

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

Before the State Corporation Commission of Virginia

Culpeper Technology Zone 230 kV Loop and Lines #2 and #1065 Conversion Project

Application No. 347

Case No. PUR-2025-00032

Filed: February 20, 2025

Volume 2 of 5

COMMONWEALTH OF VIRGINIA BEFORE THE STATE CORPORATION COMMISSION

APPLICATION OF

VIRGINIA ELECTRIC AND POWER COMPANY

FOR APPROVAL AND CERTIFICATION OF ELECTRIC TRANSMISSION FACILITIES

Culpeper Technology Zone 230 kV Loop and Lines #2 and #1065 Conversion Project

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Based on 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 Culpeper Technology Zone 230 kV Loop and Lines #2 and #1065 Conversion Project (the "Project") by DEQ and other relevant agencies.

1. **Project Description**

In order to provide service requested by three data center customers¹ (collectively, the "Customers"), to maintain reliable service for the overall load growth in the area, and to comply with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards, Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company") proposes in Culpeper County, the Town of Culpeper, Orange County, and Fauquier County, Virginia, to:

• Construct new approximately 5.2-mile overhead 230 kilovolt ("kV") double circuit transmission lines: Mt. Pony – Potato Run Line #2437 ("Mt. Pony – Potato Run Line") and the Mt. Pony - Oak Green Line #2438 ("Mt. Pony – Oak Green Line") (collectively the "Mt. Pony Lines") primarily on new right-of-way. The new transmission lines will extend from the converted Potato Run – Remington and Oak Green – Potato Run Lines near Structures #1065/496 / #2331/110, as described below, to the proposed Mt. Pony Substation. The proposed Mt. Pony – Potato Run Line and the Mt. Pony – Oak Green Line will be constructed primarily with double circuit weathering steel monopole structures, utilizing two circuits of three-phase twin-bundled 768.2 ACSS/TW type conductor with a summer transfer capability of 1,573 MVA.² The Mt. Pony Lines will utilize a total of 100 or 160 feet of right-of-way, which includes both new 100-foot wide right-of-way, and collocated 160-foot right-of-way. The amount of new right-of-way width for this line will vary from 60 feet to 100 feet.³

¹ The three Customers (individually, "Customer A," "Customer B," and "Customer C," and collectively the "Customers") have requested that Dominion Energy Virginia serve three new data center campuses in the Project area: Campus A, Campus B, and Campus C (collectively, the "Campuses"). Campus A is owned by Customer A, Culpeper DataBank ("DataBank"), Campus B is owned by Customer B, Stack Infrastructure Inc. ("STACK"), and Campus C is owned by Customer C, Copper Ridge Data Center Campus ("Copper Ridge"). Pursuant to the Company's privacy policy and/or a specific customer non-disclosure agreement, the Company is obligated to maintain the confidentiality of customer information and obtain customer consent prior to public disclosure. All three Customers have provided consent for identification in this filing.

² Apparent power, measured in megavolt amperes ("MVA"), is made up of real power (megawatt or "MW") and reactive power (megavolt ampere reactive or "MVAR"). The power factor ("pf") is the ratio of real power to apparent power. For loads with a high pf (approaching unity), real power will approach apparent power and the two can be used interchangeably. Load loss criteria specify real power (MW) units because that represents the real power that will be dropped; however, MVA is used to describe the equipment ratings to handle the apparent power, which includes the real and reactive load components.

³ Approximately 1.5 miles of the Mt. Pony Proposed Route will be within new 100-foot-wide rightof-way, including a 1.2-mile segment from the cut-in at existing Structure #2/496 / #2199/110 and the 0.3mile segment along James Madison Highway that terminates at the proposed Mt. Pony Substation. Approximately 3.7 miles, or approximately 71% of the total length, will be collocated along the existing right-of-way. This collocated 3.7 miles will have 60 feet of new right-of-way adjacent to the Company's existing 100-foot right-of-way, utilizing a total right-of-way width of 160 feet.

- Construct a new approximately 3.7-mile⁴ overhead 230 kV double circuit transmission line (the "Cirrus Mt. Pony Line" of the "Tech Park Lines") primarily on new right-of-way and planned data center campuses. The Tech Park Lines will extend from the proposed 230 kV Mt. Pony Substation to the future 230 kV Cirrus Switching Station⁵ and interconnect the proposed 230 kV Chandler, McDevitt, and Palomino Substations. The Tech Park Lines will be constructed primarily with double circuit pre-dulled galvanized steel monopole structures, utilizing two circuits of three-phase twinbundled 768.2 ACSS/TW type conductor with a summer transfer capability of 1,573 MVA. The amount of new right-of-way width for this line will vary from 100 feet to 160 feet.⁶
- Convert and rebuild the Company's existing 2.5-mile overhead double circuit 115 kV Oak Green Potato Run Line #1065 to 230 kV and rebuild Gordonsville Oak Green Line #11 to 230 kV⁷ from the existing Oak Green Switching Station to existing Structure #2199/164 / #11/550 / #1065/550. This uprate of Line #1065 will create the new Oak Green Mt Pony Line #2438. A 25-foot expansion of the existing 75-foot right-of-way is required, except where not feasible on Virginia Outdoors Foundation ("VOF") conservation easements. Construct approximately 0.2 mile of two new single circuit 230 kV lines to extend Line #1065 and Line #11 into the relocated Oak Green Switching Station within a variable width right-of-way. The relocation of the existing Oak Green Switching Station will also require construction of 0.2-mile of new single circuit 115 kV transmission line (designed to 230 kV) to extend the existing Oak Green Pine Glade Line #153 into the new Oak Green Switching Station. Relocation of the

⁵ See Application of Virginia Electric and Power Company, For approval and certification of electric transmission facilities: Cirrus – Keyser 230 kV Loop and Related Projects, Case No. PUR-2022-00198, Final Order (Oct. 23, 2023).

⁶ Approximately 3.3 miles of the total 3.7-mile Tech Park Proposed Route would be located within new 100-foot wide right-of-way, with one 0.2-mile segment collocated with the existing Company Lines #2 and #70, and one 0.2-mile segment collocated with the Company's existing Line #2 rights-of-way that require only 60 additional feet in width. Approximately 0.4 mile, or approximately 11% of the total length, will be collocated with the existing right-of-way. This collocated 0.4 mile will require 60 feet of new right-of-way width adjacent to the Company's existing 100-foot right-of-way, utilizing a total 160-foot-wide right-of-way.

⁷ This portion of Line #11 will initially operate at 115 kV, but will be constructed at 230 kV.

⁴ If Mt. Pony Proposed Route (Route 1) and Tech Park Proposed Route (Route 1) are selected by the Commission, then a 0.3-mile segment of 100-foot wide right-of-way along the south side of US 15/29 will not be needed by the Tech Park Proposed Route, as the Tech Park Proposed Route will tap into the Mt. Pony Proposed Route at proposed Structure # 2437/168 / 2438/126 rather than beginning at the proposed Mt. Pony Substation. In this scenario, the Tech Park Proposed Route is 3.4 miles in length, rather than 3.7 miles, and the Tech Park Proposed Route right-of-way would be reduced by approximately 3.7 acres. If Mt. Pony Alternative Route 2 is selected by the Commission, this 0.3-mile (3.7 acre) segment will be included. To ensure that all potential Project impacts are evaluated, this 0.3-mile segment is included in both the Mt. Pony Proposed Route and Tech Park Proposed Route impacts in this filing.

existing Oak Green Switching Station is necessary to accommodate the installation of 230 kV and 115 kV ring busses and two 230 -115 kV transformers ("Oak Green Rebuild and Relocation").

- Convert and rebuild an approximately 0.7-mile segment of the Company's existing 115 kV Potato Run Remington Line #2 from existing Structure #2/147 to Remington Substation as double circuit 230 kV with distribution underbuild. This portion of Line #2 is currently double circuit with Company's distribution line #655, which will be rebuilt and converted to 230 kV to accommodate a double circuit 230 kV line, with Line #655 operating at distribution voltage ("Remington Rebuild").
- Construct four new 230 kV substations and one relocated 230 kV switching station (i.e., the Oak Green Switching Station as described previously) in Culpeper County, the Town of Culpeper, and Orange County, Virginia (the "Mt. Pony Substation," "McDevitt Substation," "Chandler Substation," "Palomino Substation," and "Relocated Oak Green Switching Station"). The proposed Mt. Pony Substation and Palomino Substation will be on an easement to be acquired by the Company, and the proposed Chandler Substation, McDevitt Substation, and Relocated Oak Green Switching Station will be on Company property. The Mt. Pony Substation will be in Culpeper County; the Chandler, McDevitt, and Palomino Substations will be in the Town of Culpeper; and the Oak Green Switching Station will be relocated within Orange County, Virginia.

The components described above are collectively referred to as the "Project."

Culpeper County and the Town of Culpeper have recently approved zoning changes to promote the development of the "Culpeper Tech Zone," which is driving significant new load growth in the area. Three new data center campuses, each consisting of several new data centers, are the main load driver for this Project. Within this area, the Company projects load growth of approximately 188 MW initially by 2028, and expects that load to grow by 1,164 MW by 2034 in Culpeper County and the Town of Culpeper. This load growth is a combination of data center growth (140 MW by 2028; 943 MW by 2034) and other load growth on the Rappahannock Electric Cooperative ("REC") system. The additional REC load on the Mountain Run Substation is projected to be approximately 100 MW by 2034, creating a total of 320 MW load. According to Dominion Energy Virginia transmission planning criteria, a substation cannot serve more than 300 MW of load. Additionally, any substation that serves more than 100 MW of load should be networked to the system and may not be served radially.

As to the need to provide requested service, the Customers' projected load combined with emerging load in the area (approximately 1,372 MW) would lead to a potential 300 MW load drop which is in violation of NERC's criteria to serve all load reliably. Accordingly, the proposed Mt. Pony Lines, Tech Park Lines and the converted Lines #2 and #1065 are essential to reliably serve the Customers as well as emerging load in the Culpeper Load Area. For purposes of this Application, the Culpeper Load Area is defined generally as the area within Culpeper County and the Town of Culpeper ("Culpeper Load Area").

For the Mt. Pony Lines, the Company identified an approximately 5.2 mile overhead proposed route ("Mt. Pony Proposed Route" or "Mt. Pony Route 1") in an approximately 100-foot-wide new right-of-way or within a new 60-foot-wide right-of-way collocated with existing Company rights-of-way. One overhead alternative route ("Mt. Pony Alternative Route 2") was also identified entirely in a new 100-foot-wide right-of-way. The Mt. Pony Lines are entirely within Culpeper County, Virginia.

For the Tech Park Lines, the Company identified an approximately 3.7-mile overhead proposed route ("Tech Park Proposed Route" or "Tech Park Route 1"), as well as two overhead alternative routes ("Tech Park Alternative Route 2" and "Tech Park Alternative Route 3"). The Tech Park Proposed and Alternative Routes would be primarily within new 100-foot-wide rights-of-way, except for two 0.2-mile segments within a new 60-foot-wide right-of-way collocated with existing Company rights-of-way. Approximately 1.5 miles of each of the Tech Park Lines is within the Town of Culpeper, with the remainder (2.2 miles of the Proposed Route and 2.0 miles of each Alternative Route) within Culpeper County, Virginia.

For the Oak Green Rebuild and Relocation, the Company identified an approximately 2.9-mile overhead proposed route ("Oak Green Proposed Route" or "Oak Green Rebuild"), comprised of 2.5 miles of existing and 0.4 mile of new right-of-way. The existing 2.5-mile right-of-way is 75 feet wide. Of this, approximately 2.0 miles of the existing right-of-way will be expanded by 25 feet to a new total of 100 feet wide, while approximately 0.5 mile will be maintained at 75 feet due to conservation easements which prevent right-of-way expansion. In addition, approximately 0.2 mile of new variable width right-of-way will be acquired to connect the existing Oak Green Switching Station to the proposed relocated Oak Green Switching Station, and 0.2 mile of new 100 feet wide right-of-way will be acquired to connect the proposed relocated Oak Green Switching Station to the existing Oak Green – Pine Glade Line #153.

The proposed Oak Green Switching Station initially will be constructed with four 230 kV circuit breakers, one 230 kV line terminals, two 230 – 115 kV, 224 MVA transformers, six 115 kV circuit breakers, two 115 kV line terminals and other associated equipment. In total, it will be designed to accommodate future growth in the area with a build-out of six additional 230 kV circuit breakers and two additional 115 kV breakers, three additional 230 kV line terminals, two 115 kV line terminals and two 230 kV capacitor banks. Additionally, a new control enclosure will be installed to accommodate the protective relay and communications cabinets. The total area required to build Oak Green Switching Station is approximately 4.7 acres. In addition, an approximately 0.2-mile segment of new 100-foot-wide right-of-way is required to connect the relocated Oak Green Switching Station to the existing Oak Green – Pine Glade Line #153. Due to the utilization of existing right-of-way, no alternative routes were identified for the Oak Green Rebuild. Approximately 0.2 mile of the Oak Green Proposed Route is in Culpeper County and 2.5 miles are in Orange County. The relocated Oak Green Switching Station and 0.2-mile Line #153 tap are also located in Orange County, Virginia.

For the Remington Rebuild, the Company identified an approximately 0.7 mile overhead proposed route ("Remington Proposed Route" or "Remington Rebuild"). The Remington Rebuild is located entirely within existing Company right-of-way or on Company-owned lands. Because the

Remington Proposed Route is entirely within existing Company right-of-way, no alternative routes were identified. The Remington Proposed Route is entirely in Fauquier County, Virginia.

The Company is proposing all these Proposed and Alternative Routes for Commission consideration and notice. Discussion of these Proposed and Alternative Routes, as well as other overhead and underground routes that the Company studied but ultimately rejected, is provided in Section II of the Appendix and discussed in more detail in the Environmental Routing Study (or "Routing Study") included with the Application.

The four new Proposed Substations will be constructed with 112 MVA 230-34.5 kV transformers with a six (McDevitt Substation, Chandler Substation, and Palomino Substation) or four (Mt. Pony Substation) circuit breaker configuration, and other associated equipment. The total area of the Mt. Pony Substation is approximately 5.0 acres, the McDevitt Substation is approximately 4.5 acres, the Chandler Substation is approximately 4.7 acres, and the Palomino Substation is approximately 4.4 acres. The Mt. Pony Substation will be in Culpeper County; and the Chandler, McDevitt, and Palomino Substations will be in the Town of Culpeper, Virginia.

For this Project, the Company retained the services of Environmental Resources Management ("ERM") to help collect information within the study area, identify potential routes, perform a routing analysis comparing the route alternatives, and document the routing efforts in an Environmental Routing Study.

A description of the Proposed and Alternative Routes are as follows:

Mt. Pony Proposed Route (Route 1)

Mt. Pony Proposed Route originates at a cut-in location on the Company's existing transmission lines one mile south of Stevensburg. From the cut-in location, the route parallels Blackjack Road north for approximately 0.6 mile, then parallels Alvere Road to the west and north for approximately 0.6 mile where it joins the corridor for the Company's existing Lines #2/#70. Mt. Pony Proposed Route then runs west, collocated with the Company's Lines #2/#70 for approximately 3.1 miles. Mt. Pony Route 1 then turns northwest, crosses Rt. 3 and runs another 0.6 mile (collocated with existing Lines #2/#70) before reaching the south side of US 15/29. At this point, Mt. Pony Proposed Route turns southwest, paralleling the south side of US 15/29 for 0.3 mile before terminating at the proposed Mt. Pony Substation. In total, the Mt. Pony Proposed Route is approximately 5.2 miles in length.

Mt. Pony Route 1 would be constructed within a new 100-foot right-of-way in areas where not collocated with existing transmission lines. The 3.7-mile portion of Mt. Pony Route 1 that would be collocated with existing Lines #2/#70 would require a new 60-foot new right-of-way adjacent to the existing 100-foot right-of-way, creating a 160-foot-wide right-of-way. The Proposed Route primarily will be supported by double circuit monopole structures. For the Proposed Route, the minimum structure height is 75 feet, the maximum structure height is 125 feet, and the average structure height is 113 feet, based on preliminary conceptual design, not including foundation reveal and subject to change based on final engineering design.

Mt. Pony Alternative Route 2

Mt. Pony Alternative Route 2 originates at a cut-in location on the Company's existing Lines about 0.75 mile south of Mt. Pony Road. From the cut-in location, the route heads northwest through forested and open land for approximately 3.5 miles and crosses Woolens Lane. The route then turns northeast, parallels the east side of US 522 for approximately 0.3-mile, crosses Rt. 3, and continues north across forested and open lands for approximately 0.5 mile before terminating at the proposed Mt. Pony Substation. In total, the Mt. Pony Alternative Route 2 measures approximately 4.8 miles long.

Mt. Pony Alternative Route 2 would be constructed entirely within a new 100-foot-wide right-ofway. The Alternative Route primarily will be supported by double circuit monopole structures. For the Mt. Pony Alternative Route 2, the minimum structure height is 75 feet, the maximum structure height is 130 feet, and the average structure height is 117 feet, based on preliminary conceptual design, not including foundation reveal and subject to change based on final engineering design.

Tech Park Proposed Route (Route 1)

Tech Park Proposed Route 1 originates at the proposed Mt. Pony Substation. From the proposed Mt. Pony Substation, Tech Park Route 1 heads northeast for approximately 0.3 mile on the south side of US 15/29, then turns northwest for approximately 0.2 mile. This segment crosses US 15/29 and would be collocated with the Company's existing Lines #2/#70. The route then runs southwest and west along the southern and western edges of a planned data center campus for 0.6 mile (including a crossing of McDevitt Drive), then crosses two additional data center campuses as part of a 2.0-mile loop that connects the proposed McDevitt, Chandler, and Palomino Substations. Tech Park Proposed Route then follows the existing 115 kV Line #70 corridor to the southeast and south for approximately 0.5 mile and terminates at the approved future Cirrus Switching Station. In total, Tech Park Proposed Route (Route 1) measures approximately 3.7 miles long.

Tech Park Proposed Route would be constructed within a new 100-foot right-of-way, except for two 0.2-mile segments where it is collocated with the existing Lines #2/#70 right-of-way and would require only 60 additional feet of right-of-way. The Proposed Route primarily will be supported by double circuit monopole structures. For the Proposed Route, the minimum structure height is 75 feet, the maximum structure height is 125 feet, and the average structure height is 111 feet, based on preliminary conceptual design, not including foundation reveal and subject to change based on final engineering design.

Tech Park Alternative Route 2

Tech Park Alternative Route 2 originates at the proposed Mt. Pony Substation. From the proposed Mt. Pony Substation, Tech Park Alternative Route 2 heads southwest for approximately 0.2 mile along the south side of US 15/29. The route then turns northwest, crosses US 15/29, and continues northwest and north for approximately 0.6 mile, crossing Technology Drive. Tech Park Alternative Route 2 turns west and follows the southern and western edges of a planned data center for 0.4 mile (including a crossing of McDevitt Drive), then crosses two additional planned data

center campuses as part of a 2.0-mile loop that connects the proposed McDevitt, Chandler, and Palomino Substations. Tech Park Alternative Route 2 then follows the existing 115 kV Line #70 corridor to the southeast and south for approximately 0.5 mile and terminates at the approved future Cirrus Switching Station. In total, Tech Park Alternative Route 2 measures approximately 3.5 miles long.

Tech Park Alternative Route 2 would be constructed within a new 100-foot right-of-way, except for one 0.2-mile segment where it is collocated with the existing Line #70 right-of-way and would require only 60 additional feet of right-of-way. The Alternative Route primarily will be supported by double circuit monopole structures. For the Tech Park Alternative Route 2, the minimum structure height is 75 feet, the maximum structure height is 130 feet, and the average structure height is 113 feet, based on preliminary conceptual design, not including foundation reveal and subject to change based on final engineering design.

Tech Park Alternative Route 3

Tech Park Alternative Route 3 originates at the proposed Mt. Pony Substation. From the proposed Mt. Pony Substation, Tech Park Alternative Route 3 heads southwest for approximately 0.2 mile along the south side of US 15/29. The route turns northwest, crossing US 15/29, and continues generally northwest for approximately 0.8 mile generally parallel to Technology Drive and crossing McDevitt Drive. Tech Park Alternative Route 3 then crosses two planned data center campuses as part of a 2.0-mile loop that connects the proposed McDevitt, Chandler, and Palomino Substations. Tech Park Alternative Route 3 then follows the existing 115 kV Line #70 corridor to the southeast and south for approximately 0.5 mile and terminates at the future Cirrus Switching Station (approved as part of a separate filing).⁸ In total, Tech Park Alternative Route 3 measures approximately 3.5 miles long.

Tech Park Alternative Route 3 would be constructed within a new 100-foot right-of-way, except for one 0.2-mile segment where it is collocated with the existing Line #70 right-of-way and would require only 60 additional feet of right-of-way. The Alternative Route primarily will be supported by double circuit monopole structures. For the Tech Park Alternative Route 2, the minimum structure height is 75 feet, the maximum structure height is 130 feet, and the average structure height is 114 feet, based on preliminary conceptual design, not including foundation reveal and subject to change based on final engineering design.

Oak Green Rebuild Proposed Route

The Oak Green Rebuild begins at a cut-in location on the Company's existing Lines 0.4 mile south of US 522 in Culpeper County. From the cut-in, the Oak Green Rebuild Proposed Route would follow the Company's existing Lines #1065/#11 southeast for approximately 2.5 miles to the existing Oak Green Switching Station. This segment crosses the Rapidan River, enters Orange County, and crosses US 522 about 1.5 miles east of the County boundary. The Oak Green Rebuild Proposed Route passes through the existing Oak Green Switching Station (which would be partially removed, although the transmission structures within the existing substation site would

⁸ See supra n. 5.

be retained) and continues approximately 0.2 mile south to the relocated proposed Oak Green Switching Station site. The Oak Green Rebuild Proposed Route also includes an approximately 0.1-mile segment of new 75-foot right-of-way south of the relocated proposed Oak Green Switching Station to interconnect the existing 115 kV Line #153 to the relocated proposed Oak Green Switching Station. In total, the Oak Green Rebuild Proposed Route measures approximately 2.9 miles long.

The Oak Green Rebuild Proposed Route would be primarily within a 100-foot-wide right-of-way, which is comprised of the existing 75-foot-wide right-of-way for existing Lines #1065/#11, plus a 25-foot expansion. The exceptions to this right-of-way expansion include a 0.2-mile segment west of the Rapidan River in Culpeper County and 0.3-mile segment south of River Road in Orange County that cross existing conservation easements and will be maintained within the existing 75-footwide rights-of-way. In addition, an approximately 0.2-mile segment south of the existing Oak Green Switching Station, a new variable width right-of-way will be used to connect the existing Oak Green Switching Station to the relocated proposed Oak Green Switching Station. The Proposed Route primarily will be supported by double circuit monopole structures. For the Oak Green Rebuild Proposed Route, the minimum structure height is 75 feet, the maximum structure height is 130 feet, and the average structure height is 118 feet, based on preliminary conceptual design, not including foundation reveal and subject to change based on final engineering design.

Remington Rebuild Proposed Route

The Remington Rebuild begins at a cut-in location on the Company's existing Lines #5/#535 near Lucky Hill Road east of the Town of Remington in Fauquier County. From the cut-in, the Remington Rebuild heads east/northeast within the existing Line #2/#535 right-of-way for approximately 0.7 mile, where it terminates in the existing Remington Substation.

The Remington Rebuild Proposed Route would be located entirely within existing variable width rights-of-way and Dominion Energy Virginia property. For the Remington Rebuild Proposed Route, the minimum structure height is 45 feet, the maximum structure height is 125 feet, and the average structure height is 105 feet, based on preliminary conceptual design, not including foundation reveal and subject to change based on final engineering design.

2. Environmental Analysis

The Company has conducted an environmental analysis on the proposed Project. Please see the following subsections of this DEQ Supplement for pertinent details about the proposed Project. The impact values in this document include both transmission line and substation/switching station rights-of-way, with the Mt. Pony Routes inclusive of the Mt. Pony Substation, the Tech Park Routes inclusive of the Chandler, McDevitt, and Palomino Substations, and Oak Green Rebuild inclusive of the relocated Oak Green Switching Station, unless otherwise noted.

A. Air Quality

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

Tree clearing within the new rights-of-way will be required as part of this Project. The Company does not expect to burn cleared material, but, if necessary, the Company will coordinate with the responsible locality to obtain the appropriate permits and will comply with any conditions set forth by the locality or take actions in accordance with the Company's property rights. The Company's tree clearing methods are described in Section 2.L.

B. Water Source

No water source is required for transmission lines. This discussion focuses on waterbodies that will be crossed by the proposed transmission lines.

On behalf of the Company, ERM identified and mapped waterbodies in the vicinity of the routes using publicly available geographic information system ("GIS") databases, U.S. Geological Survey ("USGS") National Hydrography Dataset Plus High Resolution ("NHD"), ESRI World Elevation Terrain 5-foot contours, the United States Fish and Wildlife Service ("USFWS") National Wetland Inventory ("NWI"), recent (2024) and historic digital aerial photography (National Agricultural Imagery Program, ESRI World Imagery, and Google Earth).

All route alternatives utilize an overhead configuration that would span waterbodies. The distance between transmission line structures proposed by Dominion Energy Virginia will be adequate to span the waterbodies identified along the route alternatives. Tree clearing would be required within forested riparian areas at waterbody crossing locations. The removal of forested riparian areas adjacent to waterbodies will reduce riparian buffer functions such as stream bank stabilization and erosion control, nutrient and sediment filtration, floodwater storage and peak flow reduction, and water temperature changes due to loss of shading at these locations. Impacts to surface waters and riparian habitat will be limited by minimizing rights-of-way at crossings to the extent possible, leaving roots and stumps in place, and implementing erosion control best management practices during construction.

Most of the Oak Green Rebuild and Relocation is within Company-owned and maintained existing transmission line rights-of-way. The majority of each of the waterbodies crossed by the Oak Green Rebuild and Relocation route are within the existing maintained corridor, with vegetation/riparian buffer only along the proposed expanded right-of-way segments of the features.

According to U.S. Army Corps of Engineers ("Corps") documentation, no waters considered navigable under Section 10 of the Rivers and Harbors Act are crossed by the Proposed or Alternative Routes for the Project. Waterbodies in the vicinity of the Project's

routes, inclusive of the proposed substation footprints, are shown on Attachments 2 and 3 of the Wetland and Waterbody Desktop Summaries for the Project, which is included in <u>Attachment 2.D.1</u>. For waterbody acreages crossed (riverine and open water features), as identified in the Wetland and Waterbody Desktop Summary, see Table D-2 below.

Mt. Pony Routes

Mt. Pony Proposed Route (Route 1)

Mt. Pony Proposed Route crosses 12 waterbodies, 10 of which are NHD-mapped unnamed, intermittent streams. Additionally, ERM identified two unnamed, unclassified streams within the right-of-way using recent (2021 and 2024) aerial imagery.

Mt. Pony Alternative Route 2

Mt. Pony Alternative Route 2 crosses 10 waterbodies, eight of which are NHD-mapped unnamed, intermittent streams. Additionally, ERM identified two unnamed, unclassified streams within the right-of-way using recent (2021 and 2024) aerial imagery.

Tech Park Routes

Tech Park Proposed Route (Route 1)

Tech Park Proposed Route crosses four waterbodies, three of which are NHD-mapped waterbodies, including two separate crossings of an unnamed perennial tributary to Mountain Run. ERM also identified two unnamed, intermittent streams within the right-of-way using recent (2021 and 2024) aerial imagery and county stream data.

Tech Park Alternative Route 2

Tech Park Alternative Route 2 crosses four waterbodies, three of which are NHDmapped unnamed, intermittent streams. ERM also identified one unnamed, intermittent stream within the right-of-way using recent (2021 and 2024) aerial imagery and county stream data.

Tech Park Alternative Route 3

Tech Park Alternative Route 3 crosses four waterbodies, three of which are NHDmapped unnamed, intermittent streams. ERM also identified one unnamed, intermittent stream within the right-of-way using recent (2021 and 2024) aerial imagery and county stream data.

Oak Green Rebuild and Relocation

The Oak Green Rebuild and Relocation crosses six waterbodies, five of which are NHD-mapped waterbodies, including two perennial waterbodies (the Rapidan River

and one lake/pond) and three unnamed, intermittent streams. ERM also identified one unnamed, unclassified stream within the right-of-way using recent (2021 and 2024) aerial imagery.

Remington Rebuild

The Remington Rebuild does not cross any NHD-mapped waterbodies; however, ERM identified two unnamed, unclassified streams within the right-of-way using recent (2021 and 2024) aerial imagery and county stream data.

During construction, proper drainage of waterbodies will be maintained using culverts and/or other crossing devices, as needed, according to the Company's standard policies. Where clearing of trees and/or woody shrubs is required, clearing within 100 feet of a stream will be conducted by hand. Vegetation will be cut at or slightly above ground level, and stumps will not be grubbed. To protect waterways from soil erosion and sedimentation during construction, the Company will use sediment barriers along waterways and steep slopes. If a section of line cannot be accessed from existing roads, the Company may need to install a culvert or temporary bridge to cross small streams. In such cases, temporary fill material may be required that would be placed on erosion control fabric and removed when work is completed, returning the surface to original contours.

If necessary, a Joint Permit Application ("JPA") will be submitted for review by the Virginia Marine Resources Commission ("VMRC"), DEQ, and 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 Project.

D. Tidal and Non-tidal Wetlands

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

On behalf of the Company, ERM identified wetlands along the Project's routes, inclusive of the proposed Mt. Pony, Chandler, McDevitt, and Palomino Substations' sites, using GIS and remote sensing data sources to conduct an offsite desktop wetlands delineation. A copy of ERM's Wetland and Waterbody Desktop Summary for the Project is included in <u>Attachment 2.D.1</u>. Sources for this desktop summary include the USFWS NWI, the USGS NHD, the Natural Resources Conservation Service Web Soil Survey, ESRI World Elevation Terrain 5-foot contours, National Agricultural Imagery Program Digital Ortho-Rectified Infrared Images dating from 2021, recent (2024) and historic digital aerial photography (National Agricultural Imagery Program, ESRI World Imagery and Google Earth).

ERM did not field delineate wetlands along the Project's routes. A field wetland delineation will be completed for the approved route alignments selected by the

Commission upon the Company receiving a final order on the Project.

ERM used a stepwise process to identify probable wetland and waterbody areas along the alternative transmission line routes as follows:

- 1. Infrared and natural color aerial photography was used in conjunction with USGS topographic maps, soils maps, and other data sources to identify potential wetland areas. Boundaries were assigned to the areas that appeared to exhibit wetland signatures based on this review (referred to here as "Interpreted Wetlands"), and a cover type was determined based on aerial photo interpretation.
- 2. To further determine the probability of a wetland occurring within a given location, polygon shapefiles for Interpreted Wetlands were digitally layered with NWI and NHD mapping and hydric soils information from the Natural Resources Conservation Service ("NRCS") soil survey database.
- 3. ERM assigned a probability of wetland occurrence based on the number of overlapping data layers (i.e., indicators of potential wetland presence) in any given area (Table D-1).

| Table D-1 Culpeper Technology Zone 230 kV Loop and Lines #2 and #1065 Conversion Project Wetland Probability Criteria | | | | | | | |
|---|--|--|--|--|--|--|--|
| Probability Class | Probability Class Criteria | | | | | | |
| High | Areas where layers of hydric soils, Interpreted Wetlands, and NWI data overlap | | | | | | |
| Medium/High | Areas where NWI data overlaps hydric soils; or NWI data overlaps Interpreted Wetlands with or without partially hydric soils; or hydric soils overlap Interpreted Wetlands | | | | | | |
| Medium | Interpreted Wetlands with or without overlap by partially hydric soils | | | | | | |
| Medium/Low | Hydric soils only; or NWI data with or without overlap by partially hydric soils | | | | | | |
| Low | Partially hydric soils only | | | | | | |
| Very Low | Non-hydric soils only | | | | | | |

Using the above criteria, wetland and waterbody occurrence probabilities ranging from very low to high were identified for each route, with acres of affected wetland calculated by probability class and cover type. The probability of wetland and waterbody occurrence increases as multiple indicators overlap toward the "high" end of the probability spectrum as shown in Table D-1. The medium to high probability categories were selected as the most reliable representation of in-situ conditions due to overlapping data sets. Results for these wetland probability classes are presented below.

Wetlands in the study areas are predominantly forested. Within the Mt. Pony and Tech Park study area, wetlands are associated with Mountain Run, Sumerduck Run, Dry Run, and Potato Run, with large areas of palustrine forested ("PFO") wetlands located in the central and southern portion of the study areas. Within the Oak Green Rebuild and Relocation study area, most wetlands are palustrine emergent ("PEM") wetlands associated with tributaries to the Rapidan River, including Long Branch and unnamed tributaries, and

forested wetland associated with an unnamed, intermittent tributary to Mountain Run. Wetlands within the Remington Rebuild study area are mainly forested associated with an unnamed, intermittent tributary to Tinpot Run.

For ease of reference, wetlands and waterbodies of medium or higher probability crossed by the Proposed and Alternative Routes are summarized in Tables D-2, D-3, and D-4.

Mt. Pony Routes

| Table D-2 Culpeper Technology Zone 230 kV Loop and Lines #2 and #1065 Conversion Project Del technology Zone 230 kV Loop and Lines #2 and #1065 Conversion Project | | | | | | |
|--|-----|-----|--|--|--|--|
| Aquatic Resource Classification Mt. Pony Route 1 (acres) Mt. Pony Route 2 (acres) | | | | | | |
| Palustrine Forested (PFO) | 5.7 | 5.5 | | | | |
| Palustrine Scrub-shrub (PSS) | 0.2 | NA | | | | |
| Palustrine Emergent (PEM) | 0.8 | 2.9 | | | | |
| Palustrine Unconsolidated Bottom (PUB) | NA | NA | | | | |
| Riverine | 0.2 | 0.3 | | | | |
| Total | 6.8 | 8.7 | | | | |

a Inclusive of the 230 kV Mt. Pony Lines and the Mt. Pony Substation.

b The sum of the addends may not equal the totals due to rounding.

c NA = Not applicable due to absence of a wetland type within the Project footprint

Mt. Pony Proposed Route (Route 1)

Based on the wetland desktop delineation method described above, the Mt. Pony Proposed Route right-of-way encompasses approximately 6.8 acres of wetlands and waterbodies, including 5.7 acres of PFO wetlands, 0.8 acre of PEM wetlands, 0.2 acre of palustrine scrub-shrub ("PSS") wetlands, and 0.2 acre of riverine features.

Mt. Pony Alternative Route 2 (Route 2)

Based on the wetland desktop delineation method described above, the Mt. Pony Alternative Route 2 right-of-way encompasses approximately 8.7 acres of wetlands and waterbodies, including 5.5 acres of PFO wetlands, 2.9 acres of PEM wetlands, and 0.3 acre of riverine features.

Tech Park Routes

| Table D-3 | | | | | | | | |
|---|---|-----|-----|--|--|--|--|--|
| Culpeper Technology Zone 230 kV Loop and Lines #2 and #1065 Conversion Project | | | | | | | | |
| Desktop-Delineated Wetlands Crossed by the Tech Park Proposed and Alternative Routes ^{a,b,c} | | | | | | | | |
| Aquatic Resource Classification | Aquatic Resource ClassificationTech Park Route 1 (acres)Tech Park Route 2 (acres)Tech Park Route 3 (acres) | | | | | | | |
| Palustrine Forested (PFO) | 1.0 | 1.0 | 1.1 | | | | | |

| Palustrine Scrub-shrub (PSS) | NA | NA | NA |
|---|-----|-----|-----|
| Palustrine Emergent (PEM) | 0.3 | NA | NA |
| Palustrine Unconsolidated Bottom (PUB) | NA | NA | NA |
| Riverine | 0.1 | 0.1 | 0.1 |
| Total | 1.4 | 1.1 | 1.2 |

a Inclusive of the Chandler, McDevitt, and Palomino Substations.

b The sum of the addends may not equal the totals due to rounding.

c NA = *Not* applicable due to absence of a wetland type within the Project footprint

Tech Park Proposed Route (Route 1)

Based on the wetland desktop delineation method described above, the Tech Park Proposed Route right-of-way encompasses approximately 1.4 acres of wetlands and waterbodies, including 1.0 acres of PFO wetlands, 0.3 acre of PEM wetlands, and 0.1 acre of riverine features.

Tech Park Alternative Route 2 (Route 2)

Based on the wetland desktop delineation method described above, the Tech Park Alternative Route 2 right-of-way encompasses approximately 1.1 acres of wetlands and waterbodies, including 1.0 acres of PFO wetlands and 0.1 acre of riverine features.

Tech Park Alternative Route 3 (Route 3)

Based on the wetland desktop delineation method described above, the Mt. Pony Alternative Route 2 right-of-way encompasses approximately 1.2 acres of wetlands and waterbodies, including 1.1 acres of PFO wetlands and 0.1 acre of riverine features.

Oak Green Rebuild and Relocation

Based on the wetland desktop delineation method described above, the Oak Green Rebuild and Relocation Route right-of-way encompasses approximately 1.1 acres of wetlands and waterbodies, including less than 0.1 acre of PFO wetlands, 0.2 acre of palustrine unconsolidated bottom ("PUB") open water features, 0.4 acre of PEM wetlands, and 0.5 acre of riverine features. Of the 1.1 acres of wetlands, 0.2 acre of wetlands are new impacts within the expanded right-of-way consisting of 0.1 acre of PFO wetlands, less than 0.1 acre of PEM wetlands, and 0.1 acre of riverine features.

Of the 1.1 acres of wetlands encompassed by this route, only 0.2 acre are within the proposed expanded right-of-way, with 0.9 located within the Company's existing Lines $\frac{42}{411}$ rights-of-way.

Remington Rebuild

Based on the wetland desktop delineation method described above, the Remington Rebuild Route right-of-way encompasses approximately 3.1 acres of wetlands and waterbodies, 3.0 acres of PEM wetlands and 0.1 acre of riverine features. The Remington Rebuild is completely within existing right-of-way, so no new impacts to waterbodies are anticipated.

All wetlands will require protective matting to be installed to support construction vehicles, equipment, and materials during construction. While most wetlands are anticipated to be spanned, with impacts limited to temporary construction impacts, permanent impacts would include any necessary structure placement within wetlands and clearing and conversion of PFO/PSS-type wetlands to PSS or PEM wetland types after construction is complete. This conversion would reduce riparian buffer benefits such as stream bank stabilization and erosion control, nutrient and sediment filtration, floodwater storage and peak flow reduction, and water temperature changes due to loss of shading. Construction impacts from the transmission lines on PEM and riverine wetlands would be temporary and would be restored to pre-construction conditions when construction is complete. Within PFO and PSS wetlands, vegetation will be allowed to return to maintained right-of-way heights, consistent with open meadow and/or shrub-scrub habitat, after construction is completed, which would provide some filtration and stabilization to protect waterbodies from runoff.

Prior to construction, the Company will delineate wetlands and other waters of the United States using the *Routine Determination Method*, as outlined in the *1987 Corps of Engineers Wetland Delineation Manual* and methods described in the *2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual*: *Eastern Mountains and Piedmont Region* (Version 2.0). The Company will obtain any necessary permits to impact jurisdictional resources. The Company has sited structures to avoid wetlands and streams to the extent practicable. Temporary impacts will be restored to pre-existing conditions, and permanent impacts will be mitigated for in accordance with all applicable federal and state regulations and laws. The Project is expected to require a Virginia Water Protection general permit, a Nationwide Permit 57, and a VMRC non-tidal stream crossing permit. A JPA will be submitted for further evaluation and final permit need determination by DEQ, VMRC, and the Corps.

E. Floodplains

As depicted on the Federal Emergency Management Agency's ("FEMA") online Flood Insurance Rate Maps # 51061C0416D and 51061C0420D (effective dates 4/25/2024), 51047C0175D, 51047C0226D, 51047C0230D, 51047C0250D, and 51047C0375D (effective dates 2/26/2021), 51137C0025E, 51137C0020E, and 51137C0175E (effective dates 5/17/2022), the Project study area contains flood zone hazard area Zone A, the 100year floodzone, and Zone AE, around Mountain Run and its tributaries, Meadowbrook Run and its tributaries, Dry Run and its tributaries, Sumerduck Run and its tributaries, Potato Run and its tributaries, Rapidan River, Long Branch, Raccoon Branch, and tributaries of Tinpot Run. The Company will coordinate with the local floodplain coordinators as required.

F. Solid and Hazardous Waste

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

Sites regulated by the EPA under the Clean Air Act ("CAA") Compliance Monitoring Program, Toxic Release Inventory ("TRI"), National Pollutant Discharge Elimination System ("NPDES"), and RCRA, and sites regulated by the DEQ under the Air, Solid Waste, Virginia Pollutant Discharge Elimination System ("VPDES"), Voluntary Response Program ("VRP"), and Registered Petroleum Tank Facilities programs not associated with a petroleum leak, site assessment, remediation, corrective action or emergency response case are anticipated to have no effect on, and will not be affected by the Project. These sites are not discussed further.

Information on sites from the EPA and DEQ databases within a 0.5-mile buffer of the rights-of-way of the route alternatives are summarized in Table F-1 below with locations depicted in <u>Attachment 2.F.1</u>.

| TABLE F-1 Culpeper Technology Zone 230 kV Loop and Lines #2 and #1065 Conversion Project Environmental Regulated Facilities and Hazardous Waste/Petroleum Release Sites within 0.5 Mile | | | | | | | | |
|---|-----------------------------|---------------------|-----------------------------|---------------------|---------|---------------------------|-----------|--|
| | Mt. Pony | Routes ^a | Tech Park | Routes ^b | | Oak Green | Remington | |
| Site Type | Proposed Route (Route 1) | Route 2 | Proposed Route (Route 1) | Route 2 | Route 3 | Rebuild and Relocation | Rebuild | |
| Waste | 1 | 2 | 15 | 18 | 18 | 0 | 0 | |
| Toxics | 0 | 0 | 0 | 1 | 1 | 0 | 0 | |
| Land | 0 | 0 | 6 | 8 | 8 | 0 | 0 | |
| Air | 6 | 5 | 15 | 15 | 15 | 0 | 2 | |
| Water | 4 | 8 | 8 | 10 | 10 | 2 | 1 | |
| Solid Waste Facilities | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Petroleum Facilities | 3 | 3 | 22 | 26 | 26 | 1 | 2 | |
| Petroleum Releases | 3 | 3 | 15 | 16 | 16 | 1 | 1 | |
| Total ^c | 17 | 21 | 81 | 92 | 94 | 4 | 6 | |

^a The Mt. Pony Substation is included in the route analysis.

^b The Chandler, McDevitt, and Palomino Substations are included in the route analysis.

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

Notes

Waste (Active and Inactive RCRA Facilities that handle or generate hazardous wastes)
Toxics (TRI Regulated facilities that handle and release toxic substances to the environment)
Land (Site cleanup under Superfund, RCRA or Brownfield programs, and/or DEQ VRP or Pollution Response program)
Air (EPA and DEQ regulated facilities with a release of pollutants to the air)
Water (EPA and DEQ regulated facilities that discharge or process water to surface water)
Solid Waste Facilities (Former and existing landfills)
Petroleum Facilities (Regulated petroleum storage facilities)
Petroleum Releases (Typically associated with storage tank releases)

Superfund and Brownfield sites are the only types of sites evaluated that would potentially impact the Project from a distance of up to 0.5 mile, while other site types would need to be closer to a route alternative to potentially impact the Project. Based on the most recent available data in the EPA's "Cleanups in My Community" database, no Brownfield or Superfund sites are located within 0.5 mile of the Proposed or Alternative Routes.

To further evaluate the potential impact to the routes, ERM also assessed the sites within 1,000 feet of the route alternative rights-of-way (Table F-2). The 1,000 feet buffer was used to account for discrepancies between the EPA and VDEQ point data and the actual location of a hazardous waste and/or petroleum release site. Additional review of these sites within 1,000 feet was completed to identify any sites whose actual location may be within 200 feet of a route alternative, as those sites have a higher potential of contaminated media being encountered by the Project.

| TABLE F-2 Culpeper Technology Zone 230 kV Loop and Lines #2 and #1065 Conversion Project Environmental Regulated Facilities and Hazardous Waste/Petroleum Release Sites within 1,000 Feet | | | | | | | |
|---|-----------------------------|---------------------|-----------------------------|-----------------------|---------|---------------------------|-----------|
| | Mt. Pony | Routes ^a | Tech Park | a Routes ^b | | Oak Green | Remington |
| Site Type | Proposed Route (Route 1) | Route 2 | Proposed Route (Route 1) | Route 2 | Route 3 | Rebuild and Relocation | Rebuild |
| Waste | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Toxics | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Land | 0 | 2 | 1 | 1 | 1 | 0 | 0 |
| Air | 1 | 1 | 4 | 4 | 4 | 0 | 1 |
| Water | 2 | 3 | 6 | 5 | 5 | 0 | 1 |
| Solid Waste Facilities | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Petroleum Facilities | 1 | 1 | 2 | 3 | 3 | 0 | 2 |
| Petroleum Releases | 0 | 1 | 1 | 2 | 2 | 0 | 0 |
| Total ^c | 4 | 8 | 14 | 15 | 15 | 0 | 4 |

^a The Mt. Pony Substation is included in the route analysis.

^b The Chandler, McDevitt, and Palomino Substations are included in the route analysis.

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

Notes

Waste (Active and Inactive RCRA Facilities that handle or generate hazardous wastes)
Toxics (TRI Regulated facilities that handle and release toxic substances to the environment)
Land (Site cleanup under Superfund, RCRA or Brownfield programs, and/or DEQ VRP or Pollution Response program)
Air (EPA and DEQ regulated facilities with a release of pollutants to the air)
Water (EPA and DEQ regulated facilities that discharge or process water to surface water)
Solid Waste Facilities (Former and existing landfills)
Petroleum Facilities (Regulated petroleum storage facilities)
Petroleum Releases (Typically associated with storage tank releases)

Potential impacts of the sites within 200 feet of a route alternative are discussed below and in Table F-3.

EPA Regulated Sites

There are two EPA-regulated NPDES sites and one EPA-regulated air site located within 200 feet of the routes. However, since both sites are regulated for monitoring purposes and no reported contamination releases are affiliated with either site, no further review of EPA regulated sites was conducted.

DEQ Regulated Sites

ERM reviewed DEQ Petroleum Release, Voluntary Remediation Program (VRP), and Pollution Response Program (PREP) databases to identify sites within 200 feet of the routes. One PREP site and one petroleum release site (the exact location of which could not be confirmed) were identified within or potentially within 200 feet of the route alternatives. Additional information on these sites is summarized in Table F-3 and in the text below.

| TABLE F-3 Culpeper Technology Zone 230 kV Loop and Lines #2 and #1065 Conversion Project ^a Environmental Regulated Facilities and Hazardous Waste/Petroleum Release Sites within 200 Feet (with included site descriptions when applicable) | | | | | | | | |
|---|----------------------|-------------------------|---|--|--|---------------|--|--|
| Site Name | Site Type | Regulatory Authority | Most Proximate Route ^a | Distance from Route (feet) | Gradient from Project (up/down/side) | Agency Status | | |
| Tanker Liquid Asphalt Spill - Slurry Pavers (IR 306549) | PREP | DEQ | Mt. Pony Route 2 | 150 feet | Side-gradient | Closed (2022) | | |
| SWIFT Facility (PC 19954109) | Petroleum Release | DEQ | Tech Park Route 2/Tech Park Route 3 | Unknown, but within parcel crossed by route alternative | Upgradient | Closed (1994) | | |

Tanker Liquid Asphalt Spill – Slurry Pavers

The Tanker Liquid Asphalt Spill - Slurry Pavers PREP site is located approximately 150 feet west of Mt. Pony Alternative Route 2 along Zachary Taylor Highway. The site is associated with one pollution-response case (IR 306549) involving the release of liquid asphalt from an overturned tanker vehicle. Based on review of DEQ files, approximately 1,800 gallons of liquid asphalt were spilled along the Virginia Department of Transportation ("VDOT") right-of-way. Impacts to surface water bodies or storm drain inlets were not reported. The spilled material was mixed with a sediment mixture prior to being recovered and transported offsite. The site was closed by the DEQ in September 2022.

The site is estimated to be located hydraulically side-gradient of Mt. Pony Alterative Route 2. Due to the reported extent of contamination and hydraulic gradient, it is not anticipated that soil and/or groundwater is impacted in the immediate area of the routes. However, should previously unidentified contamination be observed during Project construction, the Company will implement its standard response and reporting procedures.

SWIFT Facility

The SWIFT Facility petroleum release site is potentially located within 500 feet of both Tech Park Route 2 and Tech Park Route 3. While the exact location of the release is not known, the site's parcel boundary is intersected by Tech Park Route 2 from milepost (MP) 0.4 to 0.5 and intersected by Tech Park Route 3 from MP 0.4 to 0.7. The site is associated with a petroleum release case (PC 19954109) reported in 1994. Information regarding the exact location of the petroleum release at the site, or the potential extent of contamination to soil and/or groundwater was not available in DEQ files. The site was closed by the DEQ in 1994.

Based on the parcel, the site could be located hydraulically upgradient of Tech Park Route 2, although on the opposite side of an intermittent waterbody, and hydraulically sidegradient of Tech Park Route 3. However, due to the duration of time that has elapsed since the release (30 years), and that the site was closed by the agency, it is not anticipated that soil and/or groundwater is impacted in the immediate area of the routes. However, should previously unidentified contamination be observed during Project construction, the Company will implement its standard response and reporting procedures.

<u>Summary</u>

The PREP site and petroleum release site located or potentially located within proximity to the Project have been closed by the DEQ, which deems a case closed once there is no further risk to the general public. Proper procedures will be followed to safely identify, manage, and dispose of any suspected hazardous and contaminated media that may be encountered during Project activities in accordance with applicable federal, state, and local regulations.

Although the Project is constructing overhead transmission lines, minor subsurface work is required during installation. This disturbance occurs at discrete locations along the route,

with temporary spoils contained as they are generated. The Company has a procedure in place to safely identify, manage, and dispose of any suspected hazardous or contaminated media encountered during construction. If contaminated soil or groundwater are identified, the associated regulatory agency will be coordinated with, and the soils disposed of in accordance with applicable regulations.

Care will be taken to operate and maintain construction equipment to prevent any fuel or oil spills. Any waste created by the construction crews will be disposed of in a proper manner and recycled where appropriate and will be further detailed in the Company's stormwater pollution prevention plan, a component of the Virginia Stormwater Management Program, which falls under the purview of the DEQ.

G. Natural Heritage, Threatened and Endangered Species

Threatened and Endangered Species

On behalf of the Company, ERM conducted online database searches for threatened and endangered species in the vicinity of the Project, including the Virginia Department of Conservation and Recreation ("DCR") Natural Heritage Data Explorer ("NHDE"). The NHDE Screening Layer includes two components: Conservation Sites and Stream Conservation Sites. ERM also obtained query results from the Virginia Department of Wildlife Resources ("DWR") Fish and Wildlife Information Service ("VaFWIS"), and the USFWS Information for Planning and Consultation ("IPaC") System to identify federal-and state-listed species that may occur within the study area. Digital data were obtained from the DCR-NHDE to identify locations within the study area that potentially support protected species. Results of these queries are provided in <u>Attachment 2.G.1</u>.

The review accounted for regulatory changes and requirements associated with Tricolored bat ("TCB," *Perimyotis subflavus*) and the proposed USFWS listing of this species as federally endangered. The Company is anticipating the TCB will be listed; therefore, it assumes any regulatory changes associated with the potential listing of the TCB will affect this Project. On September 14, 2022, the TCB was proposed to be listed as Endangered by the USFWS. USFWS extended its Final Rule issuance target from September 2023 to the end of 2024. At this time, the TCB Final Rule has not been issued.

In October 2024 USFWS issued a final Northern long-eared bat ("NLEB," *Myotis septentrionalis*) and TCB Range-wide Determination Key ("DKey") to allow project proponents to assess project impacts, practicable avoidance and minimization measures, and consultation requirements under the final NLEB guidance and the eventual TCB listing ahead of the final decision. The Company will utilize the DKey to further assess project impacts and determine appropriate avoidance and minimization measures to ensure compliance with state and federal regulations when the Project enters permitting.

To obtain the most current eagle nest data, ERM reviewed the Center for Conservation Biology ("CCB") Virginia Eagle Nest Locator mapping portal, which provides information about the Virginia Bald eagle (*Haliaeetus leucocephalus*) population, including the results of the CCB's annual eagle nest survey. Based on the CCB Virginia Eagle Nest Locator mapping portal, the study area is not located within an Eagle Concentration Area, and the Project's Proposed or Alternative Routes, inclusive of the proposed substations, do not intersect any Primary or Secondary Buffers of currently documented Bald eagle nests as identified in The Bald Eagle Protection Guidelines for Virginia (2012). According to the CCB database, the eagle nest nearest to the Project is Nest ID CU9701, which was last observed to be occupied in 2003. This nest is approximately 5.1 miles west of the Oak Green Route (at MP 0.0). None of the route alternatives are within the 660-foot management buffer for the nest. The Company will work with the appropriate jurisdictional agencies to minimize impacts on this species.

Six federal- and/or state-listed or proposed threatened and endangered species have the potential to occur within the Project study area (Table G-1). For additional information, see Section 5.4.3 of the Environmental Routing Study.

| TABLE G-1 Culpeper Technology Zone 230 kV Loop and Lines #2 and #1065 Conversion Project Potential Federal-and State-Listed Species in the Project Area | | | | | | | |
|---|---------|---|---|--|--|--|--|
| Species | Status | Database | Habitat | Results | | | |
| Tricolored bat (Perimyotis subflavus) | FPE, SE | USFWS IPaC, DWR Winter Habitat and Roost Tree Map | Typically roost in trees near forest edges during summer. Hibernate deep in caves or mines in mountainous areas with warm, stable temperatures during winter. | Species not confirmed as present. Summer foraging habitat present, but no known hibernacula or maternity roost trees are documented within the Project area. The Project would require clearing of forested areas; however, given the lack of confirmed species presence, impacts are not anticipated. | | | |
| Dwarf wedgemussel (Alasmidonta heterodon) | FE, SE | USFWS IPaC | Large rivers and small streams, often burrowed into clay banks among the root systems of trees; also associated with mixed substrates of cobble, gravel, and sand. | Species not confirmed as present, and no instream work will be performed. However, shading along streambanks could be reduced due to tree clearing. Indirect impacts are anticipated if streambank shade is significantly reduced. | | | |
| Green floater (<i>Lasmigona</i> subviridis) | FPT, ST | USFWS IPaC, VaFWIS | Small to medium creeks and streams that other mussel species do not occupy; clean, fast-flowing streams and firm rubble, gravel, and sand substrates that lack siltation. | VaFWIS Search Report confirmed species presence within 2.0-mile radius of study area boundary. The Oak Green Route intersects with the Rapidan River, where both the Green floater and Yellow lance have been observed; however, no instream work will be performed. Shading along streambanks could be reduced due to tree clearing, and indirect impacts are anticipated if streambank shade is significantly reduced. | | | |
| Yellow lance (Elliptio lanceolata) | FT, ST | USFWS IPaC, VaFWIS, DCR | Depend on clean, moderately flowing water with high dissolved oxygen and found in medium-sized rivers to smaller streams. Bury deep into coarse to medium sand substrate and sometimes gravel. Move with shifting sand and settles in downstream end of stable sand and gravel bars. | VaFWIS Search Report confirmed species presence within 2.0-mile radius of study area boundary. The Oak Green Route intersects with the Rapidan River, where both the Green floater and Yellow lance have been observed; however, no instream work will be performed. As this location is only a 25-foot-wide expansion of existing 75-foot-wide right-of-way, changes to shading along streambanks due to tree clearing would be minimal, and indirect impacts are anticipated only if streambank shade is significantly reduced. | | | |

| TABLE G-1 Culpeper Technology Zone 230 kV Loop and Lines #2 and #1065 Conversion Project Potential Federal-and State-Listed Species in the Project Area | | | | | | | |
|---|----------|----------|--|--|--|--|--|
| Species | Status | Database | Habitat | Results | | | |
| Loggerhead shrike (<i>Lanius ludovicianus</i>) | ST | VaFWIS | Prefers grazed pastures for nesting purposes and shrub/open forest habitats during winters. For breeding season, the species prefers open country with shrubs, scrub, and scattered trees. | VaFWIS Search Report listed as potentially present. Impacts to grassland habitats will be minimal. No impacts are anticipated. | | | |
| Torrey's mountain-mint (<i>Pycnanthemum torreyi</i>) | ST | DCR | Dry, rocky or sandy woodlands and clearings. Occurs on both extremely acidic and strongly basic substrates. | Species not confirmed as present, and potential habitat is likely not present. | | | |
| Federal/State Status: FE Federally listed as end | langered | | FT Federally listed as threatened | FPE Federally proposed as endangered | | | |
| SE State listed as endange | ered | | ST State listed as threatened | FPT Federally proposed as threatened | | | |

Within the Project study area and/or within a 2.0-mile radius of the study area, database queries identified two federally listed species and two species with a federally proposed listing under the Endangered Species Act ("ESA"), each of which are also state-listed species, that could potentially occur in the study area: Dwarf wedgemussel (*Alasmidonta heterodon*), Yellow lance (*Elliptio lanceolata*), TCB, and Green floater (*Lasmigona subviridis*). The federal listing of the TCB and the Green floater has been proposed but they have not been officially listed. Loggerhead shrike (*Lanius ludovicianus*) and Torrey's mountain-mint (*Pycnanthemum torreyi*) are state-listed species, which are not federally listed, identified that have the potential to occur within the study area and/or within a 2.0-mile radius of the study area.

All six of these species were identified by the DWR, the DCR Division of Natural Heritage ("DNH"), and/or USFWS databases as having potential occurrence within the Project study area, and the DWR, VaFWIS, and DCR data identified Yellow lance, Green floater, and Loggerhead shrike as species that have confirmed occurrences within a 2.0-mile buffer around the study area. The Rapidan River is classified as T&E Waters for the Yellow lance and Green floater, meaning they are rivers that contain documented occurrences of federal-or state-listed species and their habitat. The precise locations of these documented recordings within the rivers are not available, however, no direct instream impacts are anticipated, and indirect stream impacts from limited tree clearing of the expanded 25 feet of right-of-way would be minimal from the Oak Green Rebuild..

Natural Heritage Resources

On behalf of the Company, ERM submitted the Project to the DCR-DNH for review. The DCR completed its review on October 28, 2024, as discussed in detail below (see <u>Attachment 2.G.1</u>). DCR-DNH concluded that the Project will not affect any documented state-listed insects and does not cross any State Natural Area Preserves under DCR's jurisdiction. However, according to a DCR-DNH biologist, "several rare plants [and one state-listed plant species, Torrey's mountain-mint], 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)." See <u>Attachment 2.G.1</u>.

Due to the potential for the study area to support populations of natural heritage resources, DCR-DNH recommends an inventory for rare plants associated with diabase glades. With the survey results, DCR-DNH indicates that it can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to documented resources.

<u>Diabase Glades</u>

With regard to DCR-DNH's recommendation for an inventory for rare plants associated with diabase glades, the Company notes, for context, that diabase refers to unique plant communities that form in certain circumstances in the presence of underlying igneous diabase rock. Most diabase associated plant species, whose occurrence in Virginia is often associated with diabase derived soils, are not formally listed as endangered or threatened. One plant species having the potential to occur is Torrey's mountain-mint, which is listed as threatened in Virginia. Most of these plants (with the exception of Torrey's mountain-mint) and associated habitat, while considered rare by DCR-DNH, are not protected by any regulations.

Impacts to Diabase Flatrocks are primarily associated with quarrying and road construction, which have a very direct permanent impact on the habitats within a defined Project area. Electric transmission lines, as proposed in the Application for this Project, typically do not have a significant permanent impact outside of structure foundation locations. Habitat conversion is possible but limited to conversion of forested habitat emergent/shrub habitat within the transmission line corridor. Clearing activities are limited to utilizing equipment on mats to minimize land disturbance, stumps are cut to within three inches of the ground surface and left in place. Overall, land disturbance and impacts to vegetation are limited. Upon completion of the transmission line installation, the rights-of-ways will be maintained as a natural emergent/scrub shrub habitat that regime. The successional conditions created and maintained within transmission rights-of-ways- resemble semi-open habitat that mirror a natural disturbance regime. The permanent impacts associated with the proposed Project are discrete and limited to the structure foundation locations only.

Diabase communities are most likely to occur in semi-open areas that have a disturbance regime similar to that of pre-settlement wildfires, and that also have not been heavily infested by invasive plants. Areas that do not receive this type of intermediate disturbance

(including areas that are subject to intense disturbance) typically do not provide high quality habitat for the diabase associated species.

Dominion Energy Virginia strives to be in compliance with local, state, and federal regulations. Rare species are not classified as endangered or threatened, as such, do not have regulatory requirements to complete inventory surveys. A requirement to inventory these resources prior to construction would result in significant delay to the construction schedule and increased project costs.

Due to the low likelihood of diabase plants in the Project area, and the lack of any legal status via federal or state law for the majority of these species (excluding Torrey's mountain-mint), the Company has considered the DCR-DNH recommendations and concludes that DCR-DNH's recommendation for an inventory for rare plants associated with diabase glades in the Project area is not applicable. In lieu of conducting an inventory of these resources prior to construction, Dominion Energy Virginia suggests that it provide the Company's construction team with information about the rare diabase plant species and coordinate with DCR-DNH if a species of concern is observed.

Karst Landscape

Karst is a landscape developed in marble, dolomite, limestone, or other soluble rocks. It is characterized by sinking or losing streams, sinkholes, springs, caves, and subsurface drainage systems. In Virginia, karst topography typically occurs in the Valley and Ridge Provinces in the western portion of the state, however smaller areas also occur in Coastal Plain, Cumberland Plateau, and Piedmont provinces. According to DCR screening layer data, portions of the Project intersect karst bedrock and have the possibility to encounter undocumented caves, sinkholes, or other sensitive karst features in the area.

Most karst bedrock areas that are crossed by the route alternatives contain existing infrastructure (i.e., roads, existing transmission lines, and buildings), so additional impacts on these areas are not anticipated. To reduce potential impact to the karst, groundwater, and surface water resources as well as any associated fauna and flora, DCR suggests minimizing surface disturbance, strict use of erosion and sediment control measures, and adherence to best management practices appropriate. If karst features such as sinkholes, caves, disappearing streams, and large springs are encountered during the Project, the Company will coordinate as appropriate with the Virginia DCR Division of Natural Heritage Karst Protection Coordinator, to document and minimize adverse impacts.

Conservation Sites

In the review of the Project, DCR-DNH indicated that two conservation sites are present within the study area – Southern Culpeper Diabase Flatwoods and the Mount Pony Conservation Site.

Southern Culpeper Diabase Flatwoods Conservation Site

The Southern Culpeper Diabase Flatwoods Conservation Site consists of 1,692 acres of land with a conservation rating of B2, indicating a site of very high

significance. The natural community type and rare plant species associated with this conservation site are the Piedmont Mafic Barren and the Downy phlox (*Phlox pilosa*), respectively. The Piedmont Mafic Barren is a natural community that occupies xeric bedrock exposures and is characterized as herbaceous with scattered and stunted trees. Plants such as White ash (*Fraxinus americana*) and Eastern red cedar (*Juniperus virginiana*) are typical woody plants associated with this community. Low strata plants include Eastern prickly pear (*Opuntia humifusa*), Quill fameflower (*Phemeranthus teretifolius*), Polygonum tenue (*Polygonum tenue*), Dwarf dandelion (*Krigia virginica*), Pennsylvania sledge (*Carex pensylvanica*), and Poverty grass (*Danthonia spicata*). This natural community is classified as S1 (Critically Imperiled) in Virginia.

The Downy phlox is a rare plant in Virginia that is not listed as threatened or endangered but is classified as S1 in the state. This plant exists in dry to less often mesic open forests, clearings, and road banks and thrives in rocky or clay hardpan soils.

Mt. Pony Route 2 crosses through the center of the Southern Culpeper Diabase Flatwoods Conservation Site for approximately 2.1 miles (between MPs 0.0 and 2.1) and encompasses approximately 25.5 acres. The portion of the conservation site crossed by the line consists of forest fragments and between open fields. Approximately 1.5 miles (70% of the total site crossing) of the conservation site crossing by Mt. Pony Route 2 is through recently cleared land.

According to aerial photography, silviculture and agricultural activities have historically occurred within the Southern Culpeper Diabase Flatwoods Conservation Site. Due to these prior land disturbances, it is unlikely that the Project would cause additional impacts to the conservation site or the resources associated with the site (i.e., Piedmont Mafic Barren natural community and the Downy phlox).

Once a final route is approved by the SCC and the Company enters the final engineering, design, and permitting phase of this project, the Company will work with DWR and other appropriate jurisdictional agencies to minimize impacts on this species as required by permit approvals.

Mount Pony Conservation Site

The Mount Pony Conservation Site consists of 1,013 acres of land with a conservation rating of B2, indicating a site of very high significance. There are two natural community types and one rare plant associated with this conservation site – the Piedmont Mafic Barren, Northern Hardpan Basic Oak - Hickory Forest, and Narrow-leaf blue curls (*Trichostema setaceum*).

The Piedmont Mafic Barren community type is explained above as it relates to the Southern Culpeper Diabase Flatwoods Conservation Site. The Northern Hardpan Basic Oak - Hickory Forest is a natural community type that inhabits submesic to subxeric uplands over basic igneous and metamorphic rocks (e.g., diabase, gabbro, amphibolite, and metabasalt). The mixed forest canopy includes mostly White oak (*Quercus alba*), Northern red oak (*Quercus rubra*), Black oak (*Quercus velutina*), Chestnut oak (*Quercus montana*), Post oak (*Quercus stellata*), Pignut hickory (*Carya glabra*), Red hickory (*Carya ovalis*), Shagbark hickory (*Carya ovata*), Mockernut hickory (*Carya tomentosa*), White ash, and Tulip-tree (*Liriodendron tulipifera*). Herbaceous plants such as Eastern redbud (*Cercis canadensis var. canadensis*), Eastern hop-hornbeam (*Ostrya virginiana*), and Flowering dogwood (*Cornus florida*) are common in the understory. Herb layers are typically patchy but species-rich and support diverse mixtures of both mesophytic and dry-site species. This community is classified as S2 in Virginia.

The Narrow-leaf blue curls is a rare plant in Virginia that is not listed as threatened or endangered but is classified a S2 in the state. This plant exists in shale, sandstone, and mafic barrens and outcrops in the mountains and Piedmont and sandy woodlands and clearings in the Coastal Plain.

No routes cross the Mount Pony Conservation Site, so no impacts to the site or its resources are anticipated. The conservation site is approximately 0.1 mile southwest of the Mt. Pony Proposed Route and approximately 0.3 mile northeast of Mt. Pony Alternative Route 2.

Stream Conservation Sites

DCR-DNH indicated that three Stream Conservation Sites (SCSs) are present within the study area – Sumerduck Run SCS, Rapidan River at Rt. 522 SCS, and Rappahannock River - Hubbard Run SCS. SCSs are given a biodiversity ranking on a scale of 1 through 5, with 1 being the most significant. This ranking is based on the rarity, quality, or number of natural heritage resources.

Sumerduck Run SCS

The Sumerduck Run SCS consists of 538 acres of land with a conservation rating of B3, indicating a site of high significance. The natural community type associated with this SCS is designated as an Aquatic Natural Community (NP-Rapidan-Upper Rappahannock Second Order Stream) in Virginia Commonwealth University's (VCU) Interactive Stream Assessment Resource (INSTAR) database. VCU has classified the streams within the SCS as Grade B (indicating relative regional significance) with a "Healthy" stream designation per the INSTAR Virtual Stream Assessment (VSS) score. VDCR also indicates evidence that streams within this SCS contribute to high biological integrity at the watershed level (6th order), due to the presence of multiple native/non-native, pollution-tolerant/intolerant and rare, threatened or endangered fish and macroinvertebrate species.

No routes cross the Sumerduck Run SCS, so no impacts to the site or its resources are anticipated. Mt. Pony Alternative Route 2 is nearest the SCS at approximate MP 0.2 and is approximately 82 feet southwest of the centerline of the route.

Although the SCS is nearby the route, the portion of the SCS nearest to the route has been cleared recently, so it is unlikely that resources have been preserved in the area.

Rapidan River at Rt. 522 SCS

The Rapidan River at Rt. 522 SCS consists of 1,016 acres of land with a conservation rating of B3, indicating a site of high significance. There is a natural community type and federal-/state-listed species associated with this SCS. The natural community type associated with this site is designated as an Aquatic Natural Community (NP-Rapidan-Upper Rappahannock Fifth Order Stream) in the VCU INSTAR database. VCU has classified the streams within the SCS as Grade B (indicating relative regional significance) with a "Healthy" stream designation per the INSTAR VSS score. VDCR also indicates evidence that streams within this SCS contribute to high biological integrity at the watershed level (6th order), due to the presence of multiple native/non-native, pollution-tolerant/intolerant and rare, threatened or endangered fish and macroinvertebrate species.

The Yellow lance is a federally threatened and state-threatened species in Virginia and is a resource associated with the Rapidan River at Rt. 522 SCS. The Yellow lance is a species of freshwater mussel that prefers clean and fast-flowing waters where substrate consists of gravel, rubble, and sand. They can be found buried in substrate in shallow riffle and shoal areas.

The Rapidan River at Rt. 522 SCS is crossed by the Oak Green Rebuild and Relocation; however, no instream construction will be required. Where the route crosses the Rapidan River, the existing right-of-way will be expanded from 75 feet to 100 feet, so additional tree/vegetation clearing along the streambank will be required but limited to the additional 25 feet wide right-of-way. If shade is significantly reduced along the streambanks due to right-of-way clearing, water temperatures and sediment may increase in the area adjacent to the tree clearing, which could adversely impact the presence of the Yellow lance. However, based on the limited area of new tree clearing, significant impacts to water temperatures and sediment are not anticipated. Impacts to the SCS and its associated resources may occur due to the right-of-way clearing and maintenance along streambanks, so the Company would coordinate with DCR to determine if surveys are warranted in the study.

Rappahannock River - Hubbard Run SCS

The Rappahannock River - Hubbard Run SCS consists of 1,010 acres of land with a conservation rating of B3, indicating a site of high significance. There is one federal-/state-listed species associated with this SCS – the Yellow lance. Because the Yellow lance and its habitat have been documented within the Rappahannock River, the river has been classified as T&E Waters.

The Rappahannock River – Hubbard Run SCS is crossed by the Remington Rebuild between MPs 0.0 and 0.2; however, no instream construction will be required. Because all construction will occur within existing right-of-way, and no new clearing will be necessary, no permanent impacts are anticipated for this SCS. All necessary erosion and sediment control measures as described in Section 2.H will be implemented to reduce impacts to streambanks as well.

Ecological Cores

Ecological cores (cores) are areas of 100-acres or more of contiguous natural land cover associated with areas of high ecological value. They are ranked from C1 (Outstanding) to C5 (General). Smaller areas of continuous interior cover (i.e., 10 to 99 acres), called habitat fragments, support ecological cores and provide similar functions and values. As part of its official review, DCR-DNH found that the Mt. Pony Route 1; Tech Park Routes 1, 2, and 3; Oak Green Rebuild; and Remington Rebuild do not intersect ecological cores. Only one route, Mt. Pony Alternative Route 2, intersects ecological cores of ranks C2 (very high integrity) and C5 (general integrity).

During the Project routing process, ERM attempts to avoid higher-ranking ecological cores to the extent practicable, while also taking into consideration other routing constraints. When avoidance is not possible, ERM attempts to minimize the crossing length of higher-ranking cores, collocate with existing linear corridors, cross previously cleared or disturbed areas, and to minimize fragmentation by following ecological core boundaries to the extent practicable. Where cores are crossed, the habitat is not fully lost as the transmission lines are maintained as open meadow/shrub habitat that is consistent with successional habitat.

Per the recommendation of DCR⁹ (see <u>Attachment 2.G.1</u>), no formal impact analysis is provided for the cores ranked C5 that are crossed. Ecological cores crossed by the Proposed and Alternative Routes are summarized in the Table G-2 below.

| Table G-2 Culpeper Technology Zone 230 kV Loop and Lines #2 and #1065 Conversion Project Ecological Cores Crossed by Mt. Pony Alternative Route 2 | | | | | | | | | |
|---|--|-------|------|-------|--|--|--|--|--|
| Core Rank | Core Rank Core ID Total Core Acres Acres Crossed Miles Crossed | | | | | | | | |
| Mt. Pony Alternative Ro | Mt. Pony Alternative Route 2 | | | | | | | | |
| C2 (Very High) | 43569 | 1,349 | 19.9 | 1.6 | | | | | |
| | 43989 | 43 | 3.2 | 0.3 | | | | | |
| C5 (General) | 43867 | 67 | 0.5 | < 0.1 | | | | | |
| | 43310 | 98 | 7.9 | 0.7 | | | | | |

⁹ Nicki Gustafson, DCR e-mail message to ERM, May 23, 2024.

Mt. Pony Alternative Route 2, the only route to cross ecological cores, would impact a total of approximately 31.5 acres (2.6 miles) of cores. Approximately 0.6 mile (35% of the total core crossing) of the crossing in the northern portion of Core ID 43569 (ranked C2) is through land that is currently deforested and was cleared between 2011 and 2013. In the southern portion of Core ID 43569, the route crosses approximately 0.3 mile (16% of the total core crossing) of land within the core that is currently deforested and was cleared between 2013 and 2017. According to historical and recent aerial imagery, a significant amount of land (approximately 481.9 acres, 36% of the core) within this C2 core has been altered by land clearing and has likely lost ecological value since the initial ranking of C2. Additionally, the route would not intersect Sumerduck Run, which is a significant resource within the core.

The Company will work with the appropriate jurisdictional agencies to minimize any impacts on Conservation Sites, SCSs, ecological cores, and protected species during implementation of the Project. Additional analysis on ecological core impacts can be found in the Environmental Routing Study.

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

For impacts on wildlife habitat (forested, agricultural, open space, and open water/waterbodies), see Section K. No other natural heritage resources (habitat of rare, threatened, or endangered species, unique or exemplary natural communities, or significant geological formations) were identified within the study area by the DCR.

New and updated information is continually added to DCR's Biotics database. The Company shall re-submit Project information and a map for an update on this natural heritage information if the scope of the Project changes and/or six months have passed before this information is utilized.¹⁰

H. 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 February 27, 2024, is provided as <u>Attachment 2.H.1</u>. According to the approval letter, coverage is effective from February 27, 2024, through February 26, 2025. The Company is in coordination with DEQ to ensure coverage is maintained and will continue to operate under Standards & Specifications.

¹⁰ The Company updated this commitment consistent with discussions held between Company and DCR-DNH representatives on August 23, 2022.

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

ERM conducted a Stage I Pre-Application Analysis ("Stage I Analysis") of potential impacts on cultural resources for the Proposed and Alternative Routes in accordance with the Virginia Department of Historic Resource's ("VDHR") *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008). A copy of the Stage I Analysis, which was provided to VDHR on February 19, 2025, is included as <u>Attachment 2.I.1</u>. For each route alternative, the analysis identified and considered previously recorded resources within the following study tiers as specified in the Guidelines:

- National Historic Landmark ("NHL") properties located within a 1.5-mile radius of each route centerline.
- National Register of Historic Places ("NRHP")-listed properties, NHLs, battlefields, and historic landscapes within a 1.0-mile radius of each route centerline.
- NRHP-eligible and -listed properties, NHLs, battlefields, and historic landscapes within a 0.5-mile radius of each route centerline.
- Qualifying architectural resources and archaeological sites located within the rightof-way for each route.

Information on cultural resources within each of these study tiers was obtained from the Virginia Cultural Resources Information System ("VCRIS").

In addition to the VCRIS, ERM collected information from the Historical Marker Database (2024), Preservation Virginia (2024), Visit Culpeper (2024), American Battlefield Trust (ABT 2024), and Historic Germanna (2013) to find locally significant resources within a 1.0-mile radius of each centerline. Five locally significant resources were identified within the relevant study tiers for the various route options during the data collection effort. ERM additionally collected information on battlefields surveyed and assessed by the National Park Service's American Battlefield Protection Program ("ABPP") (NPS 2023). No additional ABPP study areas, core areas, or potential NRHP boundaries for battlefields were identified within the relevant study tiers for the various route options through this source.

Along with a records review carried out for the four tiers as defined by VDHR, ERM also conducted field assessments of the considered aboveground resources for the route alternatives in accordance with the VDHR Guidelines. Digital photographs of each resource and views to the proposed transmission line were taken. Photo simulations were prepared to assess potential viewshed impacts from construction of the proposed transmission line for each considered resource and relevant route. For previously recorded archaeological sites under consideration, aerial photographs were examined to assess the current land condition and the spatial relationship between the sites and any existing or planned transmission lines.

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

The resources located within the right-of-way of the route alternatives may be subject to both direct impacts from placement of the transmission line across the property as well as visual impacts from changes to the viewshed introduced by the new transmission infrastructure. Resources in the 0.0-0.5-mile study tier would not be directly impacted but would likely be visually impacted unless topography or vegetation obscures the view from the resource to the transmission line. At a distance over 0.5 mile, it becomes less likely that a resource would be within line-of-sight of the new transmission facilities. Beyond 1.0 mile, it becomes even less likely that a given resource would be within line-of-sight of the Project. However, a full architectural survey (to be completed following the selection of a route) is necessary to determine which resources would be visually impacted and to survey for additional unrecorded resources.

The nature of the impacts of the route alternatives, while estimated in this study with the assistance of photo simulations, will depend on the final Project design in which the exact placement and height of transmission line structures is confirmed. As part of the forthcoming full architectural survey, Project impacts on these and any newly identified resources would be assessed. The study area for the survey would be defined based on the height of the transmission line structures, topography, tree cover, and other factors impacting line-of-sight from resources to the route.

Mt. Pony Routes

Mt. Pony Proposed Route (Route 1)

Ten aboveground historic resources were identified within the VDHR study tiers for the Mt. Pony Proposed Route (Table I-1). Construction and operation of the facilities would have no impact on three resources (023-5161, 023-5162, and 204-0070), a minimal impact on one resource (023-5055), and a moderate impact on six resources (023-0018, 023-0084, 023-5023, 023-5040, 023-5494, and 068-5007).

St. Steven's Baptist Church (023-5161) is located approximately 0.7 mile to the northnortheast of the Mt. Pony Proposed Route at MP 1.1. Zimmerman's Tavern (023-5162) is located approximately 0.7 mile to the northeast of the Mt. Pony Proposed Route at MP 1.1. Greenwood (204-0070) is located approximately 1.0 mile to the west of the Mt. Pony Proposed Route and approximately 0.9 mile to the west of the proposed Mt. Pony Substation at MP 5.2. The Mt. Pony Proposed Route would not be visible from these three resources due to intervening vegetation and distance. Thus, the route would have no impact on 023-5161, 023-5162, and 204-0070.

Brandy Station Battlefields (023-5055): 023-5055 is located approximately 640 feet to the north of the Mt. Pony Proposed Route at MP 1.1. The route would be collocated at this location with the Company's Lines #2/#70, which have been approved by the SCC to be upgraded to 230 kV, which will replace the existing transmission Lines #2/#70. The

Company's existing transmission Lines #2/#70 and #2/#2199 already intersect the battlefield in this area. The area between the resource and the route consists of an aggregate supplier quarry and plant. The route would not be visible from the public right-of-way. However, the route is likely to be visible from within the aggregate supplier plant, where ERM was not able to gain access. This visibility would only be within a small portion of the entire battlefield which is bisected by multiple existing transmission lines. In addition, the route would be collocated with the approved future upgraded 230 kV Lines #2/#70, which would be more prominent in the landscape than the existing 115 kV lines. However, because it could be visible from the aggregate supplier plant, ERM recommends that the Mt. Pony Proposed Route would have a minimal impact on 023-5055.

Battle of Morton's Ford (068-5007): The Mt. Pony Proposed Route goes through approximately 0.7 mile of 068-5007 between MP 0.0 and 0.7, from the Company's existing transmission Lines #2/2199 toward the existing Lines #2/#70. The route would be visible from the resource boundary, however, existing Lines #2/#70, #2/#2199, #70/#2199 already intersect portions of the battlefield and have affected the battlefield's viewshed to the north and east near the route. In addition, the route intersects approximately 13.0 acres of the battlefield's total 6,710 acres, which is minor in comparison to the resource as a whole. Thus, ERM recommends that the Mt. Pony Proposed Route would have a moderate impact on 068-5007.

Rose Hill (023-0018): The Mt. Pony Proposed Route is directly adjacent to 023-0018's southwestern border from MP 0.6 to MP 1.1. The Company's existing transmission Lines #2/#70 bisect the resource before connecting to the Mt. Pony Proposed Route to the west of 023-0018. The route would be visible from along the resource's southern and western boundaries. The construction of the route would add a modern element to the southern viewshed that currently consists of open fields. However, the route would likely not be visible from the resource's historic dwelling. In addition, the resource is bisected by the existing transmission line, which is visible from throughout the resource. Still, the construction of the Mt. Pony Proposed Route would introduce a modern element to a rural landscape. Thus, ERM recommends that the Mt. Pony Proposed Route would have a moderate impact on 023-0018.

Mount Pony Rural Historic District (023-0084): The Mt. Pony Proposed Route crosses through approximately 2.1 miles of 023-0084 between MP 2.4 to 4.9. The district is also located approximately 0.2 mile to the east of the proposed Mt. Pony Substation. The route would be collocated at this location with the Company's approved future Lines #2/#70 230 kV upgrade, which will replace the existing 115 kV transmission Lines #2/#70. The existing transmission lines currently bisect the district, and although the Mt. Pony Proposed Route would be visible when in close proximity, it would be collocated with the approved future 230 kV lines that will replace the existing 115 kV transmission lines. The construction of the Mt. Pony Proposed Route would add an additional modern element and expand the current footprint where it is collocated with the approved future transmission lines. However, the route would be visible from the western and southern portions of the resource. The route would be visible from the western and southern portions of the resource when driving along Rt. 3 and to the south of Rt. 3, which is privately owned. Still, the addition of the route would add modern elements inside the district's historic boundary
by collocating an additional transmission line to the future approved 230 kV transmission lines. Thus, ERM recommends that the Mt. Pony Proposed Route would have a moderate impact on 023-0084.

Mount Castle (023-5023): The Mt. Pony Proposed Route bisects 023-5023 for approximately 980 feet between MP 0.6 to approximate MP 0.8. The route would be collocated at this location with the Company's approved future Lines #2/#70 230 kV upgrade, which will replace the existing Lines #2/#70. Although the route would not be visible from the public right-of-way due to intervening vegetation, as the resource is bisected by the route, the route would be prominent from inside the boundaries of the resource, even though it would be collocated with the future approved collocated transmission lines. The route would be less visible from the northern portion of the resource, where the approved future Lines #2/#70 would be more prominent, but the route would be located behind the route. Still, the construction of the route would increase the transmission line footprint within the resource boundary. Thus, ERM recommends that the Mt. Pony Proposed Route would have a moderate impact on 023-5023.

Croftburn Farm (023-5040): The Mt. Pony Proposed Route bisects 023-5040 for approximately 0.4 mile between MP 4.5 to 4.9. The resource is located approximately 0.2 mile to the east of the proposed Mt. Pony Substation. The route would be collocated at this location with the Company's approved future Lines #2/#70 230 kV upgrade, which will replace the existing Lines #2/#70. The route would be visible from the public right-of-way, and from within the resource as it bisects the resource. Although the route would be collocated with the approved future Lines #2/#70, the construction of the route would add additional modern elements to the southeastern viewshed, as well as through the resource itself. Thus, ERM recommends that the Mt. Pony Proposed Route would have a moderate impact on 023-5040.

House (023-5494): Approximately 1.1 miles of the Mt. Pony Proposed Route is located within but along the resource 023-5494 northern and eastern parcel boundaries, between approximate MP 0.9 and 2.0. Approximately 0.9 mile of the route is collocated alongside the Company's approved future Lines #2/#70 230 kV upgrade, which will replace the existing Lines #2/#70. The route would be visible from the resource when looking to the north and to the east. The approved future Lines #2/#70 would be collocated along the resource's northern boundary, but the route along the eastern parcel boundary is not collocated with existing transmission lines. Although the existing transmission lines #2/#2199 are located approximately 0.2 mile to the east of the resource, the Mt. Pony Proposed Route would be more prominent in the landscape because of its closer proximity to the resource. Thus, ERM recommends that the Mt. Pony Proposed Route would have a moderate impact on 023-5494.

| TABLE I-1 | | | | | | | | |
|-------------------------------|--|--|------------------------------------|----------|--|--|--|--|
| Cul | Culpeper Technology Zone 230 kV Loop and Lines #2 and #1065 Conversion Project Resources in VDHR Tiers for the Mt. Pony Proposed Route ^a | | | | | | | |
| Buffer (miles) | Considered Resources | Considered Resources VDHR # Description Impact | | | | | | |
| 1.0-1.5 | National Historic Landmarks | NA | NA | NA | | | | |
| | National Register— Listed | 204-0070 | Greenwood | None | | | | |
| 0.5-1.0 | Locally Significant | 023-5161 | St. Steven's Baptist Church | None | | | | |
| 0.5-1.0 | Locally Significant | 023-5162 | Zimmerman's Tavern | None | | | | |
| | Battlefields | NA | NA | NA | | | | |
| | Historic Landscapes | NA | NA | NA | | | | |
| 0.0- 0.5 | National Register— Listed | 023-0018 | Rose Hill | Moderate | | | | |
| | National Register— Eligible | NA | NA | NA | | | | |
| | Battlefields (Potentially Eligible) | 023-5055 | Brandy Station Battlefields | Minimal | | | | |
| | National Register— | 023-5023 | Mount Castle | Moderate | | | | |
| 0.0 (within right-of- way) | Listed | 023-5040 | Croftburn Farm | Moderate | | | | |
| | National Register— | 023-0084 | Mount Pony Rural Historic District | Moderate | | | | |
| | Eligible | 023-5494 | House | Moderate | | | | |
| | Battlefields (Potentially Eligible) | 068-5007 | Battle of Morton's Ford | Moderate | | | | |

NA = not applicable; *VDHR* = *Virginia Department of Historic Resources*

^a The proposed Mt. Pony Substation is included in the Mt. Pony Proposed Route analysis.

The Stage I Analysis also considered the potential effects to archaeological resources. Three archaeological sites are located within the right-of-way associated with the Mt. Pony Proposed Route: 44CU0135, 44CU0137, and 44CU0188. 44CU0135 and 44CU0137 have not been formally evaluated for the NRHP while 44CU0188 was determined not eligible for the NRHP.

Site 44CU0135 is a late 18th to early 19th-century single dwelling site, currently unevaluated for the NRHP. Initially recorded in 2006 during a Phase I archaeological survey by Carol Tyrer, the site is classified as a single dwelling. However, the VCRIS form only mentions a concentration of domestic and architectural artifacts, with no standing structures or structural ruins (Tyrer 2006). The Mt. Pony Proposed Route is directly adjacent to the site.

Site 44CU0137 is an 18th-century road, currently unevaluated for the NRHP. The site spans approximately 0.3 miles and intersects with US 15/29. Initially recorded during a site walk in 2006, it was not formally surveyed at that time. In 2009, a site reconnaissance, including a pedestrian survey by Dovetail (Maroney 2009), confirmed that the road had remained unchanged since its initial recording. Approximately 40 feet of the proposed

centerline would bisect the northern portion of the site. The Company's existing Lines #2/#70 currently intersect approximately 20 feet of the site's northeastern most boundary. However, no proposed structures are located in the site boundary.

Site 44CU0188 is an Archaic Period temporary camp site that is ineligible for the NRHP. The site was recorded in 2017 during a Phase I archaeological survey performed by Circa (Tyrer 2017). The site was determined ineligible based on the frequency of the site type in the area and low density of artifacts. The centerline would not intersect the resource, but approximately 40 feet of the site is located within the right-of-way.

Mt. Pony Alternative Route 2

Six aboveground historic resources were identified within the VDHR study tiers for Mt. Pony Alternative Route 2 (Table I-2). Construction and operation of the facilities would have no impact on four resources (023-5041, 068-5007, 068-5033, and 204-0070) and a minimal impact on two resources (023-5040 and 023-0084).

Eckington School (023-5041) is located approximately 1.0 mile to the northeast of Mt. Pony Alternative Route 2 at MP 0.0, where the route connects with the Company's existing transmission Lines #2/#2199. Battle of Morton's Ford (068-5007) is located approximately 1.0 mile to the southeast of Mt. Pony Alternative Route 2 at MP 0.0, where the route connects with the Company's existing transmission Line #2/#2199. Rapidan River and Clark Mountain Rural Historic District (068-5033) is located approximately 1.0 mile to the southeast of Mt. Pony Alternative Route 2 at MP 0.0, where the route connects with the Company's existing transmission Line #2/#2199. Rapidan River and Clark Mountain Rural Historic District (068-5033) is located approximately 1.0 mile to the southeast of Mt. Pony Alternative Route 2 at MP 0.0, where the route connects with the Company's existing transmission Lines #2/#2199. Greenwood (204-0070) is located approximately 0.9 mile to the northwest of Mt. Pony Alternative Route 2 at MP 4.7 and approximately 0.9 mile to the west of the proposed Mt. Pony Substation. All four resources would not have any visibility towards Mt. Pony Alternative Route 2 due to intervening vegetation and infrastructure, and distance. Thus, the route would have no impact on 023-5041, 068-5007, 068-5033, and 207-0070.

Mount Pony Rural Historic District (023-0084): The Mount Pony Rural Historic District is located approximately 0.3 mile to the east of Mt. Pony Alternative Route 2 at MP 4.6 and approximately 0.2 mile to the east of the proposed Mt. Pony Substation. The top of one structure would be visible from the resource's western boundary. The route could also be visible further north. However, it would be minor in comparison to the resource as a whole. The route would not be visible from any other areas of the district. Furthermore, the Company's existing Lines #2/#70 currently bisect the resource. Because the route would not be visible from the resource, ERM recommends that Mt. Pony Alternative Route 2 would have a minimal impact on 023-0084.

Croftburn Farm (023-5040): Croftburn Farm is located approximately 0.3 mile to the east of Mt. Pony Alternative Route 2 at MP 4.6 and approximately 0.2 mile to the east of the proposed Mt. Pony Substation. The top of one structure would be visible from the resource's southwestern boundary. The route could also be visible further north, along the western edge of the resource boundary. However, it would be minor. Furthermore, the

| | | TABL | E I-2 | |
|-------------------------------|--|-----------------------------------|--|---------|
| Cu | lpeper Technology Zone 2 Resources in VD | 230 kV Loop an DHR Tiers for M | d Lines #2 and #1065 Conversion Project It. Pony Alternative Route 2 ^a | |
| Buffer (miles) | Description | Impact | | |
| 1.0-1.5 | 0-1.5 National Historic Landmarks | | NA | NA |
| | National Register— | 023-5041 | Eckington School | None |
| | Listed | 204-0070 | Greenwood | None |
| 0.5-1.0 | National Register— Eligible | 068-5033 | Rapidan River and Clark Mountain Rural Historic District | None |
| | Battlefields (Potentially Eligible) | 068-5007 | Battle of Morton's Ford | None |
| | Historic Landscapes | NA | NA | NA |
| 0.0- 0.5 | National Register— Listed | 023-5040 | Croftburn Farm | Minimal |
| | National Register— Eligible | 023-0084 | Mount Pony Rural Historic District | Minimal |
| 0.0 (within right-of- way) | National Historic Landmarks, National Register Properties (Listed and Eligible) | NA | NA | NA |

Company's existing Lines #2/#70 currently bisect the resource. Thus, ERM recommends that Mt. Pony Alternative Route 2 would have a minimal impact on 023-5040.

NA = not applicable; VDHR = Virginia Department of Historic Resources

^a The proposed Mt. Pony Substation is included in Mt. Pony Alternative Route 2

One archaeological site (44CU0135) is directly adjacent to Mt. Pony Alternative Route 2. The Mt. Pony Alternative Route 2 crossing of Site 44CU0135 would be the same as described above for the Proposed Mt. Pony Route.

Tech Park Routes

Because the majority of Tech Park Routes 1, 2, and 3 (including the McDevitt, Chandler, and Palomino Substations) share the alignment, the impacts of these routes on aboveground historic resources are identical except for one resource. The resource descriptions and impact assessments below are therefore applicable for all three Tech Park Routes, except where noted. Tech Park Route 1 mileposts are used as the reference point when describing each resource.

Table I-3 provides information on the considered resources within the VDHR study tiers for the Tech Park Lines. Construction and operation the Tech Park Lines is predicted to have no impact on thirteen resources [023-5023 (Tech Park Route 1 only), 204-0002, 204-0003, 204-0005, 204-0006, 204-0020, 204-0020-0140, 204-0021, 204-0069, 204-0070, 204-5053, 204-5067, and 204-5097], due to intervening vegetation, infrastructure, or distance. As described below, the Tech Park Routes would have a minimal impact on three resources (023-0084, 023-5040, and 204-0064).

Mount Castle (023-5023) is located approximately 0.9 mile to the southeast of the Tech Park Proposed Route at approximate MP 0.3, in an area where the route collocates with the Company's existing transmission Line #2/#70. Hill Mansion (204-0002) is located approximately 0.3 mile to the north of the Tech Park Lines at approximate MP 2.2. Saint Stephen's Episcopal Church (204-0003) is located approximately 0.5 mile to the north of the Tech Park Lines at approximate MP 2.2. Burgandine House (204-0005) is located approximately 0.3 mile to the northwest of the Tech Park Lines at approximate MP 2.2. A.P. Hill Boyhood Home (204-0006) is located approximately 0.5 mile to the northwest of the Tech Park Lines at approximate MP 2.2. Culpeper Historic District (204-0020) is located approximately 0.3 mile to the northwest of the Tech Park Lines at approximate MP 2.2. Antioch Baptist Church (204-0020-0140) is located approximately 0.5 mile to the northwest of the Tech Park Lines at approximate MP 2.2. Corrie Hill House (204-0021) is located approximately 0.7 mile to the northwest of the Tech Park Lines at approximate MP 2.2. Culpeper National Cemetery (204-0069) is located approximately 0.2 mile to the northeast of the Tech Park Lines at approximate MP 2.2. Greenwood (204-0070) is located approximately 0.6 mile to the south of the Tech Park Lines between MP 1.8 and MP 1.9. Pitts Theater (204-5053) is located approximately 0.4 mile to the northwest of the Tech Park Lines at approximate MP 2.2. Lord Culpeper Hotel (204-5067) is located approximately 0.4 mile to the northwest of the Tech Park Lines at approximate MP 2.2. Culpeper Light & Power (204-5097) is located approximately 0.6 mile to the westnorthwest of the Tech Park Lines at MP 2.2. All 16 resources would not have any visibility towards the Tech Park Lines due to intervening vegetation and infrastructure, and distance. Thus, the route would have no impact on 023-5023, 204-0002, 204-0003, 204-0005, 204-0006, 204-0020, 204-0020-0140, 204-0021, 204-0069, 204-0070, 204-5053, 204-5067, and 204-5097.

Mount Pony Rural Historic District (023-0084): Less than 200 feet of Tech Park Route 1 is within westernmost corner of Mount Pony Rural Historic District. Route 1 in this area is collocated with the segment of the Company's existing Lines #2/#70 that have been approved for upgrade from 115 to 230 kV (these existing lines already bisect the district). The top of one Route 1 structure would be visible during leaf-off season (late fall, winter, and early spring) at the western corner of the district along Rt. 3. Tech Park Route 1 would introduce modern elements to the viewshed of the northwestern corner of the resource. This addition would be minor in comparison to the district as a whole.

Tech Park Routes 2 and 3 do not cross the Mount Pony Rural Historic District but would be approximately 0.3 mile west of the district at MP 0.0 (the routes share an alignment in this area). The top of one Route 2/Route 3 structure would be visible during leaf-off season at the northwestern corner of the district along Rt. 3. Other portions of the route could be visible from the western edge of the district. Tech Park Routes 2 and 3 would introduce modern elements to the viewshed from the far western portion of the resource, which is currently is open field. Accordingly, ERM recommends that the Tech Park Lines would have a minimal impact on 023-0084.

Croftburn Farm (023-5040): The impacts on Croftburn Farm, which occupies the northwestern corner of the Mount Pony Rural Historic District (023-5040), would be the

same as described above for that resource. Accordingly, ERM recommends that the Tech Park Routes would have a minimal impact on 023-5040.

The Tech Park Lines (MP 2.2) are approximately 100 feet southeast of the southeastern corner of the South East Street Historic, in an area where all three routes share the same alignment. The route alternatives and the proposed Palomino Substation would be visible from southern and eastern portions of the district, especially where gaps in existing trees allow more distant views. The areas of the resource closest to the routes are privately owned; therefore, most visitors to the resource would only have a view of the routes from East Chandler Street, near the Company's existing Culpeper Substation. This substation, which connects to the Company's existing Line #70, is directly adjacent to and visible from (but not within) the district and has already diminished the historic viewshed in this part of the district. The Tech Park Lines would not be visible other publicly accessible views within the district, due to intervening vegetation and/or distance. Because the view of the Tech Park Lines within the district is small compared to the district as a whole, ERM recommends that Tech Park Routes would have a minimal impact on 204-0064.

| | | TABLE | I-3 | | | | |
|-------------------------------|---|-------------------------------------|--|---------|--|--|--|
| Cul | lpeper Technology Zone Resources | 230 kV Loop and in VDHR Tiers fo | l Lines #2 and #1065 Conversion Project or the Tech Park Lines ^a | | | | |
| Buffer (miles) | Considered Resources VDHR # Description | | | | | | |
| 1.0-1.5 | 1.0-1.5 National Historic Landmarks | | NA | NA | | | |
| | | 023-5023 ^b | Mount Castle | None | | | |
| | N.C. ID | 204-0006 | A.P. Boyhood Home | None | | | |
| | National Register— | 204-0021 | Corrie Hill House | None | | | |
| 0.5-1.0 | Listed | 204-0070 | Greenwood | None | | | |
| | | 204-5097 | Culpeper Light & Power | None | | | |
| | Locally Significant | 204-0020-0140 | Antioch Baptist Church | None | | | |
| | Historic Landscapes | NA | NA | NA | | | |
| | | 204-0002 | Hill Mansion | None | | | |
| | | 204-0003 | Saint Stephen's Episcopal Church | None | | | |
| | | 204-0005 | Burgandine House | None | | | |
| | National Register— | 204-0020 | Culpeper Historic District | None | | | |
| 0.0- 0.5 | Listed | 204-0064 | South East Street Historic District | Minimal | | | |
| | | 204-0069 | Culpeper National Cemetery | None | | | |
| | | 204-5053 | Pitts Theater | None | | | |
| | | 204-5067 | Lord Culpeper Hotel | None | | | |
| | National Register— Eligible | NA | NA | NA | | | |
| 0.0 (within right-of- way) | National Register— Listed | 023-5040° | Croftburn Farm | Minimal | | | |
| | National Register— Eligible | 023-0084° | Mount Pony Rural Historic District | Minimal | | | |

NA = not applicable; VDHR = Virginia Department of Historic Resources

^a The proposed Palomino, Chandler, and McDevitt Substations are included in the Tech Park Lines analysis.

^b Resource is only within the designated tiers for Tech Park Route 1 and is not within a study tier of Tech Park Routes 2 and 3 ^c Resource is within right-of-way for Tech Park Route 1 only and within the 0.0 to 0.5 mile tier for Tech Park Routes 2 and 3.

The Stage I Analysis also considered the potential effects to archaeological resources. Three archaeological sites are located within the right-of-way associated with the Tech Park Proposed Route: 44CU0137, 44CU0221, and 44CU0222. Two are located within the right-of-way for Tech Park Alternative Routes 2: 44CU0221 and 44CU0222. Four archaeological sites are located within the right-of-way for Tech Park Alternative Route 3: 44CU0219, 44CU0220, 44CU0221, and 44CU0222. All sites associated with the Tech Park Lines have not been formally evaluated for the NRHP.

Site 44CU0137 is an 18th-century road, currently unevaluated for the NRHP. The site spans approximately 0.3 mile and intersects with US 15/29. Initially recorded during a site walk in 2006, it was not formally surveyed at that time. In 2009, a site reconnaissance, including a pedestrian survey by Dovetail (Maroney 2009), confirmed that the road had remained unchanged since its initial recording. The Tech Park Proposed Route would bisect the northern edge of the site twice. The Company's existing Lines #2/#70 currently intersect approximately 20 feet of the site's northeastern most boundary. However, no proposed structures are located in the site boundary.

Site 44CU0219 is a multi-component prehistoric artifact scatter site with an unknown temporal affiliation, as well as a historic (1900–1949) isolated find. The site has not been evaluated for the NRHP. It was documented during a 2023 Phase I survey (Masters 2023b) and was recommended as ineligible due to the low density of artifacts and the absence of diagnostic artifacts. Approximately 500 feet of Tech Park Alternative Route 3 would intersect the site's easternmost corner. No proposed structures are located within the site boundary.

Site 44CU0220 is a multi-component prehistoric (unknown temporal affiliation) and historic (19th and 20th century) artifact scatter. The site has an irregular shape and is located near sites 44CU0219 and 44CU0222, indicating a potential relationship among these sites. The site is unevaluated for the NRHP. The site was recorded during a 2023 Phase I survey (Masters 2023c) and was recommended ineligible due to low artifact density and lack of diagnostic artifacts. Approximately 35 feet of Tech Park Alternative Route 3 would intersect the eastern portion of the site; however, no proposed structures are located within the site boundary.

Site 44CU0221 is a late 19th to early 20th-century single dwelling site, featuring structural ruins and an artifact scatter of domestic and architectural items. The site has experienced ground disturbance since its abandonment by residents in 2006. Currently, it remains unevaluated for the NRHP. Documented during a Phase I survey by Applied Archaeology and History Associates, Inc. in 2023, the site was recommended not eligible due to post-2006 ground disturbance and low artifact density (Gollup 2023). The easternmost part of the site intersects with 0.1 mile of the Tech Park Lines and approximately 0.8 acre of the site is located within a proposed substation boundary. One proposed structure is located within the site boundary.

Site 44CU0222 is a multi-component unknown temporal affiliation prehistoric and historic (19th-20th century) artifact scatter. Located just 75 feet from site 44CU0220, it is likely that the two sites are related or possibly the same. The site is currently unevaluated for the NRHP. The site was recorded during a Phase I survey performed by Applied Archaeology and History Associates, Inc. in 2023 (Masters 2023a). It was recommended ineligible due to low artifact density and lack of diagnostic artifacts. Approximately 0.9 acre of the 1.5-acre site is located within the route right-of-way. One proposed structure would be located in the site's southern border.

Oak Green Rebuild and Relocation

Four aboveground historic resources were identified within the VDHR study tiers for the Oak Green Proposed Route (Table I-4). Construction and operation of the facilities would have no impact on one resource (068-0473) and a minimal impact on three resources (068-0031, 068-0131, and 068-5033).

The Mt. Holy Baptist Church (068-0473) is located approximately 0.7 mile to the southwest of the Oak Green Proposed Route at MP 2.6. The Oak Green Proposed Route would not be visible from the resource due to intervening vegetation and distance. Thus, ERM recommends that the route would have no impact on 068-0473.

Morton Hall (068-0031): The Oak Green Proposed Route is within and follows the northwestern boundary of 068 0031, within the right-of-way of existing Lines #2/#11. The relocated Oak Green Switching Station is less than 100 from the southwest resource boundary. The Project would replace the current Line #2/#11 structures and would remove the existing switching station, which is inside the resource boundary. Dense trees would remain in place along transmission line route within the resource, except for the area occupied by the current switching station. These trees would block most views of the Project from the resource itself. Due to this screening and the removal of the existing switching station from the resource itself, ERM recommends that the Oak Green Proposed Route would have a minimal impact on 068-0031.

Lessland (068-0131): Two new transmission structures installed as part of the Oak Green Proposed Route would be visible from the easternmost corner of the resource where one structure is currently visible. The resource is surrounded by dense vegetation and the Project would not be visible from any other portion of the resource. As a result, ERM recommends that the Oak Green Proposed Route would have a minimal impact on 068-0131.

Rapidan River and Clark Mountain Rural Historic District (068-5033): The entire Oak Green Proposed Route is located within the Rapidan River and Clark Mountain Rural Historic District. Structures installed for the Project would be visible and be more prominent in the landscape than the existing transmission line, due to increased structure height and the expanded right-of-way. Furthermore, the Project would impact 37.4 acres, less than 0.1 percent of the district's 44,150-acre total area. Thus, ERM recommends that the Oak Green Proposed Route would have a minimal impact on 068-5033.

| TABLE I-4 | | | | | | | |
|-------------------------------|--|-----------------------------------|---|---------|--|--|--|
| Cul | peper Technology Zone Resources in VD | 230 kV Loop an HR Tiers for th | nd Lines #2 and #1065 Conversion Project e Oak Green Proposed Route ^a | | | | |
| Buffer (miles) | Considered Resources VDHR # Description Impact | | | | | | |
| 1.0-1.5 | National Historic NA Landmarks | | NA | NA | | | |
| | National Register— NA Listed | | NA | NA | | | |
| 0.3-1.0 | Locally Significant | 068-0473 | Mt. Holy Baptist Church | None | | | |
| | Historic Landscapes | NA | NA | NA | | | |
| 0.0- 0.5 | National Register— Listed | 068-0131 | Lessland | Minimal | | | |
| | National Register— Eligible | NA | NA | NA | | | |
| 0.0 (within right-of- way) | National Register— | 068-0031 | Morton Hall | Minimal | | | |
| | Eligible 068-5033 | | Rapidan River and Clark Mountain Rural Historic District | Minimal | | | |

NA = not applicable; VDHR = Virginia Department of Historic Resources

^a The proposed Oak Green Switching Station is included in the Oak Green Proposed Route analysis.

Remington Rebuild

Seven aboveground historic resources were identified within the VDHR study tiers for the Remington Proposed Route (Table I-5). Construction and operation of the facilities would have no impact on five resources (023-5049, 030-5593, 030-5607, 030-5892, and 288-5001) and a minimal impact on two resources (023-5050 and 030-5587).

The Hedgeman-Rappahannock Rural Historic District (030-5607) is located approximately 0.7 mile to the northwest of the Remington Proposed Route at MP 0.0 while the Rappahannock River 1862 Northern Virginia Campaign Rural Historic District (030-5593) is located approximately 0.8 mile to the west of the Remington Proposed Route at MP 0.0. Piney Ridge School (030-5852) is located approximately 0.6 mile to the south of the Remington Proposed Route at MP 0.0 and Freeman's Ford Battlefield (023-5049) is located approximately 0.4 mile to the northwest of the Remington Proposed Route at MP 0.0. The Remington Historic District (288-5001) is located approximately 0.8 mile to the west of the Remington Proposed Route at MP 0.0. All five resources would not have any visibility towards the Remington Proposed Route due to intervening vegetation and infrastructure, and distance. Thus, the route would have no impact on 023-5049, 030-5593, 030-5607, 030-5892, and 288-5001.

Rappahannock Station Battlefield II (023-5050): The entire Remington Proposed Route is located within the Rappahannock Station Battlefield II. The route would not be visible from public rights-of-way within the resource due to intervening vegetation, although the route's new structures (which would be taller than the existing structures) would be visible on privately owned land in the resource. The route would replace a transmission line and would affect 9.1 acres—less than 0.1 percent of the resource's 11,800 acres. Accordingly,

ERM recommends that the Remington Proposed Route would have a minimal impact on 023 5050.

Mt. Holly Ridge-Marsh Run Rural Historic District (030-5587): Less than 200 feet of the Remington Proposed Route at MP 0.6 is within the Mt. Holly Ridge Marsh Run Rural Historic District. The route would not be visible from the closest public right-of-way at Lucky Hill Road due to distance and intervening vegetation. The route's new structures (which would be taller than the existing structures) would be visible from private land within the district. The amount of Project right-of-way within the district would be less than 0.1 percent of the district's 15,809 total acres and the route would contribute a small extent of new transmission infrastructure compared to the Company's existing Lines #183, #535, #580, #2039, and #2040 within the district. Accordingly, ERM recommends that the Remington Proposed Route would have a minimal impact on 030-5587.

| Cu | lpeper Technology Zone 2 Resources in VDI | TABL 230 kV Loop at HR Tiers for th | E 1-5 nd Lines #2 and #1065 Conversion Project te Remington Proposed Route ^a | | | | |
|-------------------------------|--|---|---|---------|--|--|--|
| Buffer (miles) | niles) Considered Resources VDHR # Description | | | | | | |
| 1.0-1.5 | National Historic Landmarks | NA | NA | NA | | | |
| | National Register— Listed | 288-5001 | Remington Historic District | None | | | |
| 0.5-1.0 | National Register— | 030-5593 | Rappahannock River 1862 Northern Virginia Campaign Rural Historic District | None | | | |
| | Eligible | 030-5607 | Hedgeman-Rappahannock Rural Historic District | None | | | |
| | Locally Significant | 030-5852 | Piney Ridge School | None | | | |
| | Historic Landscapes | NA | NA | NA | | | |
| 0.0- 0.5 | National Register— Eligible | NA | NA | NA | | | |
| | Battlefields (Potentially Eligible) | 023-5049 | Freeman's Ford Battlefield | None | | | |
| 0.0 (within right-of- way) | Battlefields (Potentially Eligible) | 023-5050 | Rappahannock Station Battlefield II | Minimal | | | |
| | Rural Historic Districts (Potentially Eligible) | 030-5587 | Mt. Holly Ridge-Marsh Run Rural Historic District | Minimal | | | |

NA = not applicable; *VDHR* = *Virginia Department of Historic Resources*

The Stage I Analysis also considered the potential effects to archaeological resources. However, no archaeological sites fall within the right-of-way for the Remington Proposed Route.

J. Chesapeake Bay Preservation Areas

The Project is not located in a locality subject to the Chesapeake Bay Preservation Act. Construction, installation, operation, and maintenance of electric transmission lines are conditionally exempt from the Chesapeake Bay Act as stated in the exemption for public utilities, railroads, public roads, and facilities in 9 VAC 25-830-150. The Company will meet those conditions and will use Best Management Practices to limit impacts to Resource Protection Areas (RPAs) to the minimum extent possible while safely and effectively constructing and maintaining this infrastructure.

K. Wildlife Resources

Forested, open water, agricultural, and open space land use areas and wetlands within the study area may provide wildlife habitat. Forested areas within the Proposed or Alternative Routes right-of-way would be cleared of trees and converted to maintained vegetation, which would eliminate forest habitat and cover but may provide edge habitat or open space for some species. Waterbody habitat crossed by the Proposed and Alternative Routes would be spanned by the transmission line, with impacts to aquatic species limited to any temporary construction impacts associated with vegetation clearing adjacent to the waterbody and the elimination of riparian buffer benefits (erosion control, water filtration, habitat, and temperature control through shading). Impacts to agricultural and open space would be limited to structure placement if required and vegetation maintenance; the function of the land use would otherwise remain the same. The VGIN statewide land cover dataset (2023) was utilized to quantify land cover classifications impacted by each route alternative. Desktop-delineated wetlands and waterbodies and the methodology for delineation are discussed further in Section D and values provided below.

Mt. Pony Routes

Mt. Pony Proposed Route (Route 1)

The majority of the Mt. Pony Proposed Route crosses agricultural land (37.2 acres), with a smaller amount of forested land (11.8 acres) and open space (0.1 acre). The Proposed Route would cross 6.9 acres of wetlands and 10 NHD-mapped intermittent waterbodies.

Mt. Pony Alternative Route 2

The majority of Mt. Pony Alternative Route 2 crosses forested land (39.8 acres), agricultural land (21.1 acres), and a smaller amount of open space (1.1 acres). Alternative Route 2 would cross 8.7 acres of wetlands and eight intermittent NHD-mapped waterbodies.

Tech Park Routes

Tech Park Proposed Route (Route 1)

The majority of the Tech Park Proposed Route crosses agricultural land (24.2 acre) and forested land (24.1 acres), with a smaller amount of open space (0.9 acre). The Proposed Route would cross 1.5 acres of wetlands and one perennial NHD-mapped waterbody.

Tech Park Alternative Route 2 (Route 2)

The majority of Tech Park Alternative Route 2 crosses forested land (24.6 acres) and agricultural land (18.3 acres), with a smaller amount of open space (4.0 acres). Alternative Route 2 would cross 1.1 acres of wetlands and three intermittent NHD-mapped waterbodies.

Tech Park Alternative Route 3 (Route 3)

The majority of Tech Park Alternative Route 3 crosses forested land (24.4 acres) and agricultural land (15.9 acres), with a smaller amount of open space (6.6 acres). Alternative Route 3 would cross 1.2 acres of wetlands and three intermittent NHD-mapped waterbodies.

Oak Green Rebuild and Relocation

The majority of right-of-way for the Oak Green Rebuild and Relocation crosses agricultural land (24.4 acres); with a smaller amount of open space (7.0 acres), forested land (4.5 acres), and open water (0.5 acre). The right-of-way would cross 1.1 acres of wetlands and five NHD-mapped waterbodies, including three perennial, one intermittent, and one lake/pond.

Remington Rebuild

The Remington Rebuild will be constructed within the existing right-of-way. The rebuild will not require any new right-of-way acquisition, so no new impacts are anticipated. The majority of the right-of-way crosses open space (6.9 acres), with a smaller amount of agricultural land (1.6 acres) and forested land (<0.1 acre). The existing right-of-way crosses 3.1 acres of wetlands and two NHD-mapped waterbodies, which are both lake/ponds.

L. Recreation, Agricultural, and Forest Resources

The Project is expected to have minimal incremental impacts on recreational, agricultural, and forest resources. Opportunities for collocation with other rights-of-way, particularly the Company's existing Lines #2/#70, and existing highways and roads such as James Madison Highway, Germanna Highway, Zachary Taylor Highway, McDevitt Drive, East Chandler Street, and Mt. Pony Road were considered where possible as a means of avoiding or minimizing impacts on resources. Where the route alternatives cross agricultural lands, impacts would be limited to structure placement and agricultural activities could resume post construction. Where forested areas are crossed, trees would be removed and vegetation kept to maintained heights within the right-of-way.

The Virginia Agricultural and Forestal Districts Act provides for the creation of conservation districts designed to conserve, protect, and encourage the development and improvement of a locality's agricultural and forested lands. According to the Virginia Department of Forestry ("VDOF"), the Mt. Pony Proposed Route crosses 16.9 acres of an Agricultural and Forestal District ("AFD"), Mt. Pony Alternative Route 2 crosses 1.0 acre of an AFD, the Tech Park Proposed Route crosses 2.5 acres of an AFD, and the Oak Green Rebuild and Relocation right-of-way crosses 2.0 acres of an AFD. Approximately 14.4

acres of the 16.9 acres (85%) of AFD crossed by the Mt. Pony Proposed Route is collocated with existing transmission line right-of-way, and all 2.0 acres (100%) of AFD crossed by Oak Green Rebuild and Relocation is within existing transmission line right-of-way. Tech Park Alternative Route 2, Tech Park Alternative Route 3, and the Remington Rebuild do not cross AFDs.

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. The Rapidan River, which is qualified but not designated as a scenic river by the Virginia Scenic Rivers Act, will be crossed by the Oak Green Rebuild at approximate MP 0.2, where the existing transmission line crosses. No instream construction will be required, and all necessary erosion and sediment control measures as described in Section 2.H will be implemented to reduce impacts to streambanks and waterways. In order to minimize effects to the resource, the existing transmission line. During construction, temporary auditory impacts to users of the Rapidan River may result from industrial noise, but impacts would be temporary and limited to the period of active construction in the vicinity of the river. Although the Oak Green Rebuild would expand the existing 75-foot right-of-way to 100 feet at the Rapidan River crossing, significant impacts to the Rapidan River are not anticipated.

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. Most easements created under the Act are held by the Virginia Outdoors Foundation ("VOF"), but any state agency is authorized to create and hold an open-space easement. Such conservation easements are designed to preserve and protect open space and other resources and must be held for no less than five years in duration and can be held in perpetuity. According to the DCR's Managed Conservation Lands Database and the Protected Areas Database of the United States ("PAD-US"), the only Project component that crosses an easement is the Oak Green Rebuild. Two VOF easements are crossed by the Oak Green Rebuild, between MPs 0.0 and 0.3 and between MPs 0.7 and 1.1. Within these easements, the right-of-way will not be expanded (i.e., no new right-of-way will be obtained) and will be maintained as a 75foot right-of-way. Outside of the VOF easements, the existing right-of-way will be expanded to 100 feet, following the centerline of the existing line to be rebuilt. There are three additional VOF easements and one Piedmont Environmental Council easement within 0.5 mile of the Oak Green Rebuild. Other easements that are within 0.5 mile of the Project but not crossed include: an Old Dominion Land Conservancy easement approximately 0.2 mile from the Mt. Pony Proposed Route cut-in location, a VOF easement less than 0.1 mile from the Mt. Pony Proposed Route (between MPs 0.6 and 1.1), and a Fauquier County Board of Supervisors easement less than 0.1 mile north of the Remington Substation. There are no easements within 0.5 mile of Mt. Pony Alternative Route 2 or the Tech Park Routes.

Any tree along the right-of-way that is tall enough to endanger the conductors if it were to break at the stump or uproot and fall directly toward the conductors and exhibits signs or symptoms of disease or structural defect that make it an elevated risk for falling will be designated as a "danger tree" and may be removed. The Company's arborist will contact the property owner if possible before any danger trees are cut, except in emergency situations. The Company's Forestry Coordinator will field-inspect the rights-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.

None of the route alternatives run parallel to or cross any Virginia Byways or Virginia Birding and Wildlife Trails. Agricultural and forest resources identified within 0.3 mile of the Proposed and Alternative Routes are discussed below. The Rapidan River is the only recreational resource within the Project study areas. An assessment of impacts on these resources is provided in the Environmental Routing Study.

Mt. Pony Routes

Mt. Pony Proposed Route (Route 1)

The Mt. Pony Proposed Route crosses approximately 11.8 acres of forested land (24% of the route) and 37.2 acres of agricultural land (75% of the route). NRCS soils data indicates approximately 5.2 acres of the Proposed Route right-of-way are classified as prime farmland and 41.0 acres are classified as farmland of statewide importance.

Mt. Pony Alternative Route 2

Mt. Pony Alternative Route 2 crosses approximately 39.8 acres of forested land (64% of the route) and 21.2 acres of agricultural land (34% of the route). NRCS soils data indicates approximately 0.8 acre of the Mt. Pony Alternative Route 2 right-of-way are classified as prime farmland and 42.0 acres are classified as farmland of statewide importance.

Tech Park Routes

Tech Park Proposed Route (Route 1)

The Tech Park Proposed Route crosses approximately 24.1 acres of forested land (48% of the route) and 24.2 acres of agricultural land (49% of the route). NRCS soils data indicates approximately 6.9 acres of the Proposed Route right-of-way are classified as prime farmland and 42.7 acres are classified as farmland of statewide importance.

Tech Park Alternative Route 2

Tech Park Alternative Route 2 crosses approximately 24.6 acres of forested land (51% of the route) and 18.3 acres of agricultural land (38% of the route). NRCS soils data indicates approximately 4.4 acres of the Alternative Route 2 right-of-way are classified as prime farmland and 43.8 acres are classified as farmland of statewide importance.

Tech Park Alternative Route 3

Tech Park Alternative Route 3 crosses approximately 24.4 acres of forested land (50% of the route) and 15.9 acres of agricultural land (33% of the route). NRCS soils data indicates

approximately 4.4 acres of the Alternative Route 3 right-of-way are classified as prime farmland and 43.7 acres are classified as farmland of statewide importance.

Oak Green Rebuild and Relocation

The right-of-way of the Oak Green Rebuild crosses approximately 4.5 acres of forested land (12% of the route) and 24.4 acres of agricultural land (65% of the route). NRCS soils data indicates approximately 15.3 acres of the Oak Green right-of-way are classified as prime farmland and 11.5 acres are classified as farmland of statewide importance.

Remington Rebuild

The Remington Rebuild is completely within existing right-of-way, so no new impacts to agricultural or forest resources are anticipated. The right-of-way of the Remington Rebuild does not any forested land and crosses and 1.6 acres of agricultural land (18% of the route). NRCS soils data indicates less than 0.1 acre of the Remington Rebuild right-of-way are classified as prime farmland, and there is no land classified as farmland of statewide importance.

M. Use of Pesticides and Herbicides

Of the techniques available, selective foliar is the preferred method of herbicide application. The Company typically maintains transmission line right-of-way by means of selective, low volume applications of EPA-approved, non-restricted use herbicides. The goal of this method is to exclude tall growing brush species from right-of-way by establishing early successional plant communities of native grasses, forbs, and low growing woody vegetation. "Selective" application means the Company sprays only the undesirable plant species (as opposed to broadcast applications). "Low volume" application means the Company uses only the volume of herbicide necessary to remove the selected plant species. The mixture of herbicides used varies from one cycle to the next to avoid the development of resistance by the targeted plants. There are four means of dispersal available to the Company, including by-hand application, backpack, fixed nozzle-radiarc, and aerial. Very little right-of-way maintenance incorporates aerial equipment. The Company uses licensed contractors to perform this work that are either certified applicators or registered technicians in the Commonwealth of Virginia.

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

Additionally, based on a discussion between Company and DCR-DNH representatives, the Company reviewed its Integrated Vegetation Management Plan ("IVMP") for application to both woody and herbaceous species based on the species list available on the DCR website. The Company continues to coordinate with DNH on an addendum to the IVMP to further explain how the Company's operations and maintenance forestry program addresses invasive species. In November 2023, the Company submitted the

addendum draft to DCR for review and continued discussions. DCR provided an initial response to the addendum in January 2024. The Company is in the process of ongoing coordination with DCR-DNH pertaining to the Company's IVMP with a meeting held on November 11, 2024. The Company is continuing to coordinate with DCR with the commitment to schedule additional meetings to discuss DCR's concern. Once the addendum is finalized, the Company will report on the results of its communications with DCR in future proceedings.

N. Geology and Mineral Resources

The study area is located within the Piedmont geologic province, which lies between the mountainous Blue Ridge province to the west and the terraced slopes of the Coastal Plain province to the east. The Piedmont province is characterized by heavily weathered bedrock caused by a humid climate, thick soils, and rolling topography. The Piedmont province consists of several complex geologic terranes where faults separate the rock units with variable igneous and metamorphic histories. Based on review of the geologic map of Virginia, the route alternatives are located approximately on the transitional boundary between the Western Piedmont-Potomac Terrane and a Mesozoic basin. Additionally, the Project's routes and substations are located within sections of conglomerate bedrock, volcanics (diabase), and interbedded shale and siltstone.

ERM reviewed publicly available Virginia Energy datasets¹¹, USGS topographic quadrangles, and recent digital aerial photographs¹² to identify mineral resources in the study area. The closest active permitted mining site is the Culpeper Plant located adjacent to the Mt. Pony Proposed Route on Route 3, with the Mt. Pony Proposed Route located south of the existing Company Lines #2/#70 from the active mining area but partially located on the quarry parcel. The Culpeper Plant is a sandstone quarry owned by Luck Stone Corporation and has been active since 2002. This is the only active permitted mining site within 0.25 mile of the Project. Because the route is separated from the active mining area by the existing Company transmission line and easement, it is unlikely that the site will be impacted by construction and operation of the Project's transmission infrastructure, nor is it likely Project activities will be impacted by site operations.

There is one inactive mineral resource prospect within 0.25 mile of the Project, which is within 0.25 mile of the Oak Green Rebuild and Relocation segment. The closest inactive mineral resource prospect to the Oak Green Rebuild and Relocation segment is a shale deposit located adjacent to the segment on the corner of River Road and Bushy Mountain Road. The Oak Green Rebuild and Relocation will utilize the existing 75-foot-wide right-

¹¹ Virginia Energy. 2022. Mineral Mining Map. Virginia Department of Energy. Accessed October 2024. <u>https://energy.virginia.gov/webmaps/MineralMining/</u>.

¹² ESRI, Maxar, Earthstar Geographics, and the GIS User Community. 2024a. World Imagery. Accessed January 2025. <u>https://services.arcgisonline.com/ArcGIS/rest/services/World Imagery/MapServer</u>.

Google LLC 2024. Google Earth Pro 7.3.6.9696 (64-bit). Accessed November 2024.

of-way, with a 25-foot-wide expansion in some areas along the route and is therefore not likely to have a significant impact on future mineral resource activity.

O. Transportation Infrastructure

Road and Railroad Crossings

The road network in the study area includes a variety of road types, including freeway/expressway (US 15/29, or James Madison Highway), principal arterial roads (Route 3, or Germanna Highway), minor arterial roads (US 522, or Zachary Taylor Highway), major collector roads (McDevitt Drive and East Chandler Street), and minor collector roads (Mt. Pony Road). Within the main study area in Culpeper County, US 15/29 and Route 3 cross the study area diagonally and laterally, respectively. The Mt. Pony Routes require a crossing of Route 3, and the Tech Park Routes require a crossing of US 15/29. Within the Oak Green study area, US 522 crosses the study area diagonally, and the Oak Green Rebuild requires a crossing of this highway. VDOT maintains these highway rights-of-way within the study areas. There are two smaller roadways within the Remington study area that are crossed by the existing transmission line right-of-way.

The Norfolk Southern Railroad crosses the northern boundary of the study area in Culpeper County and turns south along the western boundary of the study area. As the nearest point, the railroad is approximately 115 feet west of the Tech Park Routes (approximate MP 2.2 of the Tech Park Proposed Route and MP 2.0 of Tech Park Alternative Routes 2 and 3). No other railroads are in the Project vicinity.

ERM reviewed the Culpeper, Orange, and Fauquier County Comprehensive Plans (Comprehensive Plans) and VDOT District project website for upcoming projects within the study areas to determine potential impacts of the Project on future road projects. There are two planned roadway projects within the Mt. Pony/Tech Park study area: Route 3 at McDevitt Drive Roundabout and relocation of Frank Turnage Drive. Of the two future road projects identified within 0.25 mile of the Project, the relocation of Frank Turnage Drive is the only one crossed by the Project. Tech Park Routes 1, 2, and 3, would each collocated and overlap with the future road right-of-way for approximately 0.2 mile near the approved future Cirrus Substation. This planned right-of-way overlap, which would be up to approximately 34 feet and would not have any equipment directly overhanging the road right-of-way, was coordinated with the landowner and with the VDOT district office (see record of this correspondence in the SCC Application Appendix). As such, the overlap of the Tech Park Lines with the future Frank Turnage Drive will not prevent the development or operation of the future roadway.

No road improvement plans were identified in the Oak Green and Remington study areas. None of the proposed or alternative routes are anticipated to impact these roads or any future improvements. There are no projects within the vicinity of any of the Project's Proposed or Alternative Routes or Substations that would be impacted by the construction of the Project.

Mt. Pony Routes

Mt. Pony Proposed Route (Route 1)

The Mt. Pony Proposed Route would cross the following four roadways:

- Route 3
- Alvere Road
- Blackjack Road
- The Mountain Road

Alvere Road and The Mountain Road are not maintained by VDOT. Mt. Pony Proposed Route (Route 1) collocates with Blackjack Road for approximately 0.5 mile and with Alvere Road for approximately 0.3 mile. Based on review of the Culpeper County Comprehensive Plan and VDOT projects, the Mt. Pony Proposed Route would not impact any future roads.

Mt. Pony Alternative Route 2

Mt. Pony Alternative Route 2 would cross the following three roadways:

- Woolens Lane
- Mt. Pony Road
- Route 3

All three roads are maintained by VDOT. Based on review of the Culpeper County Comprehensive Plan and VDOT projects, the Mt. Pony Alternative Route 2 would not impact any future roads.

Tech Park Routes

Tech Park Proposed Route (Route 1)

The Tech Park Proposed Route would cross the following three roadways:

- US 15/29
- McDevitt Drive
- Unnamed private road

US 15/29 and McDevitt Drive are maintained by VDOT. The unnamed private road provides access to the Daniel Technology Center from Frank Turnage Drive. The Tech Park Route 1 right-of-way overlaps with the future alignment of Frank Turnage Drive for approximately 0.2 mile. This planned right-of-way overlap was coordinated with the landowner and with the VDOT district office. As such, the overlap of the Tech Park Route 1 with the future Frank Turnage Drive will not prevent the development or operation of the future roadway.

Tech Park Alternative Route 2

The Tech Park Alternative Route 2 would cross the following three roadways:

- US 15/29
- Technology Drive
- McDevitt Drive

All three roadways are maintained by VDOT. As with Tech Park Proposed Route, the Tech Park Alternative Route 2 right-of-way has been coordinated to overlap with the future alignment of Frank Turnage Drive for approximately 0.2 mile and will not prevent the development or operation of the future roadway.

Tech Park Alternative Route 3

The Tech Park Alternative Route 3 would cross the following three roadways:

- US 15/29
- Technology Drive
- McDevitt Drive

All three roadways are maintained by VDOT.

As with Tech Park Proposed Route and Alternative Route 2, the Tech Park Alternative Route 3 right-of-way has been coordinated to overlap with the future alignment of Frank Turnage Drive for approximately 0.2 mile and will not prevent the development or operation of the future roadway.

Oak Green Rebuild

The Oak Green Rebuild would cross the following three roadways:

- River Road
- US 522
- True Blue Road

All three roadways are maintained by VDOT. Based on review of the Orange County Comprehensive Plan and VDOT projects, the Oak Green Rebuild would not impact any future roads.

Remington Rebuild

The Remington Rebuild would cross the following two roadways:

- Lucky Hill Road
- Old Grassdale Road

Old Grassdale Road is not maintained by VDOT. Based on review of the Fauquier County Comprehensive Plan and VDOT projects, the Remington Rebuild would not impact any future roads. Temporary closures of roads and or traffic lanes would be required during construction of the Proposed or Alternative Routes for the Project. No long-term impacts to roads are anticipated as a result of the Project. The Company will comply with VDOT and Culpeper, Orange, and Fauquier Counties requirements for access to the rights-of-way from public roads. At the appropriate time, the Company will obtain the necessary VDOT permits as required and comply with permit conditions.

The Company communicated with VDOT on October 31, 2024 regarding the proposed Project, and VDOT provided feedback via email on October 31, 2024. A copy of the VDOT email is included as <u>Attachment 2.0.1</u>.

P. Airports

The Federal Aviation Administration ("FAA") is responsible for overseeing air transportation in the United States. The FAA manages air traffic in the United States and evaluates physical objects that may affect the safety of aeronautical operations through an obstruction evaluation. The prime objective of the FAA in conducting an obstruction evaluation is to ensure the safety of air navigation and the efficient utilization of navigable airspace by aircraft.

The design of the proposed Project must prevent interference with pilots' safe ingress and egress at airports in the vicinity of the Project. Such hazards or impediments include interference with navigation and communication equipment and glare from materials and external lights.

The Company reviewed the Federal Aviation Administration's ("FAA") website to identify public use airports, airports operated by a federal agency or the U.S. Department of Defense, airports, or heliports with at least one FAA-approved instrument approach procedure, and public use or military airports under construction within 10.0 nautical miles of the Project's routes. Based on this review, the following airports, which include public airports with FAA-restricted airspace, and private facilities without restricted airspace, are located within 10.0 nautical miles of the Mt. Pony Routes and Tech Park Routes.

| Table P-1 | | | | |
|---|----------------|--|--|--|
| Culpeper Techno | ology Zone 230 | kV Loop and Lines #2 and #1065 Conversion Project | | |
| Airports And Heliports Lo | cated Within I | 0.0 Nautical Miles (nm) of the Mt. Pony Routes and Tech Park Poutos | | |
| Airport/Heliport Name | Use | Approximate distance and direction of nearest runway from | | |
| and FAA Identifier | Designation | the nearest project route/ feature | | |
| Kritter Runway (Unregistered) | Private | 0.2 nm east of Mt. Pony Route 2 (MP 1.7) | | |
| Maitland Runway (Unregistered) | Private | 0.2 nm northeast of Mt. Pony Route 2 southern cut-in (MP 0.0) | | |
| UVA Culpeper Medical Center heliport | Private | 1.2 nm west of Tech Park Route 1, 2 and 3, Chandler Substation and McDevitt Substation (MP 1.8) | | |
| The Greenhouse Airport | Private | 2.5 nm east of Mt. Pony Route 1 (MP 0.6) | | |
| Belmont Farm Airport | Private | 2.7 nm southwest of the Mt. Pony Route 2 southern cut-in (MP 1.6) | | |
| Berryvale Airport | Private | 3.6 nm north of Tech Park Route 1, 2 and 3, and 3.8 nm north of the Palomino Substation (MP 3.2) | | |
| Simpsonville Airport | Private | 5.2 nm southeast of Mt. Pony Route 2 southern cut-in (MP 0.0) | | |
| Culpeper Regional Airport | Public | 5.6 nm northeast of Mt. Pony Route 1 (MP 2.4) | | |

| Table P-1 | | | | |
|---|--|--|--|--|
| Culpeper Techno | Culpeper Technology Zone 230 kV Loop and Lines #2 and #1065 Conversion Project | | | |
| Airports And Heliports Lo | cated Within 1 | 0.0 Nautical Miles (nm) of the Mt. Pony Routes and Tech Park | | |
| | | Routes | | |
| Airport/Heliport Name Use Approximate distance and direction of nearest runway from | | | | |
| and FAA Identifier Designation the nearest project route/ feature | | | | |
| Pleasantdale Field Airport | Private | 6.8 nm north of Tech Park Route 1, 2 and 3 (MP 3.4) | | |
| Rular Airport | Private | 7.4 nm northeast of Mt. Pony Route 1 (MP 2.4) | | |
| Arrowpoint Airport | Private | 9.3 nm southwest of Mt. Pony Route 2 (MP 1.7) | | |
| Rhynalds Ranch Airport | Private | 9.8 nm northeast of Mt. Pony Route 1 (MP 0.6) | | |

The following airports are located within 10.0 nautical miles of the Oak Green Rebuild and Relocation:

| Table P-2 | | | | | |
|---|---|---|--|--|--|
| Culpeper Techno Airports And Helino | Culpeper Technology Zone 230 kV Loop and Lines #2 and #1065 Conversion Project Airports And Heliports Located Within 10.0 Nonticel Miles (nm) of the Oak Crean Pabuild | | | | |
| Airport/Heliport Name and FAA Identifier | Use Designation | Approximate distance and direction of nearest runway from the nearest project route/ feature | | | |
| Belmont Farm Airport | Private | 1.1 nm northwest of the northernmost rebuild structure (MP 0.0) | | | |
| Maitland Runway (Unregistered) | Private | 3.3 nm north of the northernmost rebuild structure (MP 0.0) | | | |
| Kritter Runway (Unregistered) | Private | 3.5 nm north of the northernmost rebuild structure (MP 0.0) | | | |
| Simpsonville Airport | Private | 3.8 nm east of the southernmost rebuild structure (MP 2.6) | | | |
| Uva Culpeper Medical Center Heliport | Private | 6.0 nm north of the northernmost rebuild structure (MP 0.0) | | | |
| Arrowpoint Airport | Private | 6.5 nm southwest of the northernmost rebuild structure (MP 0.0) | | | |
| Orange County Airport | Public | 6.7 nm southwest of the southernmost rebuild structure (MP 2.6) | | | |
| The Greenhouse Airport | Private | 7.4 nm northeast of all rebuild structures (MP 2.3) | | | |
| Berryvale Airport | Private | 9.9 nm north of the northernmost rebuild structure (MP 0.0) | | | |

The following airports are located within 10.0 nautical miles of the Remington Rebuild:

| Table P-3 | | | | |
|----------------------------|----------------|--|--|--|
| Culpeper Techno | ology Zone 230 | kV Loop and Lines #2 and #1065 Conversion Project | | |
| Airports And Helipe | orts Located W | ithin 10.0 Nautical Miles (nm) of the Remington Rebuild | | |
| Airport/Heliport Name | Use | Approximate distance and direction of nearest runway from | | |
| and FAA Identifier | Designation | the nearest project route/ feature | | |
| Rular Airport | Private | 1.8 nm west of the westernmost rebuild structure (MP 0.0) | | |
| Rhynalds Ranch Airport | Private | 1.9 nm east of the easternmost rebuild structure (MP 0.6) | | |
| Flying Circus Aerodrome | Private | 3.0 nm northeast of the easternmost rebuild structure (MP 0.6) | | |
| Airport | | | | |
| Culpeper Regional Airport | Public | 3.2 nm west of the westernmost rebuild structure (MP 0.0) | | |
| Warrenton/Fauquier | Public | 4.2 nm northeast of the easternmost rebuild structure (MP 0.6) | | |
| Airport | | | | |
| Rambo Airfield Airport | Private | 4.3 nm east of the easternmost rebuild structure (MP 0.6) | | |
| Aviacres Airport | Private | 5.0 nm north of the easternmost rebuild structure (MP 0.6) | | |
| Horse Feathers Airport | Private | 5.7 nm north off the easternmost rebuild structure (MP 0.6) | | |
| Pleasantdale Field Airport | Private | 6.4 nm northwest of the westernmost rebuild structure (MP 0.0) | | |
| Lost Griz Aerodrome | Private | 6.7 nm north of the easternmost rebuild structure (MP 0.6) | | |
| Airport | | | | |
| The Greenhouse Airport | Private | 6.9 nm southwest of the westernmost rebuild structure (MP 0.0) | | |
| Walnut Hill Airport | Private | 7.0 nm northeast of the easternmost rebuild structure (MP 0.6) | | |
| Berryvale Airport | Private | 8.0 nm west of the westernmost rebuild structure (MP 0.0) | | |
| Maples Field Airport | Private | 9.9 nm northeast of the easternmost rebuild structure (MP 0.6) | | |

The Company conducted an airport analysis to determine if any of FAA defined Civil Airport Imaginary Surface would be penetrated by structures associated with the Project. The regulations that govern objects that may affect navigable airspace are codified in the Code of Federal Regulations, Title 14, Part 77. The Company hired ERM to conduct the review.

As described in the following sections, none of the route alternatives or rebuild structures associated with the Mt. Pony and Tech Park Routes, the Oak Green Rebuild, or the Remington Rebuild will overlap with any airport imaginary surfaces or notification surfaces, and none of the structures would exceed FAA airspace obstruction thresholds. Unless specifically requested by the FAA, notification to the FAA would not be required for any component. If the FAA were to request additional information regarding the proposed project for any reason, the Company may be required to submit FAA Form 7460-1, Notice of Proposed Construction or Alteration, pursuant to 14 CFR Part 77 for FAA notification. Any such submittal would occur after a route is selected by the SCC during the permitting phase of the Project.

Mt. Pony and Tech Park Routes

Of the 12 airports identified within 10 nm of the Mt. Pony and Tech Park Route alternatives, there is 1 public use airport, 11 private airports and/or heliports, and no military airports.

Culpeper Regional Airport is the only public-use airport within 10 nm of any Mt. Pony and Tech Park Route alternatives. At its closest point, Culpeper Airport is located approximately 5.6 nm (34,000 feet) northeast of Mt. Pony Route 1. Based on the results of the Company's airport analysis, no part of the Mt. Pony and Tech Park Routes will overlap with Culpeper Regional Airport's imaginary surfaces. In addition, none of the project components are located within 20,000 feet of Culpeper Regional Airport, and no structure associated with the project will exceed a height of 200 feet AGL. As such, the none of the route alternatives would penetrate any FAA notification thresholds or pose an obstruction in public-use navigable airspace.

Private airports and heliports are not regulated by the FAA, and neither of the route alternatives associated with the Mt. Pony and Tech Park Routes would conflict with the private facilities listed in Table P-1. Two private runway sites listed in Table P-1 were identified in close proximity to Mt. Pony Route 2 that are not registered airports with the FAA. Additional information on these sites is provided below.

The first site is located at 20634 Mt. Pony Road, Culpeper, VA 22701, and was formerly used as the business address for Kritter Cropdusting, Inc. The site is referred to as the "Kritter Runway" in this review. Based on available aerial imagery, the Kritter Runway maintains an approximately 3,200-foot-long turf airstrip along its southern property boundary and is surrounded by mature oak forest and managed timber, which is assumed to be approximately 60 feet or taller. Based on communication between the Company and the property owner, the site ceased crop dusting operations in 2020; however, the runway is currently utilized infrequently to conduct private aerial tours with a dual engine aircraft.

Although the site is not a public use facility and does not appear to be registered with the FAA, the path of Mt. Pony Route 2 was routed to minimize conflicts with this site. The Kritter Runway is located approximately 0.2 nm (1,100 feet) east of Mt. Pony Route 2. Structures along this route would be up to 110 feet AGL, which would maintain a 20:1 imaginary slope above the trees at the end of the runway. Therefore, no impacts are anticipated.

The second site is located at 21482 Mt. Pony Road, Culpeper, VA 22701, and was identified via aerial imagery and conversations with the owner of the Kritter site. Publicly available property records show the property is owned by Mr. David Maitland, and the site is referred to as the "Maitland Runway" in this review. Based on FAA aircraft registration records at the address, the Maitland Runway is utilized by at least one fixed wing singleengine aircraft. Based on available aerial imagery, the single east-west oriented runway on site is approximately 2,200 feet in length and is surrounded by fields and forested areas. Existing Dominion transmission Lines $\frac{\#2}{2199}/130$ are located on the western boundary of the runway clearing, approximately 400 feet from the estimated end of the turf airstrip. The Mt. Pony Route 2 cut-in location along Lines #2/2199 is located 1,190 feet southwest of the previously mentioned existing transmission line structures, and approximately 1,440 feet southwest of the estimated end of the turf runway. An aircraft taking off from this airport to the west would first encounter the existing transmission lines positioned at the end of the runway before passing over the Mt. Pony Route 2 alignment. The structures associated with Mt. Pony Route 2 would not be significantly taller than the existing structures near the runway, and therefore would not pose a greater obstacle risk than the existing conditions. The cut-in location for Mt. Pony Route 1 is located approximately 1.6 nm north of the Maitland Runway, and no impact to the airport are anticipated.

Oak Green Rebuild

Of the 9 airports identified within 10 nm of the Oak Green Rebuild, there is 1 public use airport, 8 private airports and/or heliports, and no military airports.

Orange County Airport is the only public-use airport within 10 nm of the Oak Green Rebuild. At its closest point, Orange County Airport is located approximately 6.7 nm (40,000 feet) southwest of the southernmost rebuild structure. Based on the results of the Company's airport analysis, no part of the Oak Green Rebuild will overlap with Orange County Airport imaginary surfaces. In addition, none of the project components are located within 20,000 feet of Orange County Airport, and no structure associated with the project will exceed a height of 200 feet AGL. As such, the route would not penetrate any FAA notification thresholds or pose an obstruction in public-use navigable airspace.

The Oak Green Rebuild Route would not conflict with the private facilities listed in Table P-2. The Kritter Runway and the Maitland Runway, described in the previous section, are located 3.5 nm north and 3.3 nm north, respectively, of the northernmost Oak Green Rebuild structure. Due to distance, no impacts from the rebuild segment are anticipated at either unregistered airfield.

Remington Rebuild

Of the 14 airports identified within 10 nm of the Remington Rebuild, there are 2 public use airports, 12 private airports and/or heliports, and no military airports.

Culpeper Regional Airport is located approximately 3.2 nm (20,000 feet) west of the Remington Rebuild, and Warrenton/Fauquier Airport is located approximately 4.2 nm (25,500 feet) northeast of the easternmost rebuild structure. Based on the results of the Company's airport analysis, no part of the Remington Rebuild will overlap with Culpeper Regional Airport or Warrenton/Fauquier Airport imaginary surfaces. In addition, none of the project components are located within 20,000 feet of Culpeper Regional Airport or Warrenton/Fauquier Airport, and no structure associated with the project will exceed a height of 200 feet AGL. As such, the Remington Rebuild would not penetrate any FAA notification thresholds or pose an obstruction in public-use navigable airspace.

The Remington Rebuild would not conflict with the private facilities listed in Table 5.1-14. The Kritter Runway and the Maitland Runway, described in the previous section, are greater than 10 nm from the rebuild structures.

Q. Drinking Water Wells

The Company has coordinated with the Department of Health ("VDH"), Office of Drinking Water ("ODW") on the Company's analysis of drinking water sources in proximity to the Company's construction project components. VDH-ODW has requested the Company identify known drinking water wells within the project area on the Company's Erosion and Sediment Control Plans. Water wells within 1,000 feet of the Project, however, may be outside of the transmission line corridor. The Company does not have the ability or right to field-mark wells located on private property. The Company has agreed to a method of well protection, including plotting and calling out the wells on the Project's Erosion and Sediment Control Plan, to which VDH-ODW indicated that the Company's proposed method is reasonable. A copy of that correspondence is included as <u>Attachment 2.Q.1</u>. The Company intends to follow this same approach as a standard practice with transmission line projects and will coordinate with VDH-ODW, as needed.

R. Pollution Prevention

Generally, as to pollution prevention, as part of Dominion Energy Virginia's commitment to environmental compliance, the Company has a comprehensive Environmental Management System Manual in place that ensures it is complying with environmental laws and regulations, reducing risk, minimizing adverse environmental impacts, setting environmental goals, and achieving improvements in its environmental performance, consistent with the Company's core values. Accordingly, any recommendation by the DEQ to consider development of an effective environmental management system has already been satisfied.

ATTACHMENTS



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erm.com

Virginia Department of Environmental Quality Office of Environmental Impact Review Ms. Bettina Rayfield, Manager P.O. Box 1105 Richmond, Virginia 23218 DATE February 20, 2025

SUBJECT Culpeper Technology Zone 230 kV Loop and Lines #2 and #1065 Conversion Project

REFERENCE 0726778

Dear Ms. Rayfield:

Environmental Resources Management (ERM), on behalf of Virginia Electric and Power Company (Dominion Energy Virginia, Dominion, or the Company), conducted a desktop wetland and waterbody review of publicly available information for the proposed Culpeper Technology Zone 230 kV Loop and Lines #2 and #1065 Conversion Project in Culpeper, Orange, and Fauquier Counties, Virginia. These transmission lines and the proposed Mt. Pony, Chandler, McDevitt, Palomino Substation and the proposed Relocated Oak Green Switching Station are collectively referred to as the Project. This delineation was done using desktop resources and methodology. A field delineation is required to verify the accuracy and extent of aquatic resource boundaries. Project route alternatives are shown in Attachment 1, with Cowardin Classification shown in Attachment 2, and wetland boundaries identified in this desktop review shown in Attachment 3.

Dominion Energy Virginia is filing an application with the State Corporation Commission (SCC) to construct and operate the following facilities:

- New overhead 230 kilovolt (kV) double circuit transmission lines collectively referred to as the Mt. Pony Lines: Mt. Pony-Potato Run Line #2437 and Mt. Pony-Oak Green Line #2438;
- New overhead 230 kV double circuit transmission line referred to as the Cirrus-Mt. Pony Line of the Tech Park Lines;
- Conversion and rebuild of the Company's existing 2.5-mile overhead double circuit 115 kV Oak Green-Potato Run Line #1065 to 230 kV and rebuild of the Gordonsville Oak Green Line #11 to 230 kV from the existing Oak Green Switching Station to existing structure #2199/164 / #11/550 / #1065/550; construction of two new single circuit 230 kV lines to extend Line #1065 and Line #11 into the relocated Oak Green Switching Station; construction of a new single circuit 115 kV transmission line (designed to 230

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kV) to extend the existing Oak Green-Pine Glade Line #153 into the new Oak Green Switching Station; referred to as the Oak Green Rebuild and Relocation;

- Conversion and rebuild of the Company's existing 115 kV Potato Run-Remington Line #2 from existing structure #2/147 to Remington Substation as double circuit 230 kV with distribution underbuild; referred to as the Remington Rebuild;
- Four new 230 kV substations (Mt. Pony Substation, McDevitt Substation, Chandler Substation, Palomino Substation) and one relocated 230 kV switching station (i.e., the Oak Green Switching Station as described previously).

The Project is needed to provide electrical service to multiple new industrial customers (the Customers) within an area referred to as the Culpeper Technology Zone (CTZ), with the requests being prompted by the growing data center development in the area; to maintain reliable service for the overall load growth in the area; and to comply with mandatory North American Electric Reliability Corporation Standards.

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

This assessment did not include field investigations required for wetland delineations, as defined in the U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987) and the 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0).

PROJECT STUDY AREAS AND POTENTIAL ROUTES

A study area was developed encompassing an area containing the Project origin and termination points for the planned facilities (i.e., the proposed Project) as well as an area broad enough for the identification of reasonable route alternatives meeting the Project objectives. Additionally, and to the extent practicable, the limits of the study area were defined by reference to easily distinguishable landmarks, such as roads or other recognizable features. Based on the large geographic area covered by the Project, as well as two project components being located within or partially within existing Dominion rights-of-way, ERM identified three study areas for the Project. The limits of the approximately 14,330-acre Mt. Pony and Tech Park study area are generally defined by the following features:

- The Norfolk Southern Railroad to the north and west;
- Greens Corner Road and the town of Stevensburg to the northeast;
- Dominion's existing Line #2199 to the southeast; and
- Sumerduck Run creek/Racoon Ford Road to the southwest.

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The Oak Green Rebuild and Relocation and Remington Rebuild will primarily utilize existing Dominion rights-of-way; therefore, no alternative routes were identified for these components. As a result, the study areas for these two components are a 0.25-mile buffer from the affected portions of the rights-of-way for existing Lines #2/#11 (for the Oak Green Components) and existing Line #2 (for the Remington Components). The approximately 1,030-acre Oak Green study area is generally located south of US 522 (Zachary Taylor Highway) from the west side of the Culpeper/Orange County boundary heading southeast to the intersection of US 522 and True Blue Road in Orange County. The approximately 320-acre Remington study area is adjacent to the eastern boundary of the Town of Remington and extends to the northeast in Fauquier County.

The study areas collectively encompass approximately 15,679 acres within Culpeper, Orange, and Fauquier Counties, Virginia. Portions of the incorporated town of Culpeper is located at the northwestern edge of the Mt. Pony and Tech Park study area. The unincorporated community of Stevensburg is also located within the Mt. Pony and Tech Park study area. Land use and land cover consists mostly of forested, agricultural, and undeveloped lands, therefore there are minimal commercial, industrial, and residential areas present throughout the Mt. Pony and Tech Park study area, and forested areas along Mountain Run, Potato Run, Dry Run, Sumerduck Run, Raccoon Branch, Long Branch, and associated tributaries. The largest forested/undeveloped areas are associated with riparian areas along Mountain Run, Potato Run, Potato Run, Sumerduck Run, and Dry Run within waterways within the Mt. Pony and Tech Park study area, and commercial business facilities. In general, these sparse commercial businesses and buildings are located in the northwest portion of the Mt. Pony and Tech Park study area near the town of Culpeper. The study areas are shown in Attachment 1.

MT. PONY LINES

MT. PONY ROUTE 1

Mt. Pony Route 1 originates at a cut-in location on the Company's existing Lines #2/#2199 at Structure #2199/110 / #2/496. From the cut-in location, the route parallels Blackjack Road north for approximately 0.6 mile, then parallels Alvere Road to the west and north for approximately 0.6 mile where it joins the corridor for the Company's existing Lines #2/#70. Mt. Pony Route 1 then runs west, collocated with the Company's Lines #2/#70 for approximately 3.1 miles. Mt. Pony Route 1 then turns northwest, crosses Germanna Highway/State Route 3 (Rt. 3) and runs another 0.6 mile (collocated with existing Lines #2/#70) before reaching the south side of US 15/29. At this point, Mt. Pony Route 1 turns southwest, paralleling the south side of US 15/29 for 0.3 mile before terminating at the proposed Mt. Pony Substation.



Where it is not collocated with existing transmission lines, Mt. Pony Route 1 would be constructed within a new 100-foot right-of-way.

The 3.7-mile portion of Mt. Pony Route 1 that would be collocated with existing Lines #2/#70 would require a new 60-foot new right-of-way adjacent to the existing 100-foot right-of-way, creating a 160-foot-wide right-of-way.

MT. PONY ROUTE 2

Mt. Pony Route 2 originates at a cut-in location on the Company's existing Lines #2/#2199 Lines at Structure #2199/132 / #2/518. From the cut-in location, the route heads northwest through forested and open land for approximately 3.5 miles and crosses Woolens Lane. The route then turns northeast, parallels the east side of US 522 for approximately 0.3 mile, crosses Rt. 3, and continues north across forested and open lands for approximately 0.5 mile before terminating at the proposed Mt. Pony Substation.

In total, Mt. Pony Route 2 measures approximately 4.8 miles long. Mt. Pony Route 2 would be constructed entirely within a new 100-foot-wide right-of-way.

MT. PONY SUBSTATION

The proposed 230-34.5 kV Mt. Pony Substation would be located on the south side of US 15/29, approximately 0.4 mile northeast of the intersection with Rt. 3. The substation would be constructed on land obtained through easement and owned by the developers of the proposed Customer A data center campus. The substation will be designed to serve load within the Culpeper Load Area. The proposed Mt. Pony Substation would require approximately 5.0 acres.

TECH PARK LINES

TECH PARK ROUTE 1

Tech Park Route 1 originates at the proposed Mt. Pony Substation. From the proposed Mt. Pony Substation, Tech Park Route 1 heads northeast for approximately 0.3 mile on the south side of US 15/29, then turns northwest for approximately 0.2 mile. This segment crosses US 15/29 and would be collocated with the Company's existing Lines #2/#70. The route then runs southwest and west along the southern and western edges of a non-customer planned data center campus for 0.6 mile (including a crossing of McDevitt Drive), then crosses the Customer B and Customer C data center campuses as part of a 2.0-mile loop that connects the proposed McDevitt, Chandler, and Palomino Substations. Tech Park Route 1 then follows the existing 115 kV Line #70 corridor to the southeast and south for approximately 0.5 mile and terminates at the future Cirrus Switching Station (approved as part of a separate filing). In total, Tech Park Route 1 measures approximately 3.7 miles long. Tech Park Route 1 would be constructed within a new 100-foot right-of-way, except for two 0.2-mile segments where



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it is collocated with the existing Lines #2/#70 right-of-way and would require only 60 additional feet of right-of-way.

TECH PARK ROUTE 2

Tech Park Route 2 originates at the proposed Mt. Pony Substation. From the proposed Mt. Pony Substation, Tech Park Route 2 heads southwest for approximately 0.2 mile along the south side of US 15/29. The route then turns northwest, crosses US 15/29, and continues northwest and north for approximately 0.6 mile, crossing Technology Drive. Tech Park Route 2 turns west and follows the southern and western edges of a non-customer planned data center for 0.4 mile (including a crossing of McDevitt Drive), then crosses the Customer B and Customer C data center campuses as part of a 2.0-mile loop that connects the proposed McDevitt, Chandler, and Palomino Substations. Tech Park Route 2 then follows the existing 115 kV Line #70 corridor to the southeast and south for approximately 0.5 mile and terminates at the future Cirrus Switching Station (approved as part of a separate filing). In total, Tech Park Route 2 measures approximately 3.5 miles long. Tech Park Route 2 would be constructed within a new 100-foot right-of-way, except for one 0.2-mile segment where it is collocated with the existing Line #70 right-of-way and would require only 60 additional feet of right-of-way.

TECH PARK ROUTE 3

Tech Park Route 3 originates at the proposed Mt. Pony Substation. From the proposed Mt. Pony Substation, Tech Park Route 3 heads southwest for approximately 0.2 mile along the south side of US 15/29. The route turns northwest, crossing US 15/29, and continues generally northwest for approximately 0.8 mile generally parallel to Technology Drive and crossing McDevitt Drive. Tech Park Route 3 then crosses the Customer A and Customer B data center campuses as part of a 2.0-mile loop that connects the proposed McDevitt, Chandler, and Palomino Substations. Tech Park Route 3 then follows the existing 115 kV Line #70 corridor to the southeast and south for approximately 0.5 mile and terminates at the future Cirrus Switching Station (approved as part of a separate filing).

In total, Tech Park Route 3 measures approximately 3.5 miles long. Tech Park Route 3 would be constructed within a new 100-foot right-of-way, except for one 0.2-mile segment where it is collocated with the existing Line #70 right-of-way and would require only 60 additional feet of right-of-way.

MCDEVITT SUBSTATION

The proposed 230-34.5 kV McDevitt Substation would be located 0.1 mile north of the intersection of Rt. 3 and the Norfolk-Southern Railroad within the Town of Culpeper, on land to be owned by the Company within the Customer B data center campus. The substation would be directly adjacent to and south of the proposed Chandler Substation and will be



designed to accommodate multiple network connections to allow for increased reliability and to serve load within the Culpeper Load Area. The proposed McDevitt Substation would require approximately 4.5 acres.

CHANDLER SUBSTATION

The proposed 230-34.5 kV Chandler Substation would be located 0.2 mile north of the intersection of Rt. 3 and the Norfolk-Southern Railroad within the Town of Culpeper, on land to be owned by the Company within the Customer B data center campus. The substation would be located directly adjacent to and north of the proposed McDevitt Substation, less than 200 feet south of the proposed Palomino Substation, and will be designed to accommodate multiple network connections to allow for increased reliability and to serve load within the Culpeper Load Area. The proposed Chandler Substation would require approximately 4.7 acres.

PALOMINO SUBSTATION

The proposed 230-34.5 kV Palomino Substation is located 0.1 mile east of the Norfolk-Southern Railroad and 0.2 mile south of the East Chandler Street within the Town of Culpeper on an easement on land owned by the Customer C data center campus. The substation would be located less than 200 feet north of the proposed Chandler Substation and will be designed to accommodate multiple network connections to allow for increased reliability and to serve load within the Culpeper Load Area. The proposed Palomino Substation would require approximately 4.4 acres.

OAK GREEN REBUILD AND RELOCATION

Oak Green Rebuild begins at a cut-in location on the Company's existing Lines #2/#2199 at Structure #2199/164 / #2/550 in Culpeper County. From the cut-in, the Oak Green Rebuild would follow the Company's existing Lines #2/#11 southeast for approximately 2.5 miles to the existing Oak Green Switching Station. This segment crosses the Rapidan River, enters Orange County, and crosses US 522 about 1.5 miles east of the County boundary. The Oak Green Rebuild passes through the existing Oak Green Switching Station (which would be partially removed, although the transmission structures within the existing substation site would be retained) and continues approximately 0.2 mile south to the relocated proposed Oak Green Switching Station site. In total, the Oak Green Rebuild measures approximately 2.7 miles long. The Oak Green Rebuild also includes an approximately 0.2-mile segment of new 75-foot right-of-way south of the relocated proposed Oak Green Switching Station to interconnect the existing 115 kV Line #153 to the relocated proposed Oak Green Switching Station.

The Oak Green Rebuild would be primarily within a 100-foot-wide right-of-way, which is comprised of the existing 75-foot right-of-way for existing Lines #2/#11, plus a 25-foot



expansion. The exceptions to this right-of-way expansion include a 0.2-mile segment west of the Rapidan River in Culpeper County and 0.3-mile segment south of River Road in Orange County that cross existing conservation easements and will be maintained within the existing 75-foot-wide rights-of-way. In addition, an approximately 0.2-mile segment south of the existing Oak Green Switching Station a new variable width right-of-way will be used to connect the existing Oak Green Switching Station to the relocated proposed Oak Green Switching Station.

RELOCATED OAK GREEN SWITCHING STATION

The proposed Relocated Oak Green Switching Station would entail relocating and upgrading the existing 115-34.5 kV Oak Green Switching Station to 230-34.5 kV. The boundary of the new substation site would be less than 200 feet south of the boundary of the existing site. The Oak Green Rebuild transmission line between the existing and new switching station sites would span approximately 0.2 mile. The proposed Relocated Oak Green Switching Station site would require approximately 4.7 acres. Transformers and other substation equipment would be removed from the existing Oak Green Switching Station site; however, Dominion would retain the transmission structures within the existing substation site as part of the Oak Green Rebuild and Relocation.

REMINGTON REBUILD

The Remington Rebuild begins at the Company's existing Lines #2 at Structure #2/147 east of the Town of Remington in Fauquier County. From the cut-in, the Remington Rebuild heads east/northeast within the existing Line ##2/#655 right-of-way for approximately 0.7 mile, where it terminates in the existing Remington Substation. The Remington Rebuild would occur entirely within existing variable width rights-of-way and across Dominion-owned lands.

DESKTOP EVALUATION METHODOLOGY

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

- Recent aerial imagery, taken in June of 2021 (NAIP 2021);
- Color infrared imagery from 2010 through 2022 (NAIP 2024):
- Culpeper County Interactive Data Portal GIS datasets (Culpeper County 2024);
- Google Earth Aerial Imagery (Google Earth LLC 2024);
- ESRI World Imagery from 2021-2023 (ESRI et al. 2024a);
- ESRI World Elevation Terrain 5-foot contours (ESRI et al. 2024);
- NWI maps from the USFWS online data mapping portal (USFWS 2024);



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- The National Hydrography Dataset (NHD) Plus High Resolution (USGS 2024); and
- Soil Survey Geographic Database soils data from the U.S. Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS 2024).

NATURAL COLOR AND INFRARED AERIAL PHOTOGRAPHY

Recent (2021 and 2024) natural color aerial photography was used to provide a visual overview of the Project area and to assist in evaluating current conditions. Infrared aerial photography was used to identify the potential presence of wetlands based on signatures associated with the levels of reflectance. For example, areas that are inundated with water appear very dark (almost black) due to the low level of reflectance in the infrared spectrum. The presence of these dark colors can be used as a potential indicator of hydric or inundated soils that are likely associated with wetlands.

TOPOGRAPHIC MAPS

Recent ESRI world topographic maps show the topography of the area as well as other important landscape features such as forest cover, development, buildings, agricultural areas, streams, lakes, and wetlands (ESRI et al. 2024).

USFWS NATIONAL WETLAND INVENTORY MAPPING

NWI maps provide the boundaries and classifications of potential wetland areas as mapped by the USFWS (USFWS 2024). NWI data is based primarily on aerial photo interpretations with limited ground-truthing and may represent incorrect boundaries or wetland cover types. NWI data can be unreliable in some areas, especially in forested landscapes, where aerial photography is used as the major data source. The classifications of the majority of the NWI polygons in the study area appear to be accurate based on a review of the cover types observed in the aerial photography. However, in areas where there was an obvious discrepancy between the NWI classification and the aerial photography, ERM modified the classification to more accurately reflect current conditions. In order to acknowledge ERM's adjustment of NWI classifications where appropriate, all the wetland types referenced in this assessment are referred to as "assigned wetland cover types" regardless of whether the cover type was modified from the NWI classification.

USDA-NRCS SOILS DATA

Soils in the study area were identified and assessed using the SSURGO database, which is a digital version of the original county soil surveys (USDA-NRCS 2024). The attribute data within the SSURGO database provides the proportionate extent of the component soils and their properties (e.g., hydric rating) for each soil map unit. The soils in the study area were grouped into three categories based on the hydric rating of the component soils within each map unit: hydric, partially hydric, and non-hydric. Hydric soils were defined as those where the major



component soils, and minor components in some cases, are designated as hydric. Hydric components in these map units account for more than 80% of the map unit. Partially hydric soils include map units that only contain minor component soils that are designated as hydric. The partially hydric map units in the Project area contain 10% or less hydric soils. The remaining map units do not contain any component soils that are designated as hydric. Areas mapped as hydric or partially hydric have a higher probability of containing wetlands than areas with no hydric soils.

USGS NATIONAL HYDROGRAPHY DATASET

The NHD dataset contains features such as lakes, ponds, streams, rivers, and canals (USGS 2024). The waterbodies mapped by the NHD appeared generally consistent with those visible on the USGS maps and aerial photography.

PROBABILITY ANALYSIS

ERM used a stepwise process to identify probable wetland areas along the proposed routes, as follows:

- Infrared and natural color aerial photography was used in conjunction with topographic maps and soils maps to identify potential wetland areas. Boundaries were assigned to the areas that appeared to exhibit wetland signatures based on this review and a cover type was determined based on aerial photo interpretation. For the purpose of the study, these areas are referred to as Interpreted Wetlands.
- To further determine the probability of a wetland occurring within a given location, the Interpreted Wetland polygon shape files were digitally layered with the NWI mapping and soils information from the SSURGO database.
- The probability of a wetland occurring was assigned based on the number of overlapping data layers (i.e., indicators of potential wetland presence) that occurred in a particular area.

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

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

TABLE 1: CRITERIA USED TO RANK THE PROBABILITY OF WETLAND OCCURRENCE



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

WETLAND AND WATERBODY CROSSINGS

The desktop analysis provides a probability of wetland and waterbody occurrence within each route, with wetlands classified based on the Cowardin classification system described below:

- Palustrine emergent (PEM) wetlands characterized by erect, rooted, herbaceous hydrophytes (i.e., aquatic plants) and woody species less than 3 feet in height, excluding mosses and lichens;
- Palustrine scrub-shrub (PSS) wetlands characterized by woody vegetation, excluding woody vines, approximately 3 to 20 feet in height;
- Palustrine forested (PFO) wetlands characterized by woody vegetation, excluding woody vines, approximately 20 feet or more in height and 3 inches or larger diameter at breast height (DBH);
- Palustrine unconsolidated bottom (PUB) open waters characterized by bottom substrate particles smaller than stones (less than 10 inches in diameter) covering greater than 25% of the area, with plants covering less than 30% of the area; and
- Riverine streams channels containing periodically or continuously moving water (USFWS 2013).

As stated above, field delineations were not performed and would be required to verify the accuracy and extent of aquatic resource boundaries. A range of wetland occurrence probabilities are reported by this study from very low to high. The probability of wetland occurrence increases as multiple indicators begin to overlap towards the "high" end of the spectrum. The medium, medium-high, and high probability categories are the most reliable representation of in-situ conditions, due to overlapping data sets, and these categories are reported in the summary below as a percentage of the total acreage of each route. Attachment 2 depicts the Cowardin classification, and the type of wetlands displayed on color-based images. Attachment 3 depicts probability, and the type of interpreted wetlands displayed on color base map images.

RESULTS

Results of the probability analysis are presented in Table 2 below. Summaries are provided in the sections following the table. Riverine (stream) and PUB (open water features) are described in the Waterbody Crossings section below.



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TABLE 2: SUMMARY OF THE PROBABILITIES OF WETLAND AND WATERBODY OCCURRENCE ALONG THE ROUTE ALTERNATIVES ^{A,B,C}

| Probability | Total Within Right-of-way (acres) | Wetland and Waterbody type (acres) | | | | | |
|----------------|---|------------------------------------|-------------------|--------------------------|-----------------------------|----------------------|--|
| | | PEM (Emergent) | PFO (Forested) | PSS (Scrub- Shrub) | PUB (Freshwater pond) | Riverine (Stream) | |
| Mt. Pony Line | es ^a | | | | | | |
| Mt. Pony Route | 2 1 | 1 | | | 1 | | |
| High | 0.4 | 0.1 | 0.2 | 0.1 | NA | <0.1 | |
| Medium/High | 5.6 | 0.6 | 4.8 | 0.1 | NA | 0.1 | |
| Medium | 0.8 | 0.1 | 0.7 | 0.0 | NA | 0.1 | |
| Medium/Low | 0.1 | 0.0 | 0.1 | NA | NA | <0.1 | |
| Low | NA | NA | NA | NA | NA | NA | |
| Very Low | NA | NA | NA | NA | NA | NA | |
| Mt. Pony Route | 2 | | 1 | | | | |
| High | 1.8 | 0.8 | 1.0 | NA | NA | NA | |
| Medium/High | 4.7 | 2.1 | 2.5 | NA | NA | 0.2 | |
| Medium | 2.2 | <0.1 | 2.1 | NA | NA | 0.1 | |
| Medium/Low | 0.1 | NA | <0.1 | NA | 0.1 | 0.0 | |
| Low | NA | NA | NA | NA | NA | NA | |
| Very Low | NA | NA | NA | NA | NA | NA | |
| Tech Park Lin | les ^b | | | | | | |
| Tech Park Rout | e 1 | 1 | 1 | 1 | 1 | | |
| High | NA | NA | NA | NA | NA | NA | |
| Medium/High | 0.4 | NA | 0.4 | NA | NA | <0.1 | |
| Medium | 1.0 | 0.3 | 0.7 | NA | NA | <0.1 | |
| Medium/Low | <0.1 | NA | <0.1 | <0.1 | NA | NA | |
| Low | NA | NA | NA | NA | NA | NA | |


| Probability | Total Within | Wetland and Waterbody type (acres) | | | | | | |
|-------------------|-------------------------|------------------------------------|-------------------|--------------------------|-----------------------------|----------------------|--|--|
| | Right-of-way (acres) | PEM (Emergent) | PFO (Forested) | PSS (Scrub- Shrub) | PUB (Freshwater pond) | Riverine (Stream) | | |
| Very Low | NA | NA NA NA NA | | NA | NA | | | |
| Tech Park Rout | e 2 | | | | | | | |
| High | NA | NA | NA NA NA | | NA | | | |
| Medium/High | 0.4 | NA | 0.3 NA NA | | NA | <0.1 | | |
| Medium | 0.8 | NA | 0.6 | 0.6 NA NA | | 0.1 | | |
| Medium/Low | 0.2 | NA | <0.1 | <0.1 | NA | 0.1 | | |
| Low | NA | NA | NA | NA NA NA | | NA | | |
| Very Low | NA | NA | NA NA NA NA | | NA | NA | | |
| Tech Park Route 3 | | | | | | | | |
| High | NA | NA | NA | NA NA N | | NA | | |
| Medium/High | 0.4 | NA | NA 0.3 NA NA | | NA | <0.1 | | |
| Medium | 0.9 | NA | NA 0.8 NA NA | | NA | 0.1 | | |
| Medium/Low | 0.1 | NA | <0.1 | <0.1 | NA | 0.1 | | |
| Low | NA | NA | NA | NA | NA | NA | | |
| Very Low | NA | NA | NA | NA | NA | NA | | |
| Oak Green Re | build and Reloc | ation | | | | | | |
| High | 0.1 | NA | NA | NA | NA | 0.1 | | |
| Medium/High | 0.1 | 0.1 | <0.1 NA NA | | NA | <0.1 | | |
| Medium | <0.1 | <0.1 | NA NA NA | | NA | 0.0 | | |
| Medium/Low | <0.1 | 0.0 | 0.0 NA NA | | NA | <0.1 | | |
| Low | NA | NA | NA | NA | NA | NA | | |
| Very Low | NA | NA | NA | NA | NA | NA | | |
| Remington Re | ebuild | | | | | | | |



| Probability | Total Within Right-of-way (acres) | Wetland and Waterbody type (acres) | | | | | |
|-------------|---|------------------------------------|-------------------|--------------------------|-----------------------------|----------------------|--|
| | | PEM (Emergent) | PFO (Forested) | PSS (Scrub- Shrub) | PUB (Freshwater pond) | Riverine (Stream) | |
| High | 0.5 | 0.5 | NA | NA | NA | <0.1 | |
| Medium/High | 2.5 | 2.4 | NA | NA | NA | 0.1 | |
| Medium | NA | NA | NA NA NA | | NA | NA | |
| Medium/Low | NA | NA | NA | NA | NA | NA | |
| Low | NA | NA | NA | NA | NA | NA | |
| Very Low | NA | NA | NA | NA | NA | NA | |

NA = Not applicable due to absence of a wetland type within the Project footprint Wetland acreages have been rounded to the tenths place; as a result, the totals may not reflect the sum of the addends. A value of 0.0 acres indicates less than 0.05 acre of the wetland is present. a The Mt. Pony Routes are inclusive of the 230 kV Mt. Pony Lines and the Mt. Pony Substation.

b The Tech Park Routes are inclusive of the 230 kV Tech Park Lines, McDevitt Substation, Chandler Substation, and Palomino Substation.

WETLAND CROSSINGS

Wetlands within the Mt. Pony and Tech Park study area are associated with Mountain Run, Sumerduck Run, Dry Run, and Potato Run, with large areas of PFO located in the central and southern portion of the study areas. Within the Oak Green Rebuild and Relocation study area, most wetlands are PEM wetlands associated with tributaries to the Rapidan River, including Long Branch and unnamed tributaries, and PFO wetlands associated with an unnamed, intermittent tributary to Mountain Run. Wetlands within the Remington Rebuild study area are mainly PEM associated with an unnamed, intermittent tributary to Tinpot Run.

MT. PONY LINES

Although the proposed Mt. Pony Substation is included in the footprint of the Mt. Pony Lines, based on the wetland desktop methodology, there are no wetlands within the footprint of the substation.

Mt. Pony Route 1

The length of the corridor for Mt. Pony Route 1 is approximately 5.2 miles and encompasses a total of approximately 44.6 acres (inclusive of the 5.0-acre proposed Mt. Pony Substation). Based on the methodology discussed above, the right-of-way footprint will encompass approximately 13.7% (6.8 acres) of land with a medium or higher probability of containing



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wetlands and waterbodies. Of these 6.8 acres, 5.7 acres consist of PFO wetlands, 0.2 acre consists of PSS, 0.8 acre consists of PEM wetlands, and 0.2 acre consists of riverine features.

Mt. Pony Route 2

The length of the corridor for the Mt. Pony Route 2 is approximately 4.8 miles and encompasses a total of approximately 62.3 acres (inclusive of the 5.0-acre proposed Mt. Pony Substation). Based on the methodology discussed above, the right-of-way footprint will encompass approximately 14.0% (8.7 acres) of land with a medium or higher probability of containing wetlands and waterbodies. Of these 8.7 acres, 5.5 acres consist of PFO wetlands, 2.9 acres consist of PEM wetlands, and 0.3 acre consists of riverine features.

TECH PARK LINES

Although the proposed McDevitt, Chandler, and Palomino Substations are included in the footprint of the Tech Park Lines, based on the wetland desktop methodology, there are no wetlands within the footprint of the substations.

Tech Park Route 1

The length of the corridor for the Tech Park Route 1 is approximately 3.7 miles and encompasses a total of approximately 49.9 acres (inclusive of the proposed McDevitt (4.5 acres), Chandler (4.7 acres), and Palomino (4.4 acres) Substations). Based on the methodology discussed above, the right-of-way footprint will encompass approximately 2.9% (1.4 acres) of land with a medium or higher probability of containing wetlands and waterbodies. Of these 1.4 acres, 1.0 acre consists of PFO wetlands, 0.3 acre consist of PEM wetlands, and 0.1 acre consist of riverine features.

Tech Park Route 2

The length of the corridor for the Tech Park Route 2 is approximately 3.5 miles and encompasses a total of approximately 48.7 acres (inclusive of the proposed McDevitt (4.5 acres), Chandler (4.7 acres), and Palomino (4.4 acres) Substations). Based on the methodology discussed above, the right-of-way footprint will encompass approximately 2.3% (1.1 acres) of land with a medium or higher probability of containing wetlands and waterbodies. Of these 1.1 acres, 1.1 acres consist of PFO wetlands, and 0.1 acre consist of riverine features.

Tech Park Route 3

The length of the corridor for the Tech Park Route 3 is approximately 3.5 miles and encompasses a total of approximately 48.6 acres (inclusive of the proposed McDevitt (4.5 acres), Chandler (4.7 acres), and Palomino (4.4 acres) Substations). Based on the methodology discussed above, the right-of-way footprint will encompass approximately 3.4% (1.2 acres) of land with a medium or higher probability of containing wetlands and



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waterbodies. Of these 1.2 acres, 1.1 acres consist of PFO wetlands, and 0.1 acre consist of riverine features.

OAK GREEN REBUILD AND RELOCATION

The length of the corridor for the Oak Green Rebuild and Relocation is approximately 2.8 miles and encompasses a total of approximately 37.2 acres (inclusive of the proposed 4.7-acre Relocated Oak Green Switching Station). The majority of the corridor is within existing Company-owned right-of-way, with only 10.3 acres of new proposed right-of-way. Based on the methodology discussed above, the right-of-way footprint will encompass approximately 2.9% (1.1 acres) of land with a medium or higher probability of containing wetlands and waterbodies. Of these 1.1 acres, less than 0.1 acre consists of PFO wetlands, 0.4 acre consist of PEM wetlands, 0.2 acre consist of PUB open water features, and 0.5 acre consist of riverine features. Of these wetlands, approximately 1.1 acres are located within existing right-of-way and only 0.2 acre are located in within the proposed expanded right-of-way.

REMINGTON REBUILD

The length of the corridor for the Remington Rebuild is approximately 0.7 miles and encompasses a total of approximately 9.1 acres, all within the Company's existing Line #70/#535 right-of-way. Based on the methodology discussed above, the right-of-way footprint will encompass approximately 33.9% (3.1 acres) of land with a medium or higher probability of containing wetlands and waterbodies. Of these 3.1 acres, 3.0 acres consist of PEM wetlands and 0.1 acre consists of riverine features.

WATERBODY CROSSINGS

ERM identified and mapped waterbodies in the study area using similar publicly available GIS databases as those used to identify and map wetlands. Waterbodies crossed by the Mt. Pony Routes and Tech Park Routes include the perennial Mountain Run, and unnamed perennial and intermittent tributaries to Mountain Run, Dry Run, Sumerduck Run, and Potato Run. Waterbodies crossed by the Oak Green Rebuild and Relocation include the perennial Rapidan River, Long Branch, and Raccoon Branch, intermittent tributaries to Racoon Branch, and open water features. Waterbodies crossed by the Remington Rebuild include intermittent streams associated with Tinpot Run. No waterbodies were identified within the proposed Mt. Pony, McDevitt, Chandler, or Palomino Substation footprints, or the Relocated Oak Green Switching Station footprint.



| Waterbodies Crossed | Unit | Mt. Pony Route 1 | Mt. Pony Route 2 | Tech Park Route 1 | Tech Park Route 2 | Tech Park Route 3 | Oak Green Rebuild and Relocation | Remington Rebuild Route |
|---|--------|---------------------------|---------------------------|----------------------------|----------------------------|----------------------------|---|-------------------------------|
| Total | Number | 12 | 10 | 4 | 4 | 4 | 6 | 2 |
| Perennial Streams | Number | 0 | 0 | 3 | 0 | 0 | 3 | 0 |
| Intermittent Streams | Number | 10 | 8 | 0 | 3 | 3 | 1 | 0 |
| Perennial Lakes/Ponds | Number | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Non-NHD Mapped Waterbodies ^a | Number | 2 | 2 | 1 | 1 | 1 | 1 | 2 |

TABLE 2: WATERBODIES CROSSED BY THE ROUTE ALTERNATIVES

Source: NHD (USGS 2024)

a Identified via aerial imagery during desktop analysis using recent (2024), aerial imagery (Google Earth LLC 2024), and ESRI World Imagery (ESRI et al. 2024a). These are also identified in Culpeper County stream data (Culpeper County 2024).

MT. PONY LINES

Mt. Pony Route 1

Mt. Pony Route 1 crosses 12 waterbodies, of which 10 are NHD-mapped waterbodies, including 10 unnamed, intermittent streams. Additionally, ERM identified two unnamed, unclassified streams within the right-of-way using recent aerial imagery (NAIP 2021; Google Earth LLC 2024). Based on the methodology described above, the right-of-way for Mt. Pony Route 1 would encompass approximately 0.2 acre of riverine features.

Mt. Pony Route 2

Mt. Pony Route 2 crosses 10 waterbodies, of which eight are NHD-mapped waterbodies, including eight unnamed, intermittent streams. Additionally, ERM identified two unnamed, unclassified streams within the right-of-way using recent aerial imagery (NAIP 2021; Google Earth LLC 2024). Based on ERM's desktop wetland and waterbody analysis, the right-of-way for Mt. Pony Route 2 would encompass approximately 0.3 acre of riverine features and 0.1 acre of PUB open water features.



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TECH PARK LINES

Tech Park Route 1

Tech Park Route 1 crosses four waterbodies, of which three are NHD-mapped waterbodies, including two separate crossings of an unnamed perennial tributary to Mountain Run. Additionally, ERM identified two unnamed, intermittent streams within the right-of-way using recent aerial imagery and county stream data (NAIP 2021; Google LLC 2024; Culpeper County 2024)). Based on ERM's desktop wetland and waterbody analysis, the right-of-way for Tech Park Route 1 would encompass approximately 0.1 acre of riverine features.

Tech Park Route 2

Tech Park Route 2 crosses four waterbodies, of which three are NHD-mapped waterbodies, including three unnamed, intermittent streams. Additionally, ERM identified one unnamed, intermittent stream within the right-of-way using recent aerial imagery and county stream data (NAIP 2021; Google LLC 2024; Culpeper County 2024). Based on ERM's desktop wetland and waterbody analysis, the right-of-way for Tech Park Route 2 would encompass approximately 0.1 acre of riverine features.

Tech Park Route 3

Tech Park Route 3 crosses four waterbodies, of which three are NHD-mapped waterbodies, including three unnamed, intermittent streams. Additionally, ERM identified one unnamed, intermittent stream within the right-of-way using recent aerial imagery and county stream data (NAIP 2021; Google LLC 2024; Culpeper County 2024). Based on ERM's desktop wetland and waterbody analysis, the right-of-way for Route Tech Park Route 3 would encompass approximately 0.2 acre of riverine features.

OAK GREEN REBUILD AND RELOCATION

The Oak Green Rebuild and Relocation crosses six waterbodies, of which five are NHD-mapped waterbodies, including two perennial waterbodies (Rapidan River and one lake/pond) and three unnamed, intermittent streams. Additionally, ERM identified one unnamed, unclassified stream within the right-of-way using recent aerial imagery (NAIP 2021; Google LLC 2024). Based on ERM's desktop wetland and waterbody analysis, the right-of-way for the Oak Green Rebuild and Relocation would encompass approximately 0.5 acre of riverine features and 0.2 acre of PUB open water features.

REMINGTON REBUILD

The Remington Rebuild does not cross any NHD-mapped waterbodies, however, ERM identified two unnamed, unclassified streams within the right-of-way using recent aerial imagery and county stream data (NAIP 2021; Google LLC 2024; Culpeper County 2024). Based on ERM's



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desktop wetland and waterbody analysis, the right-of-way for the Remington Rebuild would encompass approximately 0.1 acre of riverine features.

PROJECT IMPACTS

Avoiding or minimizing new impacts on wetlands and streams was among the criteria used in developing routes for the Project. To minimize impacts on wetland areas, the transmission lines have been designed to span or avoid wetlands and waterbodies where possible, keeping transmission structures outside of aquatic resources to the extent practicable.

As noted above, most of the Oak Green Rebuild and Relocation and all of the proposed Remington Rebuild are within Company-owned and maintained existing transmission line rights-of-way. The portions of these routes in existing right-of-way would have no new permanent wetland impacts. The majority of each of the riverine features crossed by the Oak Green Rebuild and Relocation route are within existing maintained corridor, with vegetation/riparian buffer only along the proposed expanded right-of-way segments of the features.

The majority of potential direct impacts on wetlands due to Project construction would be temporary in nature. Mats would be used for construction equipment to travel over wetlands, as appropriate. Due to the absence of an existing right-of-way, some new access roads may be necessary along the route. If a section of line cannot be accessed from existing roads, Dominion Energy Virginia may need to install a culvert, ford, or temporary bridge along the right-of-way to cross small streams. In such cases, some temporary fill material in wetlands adjacent to such crossings may be required. This fill would be placed on erosion control fabric and removed when work is completed, returning ground elevations to original contours. When siting transmission lines, perpendicular crossings of wetland systems are prioritized to minimize direct impacts to these sensitive areas and reduce overall impacts to the watershed.

Permanent direct impacts to wetlands would be limited to placement of structures within wetlands, if unavoidable, and, due to the necessity of removing trees and shrubby vegetation from the right-of-way, the permanent conversion of PSS/PFO wetlands to PSS or PEM type wetlands.

No change in contours of wetlands and waterbodies, or redirection of the flow of water, is anticipated and the amount of spoil from foundation and structure placement would be minimal. Excess spoil in wetlands generated through foundation construction would be controlled through construction best management practices (e.g., the implementation erosion and sediment controls).

Required tree removal adjacent to waterbodies would reduce riparian buffer functions such as stream bank stabilization and erosion control, nutrient and sediment filtration, floodwater storage and peak flow reduction, habitat diversity, and water temperature modification from shading. Where the removal of trees or shrubby vegetation occurs within wetlands, Dominion



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REFERENCE

Energy Virginia would use the least intrusive method reasonably possible to clear the corridor. Within the stream buffers (100 feet), and as needed to minimize impacts to wetlands, trees and vegetation will be hand felled and stumps left in place to reduce the potential for erosion. Shrubs and trees with a diameter at breast height of less than three inches will be left in place unless it impedes temporary access where they would be clipped, leaving roots in place which will be able to naturally regenerate. Vegetation within the right-of-way would be allowed to return to maintained grasses and shrubs after construction, which would provide some filtration stabilization to help protect waterbodies from pollutants.

SUMMARY

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

In addition, there is a Project website where the SCC application will be available after filing, as well as maps and discussions about the Project. It can be accessed by going to: https://www.dominionenergy.com/projects-and-facilities/electric-projects/power-line-projects/culpeper-tech-zone.

If you have any questions regarding this wetland assessment, please contact me at 857-302-6502 or by email at <u>jake.bartha@erm.com</u>.

Sincerely,

Jake Bartha Environmental Resources Management

cc: James Young, Dominion Energy Virginia

Enclosures: Attachments 1, 2, and 3



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ATTACHMENT 1



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ATTACHMENT 2

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ATTACHMENT 3

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Travis A. Voyles Secretary of Natural and Historic Resources

Matthew S. Wells Director



Andrew W. Smith Chief Deputy Director

COMMONWEALTH of VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION

Attachment 2.G.1 Page 1 of 50 Frank N. Stovall Deputy Director for Operations

> Darryl Glover Deputy Director for Dam Safety, Floodplain Management and Soil and Water Conservation

Laura Ellis Deputy Director for Administration and Finance

October 28, 2024

Madison Adams ERM 222 South 9th Street, Suite 2900 Minneapolis, MN 55402

Re: 0726778, Culpeper

Dear Ms. Adams:

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.

Terrestrial Resources

According to the information in our files, the Southern Culpeper Diabase Flatwoods and the Mount Pony Conservation Sites are located within the **Culpeper** project site. 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 (B-rank) based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. The Southern Culpeper Diabase Flatwoods Conservation Site has been assigned a B-rank of B2, which represents a site of very high significance. The natural heritage resources associated with this site are:

| | Piedmont Mafic Barren | G1/S1/NL/NL |
|--------------|-----------------------|-------------|
| Phlox pilosa | Downy Phlox | G5/S1/NL/NL |

The Mount Pony Conservation Site has been assigned a B-rank of B2, which represents a site of very high significance. The natural heritage resources associated with this site are:

| | Northern Hardpan Basic Oak - Hickory Forest | G2/S2/NL/NL |
|----------------------|---|-------------|
| | Piedmont Mafic Barren | G1/S1/NL/NL |
| Trichostema setaceum | Narrow-leaf blue curls | G5/S2/NL/NL |

DCR recommends avoiding both conservation sites and the associated documented occurrences of natural heritage resources when determining transmission line routes.

600 East Main Street, 24th Floor | Richmond, Virginia 23219 | 804-786-6124

State Parks • Soil and Water Conservation • Outdoor Recreation Planning Natural Heritage • Dam Safety and Floodplain Management • Land Conservation
According to DCR's predicted suitable habitat modeling and review by a DCR biologist, there is a potential for breeding populations of the Loggerhead Shrike (*Lanius ludovicianus*, G4/S1B,S2N/NL/LT) to occur in the **Culpeper** site if suitable habitat exists on site.

The Loggerhead Shrike breeds throughout most of the United States and southern Canada, through Mexico and into Central America (NatureServe, 2009). In Virginia, there are records throughout most of the state; however, its current strong hold seems to be the Shenandoah Valley. It usually nests, forages, and perches in open fields and pastures where there are scattered trees for nesting and telephone wires or fences for perching (Hamel, 1992). Essential habitat requirements include open country with scattered trees or shrubs and conspicuous perches. A thorny shrub, such as hawthorn, is a favored nesting site. Loggerhead shrikes sometimes impale their food on thorny shrubs, barbed-wire fences, and other suitable objects to be eaten later or to feed to their young. Please note that the Loggerhead shrike is currently classified as threatened by the Virginia Department of Wildlife Resources (VDWR).

Threats to the Loggerhead shrike include loss of open habitats through reforestation and conversion to cropland, and the removal of hedgerows (Fraser, 1991). They may experience negative impacts from insecticide use and predation (NatureServe, 2009).

Additionally, according to the diabase screening layer and a review by a DCR biologist, several rare plants which are typically associated with prairie vegetation and inhabit semi-open diabase glades in Virginia, may occur within **all three** sites 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 False foxglove (*Agalinis auriculata*, G3/S1/NL/NL), American bluehearts (*Buchnera americana*, G5?/S1S2/NL/NL), Downy phlox (*Phlox pilosa*, G5/S1/NL/NL), Torrey's Mountain-mint (*Pycnanthemum torreyi*, G2/S2/SOC/LT), Stiff goldenrod (*Solidago rigida var. rigida*, G5T5/S2/NL/NL), and Hairy hedgenettle (*Stachys arenicola*, G4?/S1/NL/NL).

Please note that Torrey's Mountain-mint is listed as threatened by the Virginia Department of Agriculture and Consumer Services (VDACS). Torrey's Mountain-mint is also listed as a Species of Concern (SOC) by United States Fish and Wildlife Service (USFWS); however, this is not a legal designation.

Due to the potential for this site to support populations of natural heritage resources, DCR recommends an inventory for rare plants associated with diabase soils in all three project sites (**Culpeper, Oak Green and Remington**) and an inventory for breeding loggerhead shrikes in the **Culpeper** site. With the survey results we can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to the documented resources.

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 <u>anne.chazal@dcr.virginia.gov</u> or 804-786-9014 to discuss availability and rates for field work.

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. Survey results should be coordinated with DCR-DNH.

Upon review of the results, if it is determined the species is present, and there is a likelihood of a negative impact on the species, DCR-DNH will recommend coordination with VDACS to ensure compliance with Virginia's Endangered Plant and Insect Species Act.

Due to the legal status of the Loggerhead shrike, DCR recommends coordination with Virginia's regulatory authority for the management and protection of this species, the VDWR, to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 - 570).

Aquatic Resources

According to the information in our files, the Sumerduck Run Stream Conservation Site (SCS) is located within the **Culpeper** project site. SCSs encompass stream/river reaches, waterbodies, and terrestrial contributing areas containing or associated with aquatic or semi-aquatic resources, including upstream and downstream reaches and tributaries up to 3-km stream distance from the aquatic resources. The size and dimensions of an SCS are based on the hydrology of the waterway and surrounding landscape, taking into consideration dam locations and whether the waterway is tidal. SCSs are also given a biodiversity significance ranking (B-rank) based on the rarity, quality, and number of element occurrences they contain. The Sumerduck Run SCS has been given a B-rank of B3 which represents a site of high significance. The natural heritage resource associated with this SCS is:

| Aquatic Natural Community | NP-Rapidan-Upper Rappahannock | G2G3/S2S3/NL/NL |
|---------------------------|-------------------------------|-----------------|
| | Second Order Stream | |

The Rapidan River at Rt. 522 Stream Conservation Site (SCS) is located within the **Oak Green** project site. The Rapidan River at Rt. 522 SCS has been given a B-rank of B3, which represents a site of high significance. The natural heritage resources associated with this SCS are:

| Aquatic Natural Community | NP-Rapidan-Upper Rappahannock Fifth Order Stream | G2/S2/NL/NL |
|---------------------------|---|-------------|
| Elliptio lanceolata | Yellow Lance | G2/S2/LT/LT |

Tthe Rappahannock River - Hubbard Run Stream Conservation Site (SCS) is located within the **Remington** project site. The Rappahannock River - Hubbard Run SCS has been given a B-rank of B3, which represents a site of high significance. The natural heritage resource associated with this SCS is:

| Elliptio lanceolata | Yellow Lance | G2/S2/LT/LT |
|---------------------|--------------|-------------|
| Επιρπο ιαπεθοιαία | Tenow Lance | 02/32/L1/1 |

The documented Aquatic Natural Communities are based on Virginia Commonwealth University's **INSTAR** (*Interactive Stream Assessment Resource*) database which includes over 2,000 aquatic (stream and river) collections statewide for fish and macroinvertebrate. These data represent fish and macroinvertebrate assemblages, instream habitat, and stream health assessments. The associated Aquatic Natural Community is significant on multiple levels. Frist both stream are a grade B per the VCU-Center for Environmental Sciences (CES), indicating its relative regional significance, considering its aquatic community composition and the present-day conditions of other streams in the region. Both stream reaches also holds a "Healthy" stream designation per the INSTAR Virtual Stream Assessment (VSS) score. This score assesses the similarity of this stream to ideal stream conditions of biology and habitat for this region. Lastly, these streams contribute to high Biological Integrity at the watershed level (6th order) based on number of native/non-native, pollution-tolerant/intolerant and rare, threatened or endangered fish and macroinvertebrate species present.

Threats to the significant Aquatic Natural Community and the surrounding watershed include water quality degradation related to point and non-point pollution, water withdrawal and introduction of non-native species.

The Yellow Lance occurs in mid-sized rivers and second and third order streams. To survive, it needs a silt-free, stable streambed and well-oxygenated water that is free of pollutants. This species has been the subject of taxonomic debate in recent years (NatureServe, 2009). Currently in Virginia, the Yellow lance is recognized from populations in the Chowan, James, York, and Rappahannock drainages. Its range also extends into Neuse-Tar river system in North Carolina. In recent years, significant population declines have been noted across its range (NatureServe, 2009). Please note that this species is currently classified as threatened by the United States Fish and Wildlife Service (USFWS) and the Virginia Department of Wildlife Resources (VDWR).

Considered good indicators of the health of aquatic ecosystems, freshwater mussels are dependent on good water quality, good physical habitat conditions, and an environment that will support populations of host fish species (Williams et al., 1993). Because mussels are sedentary organisms, they are sensitive to water quality degradation related to increased sedimentation and pollution. They are also sensitive to habitat destruction through dam construction, channelization, and dredging, and the invasion of exotic mollusk species. The Yellow lance may be particularly sensitive to chemical pollutants and exposure to fine sediments from erosion (NatureServe, 2009).

In addition, the Rapidan River (**Oak Green**) has been designated by the VDWR as a "Threatened and Endangered Species Water" for the Green Floater (*Lasmigona subviridis*, G2G3/S2/PT/LT).

To minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations, establishment/enhancement of riparian buffers with native plant species and maintaining natural stream flow.

Due to the legal status of the Yellow Lance and Green Floater, DCR recommends coordination with the VDWR, Virginia's regulatory authority for the management and protection of these species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570). Due to the legal status of the Yellow Lance, DCR also recommends coordination with the US Fish and Wildlife Service (USFWS) and the VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with protected species legislation.

Karst Resources

The **Culpeper** and **Oak Green** sites have intersected the karst bedrock screening layer. Encountering undocumented caves, sinkholes or other sensitive karst features in this area is possible. During every phase of the project, DCR recommends stabilization of the soil around the site. Minimizing surface disturbance, strict use of E&S control measures appropriate for the location and adherence to best management practices appropriate for karst will help to reduce any potential impact to the karst, groundwater and surface water resources as well as any associated fauna and flora.

If karst features such as sinkholes, caves, disappearing streams, and large springs are encountered during the project, please coordinate with Wil Orndorff (540-230-5960, <u>Wil.Orndorff@dcr.virginia.gov</u>) the Virginia DCR, Division of Natural Heritage Karst Protection Coordinator, to document and minimize adverse impacts. Activities such as discharge of runoff to sinkholes or sinking streams, filling of sinkholes, and alteration of cave entrances can lead to environmental impacts including surface collapse, flooding, erosion and sedimentation, contamination of groundwater and springs, and degradation of subterranean habitat for natural heritage resources (e.g. cave adapted invertebrates, bats). These potential impacts are not necessarily limited to the immediate project area, as karst systems can transport water and associated contaminants rapidly over relatively long distances, depending on the nature of the local karst system. If the project involves filling or "improvement" of sinkholes or cave sinkhole improvement is for storm water discharge, copies of VDOT Form EQ-120 will suffice.

Additional Comments

The proposed project will impact multiple Ecological Cores (**Culpeper: C2 & C5 and Oak Green: C4**) as identified in the Virginia Natural Landscape Assessment (<u>https://www.dcr.virginia.gov/natural-heritage/vaconvisvnla</u>). Mapped cores in the project area can be viewed via the Virginia Natural Heritage Data Explorer, available here: <u>http://vanhde.org/content/map</u>.

Ecological Cores are areas of at least 100 acres of continuous interior, natural cover that provide habitat for a wide range of species, from interior-dependent forest species to habitat generalists, as well as species that utilize marsh, dune, and beach habitats. Interior core areas begin 100 meters inside core edges and continue to the deepest parts of cores. Cores also provide the natural, economic, and quality of life benefits of open space, recreation, thermal moderation, water quality (including drinking water recharge and protection, and erosion prevention), and air quality (including sequestration of carbon, absorption of gaseous pollutants, and production of oxygen). Cores are ranked from C1 to C5 (C5 being the least significant) using nine prioritization criteria, including the habitats of natural heritage resources they contain.

Impacts to cores occur when their natural cover is partially or completely converted permanently to developed land uses. Habitat conversion to development causes reductions in ecosystem processes, native biodiversity, and habitat quality due to habitat loss; less viable plant and animal populations; increased predation; and increased introduction and establishment of invasive species.

DCR recommends avoidance of impacts to cores. When avoidance cannot be achieved, DCR recommends minimizing the area of impacts overall and concentrating the impacted area at the edges of cores, so that the most interior remains intact.

The **Culpeper Site** will impact a core with very high ecological integrity. Further investigation of these impacts is recommended and DCR-DNH can conduct a formal impact analysis upon request. This analysis would estimate direct impacts to cores and habitat fragments and indirect impacts to cores. The final products of this analysis would include an estimate of the total impact of the project in terms of acres. For more information about the analysis and service charges, please contact Joe Weber, DCR Chief of Biodiversity Information and Conservation Tools at Joseph.Weber@dcr.virginia.gov.

Additionally, 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 (<u>https://www.dcr.virginia.gov/natural-heritage/document/nh-invasive-plant-list-2023.pdf</u>) 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.

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 \$1,000.00 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 U.S. Fish and Wildlife Service (USFWS) utilizes an online project review process

(https://www.fws.gov/office/virginia-ecological-services/virginia-field-office-online-review-process) to facilitate compliance with the Endangered Species Act (16 U.S.C. 1531-1544, 87 Stat. 884) (ESA), as amended. The process enables users to 1) follow step-by-step guidance; 2) access information that will allow them to identify threatened and endangered species, designated critical habitat, and other Federal trust resources that may be affected by their project; and 3) accurately reach determinations regarding the potential effects of their project on these resources as required under the ESA. If you have questions regarding the online review process, please contact Jackie Luu at jackie_luu@fws.gov.

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 <u>https://services.dwr.virginia.gov/fwis/</u> or contact Hannah Schul at <u>Hannah.Schul@dwr.virginia.gov</u>.

Should you have any questions or concerns, feel free to contact me at 804-625-3979. Thank you for the opportunity to comment on this project.

Sincerely,

Michole Studioon

Nicki Gustafson Natural Heritage Project Review Assistant

Cc: Hannah Schul, VDWR, Wil Orndorff, DCR- Karst

Literature Cited

Rawinski, T.J. 1995. Natural communities and ecosystems: Conservation priorities for the future. Unpublished report for DCR-DNH.

Fraser, J. D. 1991. Loggerhead Shrike. In Virginia's Endangered Species: Proceedings of a Symposium. K. Terwilliger ed. The McDonald and Woodward Publishing Company, Blacksburg, Virginia. Hamel, P. B. 1992. Land Manager's Guide to the Birds of the South. The Nature Conservancy. Chapel Hill, North Carolina.

NatureServe. 2009. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <u>http://www.natureserve.org/explorer</u>. (Accessed: June 24, 2010).

Williams, J.D., M.L. Warren, Jr., K.S. Cummings, J.L. Harris, and R.J. Neves. 1993. Conservation status of freshwater mussels of the United States and Canada. Fisheries 18: 6-9.

VaFWIS Search Report Compiled on 10/17/2024, 5:17:22 PM

Known or likely to occur within a 2 mile buffer around polygon; center 38.4300500 -77.9995199 in 047 Culpeper County, 137 Orange County, VA

<u>View Map of</u> <u>Site Location</u>

431 Known or Likely Species ordered by Status Concern for Conservation (displaying first 20) (18 species with Status* or Tier I** or Tier II**)

| BOVA Code | <u>Status*</u> | Tier** | <u>Common Name</u> | <u>Scientific Name</u> | Confirmed | Database(s) |
|--------------|----------------|--------|--|--------------------------------|-----------|---------------------|
| 050022 | FEST | Ia | Bat, northern long- eared | Myotis septentrionalis | | BOVA |
| 060003 | FESE | Ia | <u>Wedgemussel,</u> <u>dwarf</u> | Alasmidonta heterodon | | BOVA |
| 060029 | FTST | IIa | Lance, yellow | Elliptio lanceolata | Yes | BOVA,SppObs,HU6 |
| 050020 | SE | Ia | <u>Bat, little brown</u> | Myotis lucifugus | | BOVA |
| 050027 | FPSE | Ia | Bat, tri-colored | Perimyotis subflavus | | BOVA |
| 040293 | ST | Ia | Shrike, loggerhead | Lanius ludovicianus | Yes | BOVA,BBA,SppObs,HU6 |
| 060081 | FPST | IIa | <u>Floater, green</u> | Lasmigona subviridis | | BOVA |
| 040292 | ST | | <u>Shrike, migrant</u> loggerhead | Lanius ludovicianus migrans | | BOVA |
| 100079 | FC | IIIa | Butterfly, monarch | Danaus plexippus | | BOVA |
| 030063 | CC | IIIa | Turtle, spotted | Clemmys guttata | | BOVA |
| 030012 | CC | IVa | <u>Rattlesnake,</u> <u>timber</u> | Crotalus horridus | | BOVA |
| 010077 | | Ia | Shiner, bridle | Notropis bifrenatus | | BOVA |
| 100248 | | Ia | <u>Fritillary, regal</u> | Speyeria idalia idalia | | BOVA,HU6 |
| 040052 | | IIa | <u>Duck, American</u> <u>black</u> | Anas rubripes | | BOVA,HU6 |
| 040320 | | IIa | <u>Warbler, cerulean</u> | Setophaga cerulea | | BOVA,HU6 |
| 040140 | | IIa | <u>Woodcock,</u> <u>American</u> | Scolopax minor | | BOVA,HU6 |
| 040203 | | IIb | <u>Cuckoo, black-</u> <u>billed</u> | Coccyzus erythropthalmus | | BOVA |
| 040105 | | IIb | <u>Rail, king</u> | Rallus elegans | | BOVA |
| 010131 | | IIIa | Eel, American | Anguilla rostrata | Yes | BOVA,SppObs,HU6 |
| 030068 | | IIIa | <u>Turtle, woodland</u> <u>box</u> | Terrapene carolina carolina | | BOVA,HU6 |

To view All 431 species View 431

Attachment 2.G.1 Page 9 of 50

*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; Virginia Widlife Action Plan Conservation Opportunity Ranking:

III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

a - On the ground management strategies/actions exist and can be feasibly implemented.; b -

On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.; c -

No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

View Map of All Query Results from All **Observation Tables**

Bat Colonies or Hibernacula: Not Known

Anadromous Fish Use Streams (1 records) View Map of All **Anadromous Fish Use Streams**

View Map of All

Fish Impediments

| | | | Anadromous Fish Species | | | |
|-----------|---------------|--------------|--------------------------|-------------------------|----------------------------|----------|
| Stream ID | Stream Name | Reach Status | Different Species | Highest TE [*] | Highest Tier ^{**} | View Map |
| P186 | Rapidan river | Potential | 0 | | | Yes |

Impediments to Fish Passage (3 records)

| ID | Name | River | View Map |
|-----|----------------------|--------------|------------|
| 124 | LAKE PELHAM DAM | MOUNTAIN RUN | Yes |
| 16 | MILLER PLACE DAM | BROOK RUN | Yes |
| 8 | MOUNTAIN RUN DAM #18 | BALDS RUN | <u>Yes</u> |

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters

N/A

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Ē

Species Observations (80 records Observation

(80 records - displaying first 20, 2 Observations with Threatened or Endangered species) View Map of All Query Results Species Observations

| | | | |]] | | | |
|---------------|--------|------------------|--|----------------------|----------------------------|-------------------------------|-------------|
| obsID | class | Date Observed | Observer | Different Species | Highest TE [*] | Highest Tier ^{**} | View Map |
| <u>6135</u> | SppObs | Aug 10 1992 | Sue A. Bruenderman, VDGIF | 4 | FTST | II | Yes |
| <u>95002</u> | SppObs | Jul 3 2000 | Kim Venne | 1 | ST | Ι | Yes |
| <u>620670</u> | SppObs | Sep 27 2013 | Rick; Browder Gabriel; Darkwah Meghan; Bandura Dan ; F | 5 | | III | Yes |
| <u>620268</u> | SppObs | Jun 25 2013 | Rick; Browder Gabriel; Darkwah Meghan; Bandura Dan ; F | 5 | | III | Yes |
| <u>620960</u> | SppObs | Jun 18 2013 | Rick; Browder Gabriel; Darkwah Meghan; Bandura Dan ; F | 6 | | III | Yes |
| <u>604958</u> | SppObs | Sep 18 2009 | Katelyn; Shank Derek; Wheaton | 5 | | III | Yes |
| <u>603298</u> | SppObs | Jul 16 2009 | Jason; Hill Drew; Miller | 27 | | III | Yes |
| <u>350541</u> | SppObs | Jun 28 2007 | David Hogg | 11 | | III | Yes |
| 350544 | SppObs | Jun 28 2007 | David Hogg | 11 | | III | Yes |
| 350543 | SppObs | Jun 28 2007 | David Hogg | 11 | | III | Yes |
| <u>350555</u> | SppObs | Jun 10 2007 | Jay Keller | 14 | | III | Yes |
| 350567 | SppObs | Jun 10 2007 | Jay Keller | 13 | | III | Yes |
| <u>350576</u> | SppObs | Jun 10 2007 | Jay Keller | 13 | | III | Yes |
| 350571 | SppObs | Jun 10 2007 | Jay Keller | 18 | | III | Yes |
| 350558 | SppObs | Jun 10 2007 | Jay Keller | 12 | | III | Yes |
| 350581 | SppObs | Jun 10 2007 | Jay Keller | 19 | | III | Yes |
| 425778 | SppObs | Oct 19 2006 | VCU - INSTAR | 13 | | III | Yes |
| 316474 | SppObs | Jun 16 2006 | Rick Browder | 7 | | III | Yes |

Displayed 20 Species Observations

Selected 80 Observations View all 80 Species Observations

Habitat Predicted for Aquatic WAP Tier I & II Species

N/A

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

Virginia Breeding Bird Atlas Blocks (11 records)

<u>View Map of All Query Results</u> <u>Virginia Breeding Bird Atlas Blocks</u>

| | | Breeding | | | |
|--------|-----------------------------|-------------------|-------------------------|----------------------------|----------|
| BBA ID | Atlas Quadrangle Block Name | Different Species | Highest TE [*] | Highest Tier ^{**} | View Map |
| 47176 | Brandy Station, SE | 68 | | III | Yes |
| 47175 | Brandy Station, SW | 13 | | IV | Yes |
| 46176 | Castleton, SE | 69 | | III | Yes |
| 47164 | <u>Culpeper East, CE</u> | 15 | | IV | Yes |
| 47163 | Culpeper East, CW | 1 | | | Yes |
| 47162 | <u>Culpeper East, NE</u> | 7 | | III | Yes |
| 47161 | <u>Culpeper East, NW</u> | 1 | | | Yes |
| 47166 | Culpeper East, SE | 64 | | III | Yes |
| 46164 | Culpeper West, CE | 37 | | III | Yes |
| 46162 | <u>Culpeper West, NE</u> | 58 | ST | Ι | Yes |
| 46166 | Culpeper West, SE | 86 | | III | Yes |

Public Holdings:

N/A

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

| FIPS Code | City and County Name | Different Species | Highest TE | Highest Tier |
|------------------|----------------------|--------------------------|------------|--------------|
| 047 | <u>Culpeper</u> | 349 | FESE | Ι |
| 137 | <u>Orange</u> | 349 | FESE | Ι |

USGS 7.5' Quadrangles:

Culpeper West Castleton Unionville Culpeper East Brandy Station Germanna Bridge

USGS NRCS Watersheds in Virginia:

N/A

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

| HU6 Code | USGS 6th Order Hydrologic Unit | Different Species | Highest TE | Highest Tier |
|----------|--------------------------------|--------------------------|------------|--------------|
| RA19 | Mountain Run-Hiders Branch | 50 | ST | Ι |
| RA20 | Jonas Run | 47 | | II |
| RA21 | Mountain Run-Flat Run | 50 | FTST | II |
| RA38 | Cedar Run | 46 | FTST | II |
| RA39 | Rapidan River-Potato Run | 55 | FTST | Ι |

Compiled on 10/17/2024, 5:17:22 PM 12703540.0 report=all searchType= P dist= 3218 poi= 38.4300500 -77.9995199 siteDD= 38.4300540 -77.9995208;38.4728410 -77.9953068;38.4821130 -77.9609748;38.4422340 -77.8898778;38.3877320 -77.9467788;38.4300540 -77.9995208

PixelSize=64; Anadromous=0.024521; BBA=0.048082; BECAR=0.024377; Bats=0.020301; Buffer=0.361476; County=0.062854; HU6=0.07080299999999999; Impediments=0.022935; Init=0.402746; PublicLands=0.030814; Quad=0.041636; SppObs=0.378153; TEWaters=0.022628; TierReaches=0.025547; TierTerrestrial=0.065313; Total=1.50459; Tracking_BOVA=0.187862; Trout=0.028369; huva=0.043603



| 17/24, 4:16 PM | VaFWIS Map | age 14 of 5 |
|---|---|-------------|
| Map Overlay Legend | The map display represents 126005 feet east to west by 126005 feet north to south for a total of 569.5 square miles. | of |
| T & E Waters | | |
| Federal | A UTM Zone change occurs within the image. The left-hand side of the image is a pseudo projection from UTM Zone 17 into UTM Zone 18 resulting in reduced spatial accuracy within | the |
| State | portion of the image occurring in UTM Zone 17. | |
| Predicted Habitat | Topographic maps and Black and white aerial photography for year 1990+- are from the United States Department of the Interior, United States Geological Survey. | |
| | Geographic Information Network. | |
| Aquatic | Shaded topographic maps are from TOPO! ©2006 National Geographic http://www.national.geographic.com/topo | |
| Terrestrial | All other map products are from the Commonwealth of Virginia Department of Wildlife Resou | irces. |
| Trout Waters | map assembled 2024-10-17 17:16:25 (qa/qc March 21, 2016 12:20 - tn=2703540.0 dist= | 3218 |
| Class I - IV | \$poi=38.4300500 -77.9995199 | |
| Class V - VI | | |
| Anadromous Fish Reach | | |
| Confirmed | | |
| Potential | | |
| 123 Impediment | | |
| Position Rings | | |
| 4 miles and 1 mile at the Search Point | | |
| 2 mile radius Search Area | | |
| Baid Eagle Concentration Areas and Roosts | | |

VaFWIS Search Report Compiled on 10/17/2024, 5:43:04 PM

<u>Help</u>

Known or likely to occur within a **2 mile buffer around polygon; center 38.3345500 -77.9530399** in **047 Culpeper County, 137 Orange County, VA**

Oak Green Area

View Map of Site Location

430 Known or Likely Species ordered by Status Concern for Conservation (displaying first 20) (19 species with Status* or Tier I** or Tier II**)

| BOVA Code | <u>Status*</u> | Tier** | <u>Common Name</u> | <u>Scientific Name</u> | Confirmed | Database(s) |
|--------------|----------------|--------|---------------------------------------|-----------------------------------|------------|---------------------------|
| 050022 | FEST | Ia | Bat, northern long-eared | Myotis septentrionalis | | BOVA |
| 060003 | FESE | Ia | <u>Wedgemussel,</u> <u>dwarf</u> | Alasmidonta heterodon | | BOVA |
| 060029 | FTST | IIa | Lance, yellow | Elliptio lanceolata | Yes | BOVA,SppObs,HU6 |
| 050020 | SE | Ia | Bat, little brown | Myotis lucifugus | | BOVA |
| 050027 | FPSE | Ia | Bat, tri-colored | Perimyotis subflavus | | BOVA |
| 040293 | ST | Ia | <u>Shrike,</u> loggerhead | Lanius ludovicianus | <u>Yes</u> | BOVA,SppObs |
| 060081 | FPST | IIa | <u>Floater, green</u> | Lasmigona subviridis | <u>Yes</u> | BOVA,TEWaters,Habitat,HU6 |
| 040292 | ST | | <u>Shrike, migrant</u> loggerhead | Lanius ludovicianus migrans | | BOVA |
| 100079 | FC | IIIa | <u>Butterfly,</u> monarch | Danaus plexippus | | BOVA |
| 030063 | CC | IIIa | Turtle, spotted | Clemmys guttata | | BOVA |
| 030012 | CC | IVa | <u>Rattlesnake,</u> timber | Crotalus horridus | | BOVA |
| 010077 | | Ia | <u>Shiner, bridle</u> | Notropis bifrenatus | | BOVA |
| 100248 | | Ia | <u>Fritillary, regal</u> | Speyeria idalia idalia | | BOVA,HU6 |
| 040052 | | IIa | <u>Duck, American</u> <u>black</u> | Anas rubripes | | BOVA,HU6 |
| 040320 | | IIa | <u>Warbler,</u> <u>cerulean</u> | Setophaga cerulea | | BOVA,HU6 |
| 040140 | | IIa | Woodcock, American | Scolopax minor | | BOVA,HU6 |
| 040203 | | IIb | Cuckoo, black- billed | Coccyzus erythropthalmus | | BOVA |
| 040105 | | IIb | <u>Rail, king</u> | Rallus elegans | | BOVA |

| 060019 | IIc | <u>Pebblesnail,</u> panhandle_ | Somatogyrus virginicus | | HU6 |
|--------|------|-----------------------------------|---------------------------|------------|-----------------|
| 010131 | IIIa | <u>Eel, American</u> | Anguilla rostrata | <u>Yes</u> | BOVA,SppObs,HU6 |

To view All 430 species View 430

*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; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need Virginia Wildlife Action Plan Conservation Opportunity Ranking:

a - On the ground management strategies/actions exist and can be feasibly implemented.; b -

On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.; c -

No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

<u>View Map of All Query Results from All</u> <u>Observation Tables</u>

Bat Colonies or Hibernacula: Not Known

Anadromous Fish Use Streams (1 records)

View Map of All Anadromous Fish Use Streams

| C4 ID | New | | Anadro | View Mer | | |
|-----------|---|--------------|--------------------------|-------------------------|----------------------------|----------|
| Stream ID | Stream Name | Reach Status | Different Species | Highest TE [*] | Highest Tier ^{**} | View Map |
| P186 | Rapidan river | Potential | 0 | | | Yes |

Impediments to Fish Passage

N/A

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters (8 Reaches)

<u>View Map of All</u> <u>Threatened and Endangered Waters</u>

| | T&E Waters Species | | | | | | T 74 |
|---|--------------------|--------|------|----------------------|----------------------------------|-------------------------|-------------|
| Stream NameHighestTE*BOVA Code, Status*, Tier**, Common & | | | | on & Scientific Name | View Map | | |
| <u>Rapidan River</u> (<u>060620)</u> | FPST | 060081 | FPST | IIa | <u>Floater,</u> g <u>reen</u> | Lasmigona subviridis | Yes |
| <u>Rapidan River</u> (064572_) | FPST | 060081 | FPST | IIa | <u>Floater,</u> green | Lasmigona subviridis | Yes |

| <u>Rapidan River</u> <u>(064608)</u> | FPST | 060081 | FPST | IIa | <u>Floater</u> , green | Lasmigona subviridis | <u>Yes</u> |
|--|------|--------|------|-----|----------------------------------|-------------------------|------------|
| <u>Rapidan River</u> <u>(067775)</u> | FPST | 060081 | FPST | IIa | <u>Floater,</u> green | Lasmigona subviridis | <u>Yes</u> |
| <u>Rapidan River</u> <u>(068083)</u> | FPST | 060081 | FPST | IIa | <u>Floater,</u> green | Lasmigona subviridis | <u>Yes</u> |
| <u>Rapidan River</u> (069560) | FPST | 060081 | FPST | IIa | <u>Floater,</u> green | Lasmigona subviridis | <u>Yes</u> |
| <u>Rapidan River</u> (072087) | FPST | 060081 | FPST | IIa | <u>Floater,</u> green | Lasmigona subviridis | <u>Yes</u> |
| <u>Rapidan River</u> (072180) | FPST | 060081 | FPST | IIa | <u>Floater,</u> g <u>reen</u> | Lasmigona subviridis | <u>Yes</u> |

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

| Species | Species Observations (41 records - displaying first 20, 2 Observations with Threatened or Endangered species) View Map of All Query Results Species Observations | | | | | | | | |
|---------------|--|------------------|---|----------------------|----------------------------|-------------------------------|-------------|--|--|
| | | | | - | N Species | | | | |
| obsID | class | Date Observed | Observer | Different Species | Highest TE [*] | Highest Tier ^{**} | View Map | | |
| <u>6135</u> | SppObs | Aug 10 1992 | Sue A. Bruenderman, VDGIF | 4 | FTST | II | Yes | | |
| <u>95002</u> | SppObs | Jul 3 2000 | Kim Venne | 1 | ST | Ι | Yes | | |
| <u>608075</u> | SppObs | Sep 14 2009 | Katelyn; Shank Werner; Wieland Andrew; Hogan | 14 | | III | Yes | | |
| 425827 | SppObs | Nov 29 2007 | VCU - INSTAR | 21 | | III | Yes | | |
| <u>350520</u> | SppObs | Jun 14 2007 | David Hogg | 13 | | III | Yes | | |

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| 350522 | SppObs | Jun 14 2007 | David Hogg | 10 | III | Yes |
|---------------|----------|----------------|---|----|-----|-----|
| <u>11604</u> | SppObs | Jul 31 1990 | ANGERMEIER ET AL | 24 | III | Yes |
| <u>643713</u> | SppObs | May 27 2022 | Brett Ostby; Caitlin Carey; Emory Hagemeyer | 2 | IV | Yes |
| <u>637149</u> | SppObs | May 27 2022 | Brett Ostby; Caitlin Carey; Emory Hagemeyer | 2 | IV | Yes |
| <u>648030</u> | SppObs | Sep 28 2021 | Emory Hagemeyer; T Mitchell; Brian Watson | 2 | IV | Yes |
| <u>648031</u> | SppObs | Sep 28 2021 | Emory Hagemeyer; T Mitchell; Brian Watson | 2 | IV | Yes |
| <u>648015</u> | SppObs | Sep 9 2021 | Brett Ostby; Emory Hagemeyer | 1 | IV | Yes |
| <u>648014</u> | SppObs | Sep 9 2021 | Brett Ostby; Emory Hagemeyer | 2 | IV | Yes |
| <u>648009</u> | SppObs | Aug 3 2021 | Emory Hagemeyer; Zack Taylor; Caitlin Carey; Vance Ne | 2 | IV | Yes |
| <u>647260</u> | SppObs | Jun 25 2018 | Kristopher McGinley | 1 | IV | Yes |
| <u>647259</u> | SppObs | Jun 22 2018 | Kristopher McGinley | 1 | IV | Yes |
| 350528 | SppObs | Jun 28 2007 | David Hogg | 10 | IV | Yes |
| 350523 | SppObs | Jun 28 2007 | David Hogg | 10 | IV | Yes |
| 350526 | SppObs | Jun 28 2007 | David Hogg | 8 | IV | Yes |
| <u>375081</u> | Aquatics | Jun 20 2007 | B. T. Watson, M. B. Stine | 7 | IV | Yes |

Displayed 20 Species Observations

Selected 41 Observations <u>View all 41 Species Observations</u>

Habitat Predicted for Aquatic WAP Tier I & II Species (1 Reach)

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

| | Tier Species | | | | | | X 7• |
|-----------------------------|--------------|--|------|-----|--------------------------|-------------------------|-------------|
| Stream Name | BOVA C | BOVA Code, Status [*] , Tier ^{**} , Common & Scientific Name | | | | View Map | |
| Rapidan River (20801031) | FPST | 060081 | FPST | IIa | <u>Floater,</u> green | Lasmigona subviridis | <u>Yes</u> |
| Rapidan River (20801031) | FPST | 060081 | FPST | IIa | <u>Floater,</u> green | Lasmigona subviridis | Yes |

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

Virginia Breeding Bird Atlas Blocks (2 records)

<u>View Map of All Query Results</u> <u>Virginia Breeding Bird Atlas Blocks</u>

| BBA ID | | Breeding | X 7• N 4 | | |
|--------|-----------------------------|--------------------------|-------------------------|----------------|----------|
| | Atlas Quadrangle Block Name | Different Species | Highest TE [*] | Highest Tier** | View Map |
| 46166 | <u>Culpeper West, SE</u> | 86 | | III | Yes |
| 46154 | <u>Rapidan, CE</u> | 1 | | III | Yes |

Public Holdings:

N/A

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

| FIPS Code | City and County Name | Different Species | Highest TE | Highest Tier |
|------------------|----------------------|--------------------------|------------|---------------------|
| 047 | <u>Culpeper</u> | 349 | FESE | Ι |
| 137 | <u>Orange</u> | 349 | FESE | Ι |

USGS 7.5' Quadrangles: Rapidan Culpeper West Unionville Culpeper East

USGS NRCS Watersheds in Virginia:

N/A

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

| HU6 Code | USGS 6th Order Hydrologic Unit | Different Species | Highest TE | Highest Tier |
|----------|--------------------------------|--------------------------|------------|---------------------|
| RA37 | Rapidan River-Rapidan | 58 | FTST | I |
| RA38 | Cedar Run | 46 | FTST | II |
| RA39 | Rapidan River-Potato Run | 55 | FTST | Ι |
| RA40 | Mountain Run-Mill Run | 43 | | Ι |
| RA41 | Mine Run | 42 | FTST | Ι |

Compiled on 10/17/2024, 5:43:05 PM 12703547.0 report=all searchType=P dist= 3218 poi= 38.3345500 -77.9530399 siteDD= 38.3345530 -77.9530468;38.3346600 -77.9530718;38.3351990 -77.9543008;38.3357810 -77.9554578;38.3357930 -77.9554828;38.336340 -77.9565438;38.337140 -77.9568818;38.3374200 -77.9568938;38.345530 -77.9615048;38.3400400 -77.9638078;38.3400580 -77.9639128;38.3435180 -77.9615048;38.3401900 -77.9615048;38.340510 -77.9564788;38.340510 -77.9564788;38.3401900 -77.9568798;38.3422730 -77.9654788;38.3401980 -77.9641568;38.3403490 -77.9643888;38.3405120 -77.9704788;38.346150 -77.9704788;38.346150 -77.97041568;38.340190 -77.97045883;38.3465100 -77.9704788;38.3465100 -77.9704788;38.3465100 -77.9704788;38.3465100 -77.9704788;38.3465100 -77.9704788;38.3468150 -77.9704788;38.346150 -77.9704248;38.353513940 -77.9707086;38.3514050 -77.98048;38.355090 -77.9813248;38.3555100 -77.9704248;38.35513940 -77.9707868;38.3514050 -77.98048;38.355090 -77.9812048;38.3565080 -77.9812048;38.3559170 -77.9739798;38.3555100 -77.9739786;38.3550170 -77.9739786;38.3550170 -77.9739786;38.3550170 -77.9739786;38.3550170 -77.9739786;38.3550170 -77.9739786;38.3550170 -77.9739786;38.3550170 -77.9739786;38.3550170 -77.9739786;38.355010 -77.9539786;38.355010 -77.9539786;38.355010 -77.9539786;38.355010 -77.9539786;38.355000 -77.9539786;38.355000 -77.9539786;38.355000 -77.9539786;38.355000 -77.9539786;38.355000 -77.9539786;38.355000 -77.9539786;38.355000 -77.9539786;38.355000 -77.9539786;38.3451200 -77.9539786;38.3452410 -77.942484;38.3350500 -77.95304

-77.9517978;38.3340810 -77.9521168;38.3345530 -77.9530468

PixelSize=64; Anadromous=0.020403; BBA=0.03475; BECAR=0.017465; Bats=0.01694; Buffer=0.15368; County=0.046253; HU6=0.055658; Impediments=0.017536; Init=0.199275; PublicLands=0.02326; Quad=0.02968; SppObs=0.263674; TEWaters=0.024636; TierReaches=0.036496; TierTerrestrial=0.042215; Total=1.073713; Tracking_BOVA=0.185558; Trout=0.021071; huva=0.032478

Attachment 2.G.1 Oak Green Areage 21 of 50



| 17/24, 4:43 PM | Attachment 2.G VaFWIS Map Page 22 of 5 |
|---|---|
| Map Overlay Legend | represents 63002 feet east to west by 63002 feet north to south for a total of 142.3 square miles. |
| T & E Waters Federal | A UTM Zone change occurs within the image. The left-hand side of the image is a pseudo projection from UTM Zone 17 into UTM Zone 18 resulting in reduced spatial accuracy within the portion of the image occurring in UTM Zone 17. |
| State | Topographic maps and Black and white aerial photography for year 1990+- are from the United States Department of the Interior, United States Geological Survey. |
| Predicted Habitat WAP Tier I & II | Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network. |
| Aquatic | http://www.national.geographic.com/topo All other man products are from the Commonwealth of Virginia Department of Wildlife Resources |
| Terrestrial | map assembled $2024-10-17$ $17\cdot43\cdot28$ (ag/ac March 21 2016 $12\cdot20$ - tn= 2703547.0 dist= 3218 |
| Trout Waters | $\begin{array}{c} \text{map assention 2.221 I = 17777.5.26} (qaqe Maren 21, 2010 12.20 - m 2705547.0 - m s = 5210 \\ \text{I}) \\ \text{$ noi=38, 3345500 - 77.9530309} \end{array}$ |
| Class I - IV | spor=38.55+5500 - 11.9550599 |
| Class V - VI | |
| Anadromous Fish Reach | |
| Confirmed | |
| Potential | |
| J23 Impediment | |
| Position Rings 1 mile and 1/4 mile at the Search Point | |
| 2 mile radius Search Area | |
| Baid Eagle Concentration Areas and Roosts | |
| | |

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VaFWIS Search Report Compiled on 10/17/2024, 5:33:14 PM

<u>Help</u>

Known or likely to occur within a **2 mile buffer around polygon; center 38.5429800 -77.7797099** in **047 Culpeper County, 061 Fauquier County, VA**

<u>View Map of</u> <u>Site Location</u>

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

| BOVA Code | <u>Status*</u> | <u>Tier**</u> | <u>Common Name</u> | <u>Scientific Name</u> | Confirmed | Database(s) |
|--------------|----------------|---------------|---|-----------------------------------|------------|---------------------------|
| 050022 | FEST | Ia | Bat, northern long-eared | Myotis septentrionalis | | BOVA |
| 060003 | FESE | Ia | <u>Wedgemussel,</u> <u>dwarf</u> | Alasmidonta heterodon | | BOVA |
| 101005 | FE | Ia | <u>Bee, rusty</u> patched bumble_ | Bombus affinis | | BOVA |
| 060029 | FTST | IIa | Lance, yellow | Elliptio lanceolata | Yes | BOVA, TEWaters, HU6 |
| 050020 | SE | Ia | Bat, little brown | Myotis lucifugus | | BOVA |
| 050027 | FPSE | Ia | Bat, tri-colored | Perimyotis subflavus | | BOVA |
| 040293 | ST | Ia | <u>Shrike,</u> loggerhead | Lanius ludovicianus | | BOVA |
| 040379 | ST | Ia | <u>Sparrow,</u> Henslow's | Centronyx henslowii | | BOVA |
| 060081 | FPST | IIa | <u>Floater, green</u> | Lasmigona subviridis | <u>Yes</u> | BOVA,TEWaters,Habitat,HU6 |
| 040292 | ST | | <u>Shrike, migrant</u> loggerhead | Lanius ludovicianus migrans | | BOVA |
| 100079 | FC | IIIa | Butterfly, monarch | Danaus plexippus | | BOVA |
| 030063 | CC | IIIa | Turtle, spotted | Clemmys guttata | | BOVA |
| 030012 | СС | IVa | <u>Rattlesnake,</u> timber | Crotalus horridus | | BOVA |
| 040092 | | Ia | <u>Eagle, golden</u> | Aquila chrysaetos | | BOVA |
| 040306 | | Ia | <u>Warbler, golden-</u> winged | Vermivora chrysoptera | | BOVA |
| 100248 | | Ia | <u>Fritillary, regal</u> | Speyeria idalia idalia | | BOVA,HU6 |
| 040213 | | Ic | <u>Owl, northern</u> <u>saw-whet</u> | Aegolius acadicus | | BOVA,HU6 |
| 040052 | | IIa | Duck, American black | Anas rubripes | | BOVA,HU6 |

| 040320 | IIa | <u>Warbler,</u> <u>cerulean</u> | Setophaga cerulea | | BOVA,HU6 |
|--------|-----|------------------------------------|-----------------------------|-----------|--------------|
| 040140 | IIa | <u>Woodcock,</u> American | Scolopax minor | Potential | BOVA,BBA,HU6 |
| 040203 | IIb | <u>Cuckoo, black-</u> billed | Coccyzus erythropthalmus | | BOVA |
| 040105 | IIb | <u>Rail, king</u> | Rallus elegans | | BOVA |

To view All 476 species View 476

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

Virginia Widlife Action Plan Conservation Opportunity Ranking:

**I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

a - On the ground management strategies/actions exist and can be feasibly implemented.; b -

On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.; c -

No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

View Map of All Query Results from All **Observation Tables**

Bat Colonies or Hibernacula: Not Known

Anadromous Fish Use Streams (1 records)

View Map of All **Anadromous Fish Use Streams**

View Map of All

Fish Impediments

| C. | | | Anadro | ▼ 7• | | | |
|-----------|-------------------------|-----------------|----------------------|----------------------------|-------------------------------|-------------|--|
| ID Stream | Stream Name | Reach Status | Different Species | Highest TE [*] | Highest Tier ^{**} | View Map | |
| P183 | Rappanannock river 3 | Potential | 0 | | | Yes | |

(1 records) **Impediments to Fish Passage**

| ID | Name | River | View Map |
|----|-----------|-----------------------|----------|
| 38 | THORN DAM | TR-RAPPAHANNOCK RIVER | Yes |

Colonial Water Bird Survey

N/A

(17 Reaches) **Threatened and Endangered Waters**

View Map of All **Threatened and Endangered Waters**

| | | T&E Waters Species | ₩ 7• |
|-------------|-----------------|---|------|
| Stream Name | Highest | BOVA Code, Status [*] , Tier ^{**} , | view |
| | TE [*] | Common & Scientific Name | Map |

| Rappahannock River (085512) | FPST | 060081 | FPST | IIa | Floater, green | Lasmigona subviridis | <u>Yes</u> |
|---------------------------------------|------|--------|------|-----|----------------------------------|-------------------------|------------|
| Rappahannock River | ETST | 060029 | FTST | IIa | Lance, yellow | Elliptio lanceolata | Vac |
| <u>(050653)</u> | | 060081 | FPST | IIa | Floater, green | Lasmigona subviridis | <u>105</u> |
| Rappahannock River | ETST | 060029 | FTST | IIa | Lance, yellow | Elliptio lanceolata | Vac |
| <u>(061451)</u> | | 060081 | FPST | IIa | <u>Floater</u> , <u>green</u> | Lasmigona subviridis | 105 |
| Rappahannock River | ETST | 060029 | FTST | IIa | Lance, yellow | Elliptio lanceolata | Vac |
| <u>(061979)</u> | | 060081 | FPST | IIa | <u>Floater</u> , <u>green</u> | Lasmigona subviridis | <u>105</u> |
| <u>Rappahannock River</u> (070234) | ETCT | 060029 | FTST | IIa | Lance, yellow | Elliptio lanceolata | Vez |
| | FTST | 060081 | FPST | IIa | Floater, green | Lasmigona subviridis | <u>res</u> |
| Rappahannock River | FTST | 060029 | FTST | IIa | Lance, yellow | Elliptio lanceolata | V |
| <u>(074718)</u> | | 060081 | FPST | IIa | Floater, green | Lasmigona subviridis | <u>105</u> |
| Rappahannock River | FTST | 060029 | FTST | IIa | Lance, yellow | Elliptio lanceolata | V |
| <u>(083027)</u> | | 060081 | FPST | IIa | Floater, green | Lasmigona subviridis | <u>Yes</u> |
| Rappahannock River | FTST | 060029 | FTST | IIa | Lance, yellow | Elliptio lanceolata | V |
| <u>(084115)</u> | | 060081 | FPST | IIa | Floater, green | Lasmigona subviridis | <u>Yes</u> |
| Rappahannock River | FTOT | 060029 | FTST | IIa | Lance, yellow | Elliptio lanceolata | V |
| <u>(084804)</u> | FTST | 060081 | FPST | IIa | <u>Floater,</u> green | Lasmigona subviridis | <u>Yes</u> |
| Rappahannock River | FTOT | 060029 | FTST | IIa | Lance, yellow | Elliptio lanceolata | V |
| <u>(088510)</u> | FTST | 060081 | FPST | IIa | Floater, green | Lasmigona subviridis | <u>Yes</u> |
| <u>Rappahannock River</u> (088638) | FTST | 060029 | FTST | IIa | Lance, yellow | Elliptio lanceolata | <u>Yes</u> |
| | | | | | J L | J] | |

Attachment 2.G.1 Page 26 of 50

| (724, 4:33 PM | | VAEWIS Seach Report | | | | 1 ugo 20 c | 100 |
|--------------------|------|---------------------|------|-----|----------------------------------|-------------------------|------------|
| | | 060081 | FPST | IIa | <u>Floater,</u> green | Lasmigona subviridis | |
| Rappahannock River | FTOT | 060029 | FTST | IIa | Lance, yellow | Elliptio lanceolata | Vac |
| <u>(091066)</u> | F151 | 060081 | FPST | IIa | <u>Floater,</u> green | Lasmigona subviridis | <u>res</u> |
| Rappahannock River | ETST | 060029 | FTST | IIa | Lance, yellow | Elliptio lanceolata | Vac |
| <u>(091141)</u> | F151 | 060081 | FPST | IIa | <u>Floater,</u> green | Lasmigona subviridis | <u>105</u> |
| Rappahannock River | FTST | 060029 | FTST | IIa | Lance, yellow | Elliptio lanceolata | Yes |
| <u>(094217)</u> | | 060081 | FPST | IIa | <u>Floater,</u> green | Lasmigona subviridis | |
| Rappahannock River | FTST | 060029 | FTST | IIa | Lance, yellow | Elliptio lanceolata | Vac |
| <u>(094880)</u> | | 060081 | FPST | IIa | <u>Floater,</u> green | Lasmigona subviridis | <u>105</u> |
| Rappahannock River | FTST | 060029 | FTST | IIa | Lance, yellow | Elliptio lanceolata | Vac |
| <u>(096858_)</u> | | 060081 | FPST | IIa | <u>Floater,</u> green | Lasmigona subviridis | <u>105</u> |
| Rappahannock River | ETST | 060029 | FTST | IIa | Lance, yellow | Elliptio lanceolata | Vac |
| <u>(099602)</u> | FTST | 060081 | FPST | IIa | <u>Floater</u> , <u>green</u> | Lasmigona subviridis | <u>Yes</u> |

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

| Bald Eag | gle Nest | ts (1 records) |) | <u>Vi</u> <u>B</u> | iew Map of All Query Results ald Eagle Nests |
|----------|----------|----------------|---------------------|-----------------------|---|
| Nest | N Obs | Latest Date | DGIF Nest Status | View Map | |
| CU0401 | 6 | Jan 1 2007 | UNKNOWN | Yes | |

https://services.dwr.virginia.gov/fwis/NewPages/VaFWIS_GeographicSelect_Options.asp?pf=1&Title=VaFWIS+GeographicSelect+Options&comments... 4/7

Displayed 1 Bald Eagle Nests

<u>View Map of All Query Results</u> <u>Species Observations</u>

| | | | | | N Species | | |
|---------------|--------|------------------|---------------------------------|----------------------|----------------------------|-------------------------------|-------------|
| obsID | class | Date Observed | Observer | Different Species | Highest TE [*] | Highest Tier ^{**} | View Map |
| <u>613184</u> | SppObs | May 30 2011 | Mark; Causey | 1 | | III | Yes |
| <u>606361</u> | SppObs | Jun 27 2009 | Mark; Causey | 1 | | III | Yes |
| <u>603973</u> | SppObs | May 28 2009 | Mark; Causey | 1 | | III | Yes |
| 425777 | SppObs | Aug 24 2004 | VCU - INSTAR | 17 | | III | Yes |
| <u>303376</u> | SppObs | May 24 2002 | Wade Lanning | 1 | | III | <u>Yes</u> |
| 331532 | SppObs | Jan 1 1947 | EAL-LACHNER | 15 | | III | Yes |
| <u>648018</u> | SppObs | Sep 11 2021 | Brett Ostby; Emory Hagemeyer | 3 | | IV | Yes |
| <u>648017</u> | SppObs | Sep 11 2021 | Brett Ostby; Emory Hagemeyer | 4 | | IV | <u>Yes</u> |
| <u>634432</u> | SppObs | Sep 19 2020 | Brett Ostby; Braven Beaty | 5 | | IV | Yes |
| 350608 | SppObs | May 26 2007 | Jay Keller | 22 | | IV | Yes |
| 350614 | SppObs | May 26 2007 | Jay Keller | 20 | | IV | Yes |
| <u>350613</u> | SppObs | May 26 2007 | Jay Keller | 16 | | IV | Yes |
| <u>350610</u> | SppObs | May 26 2007 | Jay Keller | 19 | | IV | Yes |
| 350612 | SppObs | May 26 2007 | Jay Keller | 14 | | IV | Yes |
| 350611 | SppObs | May 26 2007 | Jay Keller | 12 | | IV | Yes |
| <u>350609</u> | SppObs | May 26 2007 | Jay Keller | 15 | | IV | Yes |
| 350615 | SppObs | May 26 2007 | Jay Keller | 12 | | IV | Yes |
| 350606 | SppObs | May 26 2007 | Jay Keller | 19 | | IV | Yes |
| <u>95081</u> | SppObs | May 21 2004 | MIke Boatwright | 1 | | | Yes |
| <u>95065</u> | SppObs | May 2 2004 | George Harris | 1 | | | Yes |

Displayed 20 Species Observations

Selected 32 Observations View all 32 Species Observations

Habitat Predicted for Aquatic WAP Tier I & II Species (1 Reach)

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

| | Tier Species | | | | | | |
|----------------------------------|----------------------------|---|------|-----|----------------------------------|-------------------------|------------|
| Stream Name | Highest TE [*] | BOVA Code, Status [*] , Tier ^{**} , Common & Scientific Name | | | | | |
| Rappahannock River (20801031) | FPST | 060081 | FPST | IIa | <u>Floater,</u> green | Lasmigona subviridis | <u>Yes</u> |
| Rappahannock River (20801031) | FPST | 060081 | FPST | IIa | <u>Floater,</u> g <u>reen</u> | Lasmigona subviridis | Yes |

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

Virginia Breeding Bird Atlas Blocks (5 records)

<u>View Map of All Query Results</u> <u>Virginia Breeding Bird Atlas Blocks</u>

| BBA ID | Ade a Oraș davera ele Dis de Noraș | Breeding | | | |
|--------|------------------------------------|--------------------------|-------------------------|----------------------------|-----------|
| | Atlas Quadrangle Block Name | Different Species | Highest TE [*] | Highest Tier ^{**} | view wiap |
| 49173 | <u>Midland, CW</u> | 1 | | | Yes |
| 48174 | Remington, CE | 45 | | III | Yes |
| 48173 | Remington, CW | 37 | | III | Yes |
| 48176 | Remington, SE | 69 | | II | Yes |
| 48175 | Remington, SW | 41 | | III | Yes |

Public Holdings:

N/A

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

| FIPS Code | City and County Name | Different Species | Highest TE | Highest Tier |
|------------------|----------------------|--------------------------|------------|--------------|
| 047 | <u>Culpeper</u> | 349 | FESE | Ι |
| 061 | Fauquier | 416 | FESE | Ι |

USGS 7.5' Quadrangles: Remington Midland

USGS NRCS Watersheds in Virginia:

N/A

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

| HU6 Code | USGS 6th Order Hydrologic Unit | Different Species | Highest TE | Highest Tier |
|----------|--------------------------------|--------------------------|------------|--------------|
| RA17 | Marsh Run | 54 | FTST | Ι |
| RA18 | Rappahannock River-Ruffans Run | 59 | FTST | Ι |

Compiled on 10/17/2024, 5:33:14 PM 12703543.0 report=all searchType= P dist= 3218 poi= 38.5429800 -77.7797099 siteDD= 38.5429840 -77.7797138;38.5431100 -77.7792818;38.5431170 -77.7790268;38.5442540 -77.7794558;38.5417830 -77.7738958;38.5398570 -77.7730708;38.5337680 -77.7720038;38.5366830 -77.7768628;38.5359330 -77.7773818;38.5354460 -77.7790498;38.5332540 -77.78018;38.5332540 -77.7867458;38.532140 -77.7870348;38.5331430 -77.7870568;38.5320340 -77.7891498;38.5349530 -77.7784058;38.540200 -77.7870348;38.5420200 -77.7830268;38.5424270 -77.7816278;38.540450 -77.780198;38.5404500 -77.77805858;38.5420200 -77.7830208;38.5424270 -77.7816278;38.5427290 -77.780598;38.54227310 -77.7805858;38.5429840 -77.7797138

PixelSize=64; Anadromous=0.020327; BBA=0.031598; BECAR=0.020368; Bats=0.016549; Buffer=0.098345; County=0.049964; HU6=0.045618; Impediments=0.017992; Init=0.134858; PublicLands=0.021938; Quad=0.025569; SppObs=0.260802; TEWaters=0.024671; TierReaches=0.039064; TierTerrestrial=0.034297; Total=0.992383; Tracking_BOVA=0.201035; Trout=0.020735; huva=0.023349

Attachment 2.G.1 Remington Area^{30 of 50}

Site Location 38,32,34.7 -77,46,46.9 is the Search Point back **Refresh Browser Page** Screen 5mall Map Map Zoom Size <u>Help</u> In Out Blg Click Scale Size 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 map center at center Base Map <u>Choices</u> BW Aerial Photography Map Overlay <u>Choices</u> Current List: Position, Search, BECAR, BAEANests, TEWaters, TierII, Habitat, Trout, Anadromous Point of Search 38,32,34.7 -77,46,46.9 Map Location 38,32,17.3 -77,46,59.3 Select Coordinate System: Degrees, Minutes, Seconds Latitude - Longitude O Decimal Degrees Latitude - Longitude O Meters UTM NAD83 East North Zone O Meters UTM NAD27 East North Zone Base Map source: Black & White USGS Aerial Photography (see Microsoft terraserver-usa.com for details) Map projection is UTM Zone 18 NAD 1983 with left 247824 and top 4278798. Pixel size is 32 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 19200 meters east to west by 19200 meters north to south for a total of 368.6 square kilometers. 1/2

10/17/24, 4:33 PM

Attachment 2.G.1 Page 31 of 50

| | VaFWIS Map | Page 31 of 50 | | | |
|--|---|--|--|--|--|
| The map display represents 63002 feet square miles. | t east to west by 63002 feet north to south for a to | tal of 142.3 | | | |
| | | | | | |
| 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 agained 2002 is from Virginia Base Mapping Program Virginia | | | | | |
| Geographic Information Network. Shaded topographic maps are from TC | PO! ©2006 National Geographic | iu. | | | |
| http://www.national.geographic.com/topo All other map products are from the Commonwealth of Virginia Department of Wildlife Resources. | | | | | |
| map assembled 2024-10-17 17:32:43 | (qa/qc March 21, 2016 12:20 - tn=2703543.0 | dist=3218 | | | |
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| | The map display represents 63002 feet square miles. Topographic maps and Black and whit are from the United States Department Color aerial photography aquired 2002 Geographic Information Network. Shaded topographic maps are from TC http://www.national.geographic.com/t All other map products are from the C map assembled 2024-10-17 17:32:43 I) \$poi=38.5429800 -77.7797099 | VaFWIS Map The map display represents 63002 feet east to west by 63002 feet north to south for a to 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, Virgin 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 Wildlifd map assembled 2024-10-17 17:32:43 (qa/qc March 21, 2016 12:20 - tn=2703543.0 1) Spoi=38.5429800 -77.7797099 | | | |



United States Department of the Interior

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



In Reply Refer To: Project Code: 2025-0007821 Project Name: Culpeper 10/17/2024 20:42:06 UTC

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

To Whom It May Concern:

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

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

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

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

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

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

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

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

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

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Project Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds

OFFICIAL SPECIES LIST

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

This species list is provided by:

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

10/17/2024 20:42:06 UTC

PROJECT SUMMARY

Project Code:2025-0007821Project Name:CulpeperProject Type:Transmission Line - New Constr - Above GroundProject Description:New overhead powerline routes.Project Location:Former Constr - Constr

The approximate location of the project can be viewed in Google Maps: <u>https://www.google.com/maps/@38.434922650000004,-77.9482759715485,14z</u>



Counties: Culpeper , Fauquier , and Orange counties, Virginia

ENDANGERED SPECIES ACT SPECIES

There is a total of 5 threatened, endangered, or candidate species on this species list.

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

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

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

1. <u>NOAA Fisheries</u>, 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 |
|--|------------------------|
| Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/10515</u> | Proposed Endangered |
| CLAMS NAME | STATUS |
| Dwarf Wedgemussel Alasmidonta heterodon No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/784</u> | Endangered |
| Green Floater <i>Lasmigona subviridis</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <u>https://ecos.fws.gov/ecp/species/7541</u> | Proposed Threatened |
| Yellow Lance <i>Elliptio lanceolata</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <u>https://ecos.fws.gov/ecp/species/4511</u> | Threatened |
| INSECTS NAME | STATUS |
| Monarch Butterfly <i>Danaus plexippus</i> | Candidate |

No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/9743</u>

CRITICAL HABITATS

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

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

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.
BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act¹ and the Migratory Bird Treaty Act².

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats³, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the <u>"Supplemental Information on Migratory Birds and Eagles"</u>.

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

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to <u>Bald Eagle Nesting and Sensitivity to Human Activity</u>

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

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

https://ecos.fws.gov/ecp/species/1680

PROBABILITY OF PRESENCE SUMMARY

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

Probability of Presence (

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

Breeding Season (=)

Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort ()

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

No Data (-)

A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

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

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ should follow appropriate regulations and consider

implementing appropriate conservation measures, as described in the links below. Specifically, please review the <u>"Supplemental Information on Migratory Birds and Eagles"</u>.

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

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

| NAME | BREEDING SEASON | |
|---|----------------------------|--|
| Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626 | Breeds Sep 1 to Jul 31 | |
| Black-billed Cuckoo <i>Coccyzus erythropthalmus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/9399</u> | Breeds May 15 to Oct 10 | |
| Chimney Swift Chaetura pelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406 | Breeds Mar 15 to Aug 25 | |
| Eastern Whip-poor-will Antrostomus vociferus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/10678</u> | Breeds May 1 to Aug 20 | |
| Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680 | Breeds elsewhere | |
| Grasshopper Sparrow Ammodramus savannarum perpallidus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8329 | Breeds Jun 1 to Aug 20 | |
| Kentucky Warbler <i>Geothlypis formosa</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/9443</u> | Breeds Apr 20 to Aug 20 | |

| NAME | BREEDING SEASON | | |
|---|----------------------------|--|--|
| King Rail <i>Rallus elegans</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/8936</u> | Breeds May 1 to Sep 5 | | |
| Prairie Warbler Setophaga discolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/9513</u> | Breeds May 1 to Jul 31 | | |
| Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/9439</u> | Breeds Apr 1 to Jul 31 | | |
| Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/9398</u> | Breeds May 10 to Sep 10 | | |
| Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <u>https://ecos.fws.gov/ecp/species/9478</u> | Breeds elsewhere | | |
| Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/9431</u> | Breeds May 10 to Aug 31 | | |

PROBABILITY OF PRESENCE SUMMARY

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

Probability of Presence (**■**)

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

Breeding Season (=)

Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort ()

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

No Data (-)

A week is marked as having no data if there were no survey events for that week.

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| SPECIES Bald Eagle Non-BCC Vulnerable | JAN | FEB | MAR | APR | MAY | JUN | | AUG | SEP | OCT | NOV | DEC |
| Black-billed Cuckoo BCC Rangewide (CON) | ++++ | ++++ | ++++ | ++++ | <mark>+</mark> +++ | ┼┼┼┼ | ++++ | ++++ | ┼╪┼┼ | <mark>┼</mark> ╷≁┼ | +++- | +++++ |
| Chimney Swift BCC Rangewide (CON) | ++++ | ++++ | ++++ | ┼┼┃║ | | | | 111+ | | | +++- | +++++ |
| Eastern Whip-poor- will BCC Rangewide (CON) | ++++ | ++++ | ++++ | +++ | + <mark>∎</mark> +∔ | ∎∔∔+ | ++++ | <u></u> + + + + + + + + + | ++∭+ | ++++ | -++- | ⊦ ++++ |
| Golden Eagle Non-BCC Vulnerable | ₩+++ | ++++ | ++++ | ++++ | ++++ | ++++ | ++++ | ++++ | ++++ | ++++ | +++- | +++++ |
| Grasshopper Sparrow BCC - BCR | ++++ | ++++ | ┼╪┼ | + | | | | <mark>∎∎</mark> ≢+ | ₩₩┼┼ | ┼ᆠᄈ┼ | +++- | +++++ |
| Kentucky Warbler BCC Rangewide (CON) | ++++ | ++++ | ++++ | ++ <mark>+</mark> + | ↓ ┼┼ | ┼╪╪ | ++++ | ┼┼┼ | ++++ | ++++ | +++- | +++++ |
| King Rail BCC Rangewide (CON) | ++++ | ++++ | ++++ | ++++ | ŧ∎ŧ | ∎┼┼┼ | ++++ | ++++ | <mark>┼</mark> ┼┼+ | ++++ | +++- | +++++ |
| Prairie Warbler BCC Rangewide (CON) | ++++ | ++++ | ++++ | ┼╪║┼ | | ∎∐‡+ | ∎∳¦∳ | ¢ <u>∎</u> ++ | ++++ | ++++ | +++- | +++++ |
| Prothonotary Warbler BCC Rangewide (CON) | ++++ | ++++ | ++++ | ++++ | ┼╪╪ | ∎┼┼┼ | <u></u> +++∎ | ┼ᡎ┼┼ | ++++ | ++++ | +++- | +++++ |
| Red-headed Woodpecker BCC Rangewide (CON) | ┼ ₩#+ | ↓ + ↓ + | ##+# | ┼║┿║ | + | ∎≢≢∔ | ┼₿╪₿ | | ₽ <u> </u> +∎ | ║┼┼║ | ++#- | ╞᠊ᡎᡎ┼┼ |

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 Wood Thrush BCC Rangewide (CON)
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Additional information can be found using the following links:

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

10/17/2024 20:42:06 UTC

IPAC USER CONTACT INFORMATION

- Agency: Private Entity Name: Madison Adams
- Address: 222 South 9th Street, Suite 2900
- City: Minneapolis
- State: MN
- Zip: 55402
- Email madisonkadams16@gmail.com
- Phone: 2188397343



The CENTER for CONSERVATION BIOLOGY

CCB Mapping Portal



Layers: VA Eagle Nest Locator

Map Center [longitude, latitude]: [-77.77221679687499, 38.407060899899484]

Map Link:

 $\label{eq:https://ccbbirds.org/maps/#layer=VA+Eagle+Nest+Locator&zoom=11&lat=38.407060899899484&lng=-77.77221\\ 679687499&legend=legend_tab_7c321b7e-e523-11e4-\\ aaa0-0e0c41326911&base=Street+Map+%280SM%2FCarto%29\\ \end{table}$

Report Generated On: 10/17/2024

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

Report generated by The Center for Conservation Biology Mapping Portal.

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

NLEB Locations and Roost Trees - Culpeper Tech Zone



Attachment 2.G.1 Page 46 of 50

VGIN, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, USFWS

VA Dept. Game & Inland Fisheries VGIN, Esri, TomTom, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, USFWS | Virginia Geographic Information Network (VGIN), and the Census and Localities and Towns submitting data to the project | VGIN, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, USFWS | VISPA, USDA, USFWS | VGIN, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, USFWS | VGIN, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, USDA, USFWS | VISPA, USCS, EPA, NPS, USDA, USPA, USPA

NLEB Roost Tree 150-Foot Buffer NLEB Capture 3 Mile Buffer





Esri, HERE, Garmin, FAO, USGS, NGA, EPA, NPS | Dept. Game and Inland Fisheries

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

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Tri-colored and Little Brown Hibernaculum 5.5 Mile Buffer



Critical Habitat in Virginia - Culpeper

Attachment 2.G.1 Page 48 of 50

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

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| From: | nhreview (DCR) |
|--------------|--|
| To: | Briana Cooney |
| Cc: | Hypes, Rene (DCR); Weber, Joseph (DCR) |
| Subject: | Re: 0642267, Golden-Mars |
| Date: | Thursday, May 23, 2024 9:58:13 AM |
| Attachments: | image002.png |
| | image003.png |
| | image.png |
| | image.png |

EXTERNAL MESSAGE

Briana,

Thanks for your patience with this. I've reiterated your questions in blue, with answers below.

I was reviewing the SCS shapefile you all sent, and I noticed that there are pieces of the SCS that are now developed. Have there been any studies of this area recently? Are you able to tell me when this SCS area was created or last modified?

- Our **Chief of Biodiversity Information and Conservation Tools** said that there does seem to be areas of the SCS that were developed since it was created. Much of the SCS is still intact, however, and perhaps even more important for maintaining water quality for NHR.
- It looks like the SCS was last modified 7/6/2023. Stream Conservation Sites do not represent protected areas, but waterways and terrestrial areas that contribute to the habitat quality of the documented resource. These areas will affect the water quality of the Yellow lampmussel habitat regardless of their current land use.

I also noticed that the natural heritage resource associated with this SCS is the Yellow lampmussel; however, in my database searches, I haven't seen a documented occurrence of this species within the SCS or study area. Do you have additional information on the presence of this species?

- Generally we do not share the location of our documented resources, only the associated SCS or Conservation Site. Looking at my data, the Yellow lampmussel is documented within the SCS. The documented locations are in Broad Run, the main branch of the SCS in the northern portion. The other stream areas included in the SCS are upstream of documented occurrences and changes to the water quality within the SCS will impact the documented resource.
- I can't really comment on the lack of the Yellow lampmussel in the databases without knowing which ones you used. It would not be found in DWR or USFWS databases as it is not a listed species. NHDE (*Natural Heritage Database Explorer*) only shows documented occurrences to Tier 3 users, which is only available to our conservation partners.

I've also noticed in this project and previous projects that some ecological cores identified are less than 100 acres, and the VDCR letter states: "Ecological Cores are areas of at least 100 acres of continuous interior..." Should we continue to study cores that are under 100 acres?

- The cores are found in <u>Virginia Natural Landscape Assessment</u> Ecological Cores and Habitat Fragments data layer. It looks like the feature in question is a habitat fragment, the link above can give you some more information about Cores and Habitat Fragments.
- From our Chief of Biodiversity Information and Conservation Tools: "Smaller areas of continuous interior cover (i.e., 10 to 99 acres) called Habitat Fragments support Ecological

Cores and provide similar functions and values. Both feature types are discussed on the website.

- Ecological Cores and Habitat Fragments are ranked by Ecological Integrity based on variables including rare species habitats, habitat diversity, resilience, and water quality, to reflect the wide range of important benefits and ecosystem services they provide. Brief descriptions of Ecological Integrity rankings are:
- C1 Outstanding: These cores tend to be large in area, of deepest interior, of greatest water quality protections, highest in habitat diversity and rich in rare species, including species listed as threatened or endangered. Of all Ecological Cores in the Commonwealth 1% are ranked as C1.
- C2 Very High: These cores have all or many of the same characteristics and values as C1 cores, though to a lesser extent. About 2.5% of all cores in the Commonwealth are ranked C2.
- C3 High, C4 Moderate, and C5 General: These cores, as well as **habitat fragments**, have some of the same quantifiable values and characteristics as higherranked cores, though much reduced due to their having substantially less interior area and smaller area overall.
- •
- There are no Habitat Fragments ranked above C3. "
- Due to Habitat Fragments ability to provide important ecological functions and values, we do still recommend avoiding impacts and when impacts can not be avoided to keep them to the edge of the fragment/core. We only recommend a formal impact analysis for C1 and C2 Cores, which never include fragments.

Hopefully this information is helpful. I have Cc'd Joe Weber our Chief of Biodiversity Information and Conservation Tools and Rene' Hypes our Project Review Coordinator. Let me know if you have anymore questions or if any of the information here needs clarification.

Thank you,

Nicki Gustafson (she/her) Project Review Assistant Division of Natural Heritage Virginia Department of Conservation and Recreation 600 E. Main Street, 24th Floor Richmond, VA 23219 804-625-3979 | nicki.gustafson@dcr.virginia.gov





Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

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Travis A. Voyles Secretary of Natural and Historic Resources Michael S. Rolband, PE, PWD, PWS Emeritus Director (804) 698-4020

February 27, 2024

Dominion Energy 120 Tredegar Street Richmond, VA 23219 Attn: Elizabeth L. Hester

Transmitted Via Email: (Elizabeth.l.hester@dominionenergy.com)

Re: Dominion Energy (Electric Transmission) - AS&S - Program Renewal - 2024/2025

Dear Ms. Hester:

The Virginia Department of Environmental Quality (DEQ) hereby approves the Annual Standards and Specifications for Erosion & Sediment Control and Stormwater Management for Construction and Maintenance of Linear Electric Transmission Facilities for Dominion Energy's document dated "February 2024". This coverage is effective from February 27, 2024, to February 26, 2025.

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 to DEQ separately from this Annual Standards and Specifications' submission. DEQ may require project-specific plans associated with such 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: <u>StandardsandSpecs@deq.virginia.gov</u>

- a. Project name or project number;
- b. Project location (including nearest intersection, latitude and longitude, access point);
- c. On-site project manager name and contact info;

- d. Responsible Land Disturber (RLD) name and contact info;
- e. Project description;
- f. Acreage of disturbance for project;
- g. Project start and finish date; and
- h. Any variances/exceptions/deviations associated with this project.
- 3. Project tracking of all regulated land disturbing activities (LDA) must be submitted to DEQ once per 6-month period. 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 plans must be reviewed by DEQcertified Plan Reviewers. Dominion Energy, as the AS&S holder, retains the authority to approve plans and must do so in writing. Should an AS&S holder contract out to a third-party to fulfill the plan review function, the third-party Plan Reviewer may recommend approval of the plan, but final approval must come from the AS&S holder.

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

Please contact Abigail Snider at 804-486-0365 or <u>Abigail.Snider@deq.virginia.gov</u> if you have any questions about this letter.

Respectfully,

Kandy Th

Kyle Kennedy, Manager Office of Stormwater Management

Cc: Larry Gavan, DEQ-CO Antony Angueira, DEQ-CO