolin Creek (20700081)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes
tributary (20700081)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes
Tuscarora Creek (20700081)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes
Tuscarora Creek (20700081)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

Public Holdings:

N/A

Compiled on 7/19/2021, 11:00:18 AM I1106384.0 report=IPA searchType= P dist= 3218 poi= 39.0747000 -77.5312999 siteDD= 39.0747030 -77.5313069;39.0748350 -77.5319349;39.0752220 -77.5325819;39.0763980 -77.5315939;39.0759840 -77.5307319;39.0769540 -77.5290439;39.0812670 -77.5253749;39.0838060 -77.5240349;39.0935570 -77.514
-77.5304689;39.0752300 -77.5308699

PixelSize=64; Anadromous=0.017213; BECAR=0.016799; Bats=0.016811; Buffer=0.142185; County=0.046811; Impediments=0.021261; Init=0.176641; PublicLands=0.018483; SppObs=0.19233; TEWaters=0.023509; TierReaches=0.037651; TierTerrestrial=0.032156; Total=0.778714; Tracking_BOVA=0.155954; Trout=0.019513

Site Location

39,04,28.9 -77,31,52.6
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 buffer

Display at center	**Search Point** is not at map center

Base Map Choices
Topography

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

Map Overlay Legend

T & E Waters
Federal
State

Predicted Habitat WAP Tier I & II
Aquatic
Terrestrial

Trout Waters
Class I - IV
Class V - VI

Anadromous Fish Reach
Confirmed
Potential

Impediment

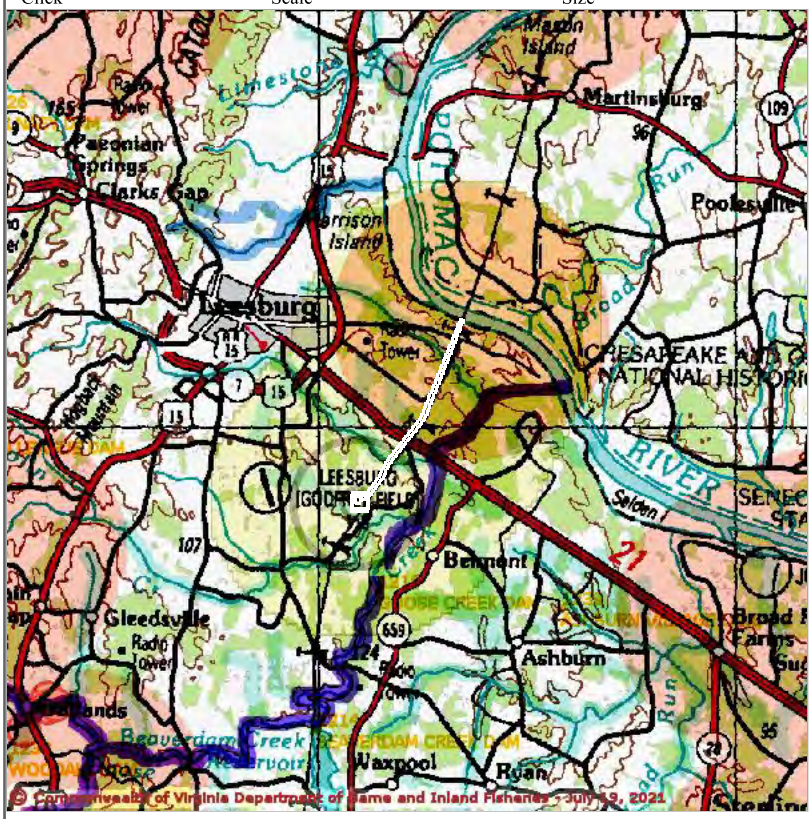
Position Rings 1 mile and 1/4 mile at the Search Point

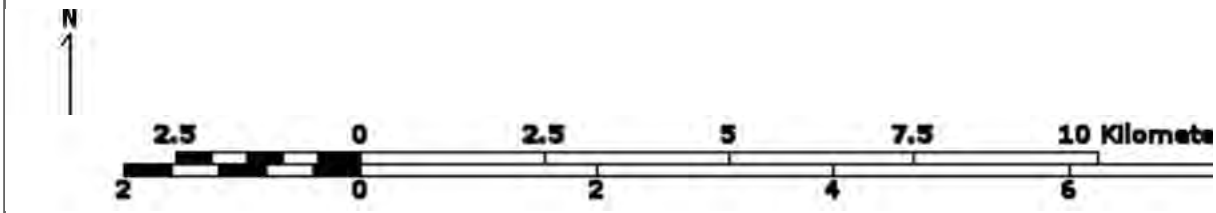
2 mile radius Search Area

Bald Eagle Concentration Areas and Roosts

Refresh Browser Page

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





Point of Search 39,04,28.9 -77,31,52.6
Map Location 39,05,41.6 -77,31,05.5

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 1:250,000 topographic maps (see Microsoft terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 272623 and top 4339928. Pixel size is 18. .
Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 19200 meters east to west by 19200 meters north to south for a total of 368.6 square kilometers. The map display represents 63002 feet east to west by 63002 feet north to south for a total of 142.3 square miles.

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

map assembled 2021-07-19 11:00:20 (qa/qc March 21, 2016 12:20 - tn=1106384.0 dist=3218 I)
$poi=39.0747000 -77.5312999

2 Species Observations where Floater, brook (060006) observed

39,04,28.9 -77,31,52.6 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 buffer

Display at center	**Search Point** is not at map center

Base Map Choices
Topography

Map Overlay Choices
Current List: Position, Search, SppObs

Map Overlay Legend

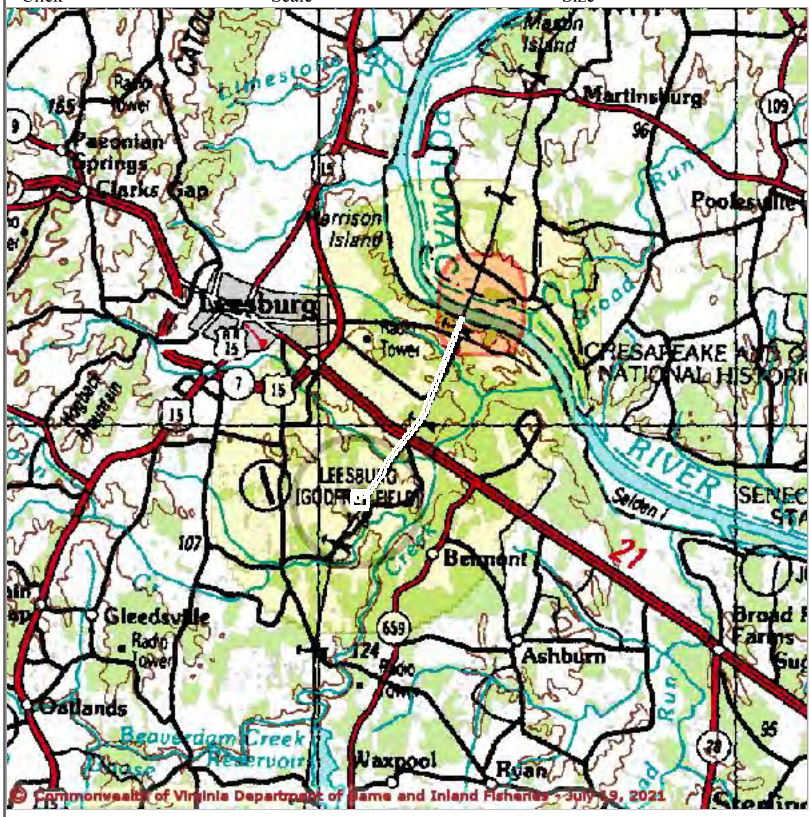
Position Rings 1 mile and 1/4 mile at the Search Point

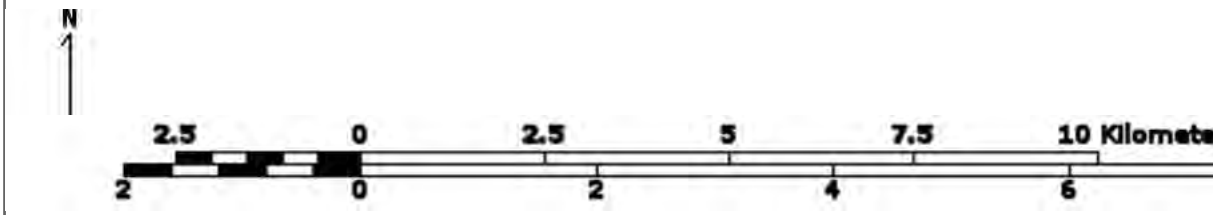
2 mile radius Search Area

Data Observation Site

Refresh Browser Page

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





Point of Search 39,04,28.9 -77,31,52.6
Map Location 39,05,41.6 -77,31,05.5

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 1:250,000 topographic maps (see Microsoft terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 272623 and top 4339928. Pixel size is 18. . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 19200 meters east to west by 19200 meters north to south for a total of 368.6 square kilometers. The map display represents 63002 feet east to west by 63002 feet north to south for a total of 142.3 square miles.

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

map assembled 2021-07-19 11:02:29 (qa/qc March 21, 2016 12:20 - tn=1106384.1 dist=3218 I)
$poi=39.0747000 -77.5312999

Threatened and Endangered Waters where Floater, green (060081) observed

39,04,28.9 -77,31,52.6
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 buffer

Display	**Search Point** is not
at center	at map center

Base Map Choices
Topography

Map Overlay Choices
Current List: Position, Search, TEWaters

Map Overlay Legend

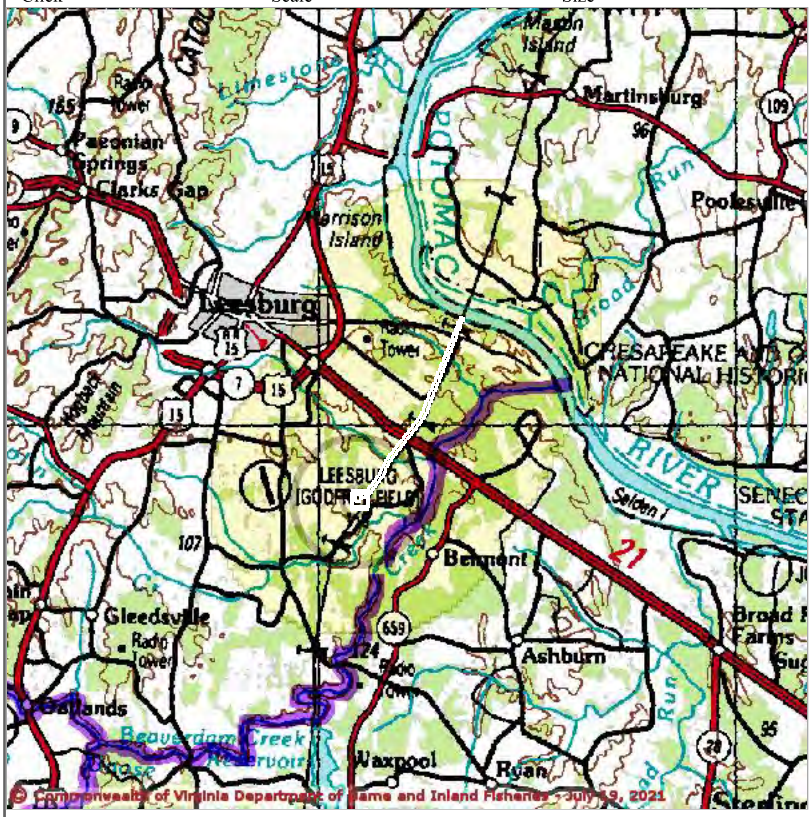
T & E Waters
Federal
State

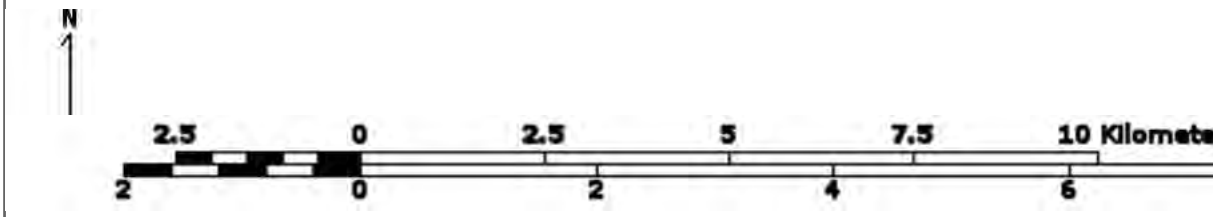
Position Rings
1 mile and 1/4 mile at the Search Point

2 mile radius Search Area

Refresh Browser Page

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





Point of Search 39,04,28.9 -77,31,52.6
Map Location 39,05,41.6 -77,31,05.5

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 1:250,000 topographic maps (see Microsoft terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 272623 and top 4339928. Pixel size is 18. . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 19200 meters east to west by 19200 meters north to south for a total of 368.6 square kilometers. The map display represents 63002 feet east to west by 63002 feet north to south for a total of 142.3 square miles.

Topographic maps and Black and white aerial photography for year 1990+- are from the United States Department of the Interior, United States Geological Survey. Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network.
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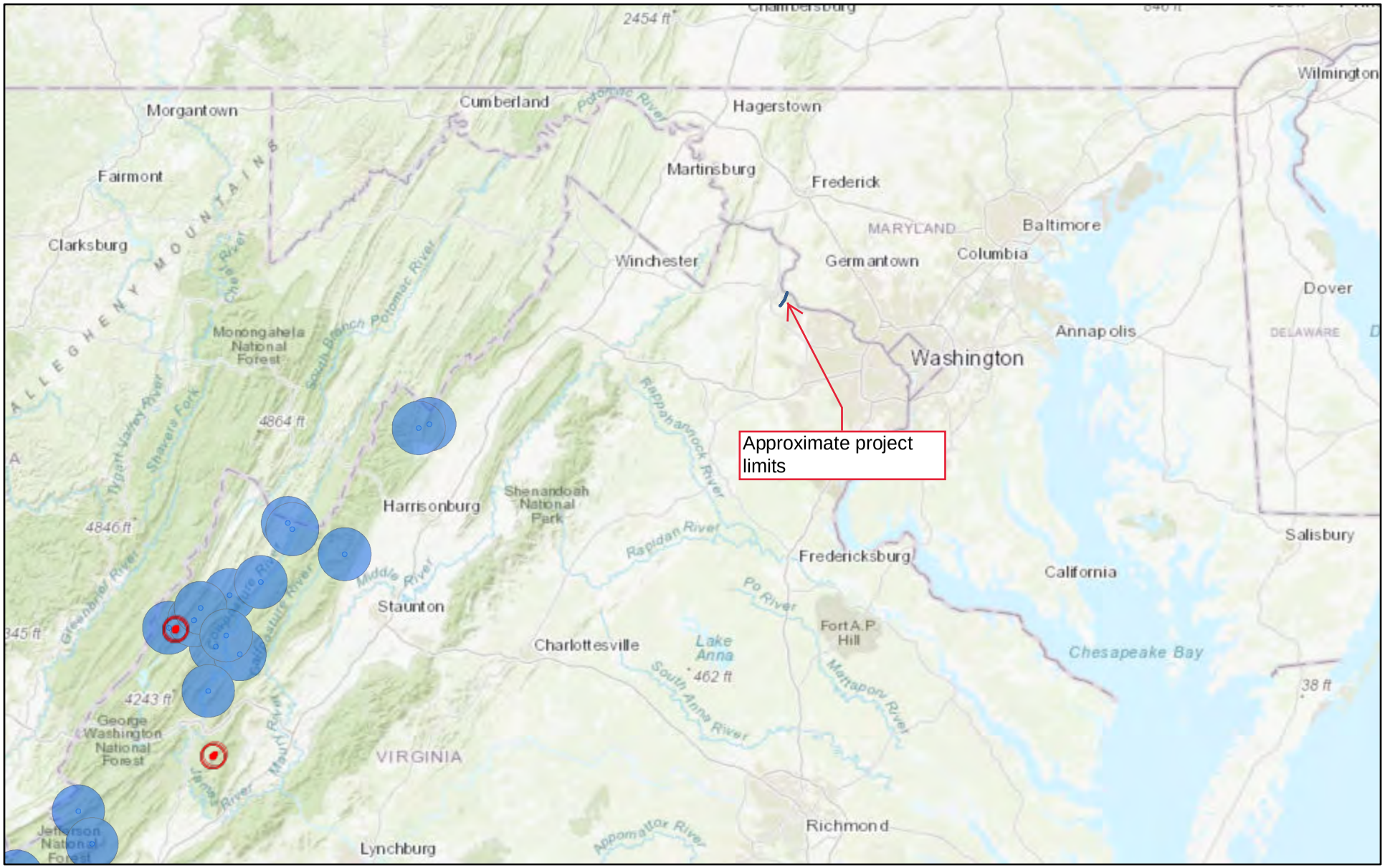
All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.

map assembled 2021-07-19 11:05:00 (qa/qc March 21, 2016 12:20 - tn=1106384.1 dist=3218 I)
$poi=39.0747000 -77.5312999

DWR NLEB

Database Search

NLEB Locations and Roost Trees



7/19/2021, 11:37:15 AM

NLEB Known Occupied Maternity Roost (Summer Habitat)

NLEB Hibernaculum 5.5 Mile Buffer

NLEB Hibernaculum Half Mile Buffer

1:2,311,167

0 15 30 60 mi

0 25 50 100 km

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

VA Dept. Game & Inland Fisheries

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

Attachment 2.F.1
Page 28 of 37

DCR NHDE

Database Search

Natural Heritage Resources

Your Criteria

Watershed (8 digit HUC): 02070008 - Middle Potomac-Cactoctin

Subwatershed (12 digit HUC): PL16 - Goose Creek-Cattail Branch

Search Run: 7/19/2021 12:59:41 PM

Result Summary

Total Species returned: 6

Total Communities returned: 0

Click scientific names below to go to NatureServe report.

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

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
Middle Potomac-Catoctin								
Goose Creek-Cattail Branch								
BIRDS								
Peregrine Falcon	Falco peregrinus	Falco peregrinus	G4	S1B,S2N	None	LT	38	N
LEPIDOPTERA (BUTTERFLIES & MOTHS)								
Dotted Skipper	Hesperia attalus slossonae	Hesperia attalus slossonae	G3G4T3	SX	None	None	3	N
VASCULAR PLANTS								
Cypress-knee sedge	Carex decomposita	Carex decomposita	G3G4	S1	None	None	13	N
White trout lily	Erythronium albidum	Erythronium albidum	G5	S2	None	None	8	N
Fowl Bluegrass	Poa palustris	Poa palustris	G5	S1S2	None	None	15	N
Canada Plum	Prunus nigra	Prunus nigra	G4G5	S1?	None	None	4	N

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

For Additional Information on locations of Natural Heritage Resources please submit an information request.

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

Attachment 2.F.1
Page 30 of 37

Natural Heritage Resources

Your Criteria

Watershed (8 digit HUC): 02070008 - Middle Potomac-Cactoctin

Subwatershed (12 digit HUC): PL05 - Potomac River (MD)-Limestone Branch

Search Run: 7/19/2021 13:01:07 PM

Result Summary

Total Species returned: 14

Total Communities returned: 4

Click scientific names below to go to NatureServe report.

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

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
Middle Potomac-Catoctin								
Potomac River (MD)-Limestone Branch								
BIRDS								
Upland Sandpiper	Bartramia longicauda	Bartramia longicauda	G5	SHB	None	None	4	N
BIVALVIA (MUSSELS)								
Yellow Lampmussel	Lampsilis cariosa	Lampsilis cariosa	G3G4	S2	None	None	28	N
Green Floater	Lasmigona subviridis	Lasmigona subviridis	G3	S2	None	LT	65	N
CRUSTACEA (AMPHIPODS, ISOPODS & DECAPODS)								
Racovitza's Terrestrial Cave Isopod	Miktoniscus racovitzai	Miktoniscus racovitzai	G3G4	S2	None	None	17	N
Bigger's Cave Amphipod	Stygobromus biggersi	Stygobromus biggersi	G2G4	S1S2	None	None	6	N
LEPIDOPTERA (BUTTERFLIES & MOTHS)								
Dotted Skipper	Hesperia attalus slossonae	Hesperia attalus slossonae	G3G4T3	SX	None	None	3	N
REPTILES								
Wood Turtle	Glyptemys insculpta	Glyptemys insculpta	G3	S2	None	LT	49	N
SIGNIFICANT CAVES								
Significant Cave	Significant cave	*Significant cave*	G3	SNR	None	None	377	N
TERRESTRIAL NATURAL COMMUNITY								
Central Appalachian	Acer (nigrum,	Acer (nigrum,	G4G5	S4	None	None	17	N

Attachment 2.F.1
Page 31 of 37

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
/ Piedmont Basic Mesic Forest (Twinleaf - Blue Cohosh Type)	saccharum) - Tilia americana / Asimina triloba / Jeffersonia diphylla - Caulophyllum thalictroides Forest	saccharum) - Tilia americana / Asimina triloba / Jeffersonia diphylla - Caulophyllum thalictroides Forest						
Piedmont / Central Appalachian Mafic / Calcareous Cliff	Hydrangea arborescens / Sedum ternatum - Polypodium virginianum Shrubland	Hydrangea arborescens / Sedum ternatum - Polypodium virginianum Shrubland	G3	S1?	None	None	2	N
Piedmont Acidic Oak - Hickory Forest	Quercus alba - Quercus rubra - Carya tomentosa / Cornus florida / Vaccinium stamineum / Hylodesmum nudiflorum Forest	Quercus alba - Quercus rubra - Carya tomentosa / Cornus florida / Vaccinium stamineum / Hylodesmum nudiflorum Forest	G4G5	S4S5	None	None	13	N
Piedmont Upland Depression Swamp (Pin Oak - Swamp White Oak Type)	Quercus palustris - Quercus bicolor / Viburnum prunifolium / Cinna arundinacea - Leersia virginica Forest	Quercus palustris - Quercus bicolor / Viburnum prunifolium / Cinna arundinacea - Leersia virginica Forest	G2	S2	None	None	10	N
VASCULAR PLANTS								
Short's rock cress	Boechera dentata	Boechera dentata	G5	S1	None	None	6	N
Field chickweed	Cerastium velutinum var. velutinum	Cerastium velutinum var. velutinum	G5T4?	S1S2	None	None	7	N
White trout lily	Erythronium albidum	Erythronium albidum	G5	S2	None	None	8	N
Fowl Bluegrass	Poa palustris	Poa palustris	G5	S1S2	None	None	15	N
Dwarf Chinquapin Oak	Quercus prinoides	Quercus prinoides	G5	S1	None	None	25	N
Stalkless yellow cress	Rorippa sessiliflora	Rorippa sessiliflora	G5	S2	None	None	9	N

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

For Additional Information on locations of Natural Heritage Resources please submit an information request.

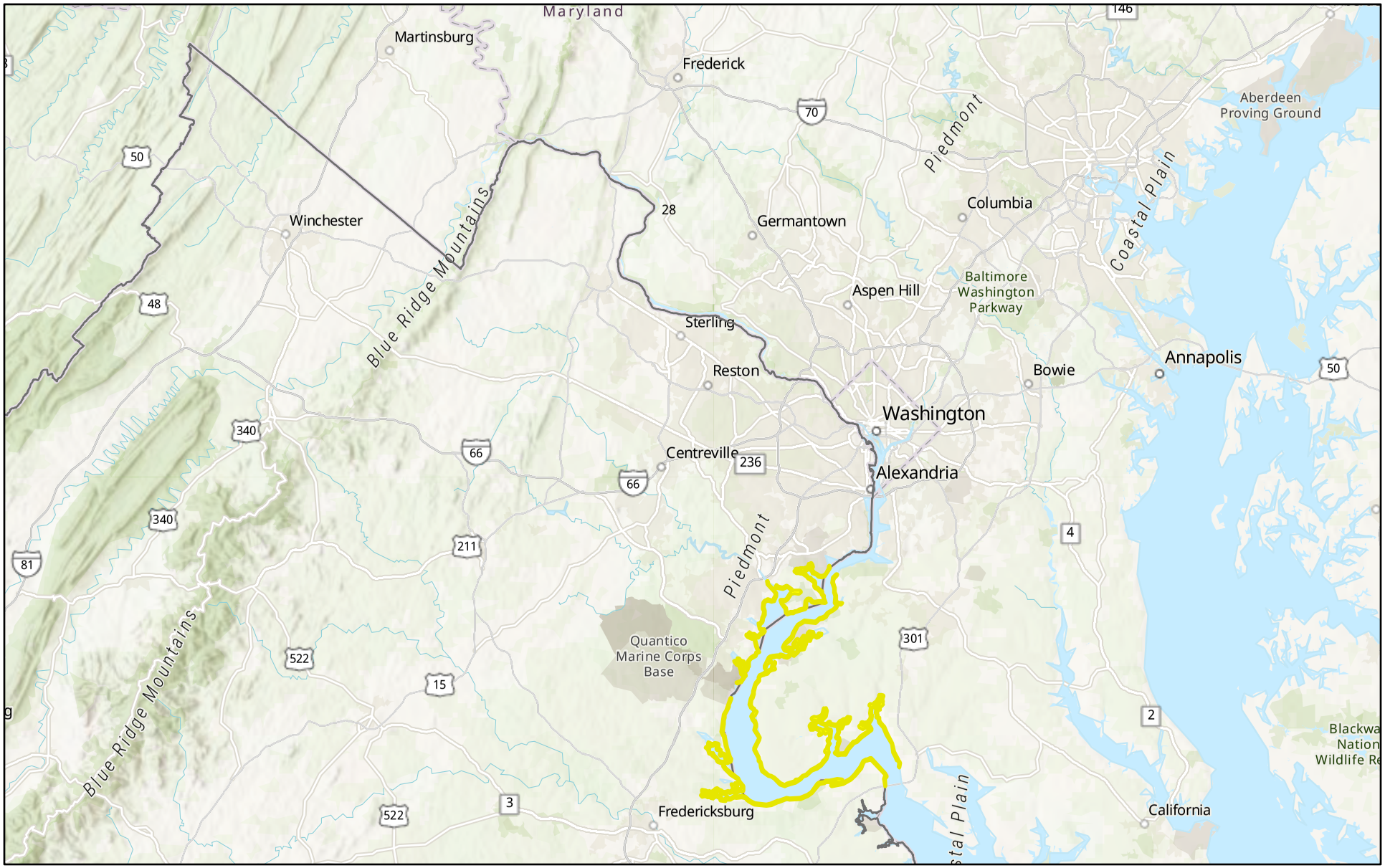
To Contribute information on locations of natural heritage resources, please fill out and submit a rare species sighting form.

Attachment 2.F.1
Page 32 of 37

USFWS BALD EAGLE CONCENTRATION AREAS

Database Search

Goose Creek - Doubs 500 kV Rebuild Project



July 28, 2021

1:1,155,581

0 5 10 20 mi

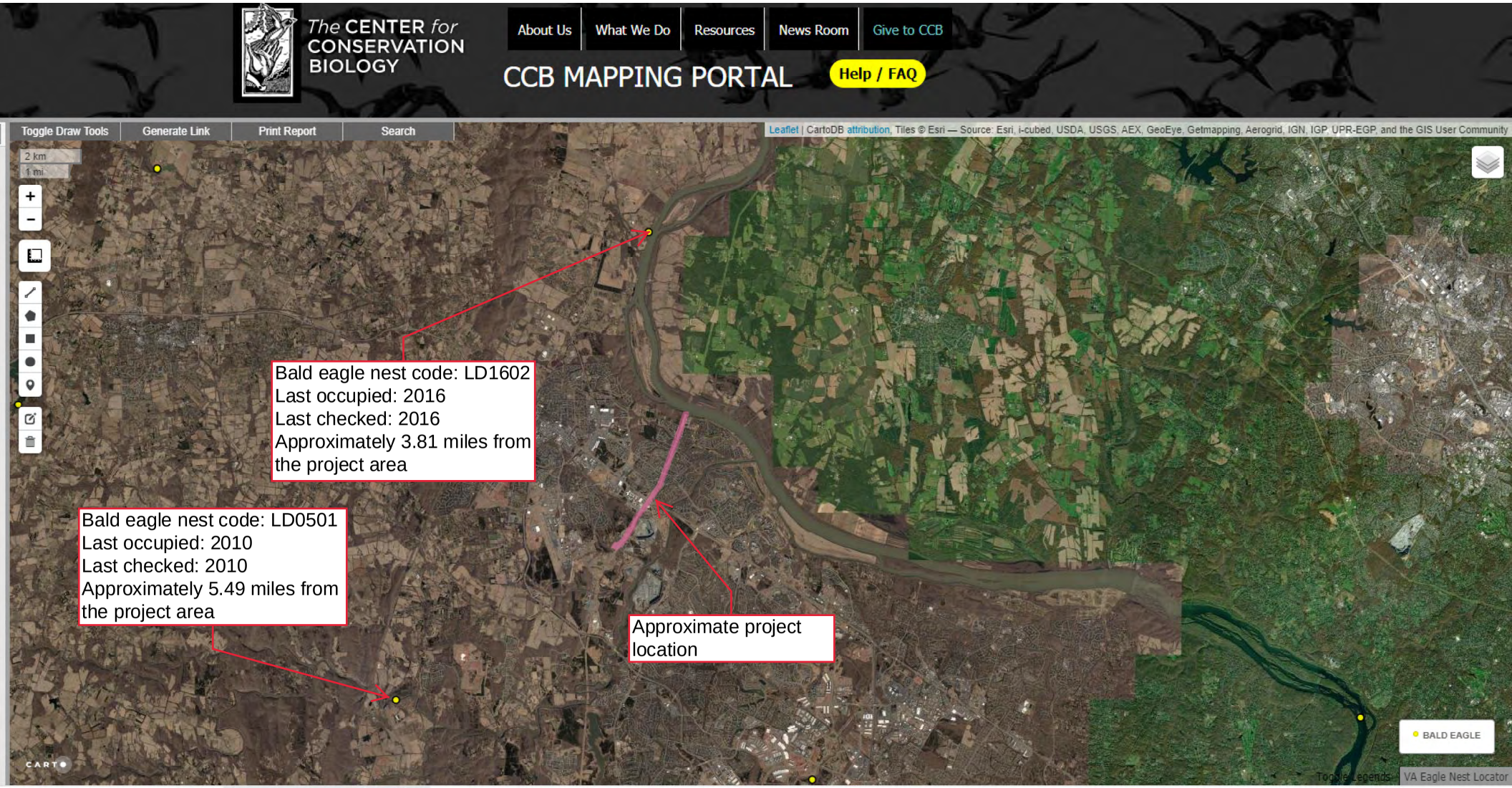
0 10 20 40 km

Esri, CGIAR, USGS, County of Loudoun, County of Prince William, Fairfax

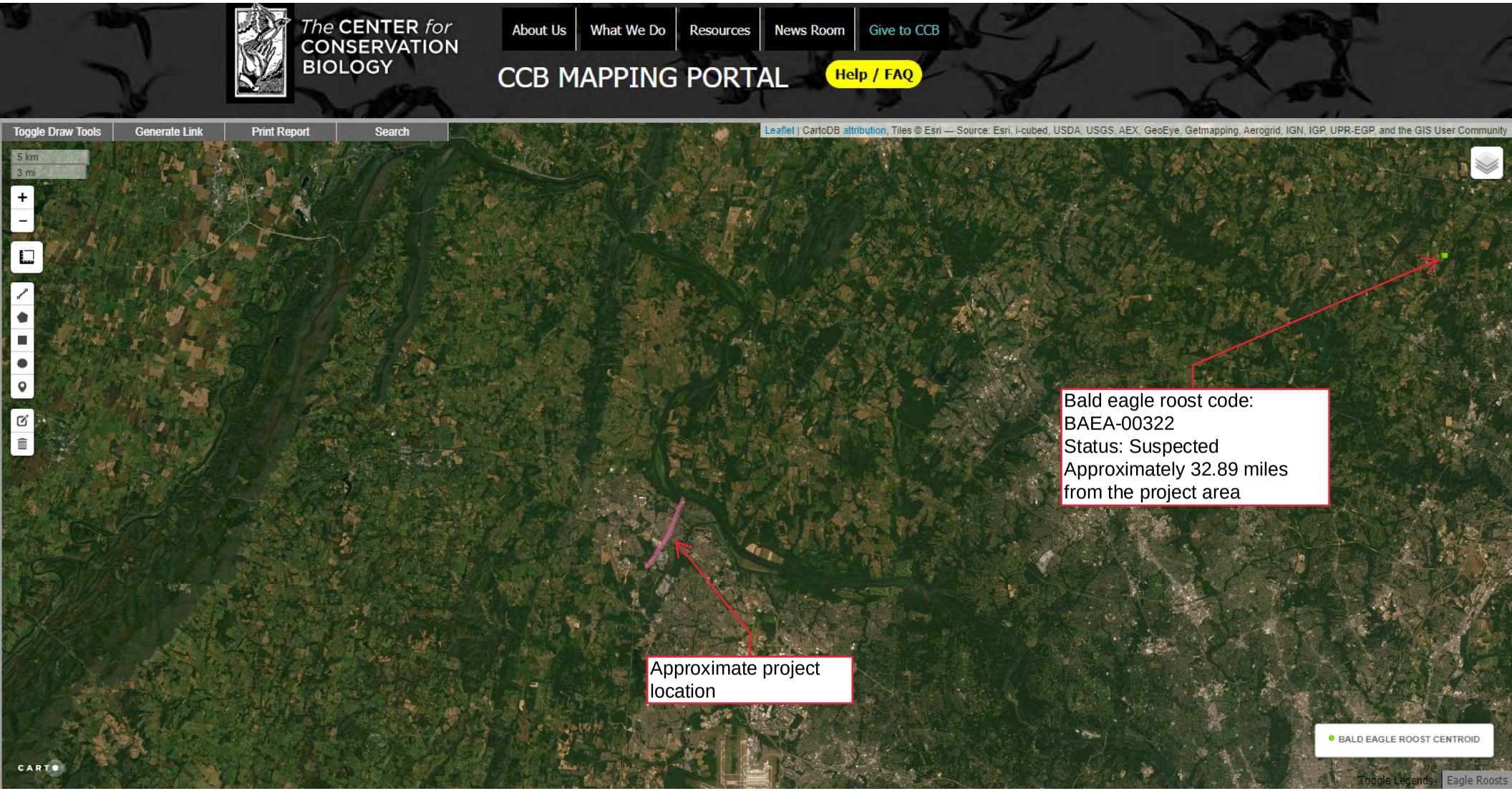
Attachment 2.F.1
Page 34 of 37

CCB BALD EAGLE

Database Search



Attachment 2.F.1
Page 36 of 37



Attachment 2.F.1
Page 37 of 37

Rachel M Studebaker (Services - 6)

From: Hypes, Rene' <rene.hypes@dcr.virginia.gov>
Sent: Wednesday, November 3, 2021 9:12 AM
To: Rachel M Studebaker (Services - 6)
Subject: [EXTERNAL] Re: Proposed 500 kV Line #514 Partial Rebuild Project

Ms. Studebaker,

Thank you for the notification. In order for us to initiate the review of this project, we need a completed information services order form along with the attached project map and information. It would also be helpful if you could provide an ArcGIS shapefile of the project area. Please note, our standard review time is 30 calendar days starting upon receipt of the completed information services order form. I am happy to speak to you or your supervisor about our review process.

Please let me know if you have any questions.

Sincerely,

Rene' Hypes

On Thu, Oct 14, 2021 at 5:13 PM Rachel.M.Studebaker@dominionenergy.com <Rachel.M.Studebaker@dominionenergy.com> wrote:

> Ms. Hypes,
>
> Please see the attached letter and project map notifying you of the 500 kV Line #514 Partial Rebuild Project located in Loudoun County, Virginia.
>
> Please contact me with any questions or for additional information.
>
> Thank you,
>
> Rachel Studebaker
>
> Environmental Specialist III

Dominion Energy Services

120 Tredegar Street, Richmond, VA 23219

Cell: (804) 217-1847

--

S. Rene' Hypes (she/her)

Project Review Coordinator

Department of Conservation and Recreation

Division of Natural Heritage

600 East Main Street, 24th Floor

Richmond, Virginia 23219

804-371-2708 (phone)

804-371-2674 (fax)

rene.hypes@dcr.virginia.gov

Conserving VA's Biodiversity through Inventory, Protection and Stewardship

http://www.dcr.virginia.gov/natural-heritage

October 25, 2021

Tracey McDonald
Stantec Consulting Services Inc.
5209 Center Street
Williamsburg, VA 23118

Re: 203401646, 500 KV Line 514 Partial Rebuild Project

Dear Ms. McDonald:

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 our files, the Red Rock Overlook Conservation Site is located within the project site including a 100 foot buffer. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. Red Rock Overlook Conservation Site has been given a biodiversity significance ranking of B4, which represents a site of moderate significance. The natural heritage resources of concern at this site are:

Rorippa sessiliflora	Stalkless yellow-cress	G5/S2/NL/NL
Cerastium velutinum var. velutinum	Field Chickweed	T4/S1/NL/NL
	Piedmont / Central Appalachian Mafic/ Calcareous Cliff	G3/S1?/NL/NL

Stalkless yellow-cress is a state rare biennial herb that inhabits wet areas such as gravel and sand bars of rivers, muddy banks of streams, floodplain forests, bottomland clearings and fields, wet exposed or marshy shores of ponds and lakes. This plant blooms from April to July (Weakley, in prep; Radford et al., 1968). In Virginia, stalkless yellow-cress has been documented at nine locations, three of which are historic, in the piedmont and coastal plain.

Field Chickweed occurs on the flood- sourced outcrops along the Potomac River and its tributaries. Field Chickweed is able to tolerate the range of rock types and chemistries found in these tributaries. It is a disjunct to the sandy and calcareous banks of the tidal Pamunkey River.

The Piedmont / Central Appalachian Mafic / Calcareous community is currently known only from the Potomac River drainage in the Piedmont Triassic Basin of Virginia and Maryland and the adjacent Blue Ridge of Virginia. It occupies cliff-faces weathered from siltstone, shale, calcareous sandstone, and metabasalt. Sites subtend rivers and large streams, where progressive stream incision through resistant strata has formed escarpments of exposed bedrock. All of the documented cliffs have northerly aspects and are partly to heavily shaded by overhanging trees or trees growing in the cliff-base floodplains. Microhabitat conditions are characterized by vertical to very steep faces, with much exposed bedrock, numerous fissures and shelves, and considerable local deposition of organic-rich, colluvial soil material. Vegetation cover ranges from sparse or somewhat sparse (5 to 20% vascular cover) on the most massive cliffs, to moderately dense (20 to 50% vascular cover) on other examples. Saplings and stunted trees of *Fraxinus americana, Ostrya virginiana, Tsuga canadensis, Ulmus rubra, Ulmus americana, Acer saccharum, Acer nigrum, Tilia americana, Juniperus virginiana var. virginiana, Carpinus caroliniana, Quercus rubra*, and *Quercus prinus* may occur on the cliff-faces. *Hydrangea arborescens* is a characteristic and sometimes abundant shrub, while *Toxicodendron radicans* and *Parthenocissus quinquefolia* are constant vines. Less constant shrubs include *Physocarpus opulifolius, Ptelea trifoliata, Hamamelis virginiana*, and *Viburnum acerifolium*. Characteristic herbaceous species include *Polypodium virginianum* (locally abundant), *Sedum ternatum* (locally abundant), *Symphyotrichum cordifolium (= Aster cordifolius)* (locally abundant), *Dryopteris marginalis, Pilea pumila, Asplenium trichomanes, Woodsia obtusa ssp. obtusa, Aquilegia canadensis, Saxifraga virginiensis, Eurybia divaricata (= Aster divaricatus), Asplenium rhizophyllum, Ageratina altissima, Carex communis, Carex platyphylla, Heuchera americana, Arabis laevigata var. laevigata, Polymnia canadensis, Polystichum acrostichoides*, and *Solidago caesia*. Exotic weeds, including *Stellaria media, Lonicera japonica, Alliaria petiolata*, and *Microstegium vimineum*, are problematic invaders at most sites (Fleming et al 2021).

DCR recommends avoidance of the conservation site and associated natural heritage resources.

In addition, several rare plants, which are typically associated with prairie vegetation and inhabit semi-open diabase glades in Virginia, may occur at this location if suitable habitat is present. Diabase glades are characterized by historically fire-dominated grassland vegetation on relatively nutrient-rich soils underlain by Triassic bedrock. Diabase flatrock, a hard, dark-colored volcanic rock, is found primarily in northern Virginia counties and is located within the geologic formation known as the Triassic Basin. Where the bedrock is exposed, a distinctive community type of drought-tolerant plants occurs. Diabase flatrocks are extremely rare natural communities that are threatened by activities such as quarrying and road construction (Rawinski, 1995).

In Northern Virginia, diabase supports occurrences of several global and state rare plant species: earleaf foxglove (*Agalinis auriculata*, G3/S1/NL/NL), blue-hearts (*Buchnera americana*, G5?/S1S2/NL/NL), purple milkweed (*Asclepias purpurascens*, G5?/S2/NL/NL), downy phlox (*Phlox pilosa*, G5T5/S2/NL/NL), stiff goldenrod (*Oligoneuron rigidum* var. *rigidum*, G5T4/S1/NL/NL), and marsh hedgenettle (*Stachys pilosa* var. *arenicola*, G5T4?/S1/NL/NL).

DCR-Division of Natural Heritage biologists are qualified to conduct inventories for rare, threatened, and endangered species. Please contact Anne Chazal, Natural Heritage Chief Biologist, at anne.chazal@dcr.virginia.gov or 804-786-9014 to discuss availability and rates for field work.

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 $95.00 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

Literature Cited

Fleming, G.P., K.D. Patterson, K. Taverna, and P.P. Coulling. 2012. The natural communities of Virginia: classification of ecological community groups. Second approximation. Version 2.5. Virginia Department of Conservation and Recreation, Division of Natural Heritage, Richmond, VA.

Radford, A.E., H.A. Ahles, C.R. Bell. 1968. Manual of the Vascular Flora of the Carolinas. University of North Carolina Press, Chapel Hill. p 503.

Weakley, A.S. In prep. *Flora of the Carolina's and Virginia*. The Nature Conservancy, Southeastern Regional Office. p. 6-26.

Virginia Botanical Associates. (2021). Digital Atlas of the Virginia Flora (http://www.vaplantatlas.org). c/o Virginia Botanical Associates, Blacksburg. [Accessed: October 21, 2021]

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
www.deq.virginia.gov

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

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.

STAGE I PRE-APPLICATION ANALYSIS FOR THE PROPOSED DOMINION ENERGY VIRGINIA 500kV Line #514 PARTIAL REBUILD PROJECT, LOUDOUN COUNTY, VIRGINIA

October 28, 2021

Prepared for:

Dominion Energy Virginia
Attention: Charles Weil
10900 Nuckols Road, 4th Floor
Glen Allen, VA 23060
(804) 239-6450

Prepared by:

Sandra DeChard
Senior Architectural Historian

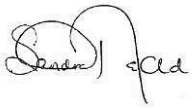
and

Brynn Stewart
Senior Principal Investigator

Stantec Consulting Services Inc.
1011 Boulder Springs Drive, Suite 225,
Richmond VA 23225-4951
(804) 267-3474

Sign-off Sheet

This document entitled *Stage I Pre-Application Analysis For The Proposed Dominion Energy Virginia 500kV Line #514 Partial Rebuild Project, Loudoun County, Virginia* was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of Dominion Energy Virginia (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by  _____
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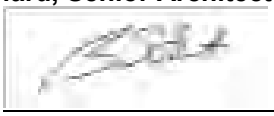
Sandra DeChard, Senior Architectural Historian

Reviewed by  _____
(signature)
Brynn Stewart, Senior Principal Investigator

Approved by _____
(signature)
Rachel Roberts, Senior Regulatory Specialist

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Executive Summary

Stantec Consulting Services Inc. (Stantec) was retained by Dominion Energy Virginia (Dominion Energy) to conduct a Stage I Pre-Application Analysis for the Virginia portion of the proposed rebuilding of the 500kV Line #514 Transmission Line (Rebuild Project or Line #514) in Loudoun County, Virginia. The project proposed by Dominion Energy is necessary in order to maintain the structural integrity and reliability of its transmission system and to comply with mandatory North American Electric Reliability Corporation (NERC) Reliability Standards. The project will be constructed entirely within an existing right-of-way (ROW) and consists of approximately 3-miles of existing 500kV transmission line in Virginia and 15.6 miles in Maryland. As part of the current project, Stantec only evaluated potential visual effects for Line #514 from Structure #514/1854 to the Maryland state line. The rebuild of Line #514 will require the tear-down and replacement of thirteen (13) 500kV steel lattice structures and one H-frame structure with galvanized steel lattice structures. Existing Structure #514/1854 will remain. All proposed structure heights and locations provided in this report are based upon preliminary engineering and are subject to final design. Based on this information, the average structure height will increase by 21.5 feet with a maximum height increase of 35 feet.

Background research for the Stage I Pre-Application Analysis was conducted in March 2021 by Stantec staff. The preliminary background research and the field study 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* (Virginia Department of Historic Resources [DHR] 2008) for proposed transmission line improvements.

As detailed by DHR guidance, consideration was given to National Historic Landmarks (NHLs) located within a 1.5-mile radius of the project centerline; National Register of Historic Places (NRHP)-listed properties, battlefields, and historic landscapes located within a 1.0-mile radius of the project centerline; NRHP-eligible sites located within a 0.5-mile radius of the project centerline; and archaeological sites located within the project ROW. Five previously surveyed architectural resources were identified for inclusion in the Stage I analysis. One previously recorded archaeological resource within the existing ROW was also identified during this phase of the project.

Recommendations

Architectural Resources

No NHLs are located within the 1.5-mile radius of the Rebuild Project centerline. One NRHP-listed resource is located within 1.0-mile and two NRHP-eligible resources are located within 0.5-miles of the centerline. Additionally, one NRHP-eligible and one potentially eligible battlefield are also present within 1.0-mile of the transmission line. The battlefield resources also cross the transmission line ROW corridor. As the study was completed prior to filing a State Corporation Commission (SCC) application, all digital images were taken from public ROW and/or Dominion Energy easements.

Based on preliminary proposed structure heights, the proposed Line #514 Partial Rebuild Project would increase in height of the structures, on average, by 21.5 feet with a maximum total height increase of 35 feet. One structure will decrease in height. Based on the analysis of the proposed structures, it is recommended that the rebuild would have a Minimal Visual Impact to all five architectural resources.

Previously Recorded Architectural Resources Considered under the Stage I Pre-Application Guidelines

DHR #	Resource Name	DHR/NRHP Status	Distance to Centerline (Feet)	Impacts
053-0276	Alexandria, Loudoun and Hampshire Railroad	NRHP-Eligible	1,156	Minimal
053-5058	Ball's Bluff Battlefield	Potentially Eligible	0	Minimal
053-5783	Murray Hill, 42910 Edwards Ferry Road NE	NRHP-Listed	1,783	Minimal
053-6078	Edwards Ferry Road	NRHP-Eligible	1,340	Minimal
253-5182	Ball's Bluff Battlefield and National Cemetery Historic District Boundary Expansion	NRHP-Eligible	0	Minimal

Archaeological Resources

One previously recorded archaeological resource was identified within the Rebuild Project ROW during the background research. The resource, Site 44LD1341 comprises a prehistoric temporary camp. The site was determined potentially eligible by DHR. ***It is recommended that archaeological sites located within the ROW be investigated and evaluated as appropriate during future investigations.***

Previously Recorded Archaeological Resources Considered under the Stage I Pre-Application Guidelines

DHR #	Resource Name	DHR/NRHP Status	Distance to ROW (Feet)	Impact
44LD1341	Prehistoric Temporary Camp	Potentially Eligible	0	Investigate During Archaeological Survey

Abbreviations

ABPP	American Battlefield Protection Program
DEM	Digital Elevation Model
DHR	Virginia Department of Historic Resources
DSM	Digital Surface Model
Dominion Energy	Dominion Energy Virginia
kV	Kilovolt
NERC	North American Electric Reliability Corporation
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NPS	National Park Service
NRHP	National Register of Historic Places
ROW	Right-of-Way
SCC	State Corporation Commission
Stantec	Stantec Consulting Services, Inc.
USDI	United States Department of the Interior
V-CRIS	Virginia Cultural Resources Information System
VLR	Virginia Landmarks Register

1.0 INTRODUCTION

1.1 OVERVIEW

Stantec Consulting Services Inc. (Stantec) was retained by Dominion Energy Virginia (Dominion Energy) to conduct a Stage I Pre-Application Analysis for the Virginia portion of the proposed rebuilding of the 500kV Line #514 Transmission Line (Rebuild Project or Line #514) in Loudoun County, Virginia. The project proposed by Dominion Energy is necessary in order to maintain the structural integrity and reliability of its transmission system and to comply with mandatory North American Electric Reliability Corporation (NERC) Reliability Standards. The project will be constructed entirely within an existing right-of-way (ROW) and consists of approximately 3-miles of existing 500 kV transmission line in Virginia and 15.6 miles in Maryland. As part of the current project, Stantec only evaluated potential visual effects for Line #514 from Structure #514/1854 to the Maryland state line. The rebuild of Line #514 will require the tear-down and replacement of thirteen (13) 500kV steel lattice structures and one H-frame structure with galvanized steel lattice structures. Existing Structure #514/1854 will remain. All proposed structure heights and locations provided in this report are based upon preliminary engineering and are subject to final design. Based on this information, the average structure height will increase by 21.5 feet with a maximum height increase of 35 feet (Table 1).

Table 1 Proposed Structure Heights for the Rebuild Project

Structure No.	Height (Feet) Existing	Average Height (Feet) Proposed*	Approximate Change in Height (Feet)	Existing/Proposed Structure Type
514/1841	122	120	-2	Weathering Steel Lattice/Galvanized Steel Lattice
514/1842	114	134	20	Weathering Steel Lattice/Galvanized Steel Lattice
514/1843	109	144	35	Weathering Steel Lattice/Galvanized Steel Lattice
514/1844	119	144	25	Weathering Steel Lattice/Galvanized Steel Lattice
514/1845	109	134	25	Weathering Steel Lattice/Galvanized Steel Lattice
514/1846	114	139	25	Weathering Steel Lattice/Galvanized Steel Lattice
514/1847	119	154	35	Weathering Steel Lattice/Galvanized Steel Lattice
514/1848	117	149	32	Weathering Steel Lattice/Galvanized Steel Lattice
514/1849	104	134	30	Weathering Steel Lattice/Galvanized Steel Lattice
514/1850	126	139	13	Galvanized H-Frame/Galvanized Steel Lattice
514/1851	99	114	15	Weathering Steel Lattice/Galvanized Steel Lattice
514/1852	102	134	32	Weathering Steel Lattice/Galvanized Steel Lattice
514/1853	102	118	16	Weathering Steel Lattice/Galvanized Steel Lattice

Structure No.	Height (Feet) Existing	Average Height (Feet) Proposed*	Approximate Change in Height (Feet)	Existing/Proposed Structure Type
Minimum	**99**	**115**	**-2**	N/A
Maximum	**126**	**154**	**35**	N/A
Average Height	**113**	**135**	**21.5**	N/A

*Based on preliminary design. Structure heights do not include foundation reveal.

1.2 STAGE I PRE-APPLICATION ANALYSIS

The *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 [DHR] 2008) were developed by the DHR to assist the State Corporation Commission (SCC) and their applicants to address and minimize potential impacts to historic resources associated with the construction of large-scale transmission lines and associated facilities. In consideration to the general project design, as described above, and other elements associated with the proposed undertaking, including current ROW conditions within the proposed project area, Stantec designed the present study to identify all previously recorded architectural and archaeological resources requiring inclusion in a formal Stage I Pre-Application Analysis, as defined by the 2008 *Guidelines*.

As detailed by DHR guidance, consideration was given to National Historic Landmarks (NHLs) located within a 1.5-mile radius of the project centerline; National Register of Historic Places (NRHP)-listed properties, battlefields, and historic landscapes located within a 1.0-mile radius of the project centerline; NRHP-eligible sites located within a 0.5-mile radius of the project centerline; and archaeological sites located within the project ROW. This document includes a viewshed analysis to address potential visual impacts to the five resources considered during the Stage I study.

This Stage I Pre-Application Analysis project was directed by Senior Regulatory Specialist Rachel Roberts and the report authored by Senior Architectural Historian Sandra DeChard. The visual effects survey was conducted by Archaeological Technician, Olivia McCarty under the direction of Ms. DeChard. Perron Singleton photographed the resource viewsheds and Audrey Cropp prepared the photo simulations (see Appendix C). Visual modeling was prepared by GIS Coordinator, Melissa Sanderson and support graphics were prepared by Ms. Sanderson and GIS Analysist Elise Ljiko.

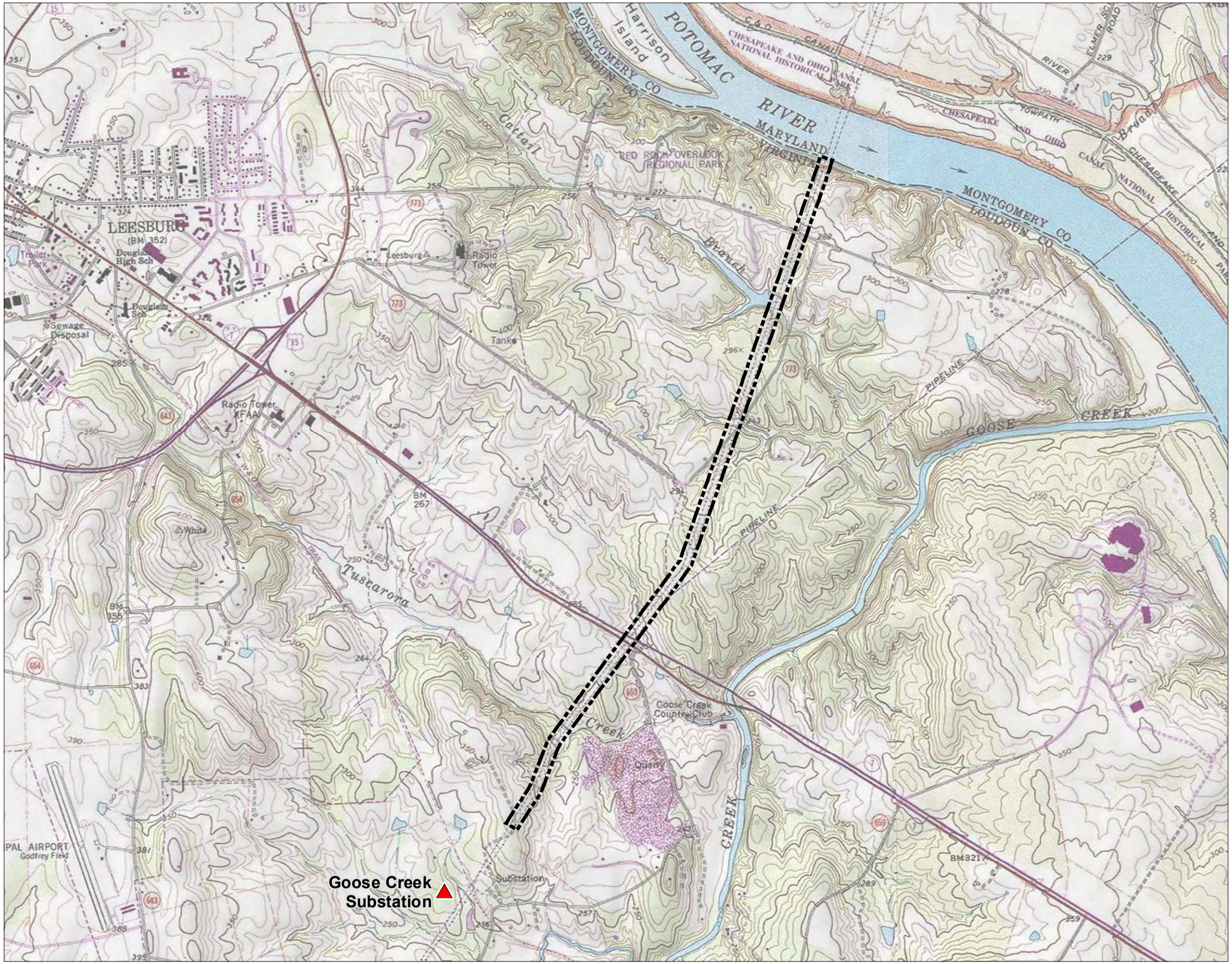


Figure No.

1

Title

Project Location Map

Client/Project 203401646

Dominion Energy Virginia
500kV Line # 514 Partial Rebuild Project

Project Location

Loudoun County, Virginia

Prepared by MGS on 2021-09-22
TR by TPS on 2021-10-21
IR by CPG on 2021-10-20

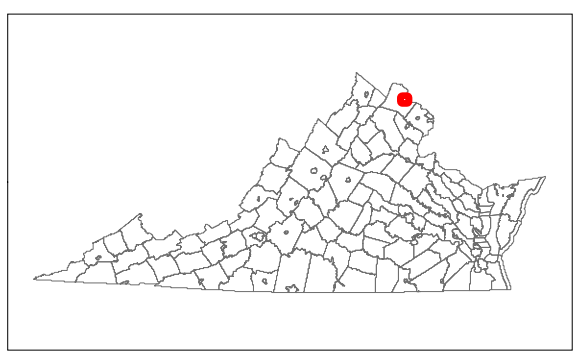
N

0 2,000 4,000 Feet

(At original document size of 11x17)
1:24,000

Substation

Project Limits



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, DCR
3. Topographic map © USGS 7.5 Minute Series Topographic Map, Leesburg, VA Quadrangle, 1994; Sterling,VA Quadrangle, 1998

Stantec

Attachment 2.H.1
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2.0 BACKGROUND RESEARCH

As part of the Stage I Pre-Application Analysis effort, DHR guidance recommends a four-tier study area strategy to be considered for each alternative alignment for the proposed undertaking (Table 2). Per this guidance consideration was given to: NHLs located within a 1.5-mile radius of the project centerline; NRHP-listed properties, battlefields, and historic landscapes located within a 1.0-mile radius of the project centerline; NRHP-eligible resources located within a 0.5-mile radius of the project centerline; and archaeological sites located within the project ROW.

Table 2 Study Areas as Defined by DHR Guidelines for Transmission Lines

Radial Buffer (in miles)	Considered Resources
1.5	National Historic Landmarks
1.0	Above resources and: National Register Properties (listed), Battlefields, Historic Landscapes (e.g. Rural HD)
0.5	Above resources and: National Register-eligible (as determined by VDHR)
0.0 (Within ROW)	Above resources and Archaeological Sites

The background research included a review of the DHR archives and of data collected from the DHR's Virginia Cultural Resource Information System (V-CRIS) database using the most current data as provided by the DHR. The DHR files of archaeological sites and historic structures were examined and information was retrieved on all archaeological sites located up to a 0.5-mile radius of the project area and all previously recorded architectural resources up to a 1.5-mile radius of the project. ESRI ArcGIS Online aerial photography of current conditions was examined for the entire project area. Photographs of the viewshed of each of the architectural resources under consideration were taken from the public ROW.

2.1 RESULTS OF THE BACKGROUND RESEARCH

2.1.1 Architectural Resources

No NHLs are located within 1.5-miles of the Project Rebuild centerline. One NRHP-listed resource is located within 1.0-mile and two NRHP-eligible resources are within 0.5-miles of the centerline. Additionally, one NRHP-eligible and one potentially eligible battlefield are also present within 1.0-mile of the transmission line. The battlefield resources also cross the transmission line ROW corridor. As the study was completed prior to filing a State Corporation Commission (SCC) application, all digital images were taken from public ROW and/or Dominion Energy easements. See Table 3 for a listing of the architectural resources within the project area.

Table 3 Previously Recorded Architectural Resources Considered under the Stage I Pre-Application Guidelines

DHR #	Resource Name	DHR/NRHP Status	Distance to Centerline (Feet)
053-0276	Alexandria, Loudoun and Hampshire Railroad	NRHP-Eligible	1,156
053-5058	Ball's Bluff Battlefield	Potentially Eligible	0
053-5783	Murray Hill, 42910 Edwards Ferry Road NE	NRHP-Listed	1,783
053-6078	Edwards Ferry Road	NRHP-Eligible	1,340
253-5182	Ball's Bluff Battlefield and National Cemetery Historic District Boundary Expansion	NRHP-Eligible	0

2.1.2 Archaeological Resources

One previously recorded archaeological resource was identified within the Rebuild Project ROW during the background research. The resource, Site 44LD1341 comprises a prehistoric temporary camp. The site was determined potentially eligible by DHR. ***It is recommended that archaeological sites located within the ROW be investigated and evaluated as appropriate during future investigations*** (Appendix E; Table 4).

Table 4 Previously Recorded Archaeological Resources Considered under the Stage I Pre-Application Guidelines

DHR #	Resource Name	DHR/NRHP Status	Distance to ROW (Feet)
44LD1341	Prehistoric Temporary Camp	Potentially Eligible	0

3.0 STAGE I PRE-APPLICATION ANALYSIS RESULTS

3.1 VISUAL EFFECTS METHODOLOGY

Fieldwork for the proposed transmission line project was undertaken by Stantec's Archaeological Technician Olivia McCarty under the direction of Senior Architectural Historian, Sandra DeChard on June 30, 2021. The fieldwork for the assessment entailed photographing the resources requiring viewshed analysis according to the Stage I Pre-Application guidelines and examining the potential views from the resources towards the proposed transmission line improvements. As the fieldwork was conducted prior to a formal SCC application submittal, all photographs were taken from public ROW locations with aerial photography utilized to supplement the analysis of project visibility and potential visual effects. As the proposed line is a rebuild of an existing transmission line and the proposed new line will be located within the existing alignment, the existing line was utilized to assist with the assessment of potential visual effects.

A detailed viewshed was modeled for the existing and proposed structures. This analysis required the creation of two datasets, a digital elevation model (DEM) which provided base ground elevations, and a digital surface model (DSM) which provided overall elevations for features on the terrain, such as trees and buildings. Using the existing structure heights and preliminary proposed structure heights[1] provided by Dominion, two viewshed analyses were run using these datasets to determine where the existing and proposed structures are or will be visible in the landscape surrounding the proposed transmission line improvements. The visibility is illustrated by three color shadings:

- orange - where both existing and proposed structures are/will be visible,
- red - where the existing structures are visible, but the proposed structures will not be, and
- blue - where the existing structures are not visible, but the proposed structures will be.

3.2 INDIVIDUAL ARCHITECTURAL RESOURCES CONSIDERED

No NHLs are located within the 1.5-mile radius of the Rebuild Project centerline. One NRHP-listed resource is located within 1.0-mile and two NRHP-eligible resources are located within 0.5-mile of the centerline and were considered for visual effects. The resources are further described below along with a discussion and recommendation of potential effects that may occur as a result of the proposed project.

3.2.1 Alexandria, Loudoun and Hampshire Railroad (DHR #053-0276)

The Alexandria, Loudoun and Hampshire Railroad is a 45-mile corridor which has been converted to a paved walking and bicycling trail and is now part of the Northern Virginia Regional Park Authority (Figure

[1] An estimated 1.5-foot foundation reveal height was added to structure heights to anticipate the as-built conditions of the structures in the model.

2). Construction of the railroad began in 1855 and was completed up to Leesburg by 1860 and by the mid- to late nineteenth century became one of the major transportation corridors in this area of Virginia. The railroad line suffered damage during the Civil War but by 1868 was fully operational. In 1900, the railroad was incorporated under the Southern Railway and in turn this section of line was sold to the Washington and Old Dominion line. By the second decade of the twentieth century, the line carried upwards of three million passengers. During the 1920s, however, the number of passengers had decreased dramatically and by 1926, only 886,000 passengers rode the line due to the increased popularity of the automobile as a mode of transportation. The future of the railroad, thought to have been doomed, had a reverse of fortune as the population of the area after World War II began to increase substantially and the demand for lumber and other building materials increased freight. This prosperous time was short-lived and by the 1950s, the railroad's demise began. The importance of the railroad during the second half of the nineteenth century and first half of the twentieth century has been inextricably linked to the history of Northern Virginia and as such, the resource was determined eligible for listing on the NRHP under Criterion A for its significance in transportation and commerce in 2016, 2017 and 2019 (DHR Site Files).

Figure 2 View of Alexandria, Loudoun and Hampshire Railroad (DHR #053-0276), Looking Northwest.

3.2.1.1 Visual Effect Assessment

The Alexandria, Loudoun and Hampshire Railroad is located within 0.5-miles of the Rebuild Project centerline and extends beyond to the southeast and northwest with the closest Rebuild Project structure 1,156 feet to the northeast. The railroad cut also crosses the transmission line corridor to the north of Cochran Mill Road (Appendix B); however, this section of the line is not part of the current Rebuild

Project. Existing structures (Structure #514/1852 through #514/1853) in the vicinity of the resource measure approximately 102 feet tall. These structures were not visible (Figures 3-5) during the field survey.

Based upon preliminary design, the proposed replacement structures will have a height of approximately 118 and 134 feet with an increase of 32 feet (maximum; Structure #514/1852) above the height of the existing structures in the section of the transmission line closest to the resource. Viewshed modeling indicates that the proposed structures would be visible from the resource at the point where the railroad crosses the transmission line corridor (Figure 6). The photosimulation, utilizing the view to the northeast, also indicates that proposed Structure #514/1853 would be visible (Appendix D; OP 1). Based on the fieldwork, the proposed structure heights, photosimulation, and the viewshed modeling, ***it is anticipated that the Rebuild Project would have a Minimal Visual Impact on the Alexandria, Loudoun and Hampshire Railroad (DHR #053-0276).***

Figure 3 View from Alexandria, Loudoun and Hampshire Railroad (DHR #053-0276), Looking Southeast from Location 3. The Existing Transmission Line is not Visible.

Figure 4 View from Alexandria, Loudoun and Hampshire Railroad (DHR #053-0276), Looking East from Location 4. The Existing Transmission Line is not Visible.

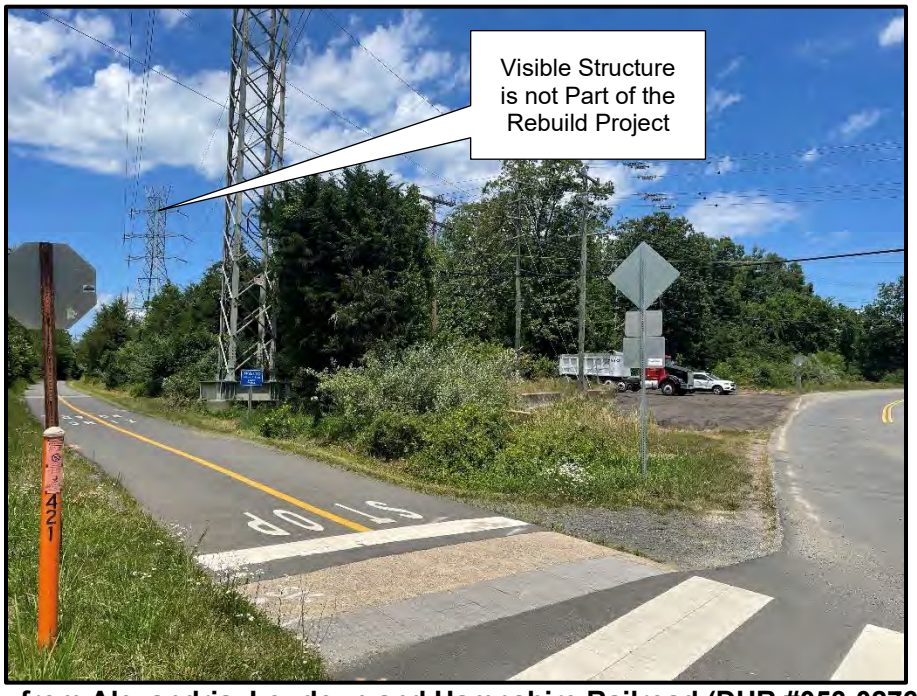


Figure 5 View from Alexandria, Loudoun and Hampshire Railroad (DHR #053-0276), Looking North from the Trails at Cochran Mill Road (Location 5). The Existing Transmission Line is not Visible.

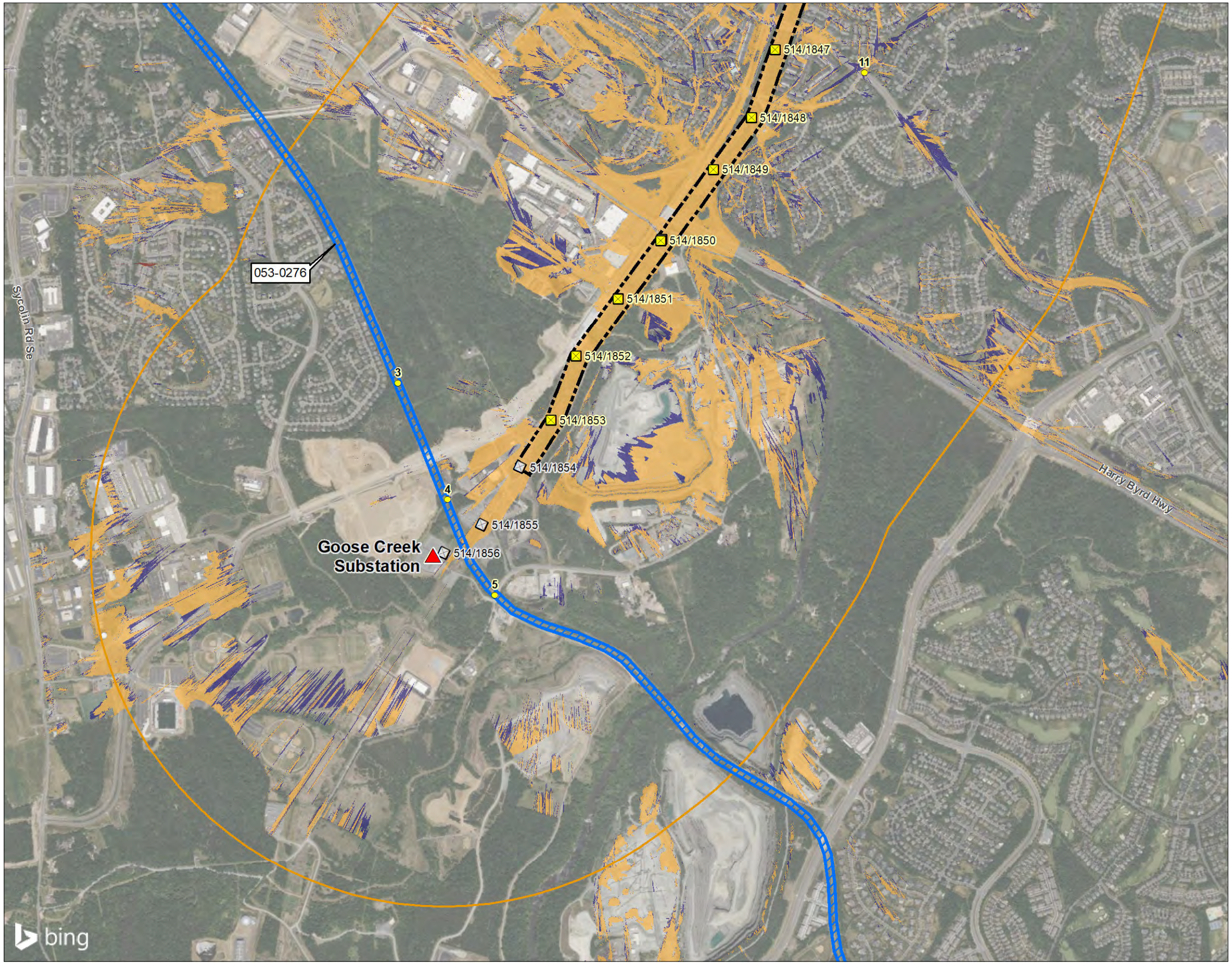


Figure No.

6

Title

Viewshed Analysis and Photograph Location Map for Alexandria, Loudoun and Hampshire Railroad (DHR #053-0276)

Client/Project 203401646

Dominion Energy Virginia
500kV Line # 514 Partial Rebuild Project

Project Location
Loudoun County, Virginia

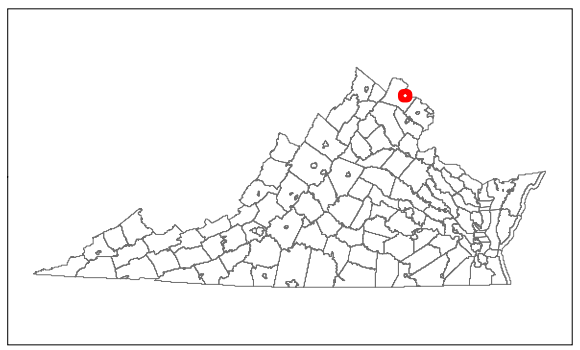
Prepared by MGS on 2021-09-22
TR by TPS on 2021-10-21
IR by CPG on 2021-10-20

N

0 1,500 3,000 Feet

(At original document size of 11x17)
1:18,000

- Substation
- Photo Location
- Proposed Structure
- Existing Structure
- Existing Structure to Remain
- Project Limits
- 1-Mile Buffer
- Architectural Resource
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, DCR, ESRI, NADS, Historic resource data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR. Foundation reveal estimated to be 1.5 feet, was added to proposed structure heights for the purpose of modeling the as-built conditions of the structures. Existing Structures to Remain were omitted from this model.
4. Orthoimagery © Bing Maps
5. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

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U:\203401646\03_data\gis_cad\gis\01646_c_viewshed_053_0276.mxd Revised: 2021-10-21 By: MGSanderson

Attachment 2.H.1
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3.2.2 Murray Hill (DHR #053-5783)

Murray Hill sits back from Edwards Ferry Road on a 56-acre property just east of Leesburg and overlooks the Potomac River. The dwelling, which is accessed by a long gravel driveway, was not visible from the public ROW (Figure 7). A tree line is located along the road and along the east side of the driveway with a dense area of woods to the west of the driveway. Beyond the tree line along the road is an open field dotted with areas of trees with a dense wooded area between the field and the house. Built in 1938 and designed in the Colonial Revival style, the dwelling is two-and-a-half-stories with five bays and constructed of coursed local ashlar stone. The center entry features a one-story, single-bay porch supported by columns and a single leaf wood paneled door flanked by sidelights and surmounted by a fanlight. A two-story wing was constructed off one end of the dwelling and gable-roofed dormers project from the front roof slope. Fenestration comprises six-over-six wood sash windows with a three-part window with fanlight on the second floor over the entry. In addition to the residence, 11 contributing resources are located on the property and include an early nineteenth century log dwelling, a smokehouse dating to the late nineteenth century, a turn-of-the twentieth century tenant house, and c. 1940 boat house, carriage house, sawmill, chicken house, and four sheds. Murray Hill was listed on the NRHP in 2014 under Criteria A and C for its association with the Civil War Battle of Ball's Bluff and for its architectural merit (DHR Site Files; Kimball 2014).

Figure 7 View Looking towards Murray Hill from the End of the Driveway (DHR #053-5783), Looking North.

3.2.2.1 Visual Effect Assessment

Murray Hill is located within the 1.0-mile radius of the Rebuild Project centerline and at its closest point is approximately 1,783 feet northwest of the existing/proposed transmission line (Appendix B). Existing Structures (Structure #514/1841 through #514/1843) in the vicinity of the resource, which measure approximately 109 to 122 feet in height, were not visible (Figures 8-9) during the field survey.

Based upon preliminary design, the proposed replacement structures will have a height of approximately 120 to 144 feet with an increase of 35 feet (maximum; Structure #514/1843) above the height of the existing structures in the section of the transmission line closest to the resource. Viewshed modeling indicates that the proposed structures would be visible only from far northwestern boundary of the resources as mapped in V-CRIS (Figure 10); however, from the location of the photosimulation, utilizing the view to the east, the proposed structures will not visible (Appendix D; OP 5). Based on the fieldwork, the proposed structure heights, photosimulation, and the viewshed modeling, ***it is anticipated that the Rebuild Project would have a Minimal Visual Impact on Murray Hill (DHR #053-5783).***

Figure 8 View from Murray Hill (DHR #053-5783) and the Ball's Bluff Battlefield (DHR #053-5058) and the Balls Bluff Battlefield and National Cemetery Historic District Boundary Expansion (DHR #253-5182), Looking Southeast (Location 15). The Existing Transmission Line is not Visible.

Figure 9 View from Murray Hill (DHR #053-5783) and the Ball's Bluff Battlefield (DHR #053-5058) and the Balls Bluff Battlefield and National Cemetery Historic District Boundary Expansion (DHR #253-5182) Looking South (Location 15). The Existing Transmission Line is not Visible.

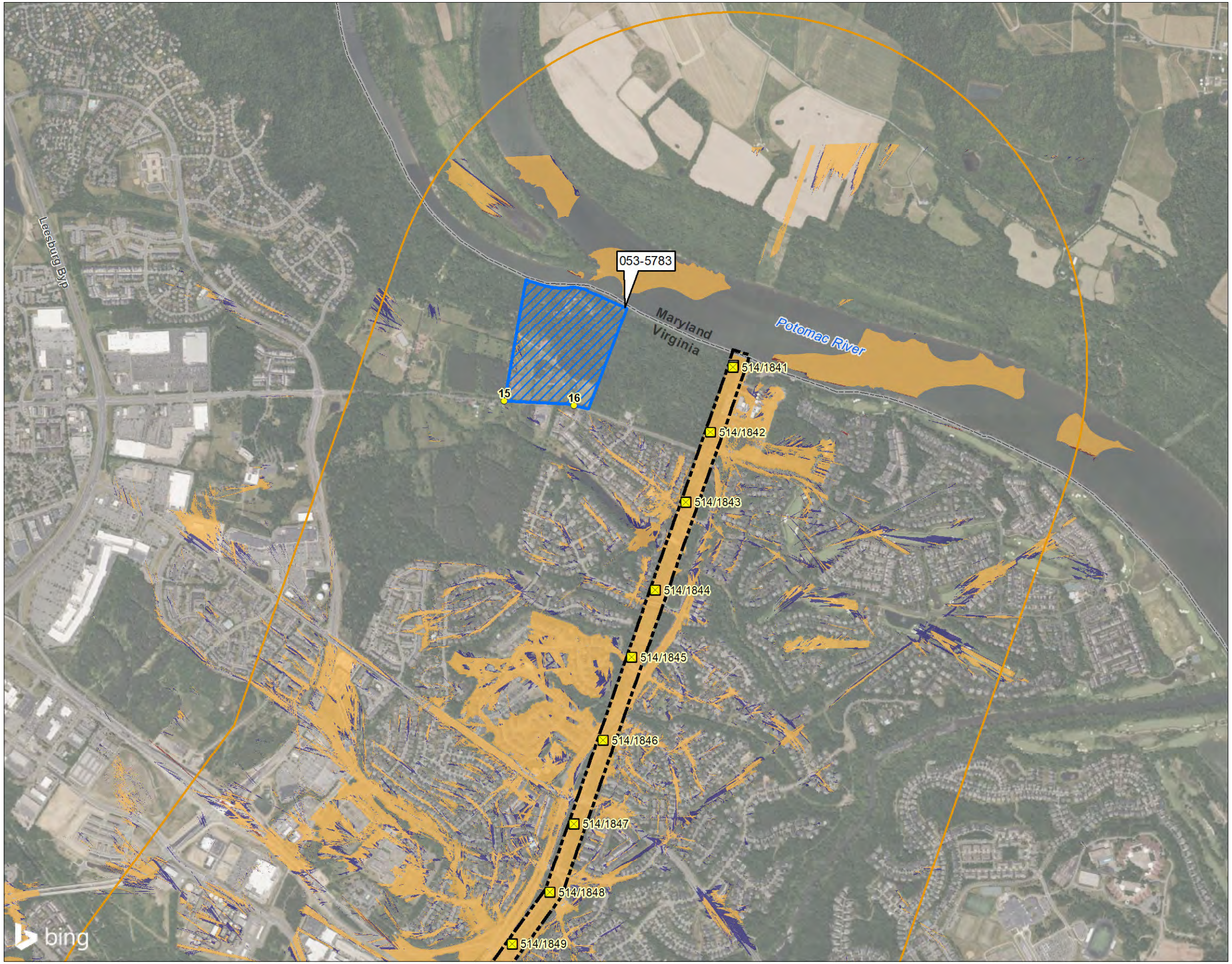


Figure No.
10

Title
Viewshed Analysis and Photograph Location Map for Murray Hill (DHR #053-5783)

Client/Project 203401646
Dominion Energy Virginia
500kV Line # 514 Partial Rebuild Project

Project Location
Loudoun County, Virginia

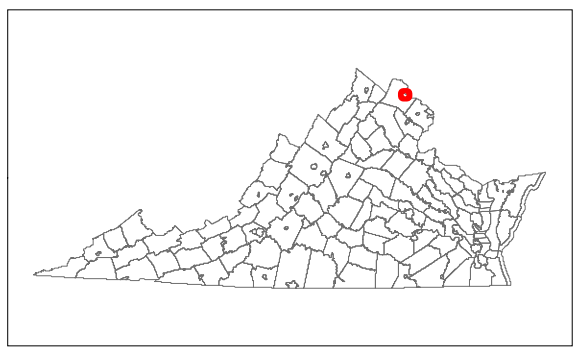
Prepared by MGS on 2021-09-22
TR by TPS on 2021-10-21
IR by CPG on 2021-10-20

N

0 1,500 3,000 Feet

(At original document size of 11x17)
1:18,000

- Photo Location
- Proposed Structure
- Existing Structure
- Project Limits
- 1-Mile Buffer
- Architectural Resource
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, DCR, ESRI, NADS, Historic resource data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR. Foundation reveal estimated to be 1.5 feet, was added to proposed structure heights for the purpose of modeling the as-built conditions of the structures. Existing Structures to Remain were omitted from this model.
4. Orthoimagery © Bing Maps
5. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

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Attachment 2.H.1
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3.2.3 Edwards Ferry Road (DHR #053-6078)

The documented section of Edwards Ferry Road is a two-lane paved road which extends from Battlefield Parkway to just northwest of Red Rock Way, although the road continues west. This section of the road traverses mainly through rural areas, however, the eastern terminus of the documented section is now flanked by a modern residential development to the south (Figure 11). The date of construction is contested and may date as early as the second half of the eighteenth century or from the early nineteenth century and historically ran from Market Street in Leesburg to "the Warehouse", presumably also the point of service for Edwards Ferry (DHR Site Files). The road, prior to the Civil War, was used as an escape route to the north by slaves. During the Civil War the road was an important thoroughfare for troops moving through Loudoun County. The road was determined eligible for listing on the NRHP in 1996 under Criterion A for its significance as an early transportation corridor in Loudoun County and for its role during the Battle of Ball's Bluff in the movement of Confederate and Union troops during the Civil War (DHR Site Files).

Figure 11 View of Edwards Ferry Road (DHR #053-6078), Looking Southwest.

3.2.3.1 Visual Effect Assessment

Edwards Ferry Road is located within the 0.5-mile radius of the Rebuild Project centerline and at its closest point is approximately 1,340 feet northwest of the existing/proposed transmission line (Appendix B). Under current conditions, the existing transmission line structures, which ranges in height from approximately 109 to 122 feet in the vicinity of the resource (Structure #514/1841 through #514/1843), were only visible where the line crosses the road. At this point only the wires were visible. No structures were visible (Figures 12 and 13).

Based upon preliminary design, the proposed replacement structures will have a height of approximately 120 to 144 feet with an increase of 35 feet (maximum; Structure #514/1843) above the height of the existing structures in the section of the transmission line closest to the resource. Viewshed modeling indicates that the proposed structures would not be visible (Figure 14). The photosimulation, utilizing the view to the east, also indicates that proposed structures would not be visible (Appendix D; OP 5 and 6). Based on the fieldwork, the proposed structure heights, photosimulation, and the viewshed modeling, ***it is anticipated that the Rebuild Project would have a Minimal Visual Impact on Edwards Ferry Road (DHR #053-6078).***

Figure 12 View from Edwards Ferry Road (DHR #053-6078), Ball's Bluff Battlefield (DHR #053-5058), and the Ball's Bluff Battlefield & National Cemetery Historic District Boundary Increase (DHR #253-5182) Looking Southeast (Location 16) Looking East. The Existing Transmission Line Wires are Visible.

Figure 13 View from Edwards Ferry Road (DHR #053-6078), Ball's Bluff Battlefield (DHR #053-5058), and the Ball's Bluff Battlefield & National Cemetery Historic District Boundary Increase (DHR #253-5182) Looking Southeast (Location 16). The Existing Transmission Line is not Visible.

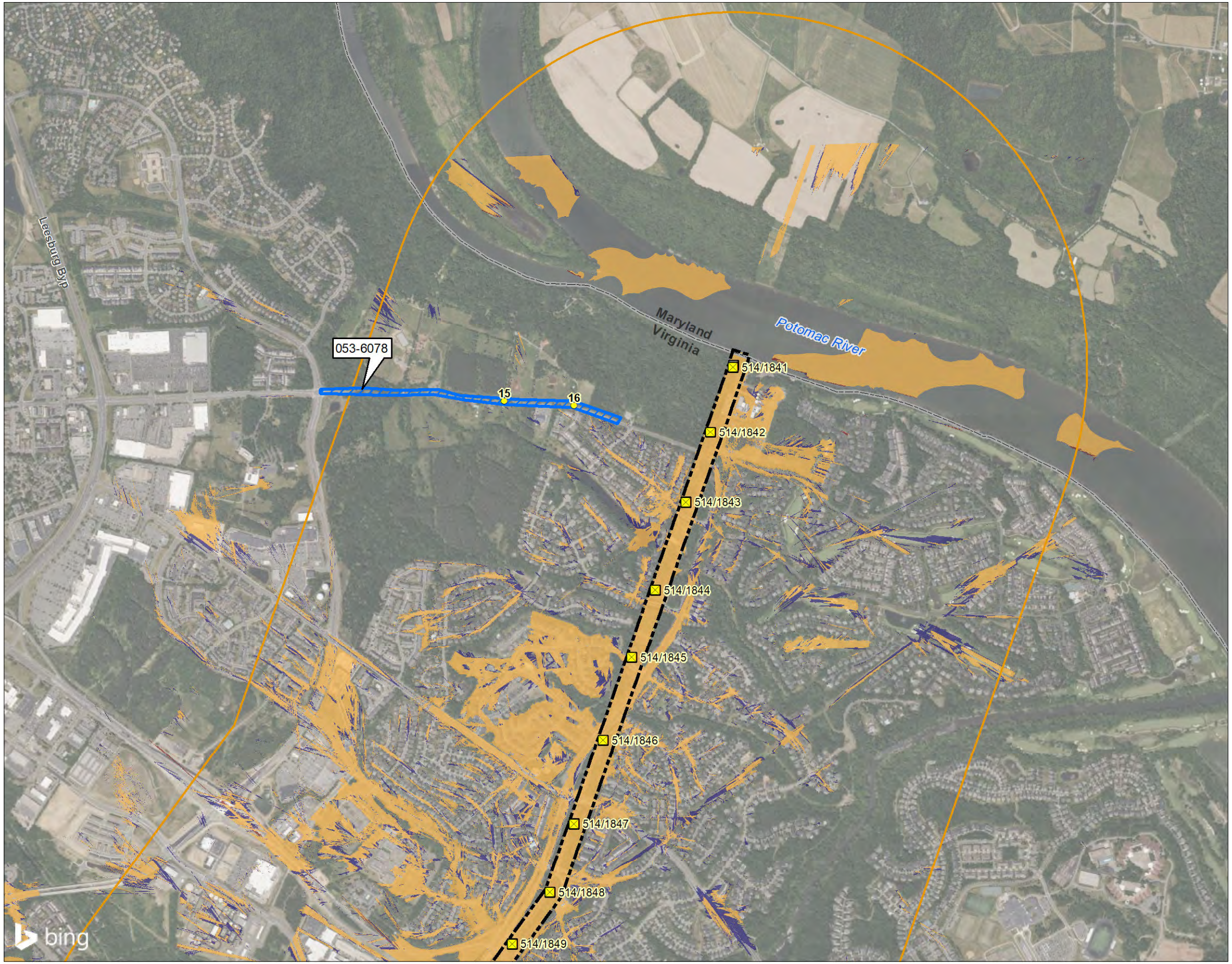


Figure No.
14

Title
Viewshed Analysis and Photograph Location Map for Edwards Ferry Road (DHR #053-6078)

Client/Project 203401646
Dominion Energy Virginia
500kV Line # 514 Partial Rebuild Project

Project Location
Loudoun County, Virginia

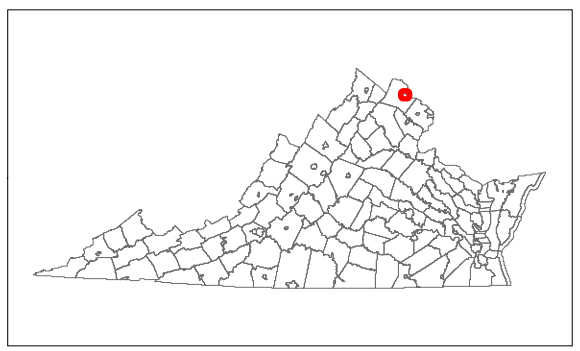
Prepared by MGS on 2021-09-22
TR by TPS on 2021-10-21
IR by CPG on 2021-10-20

N

0 1,500 3,000 Feet

(At original document size of 11x17)
1:18,000

- Photo Location
- Proposed Structure
- Existing Structure
- Project Limits
- 1-Mile Buffer
- Architectural Resource
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, DCR, ESRI, NADS, Historic resource data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR. Foundation reveal estimated to be 1.5 feet, was added to proposed structure heights for the purpose of modeling the as-built conditions of the structures. Existing Structures to Remain were omitted from this model.
4. Orthoimagery © Bing Maps
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3.3 BATTLEFIELD RESOURCES CONSIDERED

Battlefields and associated fortifications noted within the limits of the Stage I study area were further considered for visual effects for the proposed project. Two battlefield resources are located within the 1.0-mile radius of the project centerline and are provided in Table 5. The resources are further described in the following sections along with a discussion of potential effects as a result of the project.

For the assessment of battlefield resources, Stantec took into consideration the guidance and recommendations of the American Battlefield Protection Program (ABPP)'s 2009 assessment of Virginia's Civil War period resources and subsequent updates. In 2009, the ABPP revised the 1992 Civil War Sites Advisory Commission (CWSAC) boundaries for Virginia, and many of the battlefields were greatly expanded in size. For battlefields, the ABPP defined Study Areas, Potential National Register (PotNR) Areas, and Core Areas for each battlefield resource. The larger Study Area contains all resources known to relate or contribute to the battlefield event, such as where troops maneuvered and deployed immediately before or after combat, and where they fought during combat. Within the Study Area are Core Areas, which denote the actual fighting areas located within the larger battlefield. In addition, the ABPP defined PotNR boundaries for each battlefield. The PotNR boundary represents the ABPP's assessment of a Study Area's current integrity. The PotNR Area may include all or some of the Study Area or all or some of the Core Area associated with a battlefield engagement. The PotNR boundary does not constitute a formal determination of eligibility by the Keeper of the NRHP; however, it is a recommendation of potential eligibility by the ABPP and/or DHR.

Table 5 Battlefield Resources Considered within the Stage I Pre-Application Process

DHR #	Resource Name	Total Acreage of ABPP-Defined Battlefield	Acreage of ABPP-Defined Battlefield within the 1.0-Mile Buffer
053-5058	Ball's Bluff Battlefield	10,432 Acres	2,783 Acres
053-5182	Ball's Bluff Battlefield and National Cemetery Historic District Boundary Increase	2,950.5 Acres*	494 Acres*

*Acreage is based on calculation as mapped in V-CRIS and is not the ABPP designated acreage for the resource.

3.3.1 Ball's Bluff Battlefield (DHR #053-5058)

The Battle of Ball's Bluff was the largest battle fought in Loudoun County. Earlier in 1861, Union General McClellan's forces were guarding the northern shore of the Potomac River to prevent Confederate forces crossing into Loudoun County from Maryland. While troops held their respective positions for two months, tensions broke on the 21st of October 1861 as Union General McClellan called for action and the two sides met on the Virginia side of the river. The battle was a decidedly Confederate victory with 921 casualties on the Union side and only 155 on the Confederate side (DHR Site Files). The extensive losses on the Union side were deemed suspect and as a result the Congressional Joint Committee of the Conduct of War was established to investigate. Due to the importance of the battle, the Ball's Bluff Battlefield was determined potentially eligible by DHR in 2007 under Criterion A as a battlefield and for the impetus for the creation of the Congressional Joint Committee (DHR Site Files).

3.3.1.1 Visual Effect Assessment

Approximately 2,783 acres of the 10,432-acre battlefield resource (Table 5) are located within 1.0 mile of and cross the project centerline. The acres within 1.0-mile consist of the ABPP-defined Study Area (Appendix B) as well as sections of the PotNR (1,401 acres) and Core (1,133 acres) areas of the battlefield. The remaining PotNR and Core Areas of the battlefield are located outside 1.0-mile of the project centerline. Structures #514/1841 through #514/1847 (see Table 1) are located within the resource.

Large sections of the battlefield within the project vicinity have been compromised by recent residential and commercial development along Fort Evans Road, Battlefield Parkway, River Creek Parkway, and portions of Edwards Ferry Road. The wooded and open areas of the battlefield that have little modern intrusions share a boundary with the NRHP-eligible Ball's Bluff Battlefield and National Cemetery Historic District Boundary Expansion (Appendix B). Under current conditions, the existing project transmission line structures, which ranges in height from approximately 109 to 122 feet in the vicinity of the resource (Structure #514/1841 through #514/1847), were visible from Photograph Locations 11, 13 and 19 within open spaces and along streets within the modern development areas (Figures 15, 16, and 19). The structures were not visible from Photograph Locations 7, 10, 15 and 16 (Figures 8-9, 12-13, and 17-18).

Based upon preliminary design, the proposed structures will range in height from approximately 120 to 154 feet with a decrease in height of approximately 2 feet below the existing structures (Structure #514/1841) and an increase in height of approximately 35 feet (maximum; Structure #514/1843 and #514/1847) above the height of the existing structures in the section of the transmission line closest to the resource. Viewshed modeling indicates that the proposed structures would mainly be visible along streets within modern residential and commercial developments as well as along Fort Evans Road and Battlefield Parkway NE (Figure 20). Although the proposed structures will be visible, according to the photosimulations the proposed structures will be similar in height to the second existing line sharing the ROW; therefore, it is anticipated that the viewshed will not be significantly altered by the proposed Rebuild Project (Appendix D; OP 2-6). Due to the compromised areas within the battlefield resource and based on the fieldwork, the proposed structure heights, photosimulations, and the viewshed modeling, ***it is anticipated that the Rebuild Project would have a Minimal Visual Impact on the NRHP potentially eligible Ball's Bluff Battlefield (DHR #053-5058).***

Figure 15 View from the Ball's Bluff Battlefield (DHR #053-5058) at the Intersection of Fort Evans Road and Orchid Drive (Location 19) Looking Southeast. The Existing Transmission Line is Visible.

Figure 16 View from the Ball's Bluff Battlefield (DHR #053-5058) at the Intersection of Riverside Parkway and Potomac Station Drive (Location 11) Looking Northwest. The Existing Transmission Line Wires are Visible.

Figure 17 View from the Ball's Bluff Battlefield (DHR #053-5058) at the Intersection of Parkers Ridge Drive and Cory Street (Location 10) Looking Northwest. The Existing Transmission Line is not Visible.

Figure 18 View from Ball's Bluff Battlefield (DHR #053-5058; Location 7) and Ball's Bluff Battlefield & National Cemetery Historic District Boundary Increase (DHR #253-5182) Looking Northwest. Existing Transmission Line is not Visible.

Figure 19 View from Ball's Bluff Battlefield (DHR #053-5058; Location 13) Looking Southeast. Existing Transmission Line is Visible.

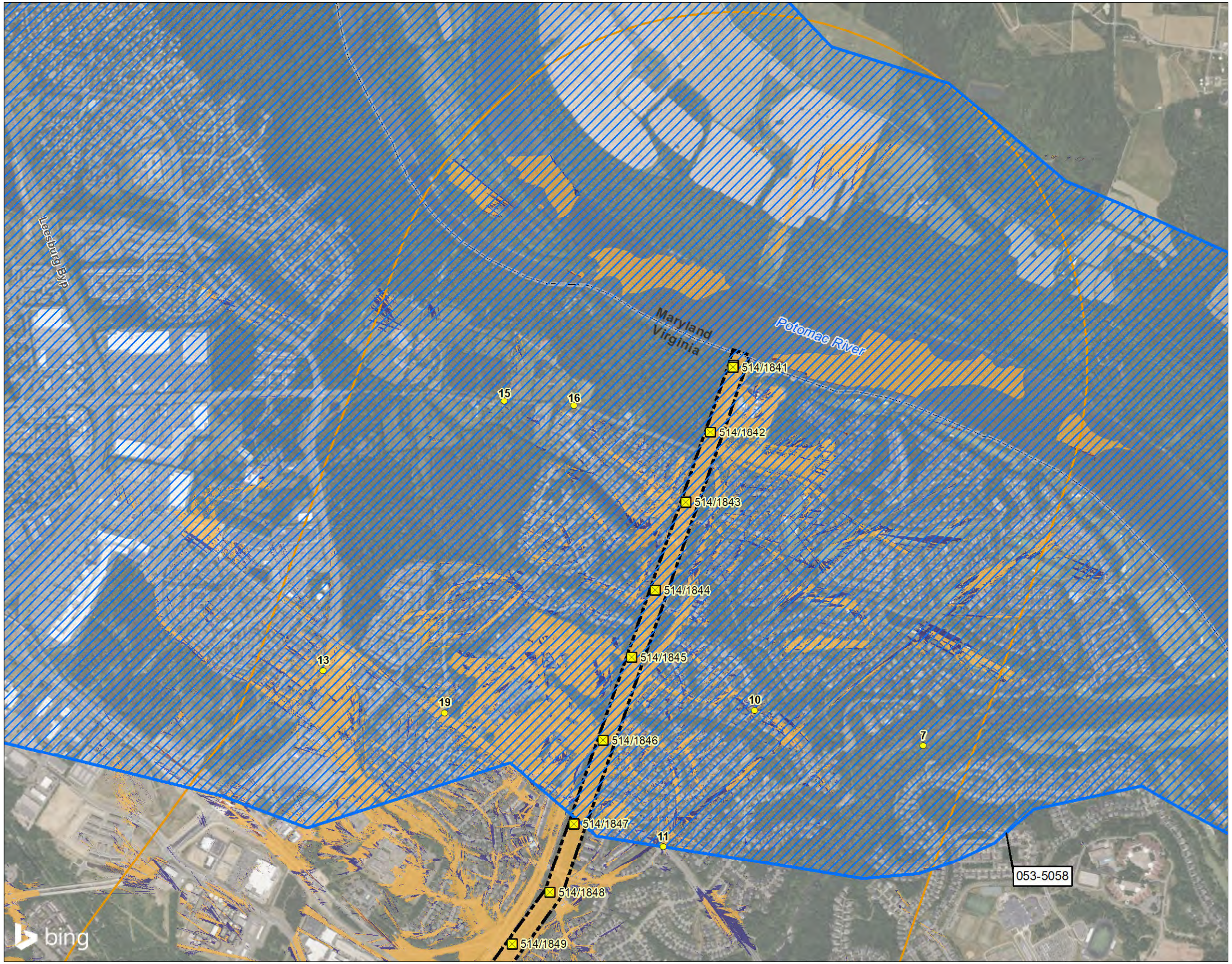


Figure No.

20

Title

Viewshed Analysis and Photograph Map for the Ball's Bluff Battlefield (DHR #053-5058)

Client/Project 203401646

Dominion Energy Virginia
500kV Line # 514 Partial Rebuild Project

Project Location

Loudoun County, Virginia

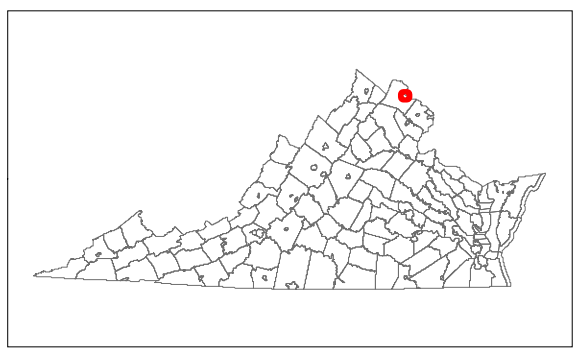
Prepared by MGS on 2021-09-22
TR by TPS on 2021-10-21
IR by CPG on 2021-10-20

N

0 1,500 3,000 Feet

(At original document size of 11x17)
1:18,000

- Photo Location
- Proposed Structure
- Existing Structure
- Project Limits
- 1-Mile Buffer
- Architectural Resource
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, DCR, ESRI, NADS, Historic resource data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR. Foundation reveal estimated to be 1.5 feet, was added to proposed structure heights for the purpose of modeling the as-built conditions of the structures. Existing Structures to Remain were omitted from this model.
4. Orthoimagery © Bing Maps
5. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

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Attachment 2.H.1
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3.3.2 Ball's Bluff Battlefield and National Cemetery Historic District Boundary Expansion (DHR #253-5182)

The Ball's Bluff Battlefield and National Cemetery Historic District Boundary Expansion (DHR #253-5182) comprises portions of the ABPP Study, Core, and PotNR areas of the battlefield as well as the NHL-listed national cemetery associated with the Battle of Ball's Bluff. The cemetery (DHR #253-5021), which is located beyond the 1.5-mile radius of the Rebuild Project centerline and therefore not under consideration for visual effects per DHR Guidelines, was established in December 1865 by the War Department and contains the remains of 53 unknown and one known Union soldier with the graves arranged in a semi-circle. The cemetery is enclosed by a wrought iron fence. The Battle of Ball's Bluff and National Cemetery Historic District Boundary Expansion was, as an overall resource, determined eligible for listing in the NRHP in 2013 and 2015 under Criterion A as the impetus for the establishment of Joint Committee on the Conduct of War in 1861 (DHR Site Files; Virginia Historic Landmarks Commission et al. 1982).

3.3.2.1 Visual Effect Assessment

Approximately 494 acres of the 2,950.5-acre battlefield resource (Table 5) are located within 1.0 mile of the proposed Rebuild Project. Additionally, the resource crosses the transmission line ROW. The acres within 1.0-mile consist of the ABPP defined Study, Core, and PotNR areas (Appendix B) with portions of the PotNR as well as the Core Areas of the battlefield extending beyond 1.0-mile of the project centerline. Structures #514/1841 through #514/1842 are located within the resource.

While sections of the resource within 1.0-mile of the Rebuild Project corridor are wooded and retain integrity with little modern intrusions, the southern areas of the battlefield have been compromised by recent commercial development along Battlefield Parkway and portions of Edwards Ferry Road (Appendix B). Under current conditions, the existing transmission line structures, which ranges in height from approximately 109 to 122 feet in the vicinity of the resource (Structure #514/1841 through #514/1844), were not visible from Photograph Locations 7, 15 and 16 (Figures 8-9, 12-13, and 18). The existing line was visible from Photograph Location 16 (Figures 12).

Based upon preliminary design, the proposed structures will range in height from approximately 120 to 144 feet with a decrease in height of approximately 2 feet below the existing structures (Structure #514/1841) and an increase in height of approximately 35 feet (maximum; Structure #514/1843) above the height of the existing structures in the section of the transmission line closest to the resource. Viewshed modeling indicates that the proposed structures would mainly be visible within the 1.0-mile radius in an open field in the western area of the resource, on a portion of an island in the northwestern section and within the corridor and directly east/southeast of the ROW. In most of these areas the existing and proposed structures would have visibility. The area within the open field would have increased visibility as the existing structures are not currently visible from this location (Figure 21). Although the proposed structures will be visible, according to the photosimulations the proposed structures will be similar in height to the second existing line sharing the ROW; therefore, it is anticipated that the viewshed will not be significantly altered by the proposed Rebuild Project (Appendix D; OP 4-6). Based on the fieldwork, the proposed structure heights, photosimulations, and the viewshed modeling, ***it is anticipated***

that the Rebuild Project would have a Minimal Visual Impact on the NRHP-eligible Ball's Bluff Battlefield and National Cemetery Historic District Boundary Expansion (DHR #253-5182).

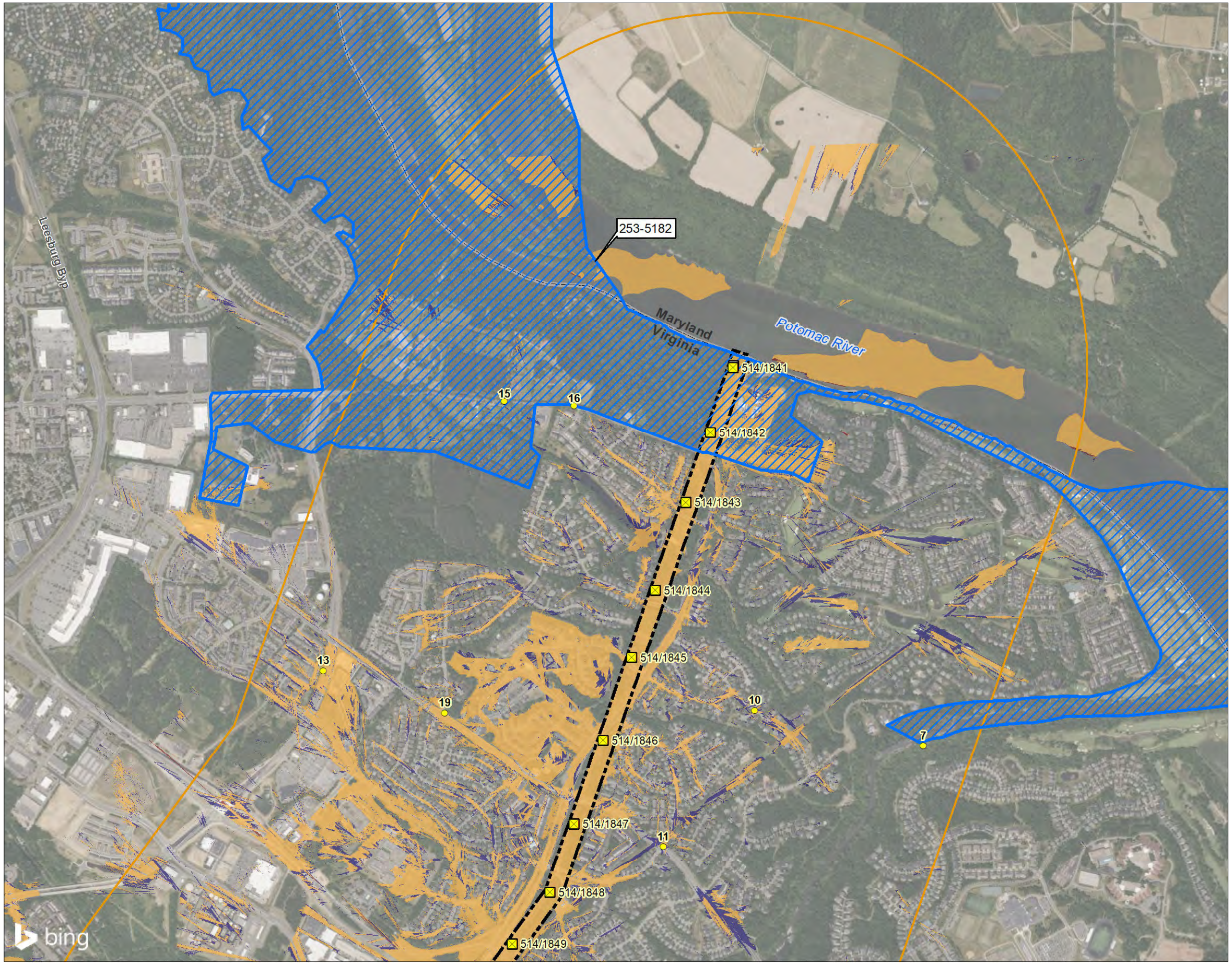


Figure No.

21

Title

Viewshed Analysis and Photograph Location Map for Ball's Bluff Battlefield and National Cemetery Historic District Boundary Increase (DHR #253-5182)

Client/Project 203401646

Dominion Energy Virginia
500kV Line # 514 Partial Rebuild Project

Project Location
Loudoun County, Virginia

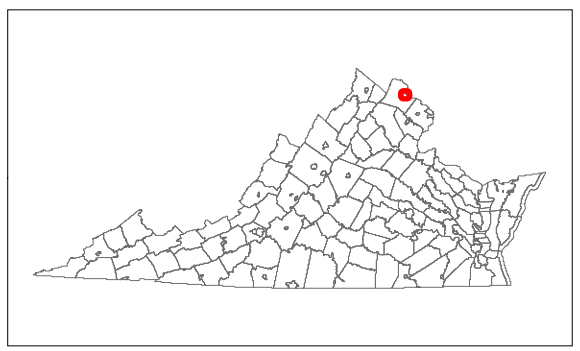
Prepared by MGS on 2021-09-22
TR by TPS on 2021-10-21
IR by CPG on 2021-10-20

N

0 1,500 3,000 Feet

(At original document size of 11x17)
1:18,000

- Photo Location
- Proposed Structure
- Existing Structure
- Project Limits
- 1-Mile Buffer
- Architectural Resource
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, DCR, ESRI, NADS, Historic resource data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR. Foundation reveal estimated to be 1.5 feet, was added to proposed structure heights for the purpose of modeling the as-built conditions of the structures. Existing Structures to Remain were omitted from this model.
4. Orthoimagery © Bing Maps
5. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

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U:\203401646\03_data\gis_cad\gis\l01646_c_viewshed_253_5182.mxd Revised: 2021-10-21 By: MGSanderson

Attachment 2.H.1
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4.0 RECOMMENDATIONS AND CONCLUSIONS

4.1 OVERVIEW

Stantec was retained by Dominion Energy to conduct a Stage I Pre-Application Analysis for the Virginia portion of the proposed rebuilding of the 500kV Line #514 Transmission Line (Rebuild Project or Line #514) in Loudoun County, Virginia. The project proposed by Dominion Energy is necessary in order to maintain the structural integrity and reliability of its transmission system and to comply with mandatory NERC Reliability Standards. The project will be constructed entirely within an existing ROW and consists of approximately 3-miles of existing 500kV transmission line in Virginia and 15.6 miles in Maryland. As part of the current project, Stantec only evaluated potential visual effects for Line #514 from Structure #514/1854 to the Maryland state line. The rebuild of Line #514 will require the tear-down and replacement of thirteen (13) 500kV steel lattice structures and one H-frame structure with galvanized steel lattice structures. Existing Structure #514/1854 will remain. All proposed structure heights and locations provided in this report are based upon preliminary engineering and are subject to final design. Based on this information, the average structure height will increase by 21.5 feet with a maximum height increase of 35 feet.

4.1.1 Recommendations - Architectural Resources

No NHLs are located within the 1.5-mile radius of the Rebuild Project centerline. One NRHP-listed resource is located within 1.0-mile and two NRHP-eligible resources are located within 0.5-mile of the centerline. Additionally, one NRHP-eligible and one potentially eligible battlefield are also present within 1.0-mile of the transmission line. The battlefield resources also cross the transmission line ROW corridor. Table 5 details the recommendations for the project.

Based on preliminary proposed structure heights, the proposed Line #514 Partial Rebuild Project would increase in height of the structures, on average, by 21.5 feet with a maximum total height increase of 35 feet. One structure will decrease in height. Based on the analysis of the proposed structures, it is recommended that the rebuild would have a Minimal Visual Impact to all five architectural resources.

Table 6 Previously Recorded Architectural Resources Considered under the Stage I Pre-Application Guidelines

DHR #	Resource Name	VDHR/NRHP Status	Distance to Centerline (Feet)	Impacts
053-0276	Alexandria, Loudoun and Hampshire Railroad	NRHP-Eligible	1,156	Minimal
053-5058	Ball's Bluff Battlefield	Potentially Eligible	0	Minimal
053-5783	Murray Hill, 42910 Edwards Ferry Road NE	NRHP-Listed	1,783	Minimal

DHR #	Resource Name	VDHR/NRHP Status	Distance to Centerline (Feet)	Impacts
053-6078	Edwards Ferry Road	NRHP-Eligible	1,340	Minimal
253-5182	Ball's Bluff Battlefield and National Cemetery Historic District Boundary Expansion	NRHP-Eligible	0	Minimal

4.1.2 Recommendations - Archaeological Resources

One previously recorded archaeological resource was identified within the Rebuild Project ROW during the background research. The resource, Site 44LD1341 comprises a prehistoric temporary camp. The site was determined potentially eligible by DHR. ***It is recommended that archaeological sites located within the ROW be investigated and evaluated as appropriate during future investigations*** (Appendix E; Table 6).

Table 7 Previously Recorded Archaeological Resources Considered under the Stage I Pre-Application Guidelines

VDHR #	Resource Name	VDHR/NRHP Status	Distance to ROW (Feet)	Impact
44LD1341	Prehistoric Temporary Camp	Potentially Eligible	0	Investigate During Archaeological Survey

5.0 REFERENCES

Advisory Council for Historic Preservation (ACHP)

2000 *36 CFR 800: Part 800- Protection of Historic and Cultural Properties*. Federal Register, September 2, Washington, D.C.

Kimball, Lori

2014 "Murry Hill" National Register of Historic Places Nomination Form. Available at: https://www.dhr.virginia.gov/VLR_to_transfer/PDFNoms/053-5783_Murray_Hill_2014_NRHP_FINAL.pdf, Accessed 21 July 2021.

United States Department of the Interior (Interagency Resources Division)

1981 *Department of the Interior's Regulations, 36 CFR Part 60: National Register of Historic Places.* Interagency Resources Division, National Park Service, U.S. Department of the Interior, Washington, D.C.

1983 *Department of the Interior, Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines.* Interagency Resources Division, National Park Service, U.S. Department of the Interior, Washington, D.C.

1991 How to Apply the National Register Criteria of Evaluation. *National Register Bulletin 15.* Interagency Resources Division, National Park Service, U.S. Department of the Interior, Washington, D.C.

Virginia Department of Historic Resources (DHR)

1997 *Historic Context Guidelines for Preparing Cultural Resource Survey Reports.* DHR, Richmond.

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

2017 *Guidelines for Historic Resources Survey in Virginia.* DHR, Richmond.

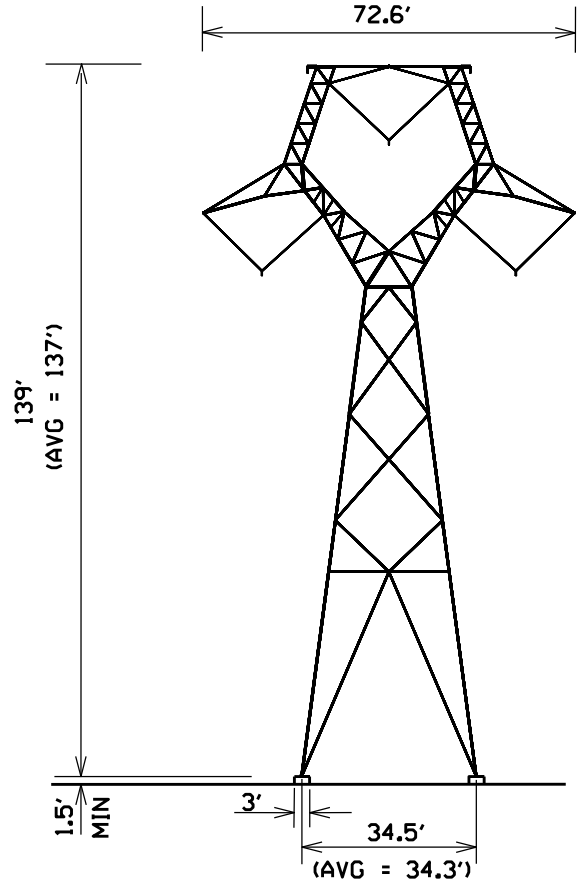
2021 DHR Archive Files.

Appendix A

A.1 STRUCTURE DETAILS

SINGLE CIRCUIT SUSPENSION TOWER

PRELIMINARY



PROPOSED
500KV CIRCUIT
(LINE #514)

a. MAPPING THAT IDENTIFIES EACH PORTION OF THE PREFERRED ROUTE:
SEE ATTACHMENT II.B.5

b. RATIONALE FOR THE SELECTION OF THE STRUCTURE TYPE:
ALLOWS STRUCTURE FOR STRUCTURE REPLACEMENT IN EXISTING RIGHT-OF-WAY

c. NUMBER OF EACH TYPE OF STRUCTURE AND LENGTH OF EACH PORTION OF THE R/W:
9 AND 2.77 MILES

d. STRUCTURE MATERIAL AND RATIONALE FOR THE SELECTION OF SUCH MATERIAL:
GALVANIZED STEEL IS THE COMPANYS STANDARD FOR LATTICE STRUCTURES

e. FOUNDATION MATERIAL: CONCRETE (REVEAL WILL VARY BASED ON TERRAIN)

f. AVERAGE WIDTH AT CROSSARM: 72.6 FEET

g. AVERAGE WIDTH AT BASE: 34.30 FEET (RANGE 27.59 - 38.14 FEET)

h. MAX, MIN, AND AVERAGE STRUCTURE HEIGHTS: 154 FEET, 114 FEET, AND 137 FEET MEASURED FROM GROUNDLINE AT STRUCTURE CENTERLINE AND DOES NOT INCLUDE FOUNDATION REVEAL

i. AVERAGE SPAN LENGTH: 1124 FEET (RANGE 867 - 1395 FEET)

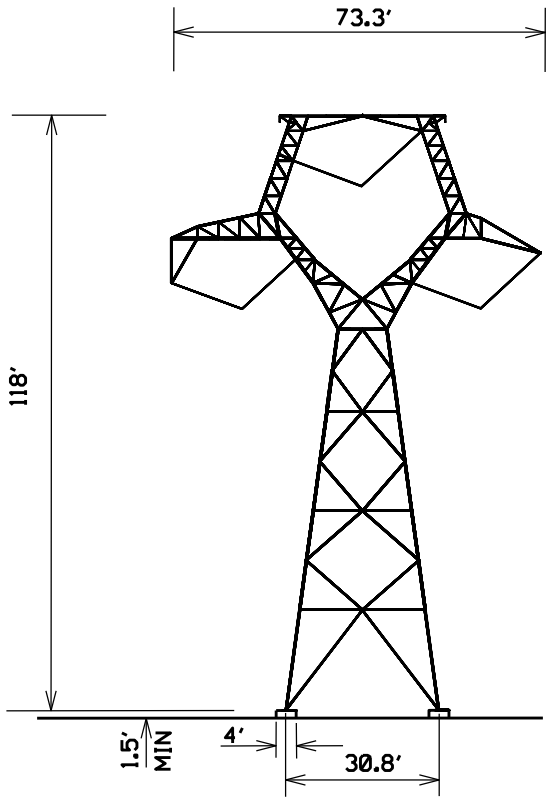
j. MINIMUM CONDUCTOR-GROUND CLEARANCE UNDER MAXIMUM OPERATING CONDITIONS: 27.9' AND 46' AT 120°F PER THE NATIONAL ELECTRICAL SAFETY CODE

NOTE: Information contained on drawing is to be considered preliminary in nature and subject to change based on final design.

$DGNSPEC$

SINGLE CIRCUIT RUNNING ANGLE TOWER (SMALL ANGLE)

PRELIMINARY



PROPOSED
500KV CIRCUIT
(LINE #514)

a. MAPPING THAT IDENTIFIES EACH PORTION OF THE PREFERRED ROUTE:
SEE ATTACHMENT II.B.5

b. RATIONALE FOR THE SELECTION OF THE STRUCTURE TYPE:
ALLOWS STRUCTURE FOR STRUCTURE REPLACEMENT IN EXISTING RIGHT-OF-WAY

c. NUMBER OF EACH TYPE OF STRUCTURE AND LENGTH OF EACH PORTION OF THE R/W:
1 AND 2.77 MILES

d. STRUCTURE MATERIAL AND RATIONALE FOR THE SELECTION OF SUCH MATERIAL:
GALVANIZED STEEL IS THE COMPANYS STANDARD FOR LATTICE STRUCTURES

e. FOUNDATION MATERIAL: CONCRETE (REVEAL WILL VARY BASED ON TERRAIN)

f. AVERAGE WIDTH AT CROSSARM: 73.3 FEET

g. AVERAGE WIDTH AT BASE: 30.8 FEET

h. MAX, MIN, AND AVERAGE STRUCTURE HEIGHTS: 118 FEET, 118 FEET, AND 118 FEET MEASURED FROM GROUNDLINE AT STRUCTURE CENTERLINE AND DOES NOT INCLUDE FOUNDATION REVEAL

i. AVERAGE SPAN LENGTH: 1124 FEET (RANGE 867 - 1395 FEET)

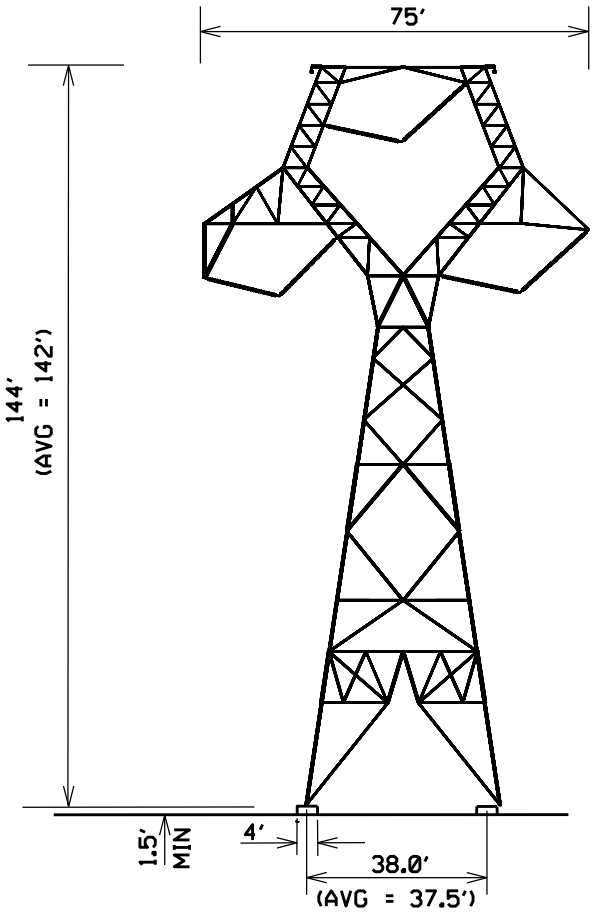
j. MINIMUM CONDUCTOR-GROUND CLEARANCE UNDER MAXIMUM OPERATING CONDITIONS: 27.9' AND 46' AT 120°F PER THE NATIONAL ELECTRICAL SAFETY CODE

NOTE: Information contained on drawing is to be considered preliminary in nature and subject to change based on final design.

$DGNSPEC$

SINGLE CIRCUIT RUNNING ANGLE TOWER (MEDIUM ANGLE)

PRELIMINARY



PROPOSED
500KV CIRCUIT
(LINE #514)

a. MAPPING THAT IDENTIFIES EACH PORTION OF THE PREFERRED ROUTE:
SEE ATTACHMENT II.B.5

b. RATIONALE FOR THE SELECTION OF THE STRUCTURE TYPE:
ALLOWS STRUCTURE FOR STRUCTURE REPLACEMENT IN EXISTING RIGHT-OF-WAY

c. NUMBER OF EACH TYPE OF STRUCTURE AND LENGTH OF EACH PORTION OF THE R/W:
2 AND 2.77 MILES

d. STRUCTURE MATERIAL AND RATIONALE FOR THE SELECTION OF SUCH MATERIAL:
GALVANIZED STEEL IS THE COMPANYS STANDARD FOR LATTICE STRUCTURES

e. FOUNDATION MATERIAL: CONCRETE (REVEAL WILL VARY BASED ON TERRAIN)

f. AVERAGE WIDTH AT CROSSARM: 75.0 FEET

g. AVERAGE WIDTH AT BASE: 37.5 FEET (RANGE 35.23 - 39.77)

h. MAX, MIN, AND AVERAGE STRUCTURE HEIGHTS: 149 FEET, 134 FEET, AND 142 FEET MEASURED FROM GROUNDLINE AT STRUCTURE CENTERLINE AND DOES NOT INCLUDE FOUNDATION REVEAL

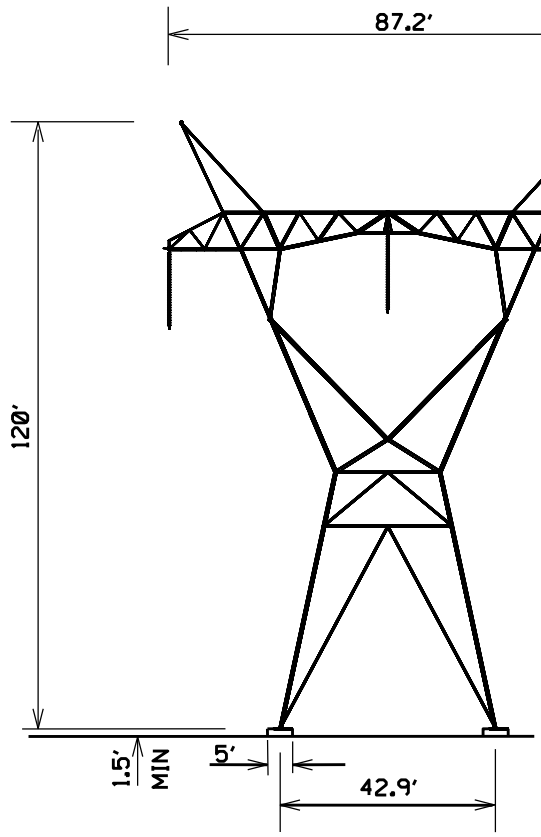
i. AVERAGE SPAN LENGTH: 1124 FEET (RANGE 867 - 1395 FEET)

j. MINIMUM CONDUCTOR-GROUND CLEARANCE UNDER MAXIMUM OPERATING CONDITIONS: 27.9' AND 46' AT 120°F PER THE NATIONAL ELECTRICAL SAFETY CODE

NOTE: Information contained on drawing is to be considered preliminary in nature and subject to change based on final design.

$DGNSPEC$

SINGLE CIRCUIT DOUBLE DEADEND TOWER



PRELIMINARY

PROPOSED
500KV CIRCUIT
(LINE #514)

a. MAPPING THAT IDENTIFIES EACH PORTION OF THE PREFERRED ROUTE:
SEE ATTACHMENT II.B.5

b. RATIONALE FOR THE SELECTION OF THE STRUCTURE TYPE:
ALLOWS STRUCTURE FOR STRUCTURE REPLACEMENT IN EXISTING RIGHT-OF-WAY

c. NUMBER OF EACH TYPE OF STRUCTURE AND LENGTH OF EACH PORTION OF THE R/W:
1 AND 2.77 MILES

d. STRUCTURE MATERIAL AND RATIONALE FOR THE SELECTION OF SUCH MATERIAL:
GALVANIZED STEEL IS THE COMPANYS STANDARD FOR LATTICE STRUCTURES

e. FOUNDATION MATERIAL: CONCRETE (REVEAL WILL VARY BASED ON TERRAIN)

f. AVERAGE WIDTH AT CROSSARM: 87.2 FEET

g. AVERAGE WIDTH AT BASE: 42.9 FEET

h. MAX, MIN, AND AVERAGE STRUCTURE HEIGHTS: 120 FEET, 120 FEET, AND 120 FEET
MEASURED FROM GROUNDLINE AT STRUCTURE CENTERLINE AND DOES NOT INCLUDE FOUNDATION REVEAL

i. AVERAGE SPAN LENGTH: 1124 FEET (RANGE 867 - 1395 FEET)

j. MINIMUM CONDUCTOR-GROUND CLEARANCE UNDER MAXIMUM OPERATING CONDITIONS: 27.9' AND 46' AT 120°F PER THE NATIONAL ELECTRICAL SAFETY CODE

NOTE: Information contained on drawing is to be considered preliminary in nature and subject to change based on final design.

$DGNSPEC$

Appendix B

B.1 ARCHITECTURAL RESOURCE MAPS

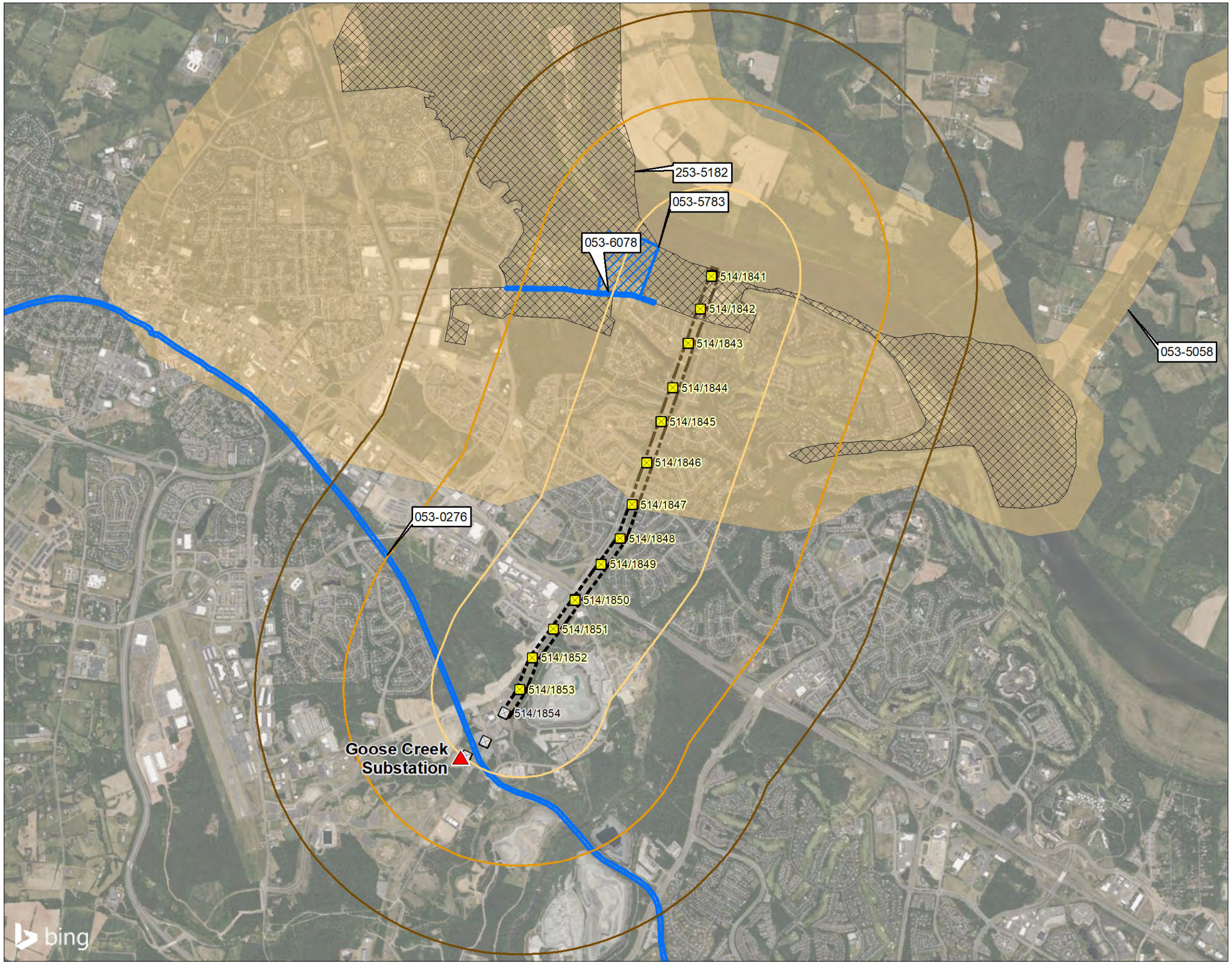


Figure No.

Appendix B.1

Title

Architectural Resources Map

Client/Project 203401646

Dominion Energy Virginia
500kV Line # 514 Partial Rebuild Project

Project Location

Loudoun County, Virginia

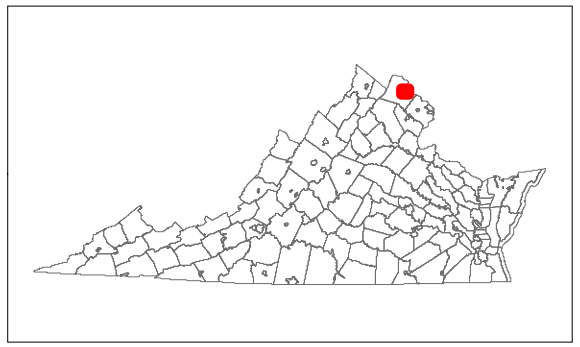
Prepared by ECL on 2021-09-02
TR by TPS on 2021-10-21
IR by CPG on 2021-10-20

N

0 3,000 6,000 Feet

(At original document size of 11x17)
1:36,000

- Substation
- Proposed Structure
- Existing Structure
- Existing Structure to Remain
- Project Limits
- 1.5-Mile Buffer
- 1.0-Mile Buffer
- 0.5-Mile Buffer
- Architectural Resource
- Architectural Resource 253-5182
- Architectural Resource 053-5058



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, DCR, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS). Battlefields and core areas data provided by American Battlefield Protection Program (ABPP) and are for planning purposes only.
3. Orthoimagery © Bing Maps
4. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

Stantec

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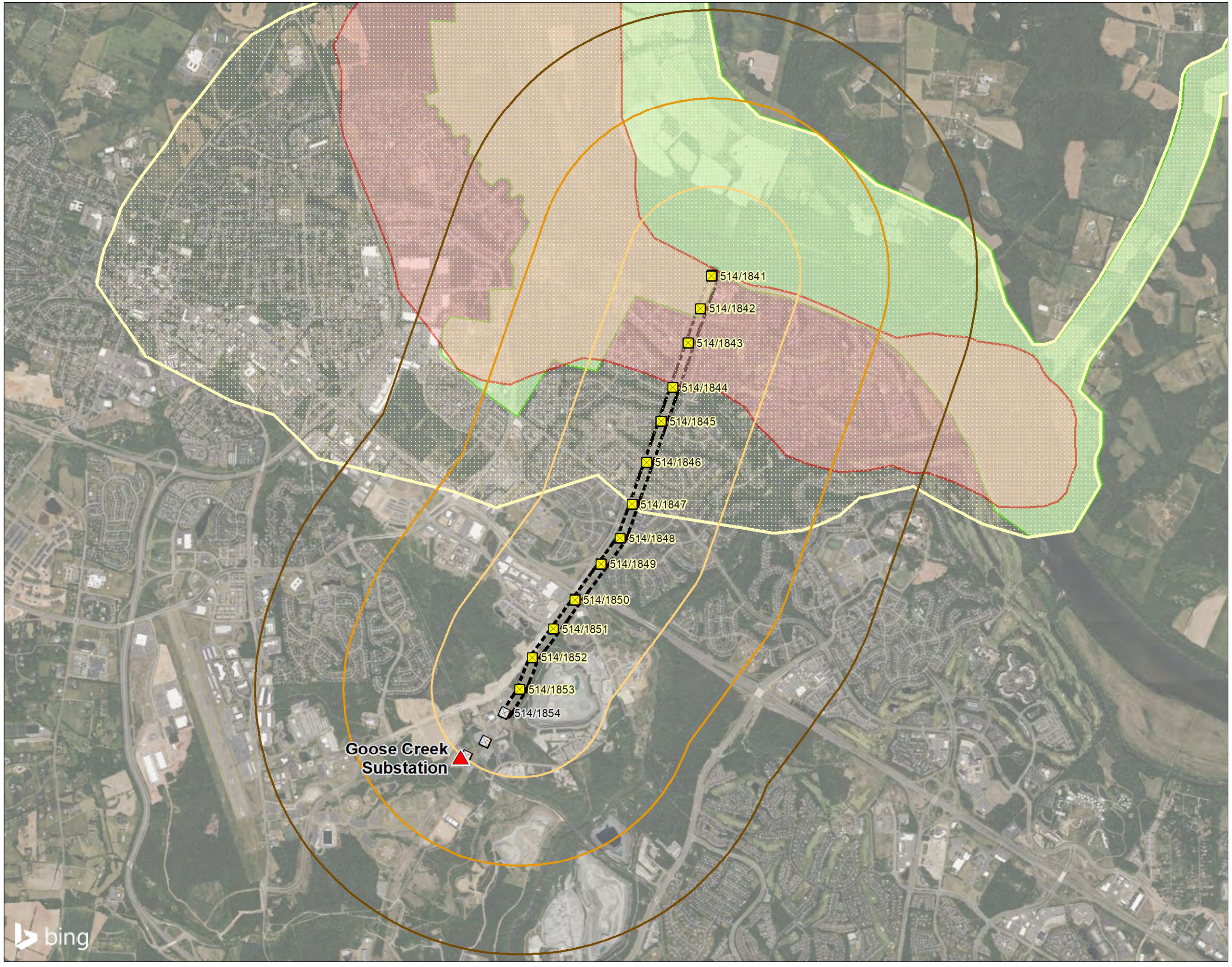


Figure No.

Appendix B.2

Title

Ball's Bluff Battlefield (VA006)

Client/Project 203401646

Dominion Energy Virginia
500kV Line # 514 Partial Rebuild Project

Project Location

Loudoun County, Virginia

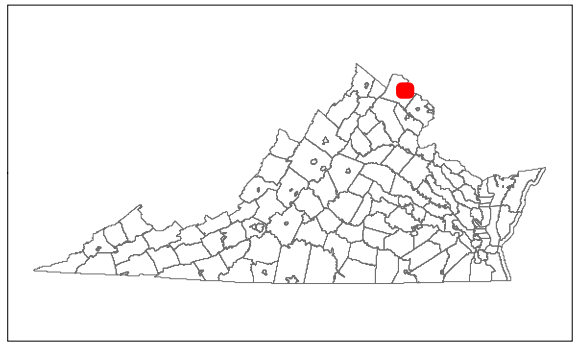
Prepared by ECL on 2021-09-02
TR by TPS on 2021-10-21
IR by CPG on 2021-10-20

N

0 3,000 6,000 Feet

(At original document size of 11x17)
1:36,000

- Substation
- Proposed Structure
- Existing Structure
- Existing Structure to Remain
- Project Limits
- 1.5-Mile Buffer
- 1.0-Mile Buffer
- 0.5-Mile Buffer
- ABPP Core Area
- ABPP Study Area
- Potential National Register Area



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, DCR, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS). Battlefields and core areas data provided by American Battlefield Protection Program (ABPP) and are for planning purposes only.
3. Orthoimagery © Bing Maps
4. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

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APPENDIX C

C.1 PHOTOSIMULATIONS

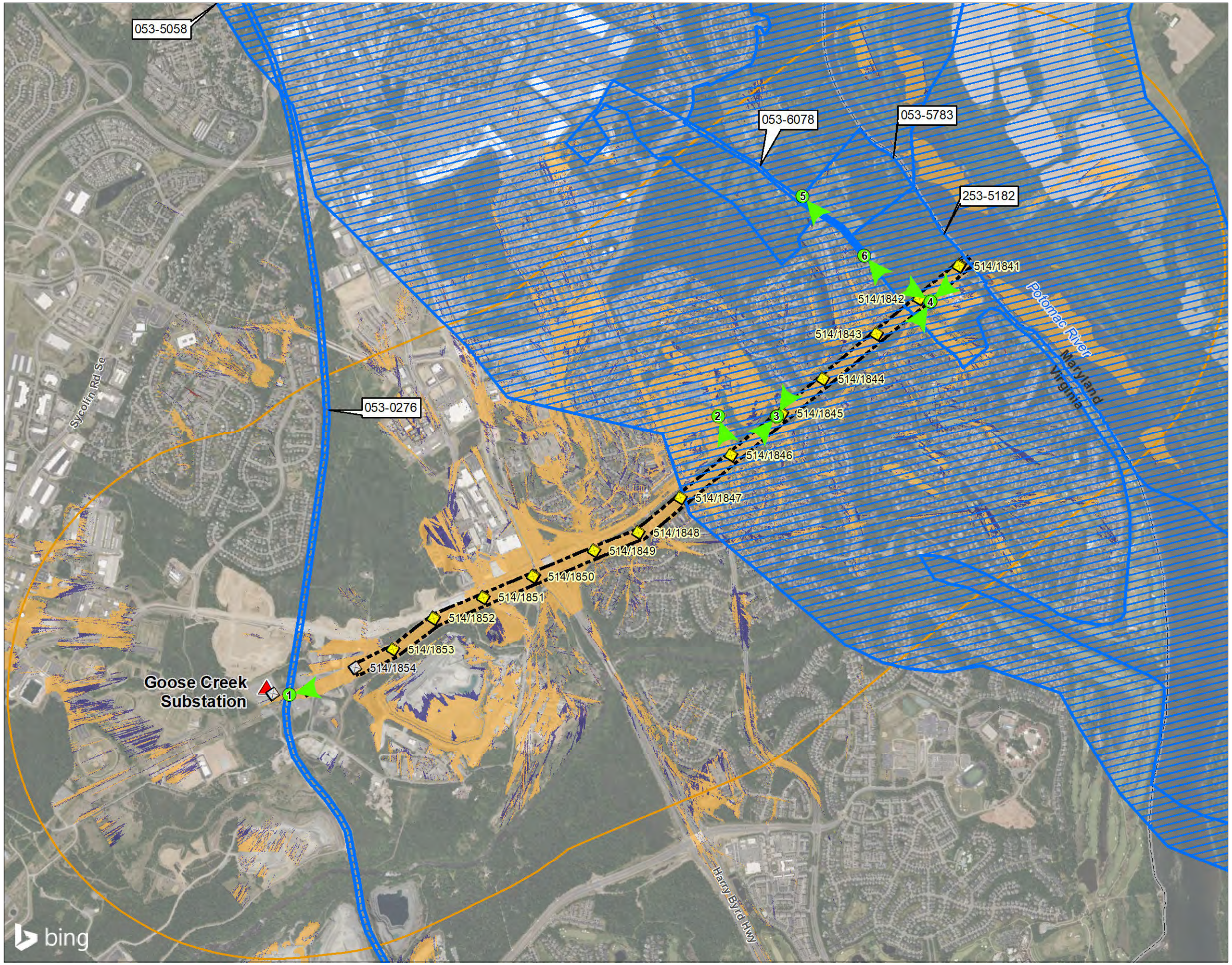

Figure No.

Appendix C

Title

Photo Simulations

Client/Project 203401646

Dominion Energy Virginia
500kV Line # 514 Partial Rebuild Project

Project Location

Loudoun County, Virginia

Prepared by MGS on 2021-09-22
TR by TPS on 2021-10-21
IR by CPG on 2021-10-20

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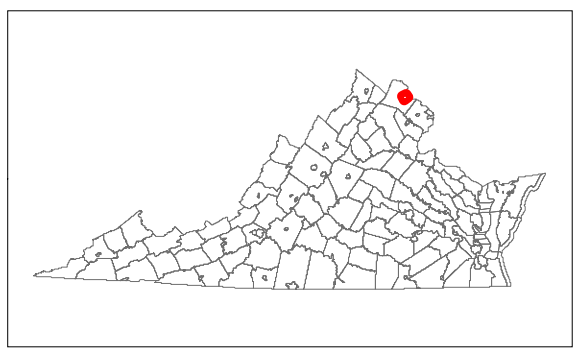
0 2,000 4,000 Feet

(At original document size of 11x17)
1:24,000

- Substation
- Photo Observation Point
- Proposed Structure
- Existing Structure
- Existing Structure to Remain
- Project Limits
- 1-Mile Buffer
- Architectural Resource
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, DCR, ESRI, NADS, Historic resource data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR. Foundation reveal estimated to be 1.5 feet, was added to proposed structure heights for the purpose of modeling the as-built conditions of the structures. Existing Structures to Remain were omitted from this model.
4. Orthoimagery © Bing Maps
5. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

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Attachment 2.H.1
Page 48 of 69

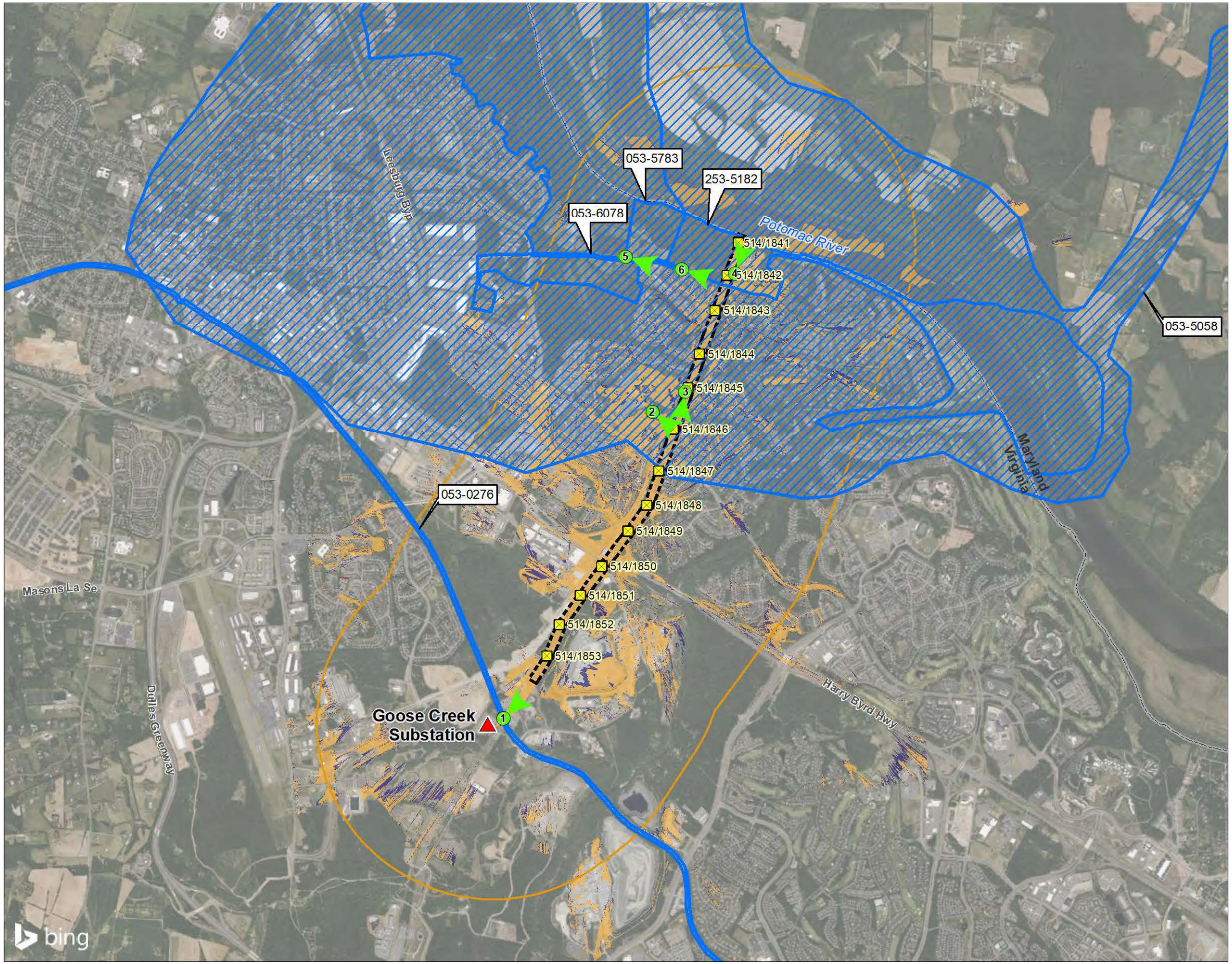


Figure No.

Appendix D

Title

Viewshed Map

Client/Project 203401646

Dominion Energy Virginia
500 kV Line # 514 Partial Rebuild Project

Project Location

Loudoun County, Virginia

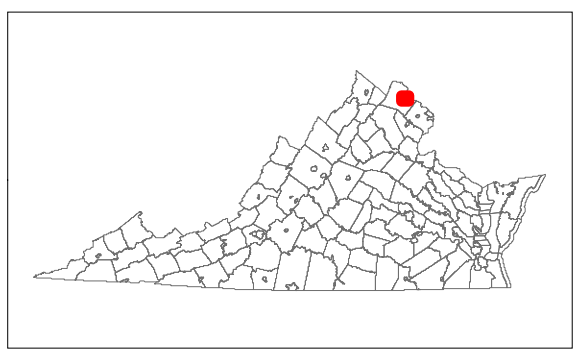
Prepared by MGS on 2021-09-22
TR by TPS on 2021-09-22
IR by TSM on 2021-09-22

N

0 3,000 6,000 Feet

(At original document size of 11x17)
1:36,000

- Substation
- Photo Observation Point
- Proposed Structure
- Existing Structure
- Project Limits
- 1-Mile Buffer
- Architectural Resource
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, DCR, ESRI, NADS, Historic resource data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR
4. Orthoimagery © Bing Maps
5. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

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Photograph provided by Stantec

OP 1 Existing

From Alexandria, Loudoun and Hampshire Railroad (VDHR #053-0276) looking northeast

Attachment II.B.6.c.2

Stantec Dominion Energy

Attachment 2.H.1
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Photograph provided by Stantec

OP 1 Proposed

From Alexandria, Loudoun and Hampshire Railroad (VDHR #053-0276) looking northeast

Attachment II.B.6.c.2

Stantec Dominion Energy

Attachment 2.H.1
Page 51 of 69

Photograph provided by Stantec

OP 2 Existing

From Ball's Bluff Battlefield (VDHR #053-5058) looking east/southeast

Attachment II.B.6.c.2

Stantec Dominion Energy

Attachment 2.H.1
Page 52 of 69

Photograph provided by Stantec

OP 2 Proposed

From Ball's Bluff Battlefield (VDHR #053-5058) looking east/southeast

Attachment II.B.6.c.2

Stantec Dominion Energy

Attachment 2.H.1
Page 53 of 69

Photograph provided by Stantec

OP 3a Existing

From Ball's Bluff Battlefield (VDHR #053-5058) looking north

Attachment II.B.6.c.2

Stantec Dominion Energy

Attachment 2.H.1
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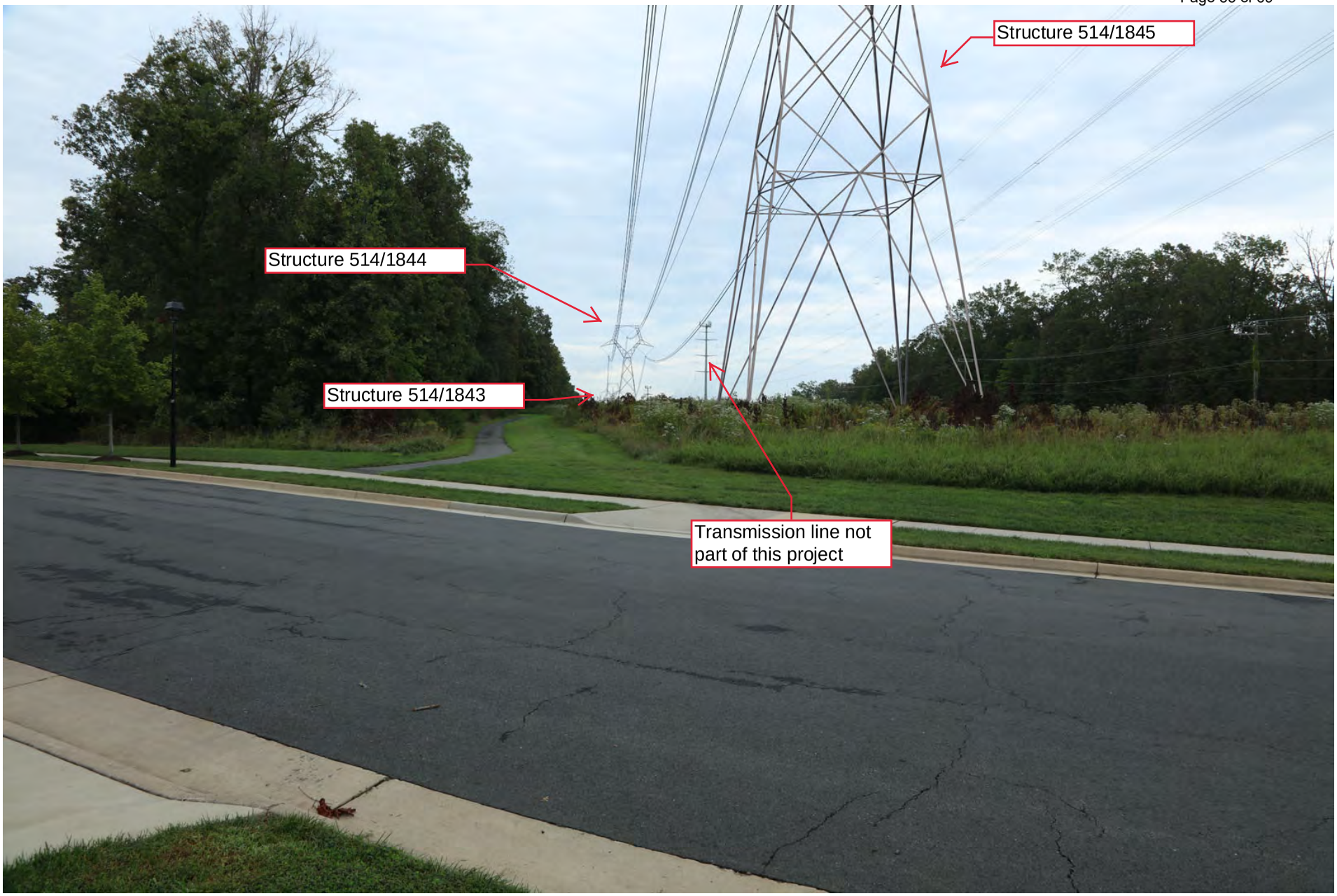


Photograph provided by Stantec

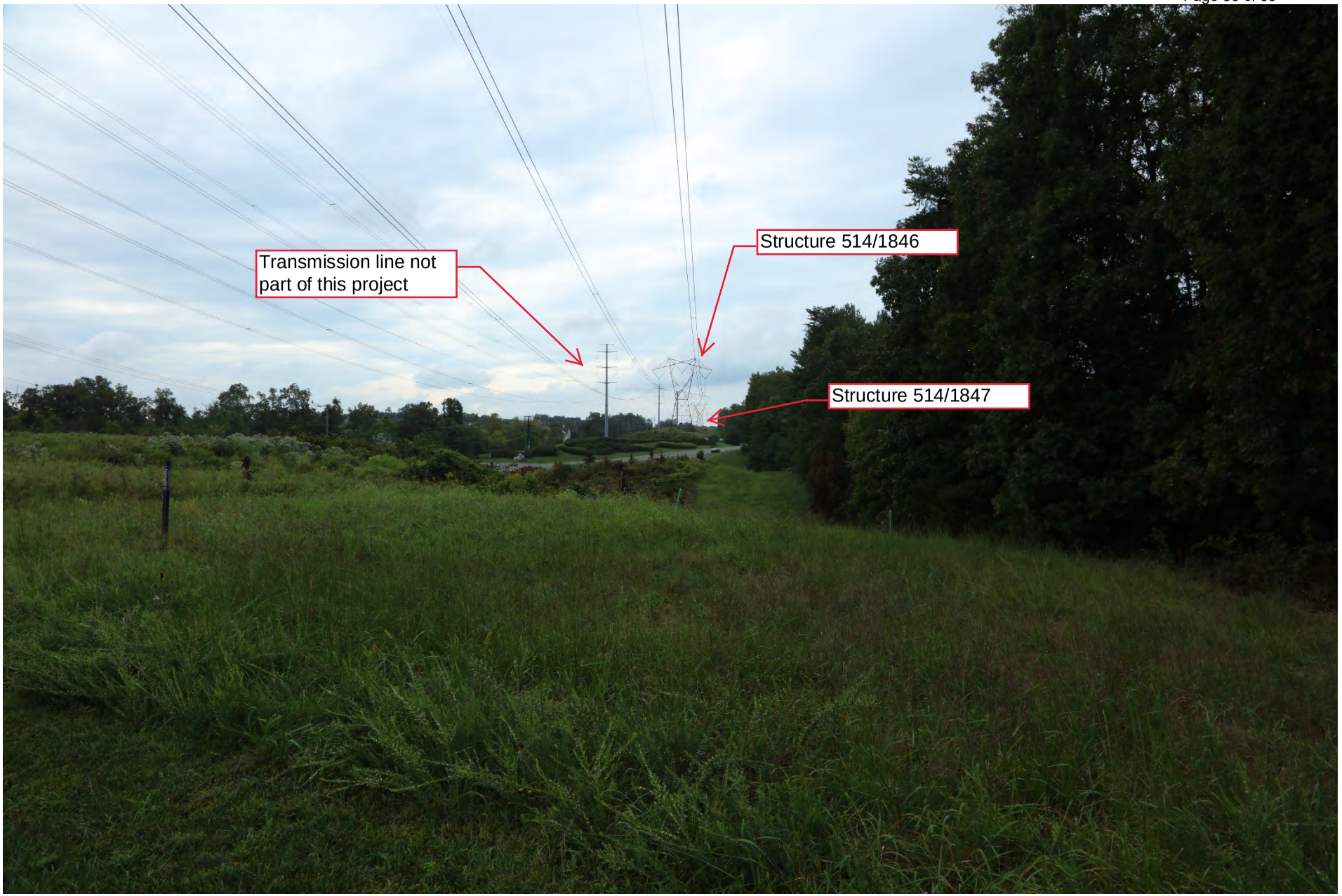
OP 3a Proposed

From Ball's Bluff Battlefield (VDHR #053-5058) looking north

Attachment II.B.6.c.2

Stantec Dominion Energy

Attachment 2.H.1
Page 55 of 69



Photograph provided by Stantec

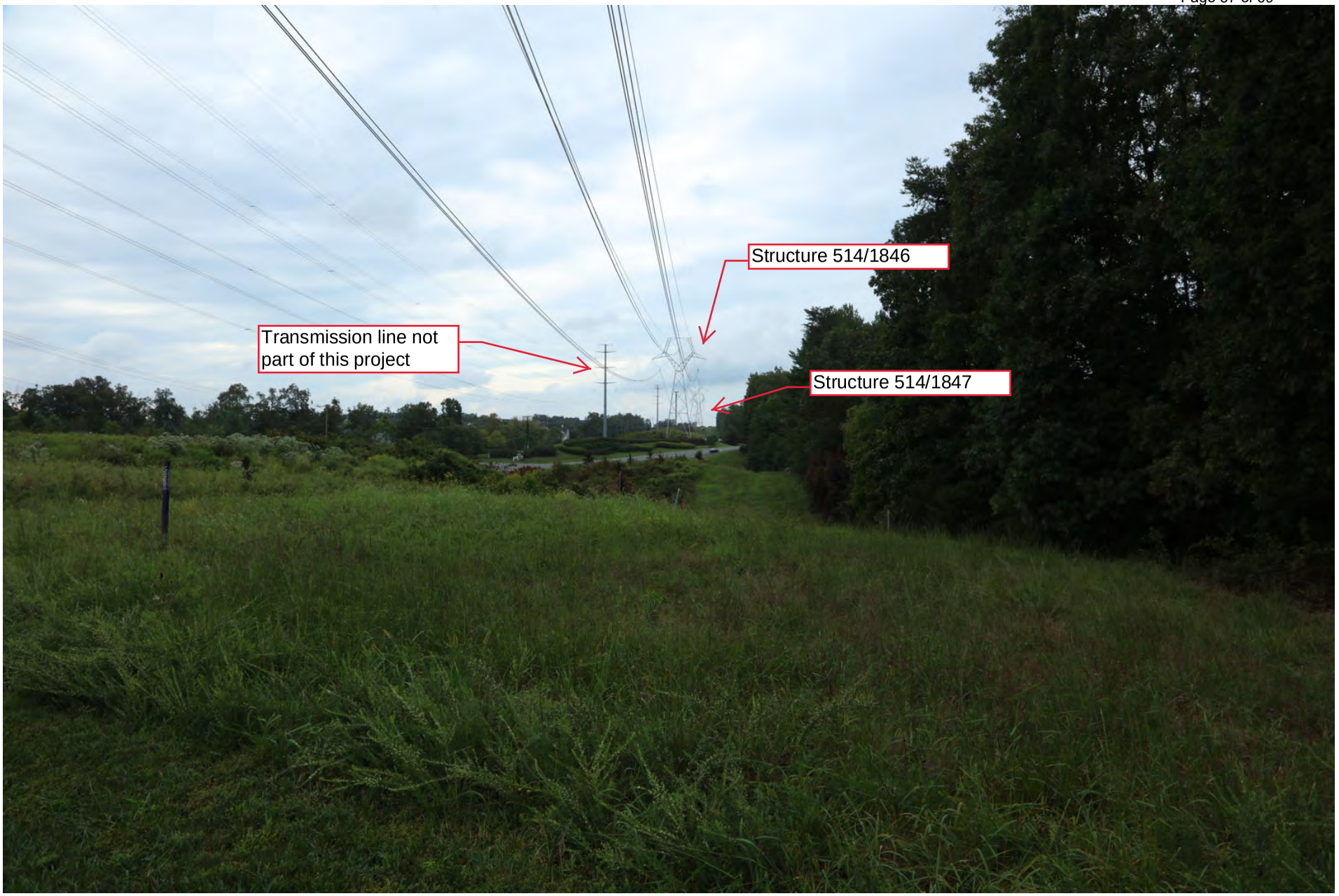
OP 3b Existing

From Ball's Bluff Battlefield (VDHR #053-5058) looking south

Attachment II.B.6.c.2

Stantec Dominion Energy

Attachment 2.H.1
Page 56 of 69



Photograph provided by Stantec

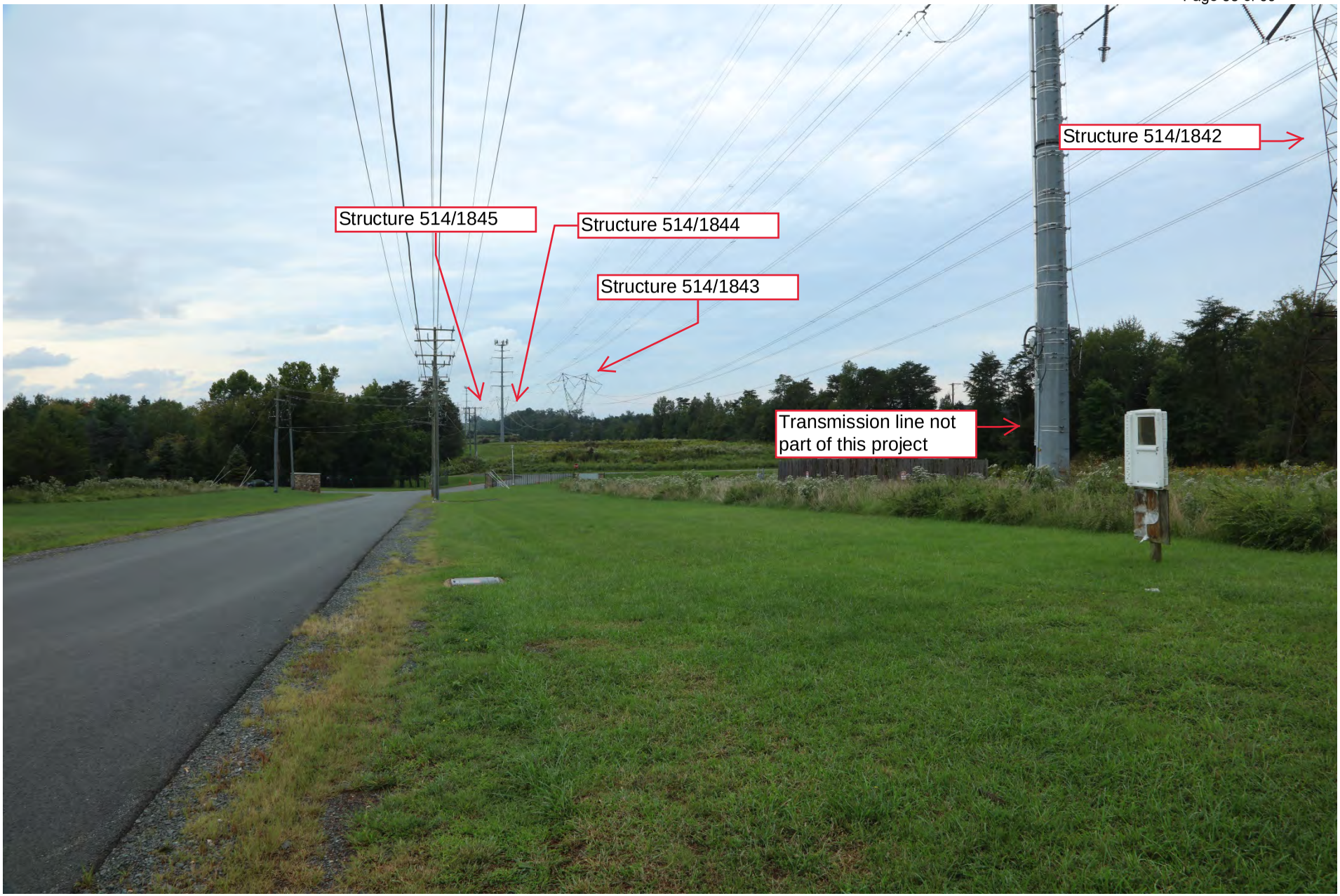
OP 3b Proposed

From Ball's Bluff Battlefield (VDHR #053-5058) looking south

Attachment II.B.6.c.2

Stantec Dominion Energy

Attachment 2.H.1
Page 57 of 69



Photograph provided by Stantec

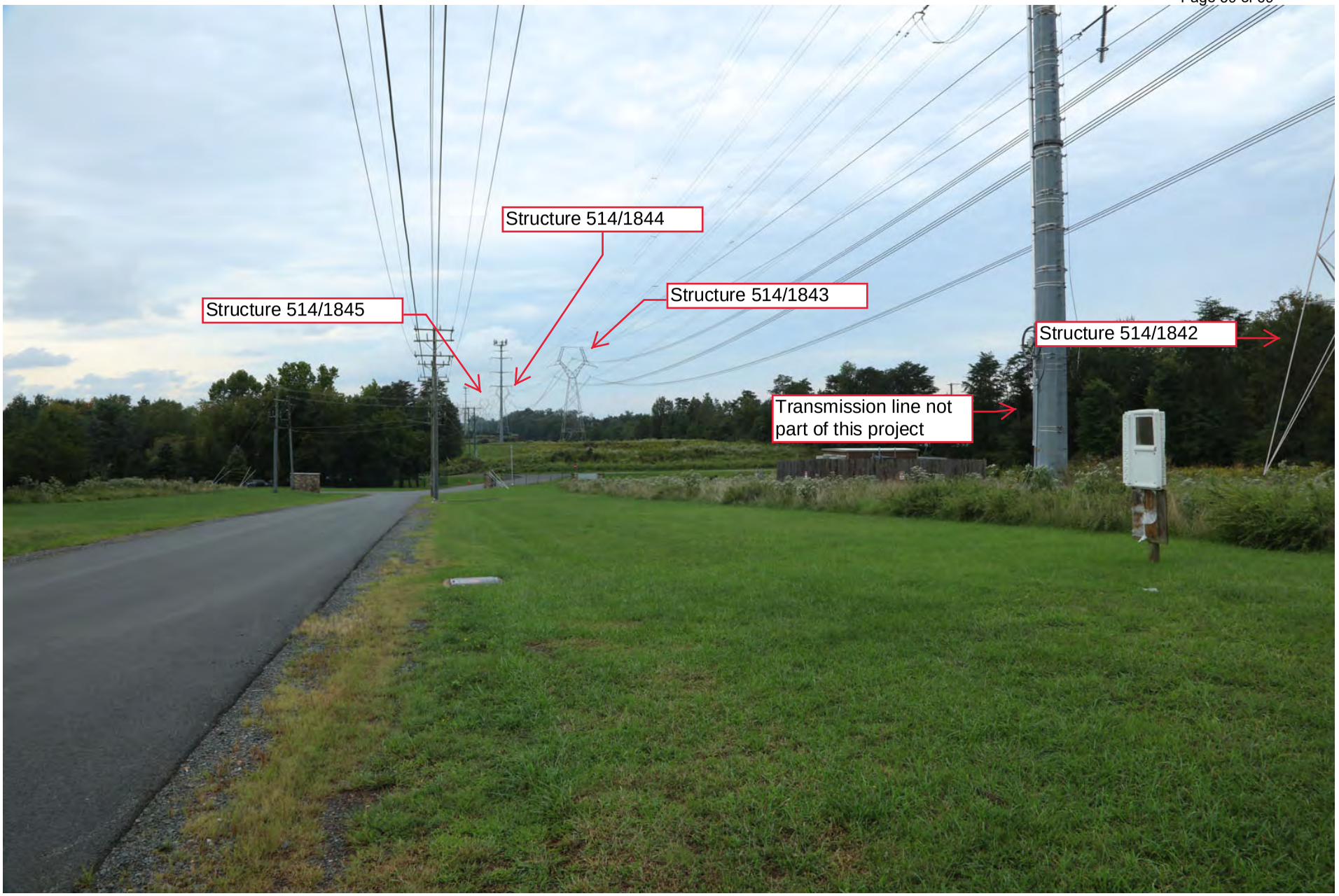
OP 4a Existing

From Ball's Bluff Battlefield & National Cemetery Historic District Boundary Increase (VDHR #253-5182) looking south

Attachment II.B.6.c.2

Stantec Dominion Energy

Attachment 2.H.1
Page 58 of 69



Photograph provided by Stantec

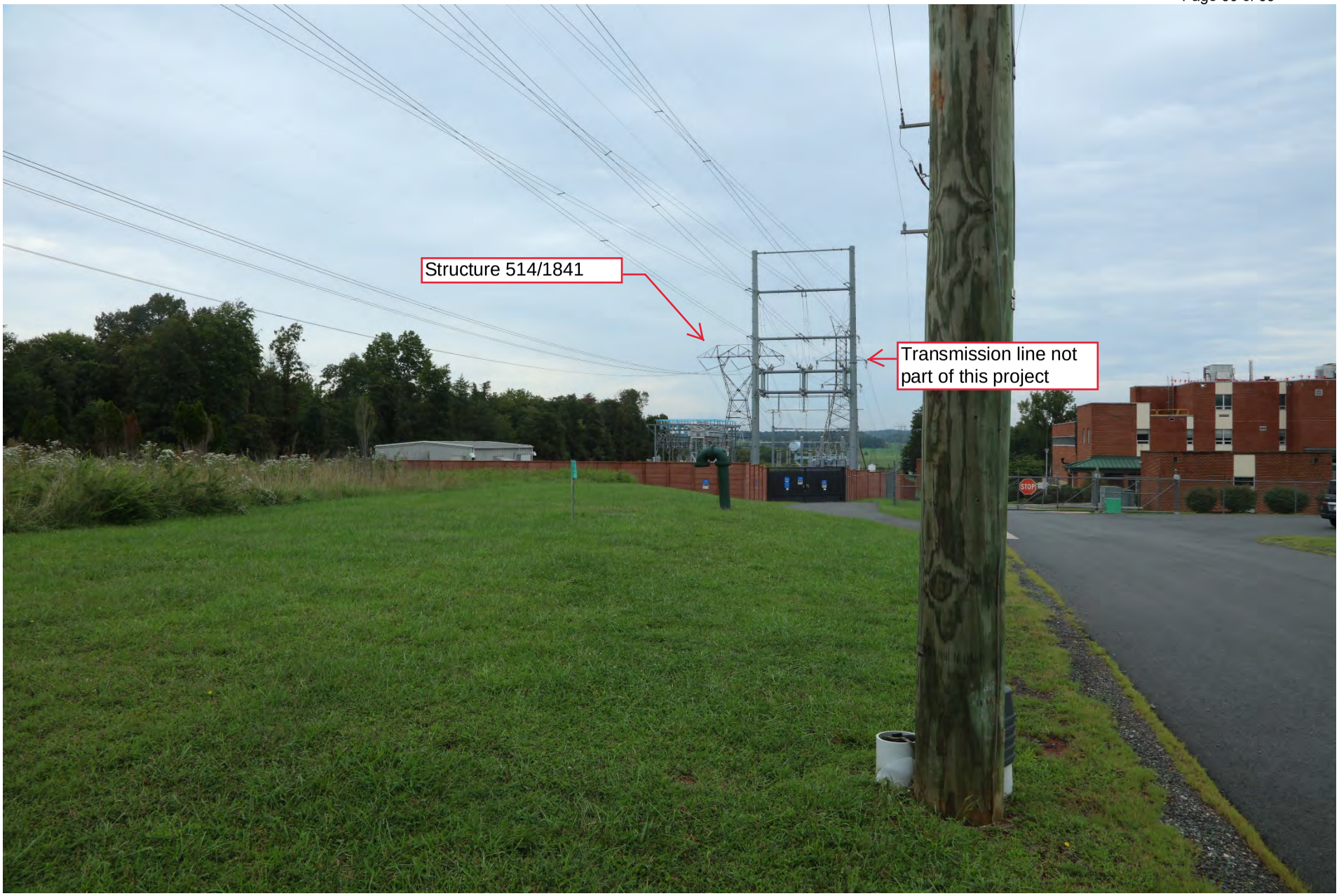
OP 4a Proposed

From Ball's Bluff Battlefield & National Cemetery Historic District Boundary Increase (VDHR #253-5182) looking south

Attachment II.B.6.c.2

Stantec Dominion Energy

Attachment 2.H.1
Page 59 of 69



Photograph provided by Stantec

OP 4b Existing

From Ball's Bluff Battlefield & National Cemetery Historic District Boundary Increase (VDHR #253-5182) looking north

Attachment II.B.6.c.2

Stantec Dominion Energy

Attachment 2.H.1
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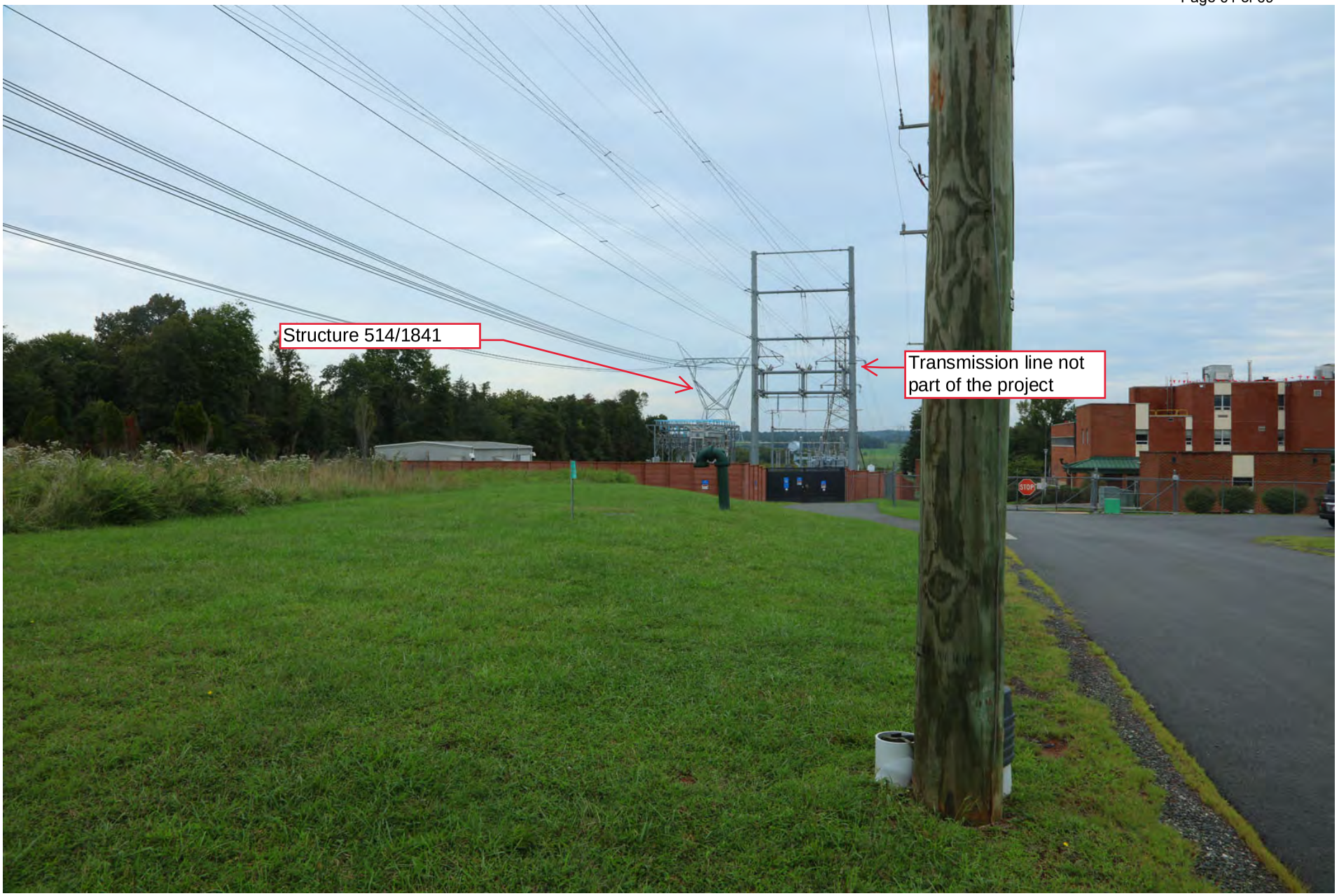

Photograph provided by Stantec

OP 4b Proposed

From Ball's Bluff Battlefield & National Cemetery Historic District Boundary Increase (VDHR #253-5182) looking north

Attachment II.B.6.c.2

Stantec Dominion Energy

Attachment 2.H.1
Page 61 of 69

Photograph provided by Stantec

OP 4c Existing

From Ball's Bluff Battlefield & National Cemetery Historic District Boundary Increase (VDHR #253-5182) looking west

Attachment II.B.6.c.2

Stantec Dominion Energy

Attachment 2.H.1
Page 62 of 69

Photograph provided by Stantec

OP 4c Proposed

From Ball's Bluff Battlefield & National Cemetery Historic District Boundary Increase (VDHR #253-5182) looking west

Attachment II.B.6.c.2

Stantec Dominion Energy

Attachment 2.H.1
Page 63 of 69

Photograph provided by Stantec

OP 5 Existing

From Murray Hill (VDHR #053-5783) looking east

Attachment II.B.6.c.2

Stantec Dominion Energy

Attachment 2.H.1
Page 64 of 69

Photograph provided by Stantec

OP 5 Proposed

From Murray Hill (VDHR #053-5783) looking east

Attachment II.B.6.c.2

Stantec Dominion Energy

Attachment 2.H.1
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Photograph provided by Stantec

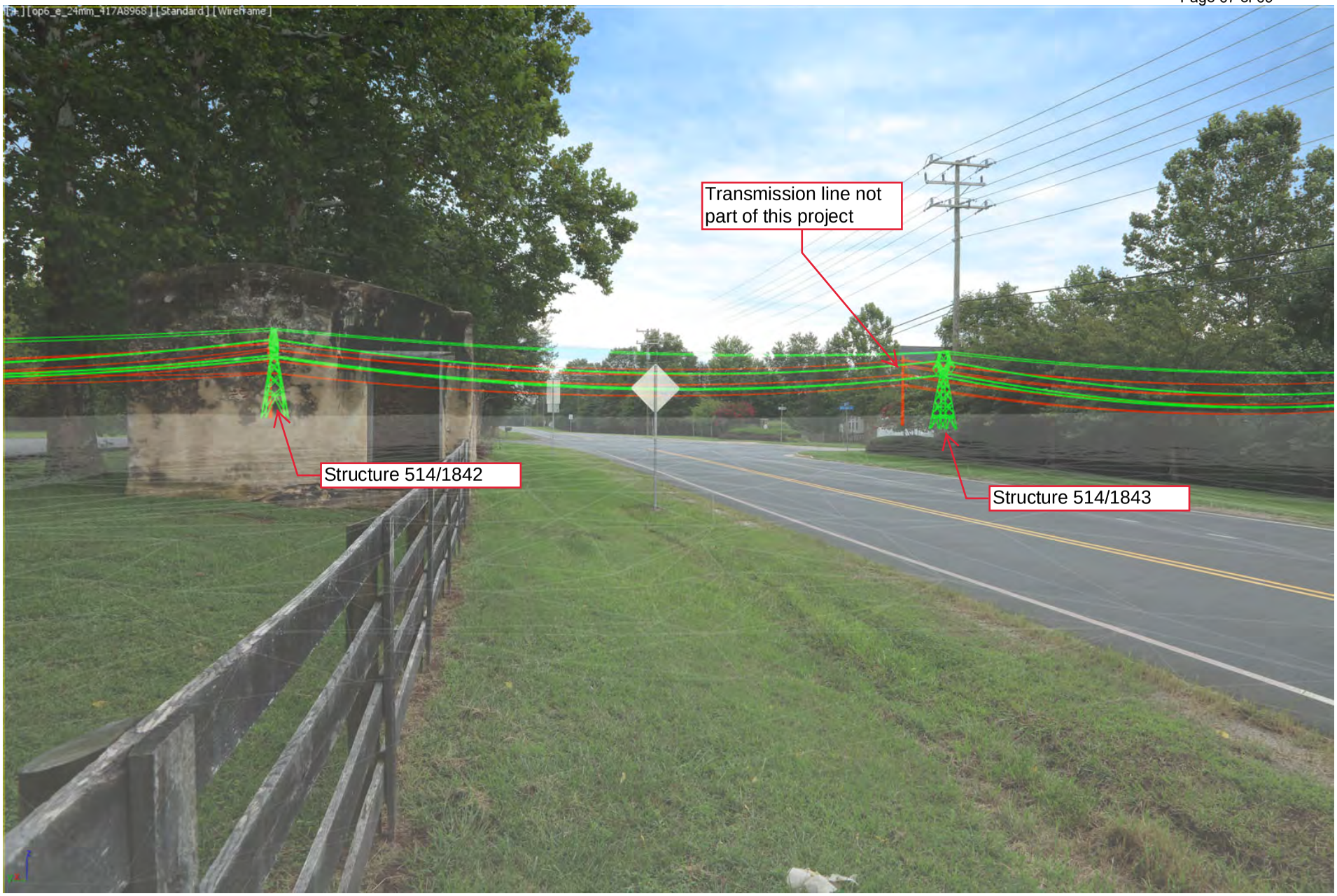
OP 6 Existing

From Edwards Ferry Road (VDHR #053-6078) looking east

Attachment II.B.6.c.2

Stantec Dominion Energy

Attachment 2.H.1
Page 66 of 69



Photograph provided by Stantec

OP 6 Proposed

From Edwards Ferry Road (VDHR #053-6078) looking east

Attachment II.B.6.c.2

Stantec Dominion Energy

Attachment 2.H.1
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APPENDIX D

D.1 ARCHAEOLOGICAL RESOURCE MAPS

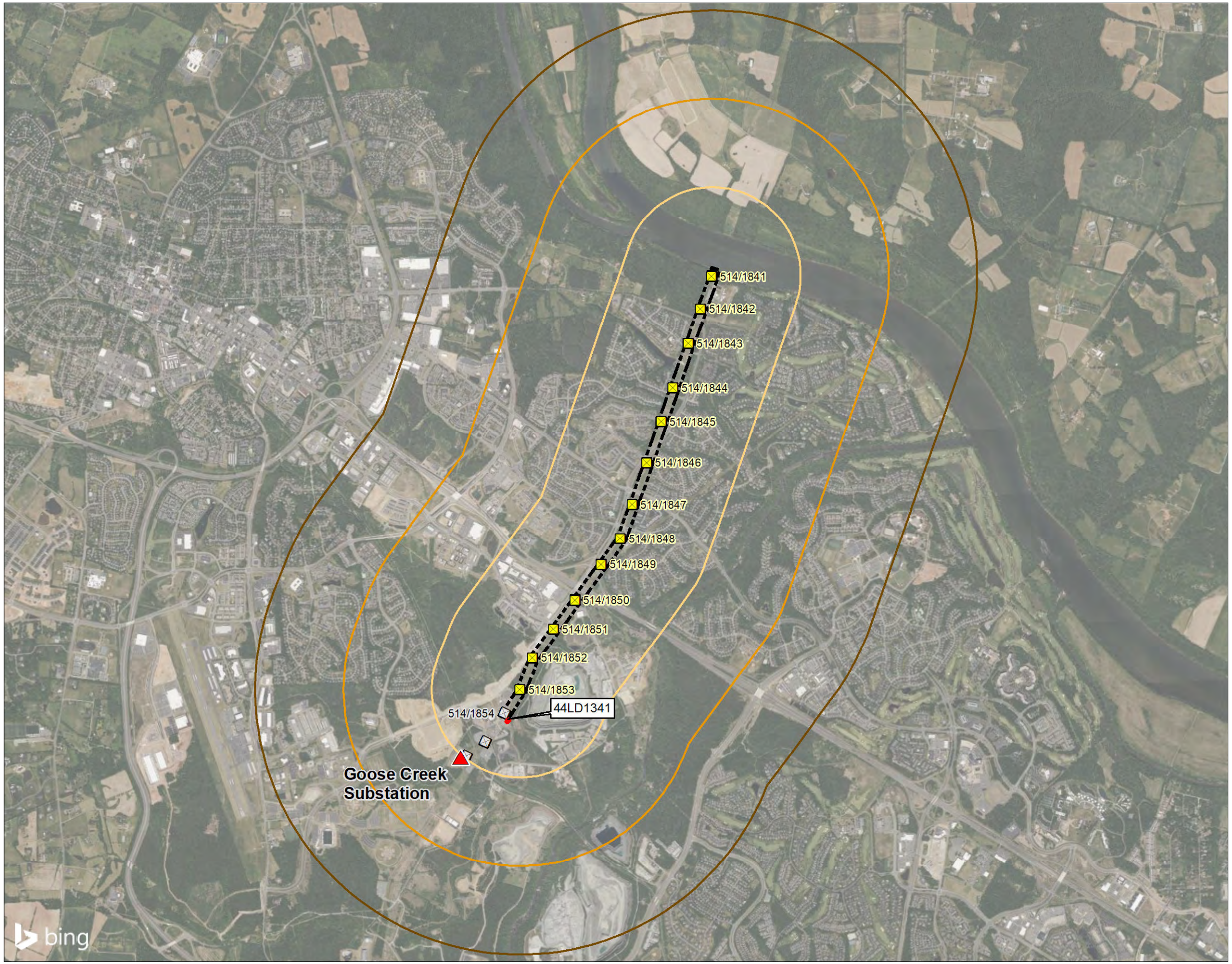


Figure No.

Appendix D

Title

Archaeological Resources Map

Client/Project 203401646

Dominion Energy Virginia
500kV Line # 514 Partial Rebuild Project

Project Location

Loudoun County, Virginia

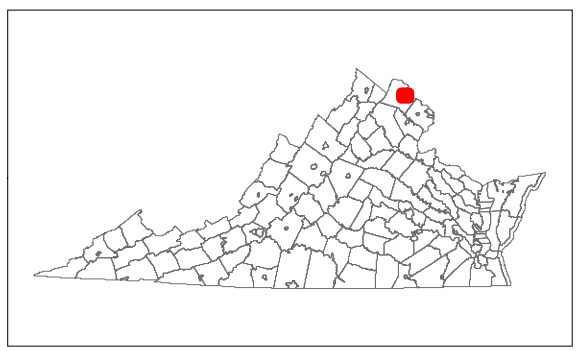
Prepared by ECL on 2021-09-02
TR by TPS on 2021-10-21
IR by CPG on 2021-10-20

N

0 3,000 6,000 Feet

(At original document size of 11x17)
1:36,000

- Substation
- Proposed Structure
- Existing Structure
- Existing Structure to Remain
- Project Limits
- 1.5-Mile Buffer
- 1.0-Mile Buffer
- 0.5-Mile Buffer
- Archaeological Resource 44LD1341



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, DCR, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Bing Maps
4. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

Stantec

U:\203401646\03_data\gis_cad\gis\01646_c_appdx_D.mxd Revised: 2021-10-21 By: MGSanderson

Attachment 2.H.1
Page 69 of 69

October 28, 2021

[TRANSMITTED VIA EMAIL]

Ms. Rachel Studebaker
Dominion Energy Services
120 Tredegar Street
Richmond, VA 23219
rachel.m.studebaker@dominionenergy.com

RE: Dominion Energy's Proposed Doubs-Goose Creek 500 kV Transmission Line #514 Partial Rebuild Loudoun County, Virginia

Dear Ms. Studebaker:

The Virginia Outdoors Foundation (VOF) thanks you for the advance notice of the above referenced project, and the opportunity to provide comments regarding proposed upgrades to this electric transmission corridor running through Loudoun County, Virginia.

Dominion Energy is proposing a partial rebuild project within the existing right-of-way (ROW) for a 2.8-mile portion of the line and has asked VOF to submit comments which may have bearing on the proposed project. Please accept these comments in response to your inquiry.

VOF, an agency of the Commonwealth, was established by the General Assembly in 1966 to promote the preservation of Virginia's natural and cultural resources by encouraging private philanthropy in fulfillment of state policy. As a result of Virginia's commitment to ensure a vibrant natural environment for today and future generations, VOF owns thousands of acres managed for public access and holds over 4,000 easements across the Commonwealth, and these easements protect in perpetuity over 850,000 acres of open space.

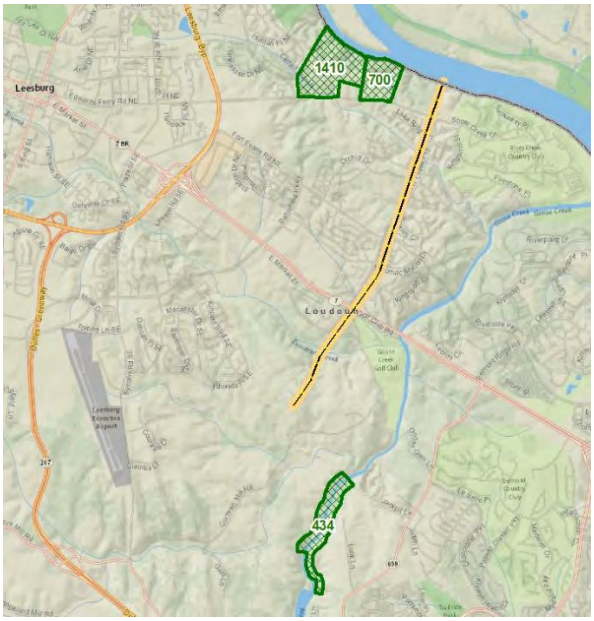
An open-space easement is a legal interest in real property that creates a relationship between the holders of the easement and the property owner. By means of the easement, VOF has an interest in specific conservation values of the property and a legal obligation to protect these values. VOF easements provide important public benefits by protecting in perpetuity significant tracts of mostly undeveloped land which may contribute to the protection of water quality, productive. soils, natural heritage resources, historic resources, and scenic viewsheds. VOF easements represent over $1 billion of public investment and fulfillment of Title XI of the Virginia Constitution and other public policies to ensure conservation of natural and cultural resources.

VOF holds open-space easements on three (3) properties in the proposed project area (see map below). All of these easements directly and indirectly protect numerous conservation values for the benefit of the public and contribute to the overall high quality of life in the Commonwealth.

In reviewing the existing transmission line corridor, VOF found the following:

Existing Open-Space Easements possibly impacted by proposed partial rebuild

- Project 700 (within 0.5 mile)
- Projects 434 and 1410 (within 1 mile)



VOF requests that full consideration be given to the importance of these open-space properties within the proposed project corridor. VOF strongly advocates for any replacement structures and the associated project components to have less of a presence on the landscape, or at the least, mimic the characteristics of the existing towers in height, size and color, specifically regarding reflectivity.

If you have any further questions or comments, please feel free to contact me at 540-454-1083 or erichardson@vof.org.

Sincerely,

Erika Richardson

Erika Richardson
Assistant Director of Stewardship, Piedmont Region

cc: eir@deq.virginia.gov, Charles.H.Weil@dominionenergy.com

Rachel M Studebaker (Services - 6)

From: Rhur, Roberta <robbie.rhur@dcr.virginia.gov>
Sent: Monday, October 18, 2021 10:51 AM
To: Rachel M Studebaker (Services - 6)
Cc: McKelvey, Kristal
Subject: [EXTERNAL] Re: Proposed 500 kV Line #514 Partial Rebuild Project

Good morning:

DCR PRR hase reviewed this line rebuild project, 500 kV Line #514 Partial Rebuild Project located in Loudoun County. It appears that this ROW is adjacent to the Red Rock Wilderness Overlook Regional Park, owned by the NOVA Regional Park Authority. While we do not anticipate that your project will impact the park boundary, please be aware that this park has 6(f) protection through the NP/ LWCF program. Any encroachment into the park could be considered a conversion of use and is prohibited by the LWCF program. For this reason, we recommend that you coordinate with the NOVA Regional Park Authority.

Thank you for the opportunity to comment.
Robbie Rhur
804-371-2594
Environmental Reveiw

On Thu, Oct 14, 2021 at 5:13 PM Rachel.M.Studebaker@dominionenergy.com <Rachel.M.Studebaker@dominionenergy.com> wrote:

> Ms. Rhur,
>
> Please see the attached letter and project map notifying you of the 500 kV Line #514 Partial Rebuild Project located in Loudoun County, Virginia.
>
> Please contact me with any questions or for additional information.
>
> Thank you,
>
> Rachel Studebaker

Environmental Specialist III

Dominion Energy Services

120 Tredegar Street, Richmond, VA 23219

Cell: (804) 217-1847

--

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

Rachel M Studebaker (Services - 6)

From: Mike DePue <mdepue@nvrpa.org>
Sent: Tuesday, October 19, 2021 4:11 PM
To: Rachel M Studebaker (Services - 6)
Subject: [EXTERNAL] RE: Proposed 500 kV Line #514 Partial Rebuild Project

Follow Up Flag: Follow up
Flag Status: Flagged

OK, sounds good but please don't forget us when the time comes.

Mike DePue | Planning Administrator
P 703-359-4615 | C 703-268-1210 | mdepue@nvrpa.org
5400 Ox Road, Fairfax Station, VA 22039 | www.novaparks.org

From: Rachel.M.Studebaker@dominionenergy.com <Rachel.M.Studebaker@dominionenergy.com>
Sent: Tuesday, October 19, 2021 3:58 PM
To: Mike DePue <mdepue@nvrpa.org>
Subject: RE: Proposed 500 kV Line #514 Partial Rebuild Project

Mike,

The transmission line is located along the easternmost park boundary. The project does require a wreck and rebuild of the structures and stringing new conductor wire. The two (2) existing lattice structures nearest the park boundary will be replaced with similar looking structures. The structure closest to the river will remain the same height with the second structure (closer to Edwards Ferry Road) increasing in height by approx. 20 feet. We are still working towards filing with the SCC and once we receive approval, we will work with NOVA parks to permit the project appropriately with the park system.

Thank you,

Rachel Studebaker
Environmental Specialist III
Dominion Energy Services
120 Tredegar Street, Richmond, VA 23219
Cell: (804) 217-1847

From: Mike DePue <mdepue@nvrpa.org>
Sent: Tuesday, October 19, 2021 3:48 PM
To: Rachel M Studebaker (Services - 6) <Rachel.M.Studebaker@dominionenergy.com>
Subject: [EXTERNAL] FW: Proposed 500 kV Line #514 Partial Rebuild Project

This is an EXTERNAL email that was NOT sent from Dominion Energy. Are you expecting this message? Are you expecting a link or attachment? DO NOT click links or open attachments until you verify them

Rachel,

Will this project cross our Rock Rock Regional Park which sits on the Potomac Waterfront (Virginia side)? I suspect it will.

What does this project "look like"? I just watch a youtube video provided by First Energy and it looks like some towers will be replaced and restrung. If this is the case, the permitter of the work area within the park will need to be secured and signed.

Mike DePue | Planning Administrator
P 703-359-4615 | C 703-268-1210 | mdepue@nvrpa.org
5400 Ox Road, Fairfax Station, VA 22039 | www.novaparks.org

From: Brian Nolan <bnolan@nvrpa.org>
Sent: Tuesday, October 19, 2021 3:36 PM
To: Rachel.M.Studebaker@dominionenergy.com
Cc: Mike DePue <mdepue@nvrpa.org>
Subject: RE: Proposed 500 kV Line #514 Partial Rebuild Project

Rachel,

We have no comments at this time. Please include Mike DePue, our Planning Administrator, on all future similar correspondence as he handles these issues for NOVA Parks.

Regards,

Brian Nolan, ASLA, PLA
Director of Planning & Development
bnolan@nvrpa.org
703-359-4621
www.novaparks.com

NOVA Parks - the best of Northern Virginia through nature, history, and great family experiences

From: Rachel.M.Studebaker@dominionenergy.com <Rachel.M.Studebaker@dominionenergy.com>
Sent: Monday, October 18, 2021 12:57 PM
To: Brian Nolan <bnolan@nvrpa.org>
Subject: Proposed 500 kV Line #514 Partial Rebuild Project

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Mr. Nolan,

Please see the attached letter and project map notifying you of the 500 kV Line #514 Partial Rebuild Project located in Loudoun County, Virginia.

Please contact me with any questions or for additional information.

Thank you,

Rachel Studebaker
Environmental Specialist III
Dominion Energy Services
120 Tredegar Street, Richmond, VA 23219
Cell: (804) 217-1847

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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

Wednesday, October 27, 2021

Rachel Studebaker
Environmental Specialist II
Dominion Energy Services
120 Tredegar Street, Richmond, VA 23219

Subject: 500 kV Line #514 Partial Rebuild Project, Loudoun County

Dear Rachel,

Thank you for the opportunity to provide comments for the Environmental Impact Review of the project to partially rebuild Line #514 in Loudoun County that was described in your letter to Terry Lasher from October 14, 2021.

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

Sincerely,

Sarah Parmelee

Sarah Parmelee
Forestland Conservation Coordinator

Rachel M Studebaker (Services - 6)

From: Dabestani, Cina <cina.dabestani@vdot.virginia.gov>
Sent: Monday, November 8, 2021 10:20 AM
To: Rachel M Studebaker (Services - 6); rr EIR Coordination; rr Environmental Impact Review
Cc: Norman Whitaker; Trivedi, Rahul
Subject: [EXTERNAL] DOMINION ENERGY VA 500 KV LINE 514 PARTIAL REBUILD, Loudoun County, Virginia

Ms. Studebaker:

Thank you for the opportunity to review and comment on the scope of the subject project. After careful review following comments are offered for your considerations:

- Permits will process the permits needed when Dominion applies for them providing Dominion has approved site plans and Maintenance of Traffic (MOT's).
- Dominion Energy Virginia or its designee would be responsible for obtaining applicable environmental regulatory clearances or approvals pertaining to any Partial Rebuild Project activities within the VDOT right-of-way.
- Loudoun County's local projects should be reviewed for any possible conflicts or requirements.

Should you have any questions or concerns please do not hesitate to contact me.

Thank you,

--

Cina S. Dabestani
Sr. Transportation Engineer, NOVA Transportation Planning
Virginia Department of Transportation
703-259-2991
Cina.Dabestani@VDOT.Virginiia.Gov

From: Scott Denny
To: Charles H Weil (Services - 6)
Subject: [EXTERNAL] Re: 500kV Line 514 Partial Rebuild Project - Loudoun County
Date: Monday, October 18, 2021 11:15:13 AM
Attachments: image001.png

This is an EXTERNAL email that was NOT sent from Dominion Energy. Are you expecting this message? Are you expecting a link or attachment? DO NOT click links or open attachments until you verify them

Dear Mr. Weil:

The Virginia Department of Aviation has reviewed the proposed 500kV Transmission Rebuild project in Loudoun County on Line # 514. Following our review it has been determined that the proposed project area is within 20,000 linear feet of the Leesburg Executive Airport. Due to the proximity of the proposed project to the Airport, an Airspace Study must be conducted by the Federal Aviation Administration (FAA). Please submit a 7460 form to the FAA. Provided a "Determination of No Hazard" is issued by the FAA, the Department has no objection to the project as it has been presented in your October 14, 2021 email.

Please contact me if you have any questions regarding this matter.

Sincerely,

S. Scott Denny
Senior Aviation Planner
Virginia Department of Aviation

On Thu, Oct 14, 2021 at 4:04 PM Charles.H.Weil@dominionenergy.com <Charles.H.Weil@dominionenergy.com> wrote:

> Good afternoon Mr. Denny,
>
> Please see the attached letter and project map notifying you of the proposed 500kV Transmission Line Rebuild project in Loudoun County.
>
> Please contact me with any questions or for additional information.
>
> Thank you,
>
> **Chuck Weil, PE**
>
> Engineer II

Siting & Permitting, Electric Transmission

10900 Nuckols Rd, 4th Floor, Glen Allen, VA 23060

M: 804-239-6450

--
S. Scott Denny
Senior Aviation Planner
Virginia Department of Aviation
804-236-3638
scott.denny@doav.virginia.gov