



**Dominion
Energy®**

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

**Before the State Corporation
Commission of Virginia**

**Elmont-Ladysmith 500 kV
Transmission
Line #574 Rebuild and
Related Projects**

Application No. 304

Case No. PUR-2021-00082

Filed: April 27, 2021

Volume 2 of 2

COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION

APPLICATION OF)	
)	
VIRGINIA ELECTRIC AND POWER COMPANY)	Case No. PUR-2021-00082
)	
For approval and certification of electric)	
transmission facilities: Elmont-Ladysmith)	
500 kV Transmission Line #574 Rebuild)	
and Related Projects)	

**IDENTIFICATION, SUMMARIES AND TESTIMONY OF DIRECT WITNESSES OF
VIRGINIA ELECTRIC AND POWER COMPANY**

Peter Nedwick

Witness Direct Testimony Summary
Direct Testimony
Appendix A: Background and Qualifications

Robert J. Shevenock II

Witness Direct Testimony Summary
Direct Testimony
Appendix A: Background and Qualifications

Santosh Bhattarai

Witness Direct Testimony Summary
Direct Testimony
Appendix A: Background and Qualifications

Greg R. Baka

Witness Direct Testimony Summary
Direct Testimony
Appendix A: Background and Qualifications

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Peter Nedwick

Title: Principal Engineer – Electric Transmission Planning

Summary:

Company Witness Peter Nedwick sponsors those portions of the Appendix describing the Company's transmission system and need for, and benefits of, the proposed Rebuild Project, as follows:

- Section I.B: This section details the engineering justifications for the proposed project.
- Section I.C: This section describes the present system and details how the proposed project will effectively satisfy present and projected future load demand requirements.
- Section I.D: This section describes critical contingencies and associated violations due to the inadequacy of the existing system.
- Section I.E: This section explains feasible project alternatives.
- Section I.H: This section provides the desired in-service date of the proposed project and the estimated construction time.
- Section I.J: This section provides information about the project if approved by the RTO.
- Section I.K: Although not applicable to the proposed project, this section provides outage history and maintenance history for existing transmission lines if the proposed project is a rebuild and is due in part to reliability issues.
- Section I.M: Although not applicable to the proposed project, this section contains information for transmission lines interconnecting a non-utility generator.
- Section I.N: Although not applicable to the proposed project, this section, when applicable, provides the proposed and existing generating sources, distribution circuits or load centers planned to be served by all new substations, switching stations, and other ground facilities associated with the proposed project.
- Section II.A.10: This section provides details of the construction plans for the proposed project, including requested and approved line outage schedules.

Additionally, Company Witness Nedwick co-sponsors the following portions of the Appendix:

- Section I.A (co-sponsored with Company Witness Robert J. Shevenock II): This section details the primary justifications for the proposed project.
- Section I.G (co-sponsored with Company Witness Greg R. Baka): This section provides a system map for the affected area.
- Section II.A.3 (co-sponsored with Company Witness Greg R. Baka): This section provides color maps of existing or proposed rights-of-way in the vicinity of the proposed project.

A statement of Mr. Nedwick's background and qualifications is attached to his testimony as Appendix A.

**DIRECT TESTIMONY
OF
PETER NEDWICK
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2021-00082**

1 **Q. Please state your name, business address and position with Virginia Electric and**
2 **Power Company (“Dominion Energy Virginia” or the “Company”).**

3 A. My name is Peter Nedwick, and I am a Principal Engineer in Electric Transmission
4 Planning for the Company. My business address is 10900 Nuckols Road, Glen Allen,
5 Virginia 23060. A statement of my qualifications and background is provided as
6 Appendix A.

7 **Q. Please describe your areas of responsibility with the Company.**

8 A. I am responsible for planning the Company’s electric transmission system for voltages of
9 69 kilovolt (“kV”) through 500 kV.

10 **Q. What is the purpose of your testimony in this proceeding?**

11 A. In order to maintain the structural integrity and reliability of its transmission system in
12 compliance with mandatory North American Electric Reliability Corporation (“NERC”)
13 Reliability Standards, Virginia Electric and Power Company (“Dominion Energy
14 Virginia” or the “Company”) proposes to rebuild existing 500 kV transmission Line #574
15 and perform related projects in an existing 26.2-mile transmission corridor between the
16 Elmont Switching Station and Ladysmith Switching Station, located in the Counties of
17 Hanover and Caroline, Virginia, (collectively, the “Rebuild Project” or “Project”) since
18 they are nearing their end of life.

1 The purpose of my testimony is to describe the Company's transmission system and the
2 need for, and benefits of, the proposed Rebuild Project. I am sponsoring Sections I.B,
3 I.C, I.D, I.E, I.H, I.J, I.K, I.M, I.N, and II.A.10 of the Appendix. Additionally, I co-
4 sponsor Section I.A with Company Witness Robert J. Shevenock II, and Sections I.G and
5 II.A.3 with Company Witness Greg R. Baka.

6 **Q. Does this conclude your pre-filed direct testimony?**

7 A. Yes, it does.

**BACKGROUND AND QUALIFICATIONS
OF
PETER NEDWICK**

Peter Nedwick graduated from the Pennsylvania State University with a Bachelor's Degree in Electrical Engineering. He is also Registered Professional Engineer with the Commonwealth of Virginia (No. 0402 019479).

Mr. Nedwick's experience with the Company includes System Protection, Distribution Planning, and Transmission Planning. He joined the Company in 1984 as an Associate Engineer in the System Protection Group. In 1986, he joined the Company's Transmission Planning Group, where he was promoted to Engineer in 1987 and to Senior Engineer in 1991. While in the Transmission Planning Group, Mr. Nedwick was responsible for special operating studies and for planning the Company's electric transmission system for eastern Virginia and North Carolina.

In 1997, Mr. Nedwick was promoted to Staff Engineer and joined the Company's Distribution Planning Department, where he served as that department's technical expert. While in the Distribution Planning Department, Mr. Nedwick was promoted to Consulting Engineer in 2000. In 2002, Mr. Nedwick joined the Company's Electric Transmission Planning Group and was promoted to Principal Engineer in 2017.

Mr. Nedwick has previously testified before the Virginia State Corporation Commission.

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Robert J. Shevenock II

Title: Principal Engineer – Electric Transmission Line Engineering

Summary:

Company Witness Robert J. Shevenock II will sponsor those portions of the Appendix providing an overview of the design characteristics of the transmission facilities for the proposed Rebuild Project, and discussing electric and magnetic field levels, as follows:

- Section I.F: This section describes any lines or facilities that will be removed, replaced or taken out of service upon completion of the proposed project.
- Section I.L: This section provides photographs illustrating the deterioration of structures and associated equipment as applicable.
- Section II.A.5: This section provides drawings of the right-of-way cross section showing typical transmission lines structure placements.
- Section II.B.1 to II.B.4: This section provides the line design and operational features of the proposed project.
- Section IV: This section provides analysis on the health aspects of electric and magnetic field levels.

Additionally, Company Witness Shevenock co-sponsors the following portions of the Appendix:

- Section I.A (co-sponsored with Company Witness Peter Nedwick): This section details the primary justifications for the proposed project.
- Section I.I (co-sponsored with Company Witness Santosh Bhattarai): This section provides the estimated total cost of the proposed project.
- Section II.B.5 (co-sponsored with Company Witness Greg R. Baka): This section provides the mapping and structure heights for the existing overhead structures.

A statement of Mr. Shevenock's background and qualifications is attached to his testimony as Appendix A.

**DIRECT TESTIMONY
OF
ROBERT J. SHEVENOCK II
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2021-00082**

1 **Q. Please state your name, business address and position with Virginia Electric and**
2 **Power Company (“Dominion Energy Virginia” or the “Company”).**

3 A. My name is Robert J. Shevenock II, and I am a Principal Engineer in the Electric
4 Transmission Line Engineering Department of the Company. My business address is
5 10900 Nuckols Road, Glen Allen, Virginia 23060. A statement of my qualifications and
6 background is provided as Appendix A.

7 **Q. Please describe your areas of responsibility with the Company.**

8 A. I am responsible for the estimating and conceptual design of high voltage transmission
9 line projects from 69 kilovolt (“kV”) to 500 kV.

10 **Q. What is the purpose of your testimony in this proceeding?**

11 A. In order to maintain the structural integrity and reliability of its transmission system in
12 compliance with mandatory North American Electric Reliability Corporation (“NERC”)
13 Reliability Standards, Virginia Electric and Power Company (“Dominion Energy
14 Virginia” or the “Company”) proposes to rebuild existing 500 kV transmission Line #574
15 and perform related projects in an existing 26.2-mile transmission corridor between the
16 Elmont Switching Station and Ladysmith Switching Station, located in the Counties of
17 Hanover and Caroline, Virginia, (collectively, the “Rebuild Project” or “Project”) since
18 they are nearing their end of life.

1 The purpose of my testimony is to describe the design characteristics of the transmission
2 facilities for the proposed Rebuild Project, and also to discuss electric and magnetic field
3 (“EMF”) levels. I sponsor Sections I.F, I.L, II.A.5, II.B.1 to II.B.4, and IV of the
4 Appendix. I also co-sponsor Section I.A of the Appendix with Company Witness Peter
5 Nedwick; Section I.I of the Appendix with Company Witness Santosh Bhattarai; and
6 Section II.B.5 with Company Witness Greg R. Baka.

7 **Q. Does this conclude your pre-filed direct testimony?**

8 **A. Yes, it does.**

**BACKGROUND AND QUALIFICATIONS
OF
ROBERT J. SHEVENOCK II**

Robert J. Shevenock II graduated from Pennsylvania State University in 1985 with a Bachelor of Science in Electrical Engineering. He joined the Company in 1985 and has held various engineering titles within the Electric Transmission Engineering department, where he currently works as a Principal Engineer.

Mr. Shevenock has previously testified before the Virginia State Corporation Commission.

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Santosh Bhattarai

Title: Consulting Engineer – Substation Engineering

Summary:

Company Witness Santosh Bhattarai sponsors or co-sponsors the following portions of the Appendix describing the work to be performed at the existing substation for the Rebuild Project, as follows:

- Section I.I (co-sponsored with Company Witness Robert J. Shevenock II): This section provides the estimated total cost of the proposed project.
- Section II.C: This section describes the substation work associated with the proposed project.

A statement of Mr. Bhattarai's background and qualifications is attached to his testimony as Appendix A.

**DIRECT TESTIMONY
OF
SANTOSH BHATTARAI
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2021-00082**

1 **Q. Please state your name, business address and position with Virginia Electric and**
2 **Power Company (“Dominion Energy Virginia” or the “Company”).**

3 A. My name is Santosh Bhattarai, and I am a Consulting Engineer in the Substation
4 Engineering section of the Electric Transmission group of the Company. My business
5 address is 2400 Grayland Avenue, Richmond, Virginia 23220. A statement of my
6 qualifications and background is provided as Appendix A.

7 **Q. What are your responsibilities as a Consulting Engineer?**

8 A. I am responsible for evaluation of the substation project requirements, feasibility studies,
9 conceptual physical design, scope development, preliminary engineering and cost
10 estimating for high voltage transmission and distribution substations.

11 **Q. What is the purpose of your testimony in this proceeding?**

12 A. In order to maintain the structural integrity and reliability of its transmission system in
13 compliance with mandatory North American Electric Reliability Corporation (“NERC”)
14 Reliability Standards, Virginia Electric and Power Company (“Dominion Energy
15 Virginia” or the “Company”) proposes to rebuild existing 500 kV transmission Line #574
16 and perform related projects in an existing 26.2-mile transmission corridor between the
17 Elmont Switching Station and Ladysmith Switching Station, located in the Counties of

1 Hanover and Caroline, Virginia, (collectively, the “Rebuild Project” or “Project”) since
2 they are nearing their end of life.

3 The purpose of my testimony is to describe the work to be performed at the proposed
4 Rebuild Project’s various substations. I sponsor Section II.C of the Appendix and co-
5 sponsor Section I.I of the Appendix with Company Witness Robert J. Shevenock II,
6 specifically, as it pertains to substation work.

7 **Q. Does this conclude your pre-filed direct testimony?**

8 **A.** Yes, it does.

**BACKGROUND AND QUALIFICATIONS
OF
SANTOSH BHATTARAI**

Santosh Bhattarai received a Master of Science degree in Electrical Engineering from South Dakota State University in 2006. Before working for the Company, Mr. Bhattarai worked at Electrical Consultants, Inc. from 2006 to 2009 in Billings, Montana as a Substation Design Engineer. Then, from 2010 to 2013, he worked at Electrical Consultants, Inc. in Madison, Wisconsin as a Substation Project Engineer. Mr. Bhattarai's responsibilities included the evaluation of the substation project requirements, development of project scope documents, estimates and schedules, preparation of specifications and bid documents, material procurement, develop detailed physical drawings, bill of materials, electrical schematics and wiring diagrams. Mr. Bhattarai joined the Dominion Energy Virginia Substation Engineering department in November 2013 as an Engineer III. He was promoted to Consulting Engineer in July 2019. He has been licensed as a Professional Engineer in the Commonwealth of Virginia since 2015. In recognition of his professional standing, the Institute of Electrical and Electronics Engineers ("IEEE") board has elected him to the grade of Senior Member in 2017.

Mr. Bhattarai has previously testified before the Virginia State Corporation Commission.

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Greg R. Baka

Title: Electric Transmission Local Permitting Consultant

Summary:

Company Witness Greg R. Baka will sponsor those portions of the Appendix providing an overview of the design of the route for the proposed Rebuild Project, and related permitting, as follows:

- Section II.A.1: This section provides the length of the proposed corridor and viable alternatives to the proposed project.
- Section II.A.2: This section provides a map showing the route of the proposed project in relation to notable points close to the proposed project.
- Section II.A.4: This section explains why the existing right-of-way is not adequate to serve the need, to the extent applicable.
- Sections II.A.6 to II.A.8: These sections provide detail regarding the right-of-way for the proposed project.
- Section II.A.9: This section describes the proposed route selection procedures and details alternative routes considered.
- Section II.A.11: This section details how the construction of the proposed project follows the provisions discussed in Attachment 1 of the Transmission Appendix Guidelines.
- Section II.A.12: This section identifies the counties and localities through which the proposed project will pass and provides General Highway Maps for these localities.
- Section II.B.6: This section provides photographs of existing facilities, representations of proposed facilities, and visual simulations.
- Section III: This section details the impact of the proposed project on scenic, environmental, and historic features.
- Section V: This section provides information related to public notice of the proposed project.

Additionally, Mr. Baka co-sponsors the following portion of the Appendix:

- Section I.G (co-sponsored with Company Witness Peter Nedwick): This section provides a system map for the affected area.
- Section II.A.3 (co-sponsored with Company Witness Peter Nedwick): This section provides color maps of existing or proposed rights-of-way in the vicinity of the proposed project.
- Section II.B.5 (co-sponsored with Company Witness Robert J. Shevenock II): This section provides the mapping and structure heights for the existing overhead structures.

Finally, Mr. Baka sponsors the DEQ Supplement filed with the Application.

A statement of Mr. Baka's background and qualifications is attached to his testimony as Appendix A.

**DIRECT TESTIMONY
OF
GREG R. BAKA
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2021-00082**

1 **Q. Please state your name, business address and position with Virginia Electric and**
2 **Power Company (“Dominion Energy Virginia” or the “Company”).**

3 A. My name is Greg R. Baka, and I am an Electric Transmission Local Permitting
4 Consultant for Virginia Electric and Power Company (“Dominion Energy Virginia” or
5 the “Company”). My business address is 10900 Nuckols Road, Glen Allen, Virginia
6 23060. A statement of my qualifications and background is provided as Appendix A.

7 **Q. Please describe your areas of responsibility with the Company.**

8 A. I am responsible for identifying appropriate routes for transmission lines and obtaining
9 necessary federal, state, and local approvals and environmental permits for those
10 facilities. In this position, I work closely with government officials, permitting agencies,
11 property owners, and other interested parties, as well as with other Company personnel,
12 to develop facilities needed by the public so as to reasonably minimize environmental
13 and other impacts on the public in a reliable, cost-effective manner.

14 **Q. What is the purpose of your testimony in this proceeding?**

15 A. In order to maintain the structural integrity and reliability of its transmission system in
16 compliance with mandatory North American Electric Reliability Corporation (“NERC”)
17 Reliability Standards, Virginia Electric and Power Company (“Dominion Energy
18 Virginia” or the “Company”) proposes to rebuild existing 500 kV transmission Line #574

1 and perform related projects in an existing 26.2-mile transmission corridor between the
2 Elmont Switching Station and Ladysmith Switching Station, located in the Counties of
3 Hanover and Caroline, Virginia, (collectively, the “Rebuild Project” or “Project”) since
4 they are nearing their end of life.

5 The purpose of my testimony is to provide an overview of the route and permitting for
6 the proposed Rebuild Project. As it pertains to routing and permitting, I sponsor Sections
7 II.A.1, II.A.2, II.A.4, II.A.6, II.A.7, II.A.8, II.A.9, II.A.11, II.A.12, II.B.6, III, and V of
8 the Appendix. I also sponsor the DEQ Supplement filed with the Application, and co-
9 sponsor Sections I.G and II.A.3 with Company Witness Peter Nedwick, and Section
10 II.B.5 of the Appendix with Company Witness Robert J. Shevenock II.

11 **Q. Has the Company complied with Va. Code § 15.2-2202 E?**

12 A. Yes. In accordance with Va. Code § 15.2-2202 E, letters dated March 18, 2021, were
13 sent to Hanover and Caroline Counties stating the Company’s intent to file this
14 Application, describing the Rebuild Project, and offering the localities an opportunity to
15 comment. Copies of these letters are included as Appendix Attachments V.D.1-2.

16 **Q. Does this conclude your pre-filed direct testimony?**

17 A. Yes, it does.

**BACKGROUND AND QUALIFICATIONS
OF
GREG R. BAKA**

Mr. Greg R. Baka graduated from the University of Richmond in 1989 with a Bachelor of Arts degree in Urban Studies and Political Science. From 1990 to 1992, he worked as a Zoning Analyst for the City of Gaithersburg, Maryland. From 1992 to 1995, he worked as the Zoning Administrator for King William County, Virginia. From 1995 to 1998, he served Hanover County, Virginia as a Planner and was promoted to Senior Comprehensive Planner. He returned to King William County from 1998 to 2000 and served as their Director of Planning and Community Development. He then worked at Resource International, Ltd. as a Municipal Planner between 2001 and 2003. From 2004 to 2011, Mr. Baka owned and operated Viewshed Consulting, LLC, serving clients as a Land Planning Consultant. From 2011 to 2013, he worked as the Director of Economic Development for Cumberland County, Virginia. He joined the Company's Transmission Right-of-Way group in 2013 as Senior Siting & Permitting Specialist, was promoted to Supervisor of Siting, Permitting, and Real Estate in 2015, and became a Local Permitting Consultant, his current position, in 2019. Mr. Baka has served on several land planning and development-related local boards and commissions.

Mr. Baka has previously submitted pre-filed testimony to the Virginia State Corporation Commission.

BEFORE THE
STATE CORPORATION COMMISSION
OF VIRGINIA

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

Elmont-Ladysmith 500 kV Transmission Line #574 Rebuild and Related
Projects

Application No. 304

DEQ Supplement

Case No. PUR-2021-00082

Table of Contents

	Page
1. Project Description	1
2. Environmental Analysis	1
A. Air Quality.....	1
B. Water Source	2
C. Discharge of Cooling Waters.....	2
D. Tidal and Non-tidal Wetlands.....	2
E. Solid and Hazardous Waste	4
F. Natural Heritage, Threatened and Endangered Species.....	4
G. Erosion and Sediment Control.....	6
H. Archaeological, Historic, Scenic, Cultural or Architectural Resources	6
I. Chesapeake Bay Preservation Areas	8
J. Wildlife Resources.....	8
K. Recreation, Agricultural and Forest Resources	8
L. Use of Pesticides and Herbicides	10
M. Geology and Mineral Resources	11
N. Transportation Infrastructure	11
Attachments.....	13

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

1. Project Description

In order to maintain the structural integrity and reliability of its transmission system in compliance with mandatory North American Reliability Corporation (“NERC”) Reliability Standards, Virginia Electric and Power Company (“Dominion Energy Virginia” or the “Company”) proposes in Hanover and Caroline Counties, Virginia, the following:

- (i) Rebuild approximately 26.2 miles of 500 kV Line #574 on single circuit steel structures between Elmont Switching Station and Ladysmith Switching Station with dulled galvanized steel structures that can support a 500 kV circuit with an underbuild that permits a future 230kV circuit.¹
- (ii) The removal of one single circuit 500 kV galvanized steel lattice tower supporting existing Line #568 (Ladysmith – Possum Point) at Ladysmith which will be replaced with two single circuit 500 kV dulled galvanized steel lattice towers.
- (iii) To complete work at Elmont and Ladysmith Switching Stations to support the new line rating.

(collectively, the “Rebuild Project” or “Project”).

2. Environmental Analysis

The Company solicited comments from all relevant state and local agencies about the proposed Rebuild Project in March 2021. Copies of these letters are included as Attachment 2. The DEQ provided a letter in response to the Company’s request for the proposed project on March 26, 2021. A copy of this letter is included as Attachment 2.A.1.

A. Air Quality

The Company will control fugitive dust during construction in accordance with DEQ regulations. During construction, if the weather is dry for an extended period of time, there will be airborne particles from the use of vehicles and equipment within the right-of-way. Minimal earth disturbance will take place and vehicle speed, which is often a factor in airborne particulate, will be kept to a minimum. Erosion and sediment control are addressed in Section 2.G, below. Equipment and vehicles that are powered by gasoline or diesel motors will also be used during the construction of the line so there will be exhaust from those motors.

The existing transmission corridor currently is maintained for transmission facility operations, and no clearing is proposed. The Rebuild Project may require some trimming of tree limbs along the right-of-way edges to support construction activities. The Company does not expect to burn cleared material, but if necessary, the

¹ The Company will seek Commission approval to build the 230kV circuit through a certificate of public convenience and necessity application when the need arises.

Company will coordinate with the responsible locality to ensure all local ordinances and DEQ requirements are met. The Company's tree clearing methods are described in Section 2.K.

B. Water Source (No water source is required for transmission lines so this discussion will focus on potential waterbodies to be crossed by the proposed transmission line rebuild.)

The proposed Rebuild Project is located within the Lower James watershed, Hydrologic Unit Code 02080206, the Pamunkey watershed, Hydrologic Unit Code 02080106, and the Mattaponi watershed, Hydrologic Unit Code 02080105. According to the U.S. Geological Survey ("USGS") topographic quadrangles (Yellow Tavern [1963], Glen Allen [1963], Hanover Academy [1969], Hewlett [1969], Ladysmith [1966], Virginia), the existing transmission line corridor crosses 11 named perennial streams and rivers, including: Stony Run, Stagg Creek, Dog Branch, South Anna River, Beaver Creek, Newfound River, Little River, North Anna River, Polecat Creek, Stevens Mill Run, and South River. According to the Virginia Department of Conservation and Recreation's ("DCR") National Hydrography Dataset found on the Natural Heritage Data Explorer, the transmission right-of-way also crosses many unnamed tributaries.

Any clearing required in the vicinity of streams will be performed by hand within 100 feet of both sides, and vegetation less than three inches in diameter will be left undisturbed.

The Company solicited comments from the Virginia Marine Resources Commission ("VMRC") regarding the proposed Rebuild Project in March 2021. According to a response dated 4/19/2021, the project is within the jurisdictional areas of the VMRC and a permit may be required. A copy of this letter is included as Attachment 2.B.1. A subaqueous encroachment permit is expected to be required for any stream crossings with a drainage area of five square miles or greater at the crossing location. The right-of-way crosses five VMRC jurisdictional waters with drainage areas greater than five square miles. A Joint Permit Application will be submitted for review by the VMRC, DEQ and the U.S. Army Corps of Engineers (the "Corps") to authorize jurisdictional crossings and for any impacts to jurisdictional features. See Section 2.D below.

C. Discharge of Cooling Waters

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

D. Tidal and Non-tidal Wetlands

No tidal wetlands were identified within the proposed Rebuild project area. Non-tidal wetlands are summarized below.

Wetlands Impact Consultation

The Company utilized aerial imagery, U.S. Fish and Wildlife Service National Wetlands Inventory, National Resources Conservation Service Soil Surveys, Federal Emergency Management Floodplain Mapping, and existing contour data to estimate jurisdictional wetlands and waters of the United States within the proposed Rebuild right-of-way. Total jurisdictional resources within the proposed Rebuild Project right-of-way, as estimated using these desktop resources, are provided in Table 1 and detailed in Attachment 2.D.1.

Table 1. Estimated Jurisdictional Resources within the Rebuild Project Right-of-Way

Resource	Area/Length (±)
Palustrine Emergent/Scrub Shrub Wetland	146.9 AC
Palustrine Unconsolidated Bottom Open Water	0.4 AC
Stream Channel	2.8 AC/ 3.4 MI

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 also obtain any necessary permits to impact jurisdictional resources.

The Company solicited comments from the Virginia Department of Environmental Quality Office of Wetlands and Stream Protection in March 2021. According to response dated April 20, 2021, the proposed project may require a Virginia Water Protection (“VWP”) individual or general permit. See Attachment 2.D.2. The Company has sited structures to avoid wetlands and streams to the extent practicable. Temporary impacts will be restored to pre-existing conditions, and permanent impacts will be compensated for in accordance with all applicable state regulations and laws. The project is expected to require a VWP general permit. A Joint Permit Application (“JPA”) will be submitted for further evaluation and final permit need determination by DEQ. Ms. Julie Hamilton of the U.S. Army Corps of Engineers responded via an email dated March 22, 2021 and advised the Company to review the 2021 NWP57 as well as the 401 Water Quality Certification process. The Corps also advised that coordination with the Virginia Department of Historic Resources (“VDHR”) and the U.S. Fish and Wildlife Service (“USFWS”) may be required. See Attachment 2.D.3.

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

E. Solid and Hazardous Waste

On behalf of the Company, C2 Environmental, Inc. (“C2”) conducted database searches for solid and hazardous wastes, and petroleum release sites within a 0.5-mile radius of the Rebuild Project. Publicly available data from the Environmental Protection Agency (“EPA”) Facility Registry System (“FRS”) were obtained and include *Comprehensive Environmental Response, Compensation and Liability Act* (“CERCLA”)/Superfund; *Resource Conservation and Recovery Act* (“RCRA”); and brownfield sites. Per this database, there are no registered RCRA sites present within a 0.5-mile radius of the project.

DEQ records also were searched for the presence of solid waste management facilities, Voluntary Remediation Program sites, and petroleum releases. No Voluntary Remediation Program sites were identified within 0.5 mile of the Rebuild Project. DEQ identified two registered tank facilities and fifteen petroleum release sites within the search radius, none of which fall within the right-of-way of the Rebuild Project. The Company has a procedure in place to handle petroleum contaminated soil, if encountered; however, as all identified tank facilities and release sites are located outside of the Rebuild Project area, no impacts to these sites are expected. Tables listing these sites are included in Attachment 2.E.1.

F. Natural Heritage, Threatened and Endangered Species

On behalf of the Company, C2 conducted online database searches for threatened and endangered species in the vicinity of the Rebuild Project, including the U.S. Fish and Wildlife (“USFWS”) Information, Planning, and Conservation (“IPaC”) system, the USFWS Critical Habitat for Threatened and Endangered Species Mapper, the USFWS Bald Eagle Concentration Area Map, the Virginia Department of Wildlife Resources (“DWR”) Virginia Fish and Wildlife Information Service (“VAFWIS”), the DWR Northern Long-eared Bat (“NLEB”) Winter Habitat and Roost Trees Map, the Virginia Department of Conservation and Recreation (“DCR”), the Natural Heritage Data Explorer (“NHDE”), and the Center for Conservation Biology (“CCB”) Bald Eagle Nest Locator. The results are presented in Table 2 below.

Table 2. Threatened and endangered species within the Elmont-Ladysmith 500kV Rebuild Project vicinity

Species Name (Scientific Name)	Status	Results
Indiana bat (<i>Myotis sodalis</i>) Database: USFWS	FE, SE	No known hibernacula are identified in the vicinity of the project. The project location is outside of critical habitat. No clearing of new right-of-way is proposed. No adverse effects expected.
Northern long-eared bat (<i>Myotis septentrionalis</i>) Database: USFWS	FT, ST	No known hibernacula or summer roosts are identified in the vicinity of the project. No clearing of new right-of-way is proposed. No adverse effects expected.
Dwarf wedgemussel	FE, SE	Suitable habitat may be present in streams.

Species Name (Scientific Name)	Status	Results
<i>(Alasmidonta heterodon)</i> Database: USFWS, VAFWIS, DCR		No structures are located in streams or waterways, and no instream work is anticipated. No adverse effects expected.
Yellow lance <i>(Elliptio lanceolata)</i> Database: USFWS, VAFWIS, DCR	FT, ST	Suitable habitat may be present in streams. The project is located outside of proposed critical habitat. No structures are located in streams or waterways, and no instream work is anticipated. No adverse effects expected. The project is located outside of proposed critical habitat.
Swamp-pink <i>(Helonias bullata)</i> Database: DCR	FT, SE	No suitable habitat present. No clearing of new right-of-way is proposed. No adverse effects expected.
New Jersey rush <i>(Juncus caesariensis)</i> Database: DCR	ST	Suitable habitat may be present.
Tiger salamander <i>(Ambystoma tigrinum)</i> Database: DCR	SE	Suitable habitat may be present.
Green floater <i>(Lasmigona subviridis)</i> Database: DCR	ST	Suitable habitat may be present in streams. No structures are located in streams or waterways, and no instream work is anticipated. No adverse effects expected.
Small whorled pogonia <i>(Isotria medeoloides)</i> Database: DCR	FT, SE	No suitable habitat present. No clearing of new right-of-way is proposed. No adverse effects expected.
Bald eagle <i>(Haliaeetus leucocephalus)</i> Database: USFWS, CCB	FP	No known bald eagle nests are located within 660 feet of the project area. No bald eagle concentration areas are present within the project vicinity. No adverse effects expected.

FT: federally threatened, FE: federally endangered, ST: state threatened, SE: state endangered, FP: federally protected, USFWS: US Fish and Wildlife Service, VAFWIS: Virginia Fish and Wildlife Information Service, DCR: Department of Conservation and Recreation, CCB: Center for Conservation Biology

A copy of the database search results can be found in [Attachment 2.F.1](#). Additionally, the Company requested comments from the USFWS, DWR and DCR regarding the proposed Rebuild Project in March 2021. Responses from DCR and DWR were received via emails dated March 22, 2021. DCR requested that the Company submit the project to the Division of Natural Heritage for review. The Company completed this request and received a project review from the Division of Natural Heritage on March 29, 2021. DCR recommended strict adherence to applicable state and local erosion and sediment control and stormwater management laws and regulations,

establishment/enhancement of natural buffers with native plant species and maintaining natural stream flows. They also recommend the development and implementation of an invasive species plan for right-of-way maintenance. An additional response from the DCR Division of Planning and Recreation Resources was received in a letter dated March 22, 2021. The DCR recommended minimizing disturbance and impacts along the North Anna River which qualifies for scenic designation. The DCR comments are included herein as Attachments 2.F.2 and 2.F.3. DWR recommended that a preliminary desktop review be completed using the Virginia Fish and Wildlife Information Service (VAFWIS) online tool. The Company completed this review on January 15, 2021. The results are included in Attachment 2.F.4. In an email dated March 23, 2021, USFWS indicated that an online review process should be completed for Section 7 review. The Company will coordinate with USFWS as directed and appropriate. The USFWS response is included as Attachment 2.F.5.

New and updated information is continually added to the DCR's Biotics database. Following the DCR-Natural Heritage Program SCC planning stage project review, the Company shall resubmit a project review request through the Natural Heritage Data Explorer service. This review shall occur during the final stage of engineering and upon any major modifications of the project during construction (e.g., deviations, permanent or temporary, from the original study area and/or the relocation of a tower(s) into sensitive areas) for an update on natural heritage information and coordination of potential project modifications to avoid and minimize impacts to natural heritage resources. The Company will also obtain all necessary permits prior to construction, including authorization from the VMRC, DEQ, and the Corps, and coordination with the DWR, DCR, and USFWS, as necessary, will take place through the respective permit processes to avoid and minimize impacts to listed species.

G. Erosion and Sediment Control

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

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

A letter response was received from the Virginia Department of Historic Resources (DHR) on April 13, 2021 and is included as Attachment 2.H.1. The letter stated that a preliminary search of the DHR archives indicated a number of historic resources, including five properties that have been determined eligible or potentially eligible for listing in the Virginia Landmark Register (VLR) and National Register of Historic

Places (NRHP) within one-half mile of the project. DHR recommended that a pre-application analysis be prepared and submitted to DHR in accordance with Section I of the DHR's *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia*.

Dutton + Associates was retained by the Company to conduct the recommended Stage I Pre-Application Analysis for the proposed Rebuild Project. This analysis was completed in March 2021 and submitted to VDHR on April 22, 2021. The report is included as Attachment 2.H.2. As detailed by VDHR guidance, consideration was given to: one (1) National Historic Landmark ("NHL") property located within a 1.5-mile radius of the project centerline; one (1) National Register of Historic Places ("NRHP") listed properties, battlefields, and historic landscapes located within a 1.0-mile radius of the project centerline; four (4) NRHP-eligible sites located within a 0.5-mile radius of the project centerline; and zero (0) archaeological sites located within the project right-of-way.

Archaeological Resources

There are no documented archaeological resources located within the project right-of-way.

Architectural Resources

One NHL-listed architectural resources is located within 1.5-miles of the project centerline. No properties that are listed on the NRHP, or historic landscapes are located within 1-mile of the project centerline. One battlefield is located within 1-mile and is crossed by the project right-of-way. Four properties that have been determined eligible for listing on the NRHP are crossed by the project right-of-way. Distances of architectural resources to the centerline of the proposed Rebuild Project are provided in Table 3 below.

Table 3. NRHP-listed, eligible, and battlefield resources within the vicinity of the Rebuild Project

Resource ID#	Resource Name	NRHP Status	Distance to Centerline (Miles)
042-0030	Patrick Henry Home (Historic), Scotchtown (Historic/Current)	NHL Listing, NRHP Listing, VLR Listing	1.25
042-0123	Battle of North Anna River (Historic), North Anna Battlefield (Current Name), North Anna Battlefield (Historic)	Eligible	Crossed by right-of-way
042-0075	Cool Water (Historic/Current)	Eligible	Crossed by

Resource ID#	Resource Name	NRHP Status	Distance to Centerline (Miles)
			right-of-way
043-5347	Richmond-Ashland Trolley Line	Eligible	Crossed by right-of-way
088-5413	CSX Railroad Corridor, Richmond, Fredericksburg & Potomac Railroad	Eligible	Crossed by right-of-way
500-0001	Richmond, Fredericksburg and Potomac Railroad (Historic), Richmond, Fredericksburg and Potomac Railroad Historic District (Current Name)	Eligible	Crossed by right-of-way

I. Chesapeake Bay Preservation Areas

Construction, installation, operation, and maintenance of electric transmission lines are conditionally exempt from the Chesapeake Bay Preservation Act as stated in the exemption for public utilities, railroads, public roads, and facilities in 9 VAC 25-830-150. The proposed Rebuild Project is located within Chesapeake Bay Preservation Act jurisdictional counties and will meet these regulations as applicable.

J. Wildlife Resources

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

K. Recreation, Agricultural and Forest Resources

The Rebuild Project is expected to have minimal incremental impacts on recreational, agricultural, and forest resources as no additional right-of-way is required. The general character of the Rebuild Project area is characterized as predominantly agricultural and forestal lands as well as woody wetlands and low-intensity developed land. 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 North Anna River and South Anna River are qualified for scenic river designation and are crossed by the Rebuild Project.

There is one national park, Richmond National Battlefield Park, crossed by the existing right-of-way. There are no state or local parks located within the existing right-of-way. Additionally, there are three local parks located within one mile of the right-of-way. In March 2021, the Company solicited DCR for comments on the proposed Rebuild Project. In a response dated March 22, 2021, DCR stated that any disturbance associated with the proposed project along the North Anna River edge be minimized to reduce impacts to its scenic nature. (Attachment 2.K.1).

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. Land that does not meet the criteria for prime farmland can be considered “farmland of statewide importance.” The criteria for defining and delineating farmland of statewide importance are determined by the Virginia Department of Agriculture and Consumer Services. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Other areas that are not identified as having national or statewide importance can be considered to be “farmland of local importance.” This farmland is identified by the appropriate local agencies. Farmland of local importance may include tracts of land that have been designated for agriculture by local ordinance. A total of 190.0 acres of prime farmland and 176.2 acres of farmland of statewide importance are located within the Rebuild Project right-of-way.

Hanover County has designated Agricultural and Forestal Districts within their jurisdictions under Va. Code § 3.2-205 B. According to the Hanover County General Land Use Plan and Major Thoroughfare Plan, the majority of the existing transmission line corridor is located with areas designated for agricultural land use. According to the Caroline County Land Use Map, a portion of the existing transmission line corridor is located within low density residential and planned development areas and a portion is located outside of designated primary growth areas.

Where agricultural uses are present, these activities have been occurring within the right-of-way while the existing transmission line has been in operation. The Rebuild Project may result in temporary impacts to farmland during construction but would otherwise not be expected to impact farmlands and would not alter the agricultural use.

Under the Virginia Open-Space Land Act, any public body can acquire title or rights to real property to provide means of preservation of open-space land. Such conservation easements must be held for no less than five years in duration and can be held in perpetuity. The Rebuild Project crosses one Virginia Outdoors Foundation (“VOF”) easement, HAN-VOF-2872. The table below lists all easements crossed by and within one mile of the centerline of the Rebuild Project.

Table 4. Conservation easements crossed by and within 1.0-mile of the centerline of the Rebuild Project

Unit Name	Owner/Manager
HAN-VOF-2872	Virginia Outdoors Foundation
HAN-VOF-2317	Virginia Outdoors Foundation
HAN-VOF-2346	Virginia Outdoors Foundation
HAN-VOF-2316	Virginia Outdoors Foundation
HAN-VOF-3816	Virginia Outdoors Foundation
Handley Easement	Henrico County

The width of the existing transmission line right-of-way varies from 150 feet to 235 feet. The proposed Rebuild Project is the rebuild of an existing transmission line, and no additional right-of-way is required. The Rebuild Project proposes to retain the existing right-of-way as currently utilized but may require additional trimming of tree limbs along the right-of-way edges and/or trimming for access roads along the corridor to support construction activities. Trees and brush located within 100 feet of streams will be cleared by hand in accordance with the Company approved Erosion and Sediment Control specifications.

Any tree along the right-of-way that is tall enough to endanger the conductors if it were to break at the stump or uproot and fall directly towards the conductors and exhibits signs or symptoms of disease or structural defect that make it an elevated risk for falling will be designated as a “danger tree” and may be removed. The Company’s arborist will contact the property owner if possible before any danger trees are cut, except in emergency situations. The Company’s Forestry Coordinator will field inspect the right-of-way and designate any danger trees present. Qualified contractors working in accordance with the Company’s Electric Transmission specifications will perform all danger tree cutting. The Virginia Rebuild Project is expected to have minimal, if any, impact on forest resources as the proposed Virginia Rebuild Project involves rebuilding a portion of an existing line which is already cleared and maintained for existing facility operation and no additional right-of-way is required.

In March 2021, the Company solicited DCR and VOF for comments on the proposed Rebuild Project. In a letter dated April 15, 2021, the VOF indicated that they hold five (5) open space easements located within 1.5 miles of the Rebuild Project and requested that project components be minimized in their presence on the landscape, or at the least, mimic the characteristics of the existing towers in height, size, and reflectivity to the greatest extent practicable. See [Attachment 2.K.2](#). While the proposed structures will be taller than the existing, the Company will use galvanized steel towers with a dulled finish and dulled conductor and shield wire to reduce glare.

L. Use of Pesticides and Herbicides

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

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

M. Geology and Mineral Resources

According to the Division of Geology and Mineral Resources Interactive Geologic Map, the Rebuild Project consists primarily of gneiss, sand and gravel, siltstone, sandstone, granite, and terrace. According to the USGS topographic maps and aerial imagery, there are no active mines or stone quarries within the limits of the Rebuild Project. A search of the Virginia Department of Mines, Minerals, and Energy online map confirms there are no active or abandoned mines within the right-of-way or within a 1.0-mile radius of the right-of-way. The Company does not anticipate that the rebuild of the existing transmission line will result in negative impacts on the geology or mineral resources in the proposed Rebuild Project area.

The Rebuild Project is located in the Piedmont physiographic province of Virginia, whose geology consists of a series of igneous and metamorphic rocks.

N. Transportation Infrastructure

The entire width of the existing transmission line right-of-way varies between 150 to 235 feet in width and is currently maintained for operation of the existing transmission facilities. The transmission line corridor extends approximately 26.2 miles from the Company’s existing Elmont Substation in Hanover County to the Ladysmith Substation in Caroline County, Virginia, crossing 17 roads in Hanover County and 12 roads in Caroline County. Most of the roads within the Rebuild Project area consist of low traffic volume roads. In Hanover County there is a major road crossing of U.S. Route 54.

The Company will submit applications for land use permits and traffic control plans to the Virginia Department of Transportation (“VDOT”) for the aerial crossings of VDOT maintained roads and construction entrances from the VDOT right-of-way as needed. These permits will be obtained prior to construction.

In March 2021, the Company solicited comments from VDOT on the proposed Rebuild Project. In an email dated March 30, 2021, the VDOT Fredericksburg District requested a GIS file of the project area. See Attachment 2.N.1. The file was provided on March 31, 2021. The VDOT Richmond District had not responded at the time of filing this application.

The Company solicited comments from the Virginia Department of Aviation (“DOAv”) regarding the proposed Virginia Rebuild Project. The DOAv responded via email on April 2, 2021 which stated that a 7460 Airspace Study should be completed for portions of the project within 20,000 feet of the Hanover County Airport and for any structure which will be 200 feet or taller. See Attachment 2.N.2. The Company had previously submitted the necessary information on March 19, 2021 to initiate aeronautical studies.

Finally, the Company has reviewed the FAA’s website (<https://oeaaa.faa.gov/oeaaa/external/portal.jsp>) to identify airports within ten miles of the Virginia Rebuild Project. Based on this review, one FAA-restricted airport is located within ten miles of the Rebuild Project:

- Hanover County Municipal Airport 2.5 miles east of the Elmont Substation.

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

The existing right-of-way crosses an historic property (Cool Water) along Old Ridge Road. There is a private grass air strip on this property for small planes located in close proximity to the existing line. The FAA only regulates public airports, not grass airstrips. Therefore, the FAA does not take any jurisdiction over this private airstrip. The FAA data shows just one airplane is based at this airstrip. While not required to do so by any government agency, the Company plans to communicate with the landowner about the Rebuild Project.

Attachments

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



March 19, 2021

BY EMAIL

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

**RE: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line #574
Rebuild Hanover and Caroline Counties, Virginia**

Dear Ms. Rayfield,

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont - Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or Rachel.M.Studebaker@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

A handwritten signature in black ink, appearing to read "J-P E".

Jason P. Ericson
Director, Environmental Services

Attachment: Project Location Map

ATTACHMENT 1A.1 PROJECT OVERVIEW MAP

Line 574 Elmont - Ladysmith
500 kV Transmission Line Rebuild

Hanover and Caroline Counties, Virginia

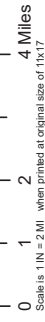
Owner/Applicant:

Dominion Energy Virginia

C2 Env Project: 0143

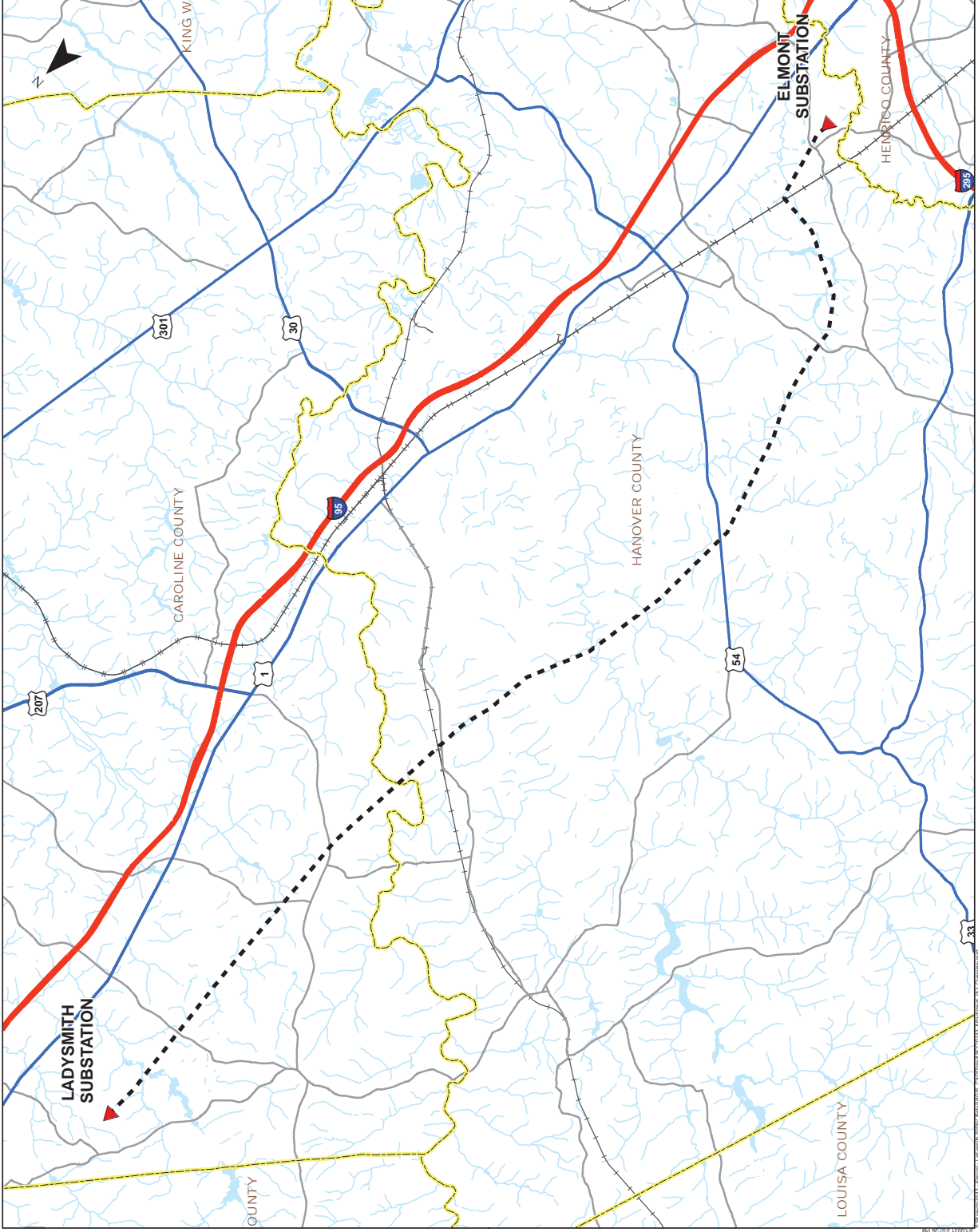
Prepared By: GCF

Date: 03/01/21

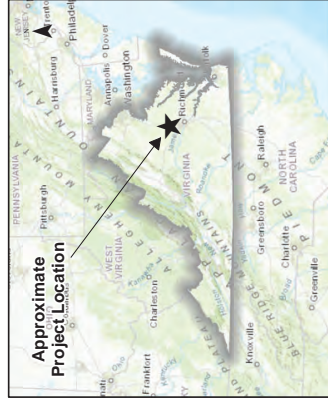


SITE DATA

- Existing Line #574 Centerline
- Existing Substation
- Limited Access Highways
- US and VA Primary Highways
- Local and Main Roads
- Railroad
- County Boundary
- Stream/River
- NHD Waterbody



- Notes:
1. Base map from ESRI Topographic Map
 2. Roads and railroads from VGIN
 3. Roads and railroads from VGIN
 4. Flowlines and waterbodies from USGS National Hydrography Dataset



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



March 19, 2021

BY EMAIL

Ms. Robbie Rhur
Planning & Recreation
Department of Conservation and Recreation
600 East Main Street, 24th Floor
Richmond, Virginia 23219

**RE: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line #574
Rebuild Hanover and Caroline Counties, Virginia**

Dear Ms. Rhur,

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont - Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or Rachel.M.Studebaker@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

A handwritten signature in black ink, appearing to read "J-P E", written over a light blue horizontal line.

Jason P. Ericson
Director, Environmental Services

Attachment: Project Location Map

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



March 19, 2021

BY EMAIL

Ms. Jaime Robb
Piedmont Regional Office
Department of Environmental Quality
4949-A Cox Road
Glen Allen, Virginia 23060

**RE: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line #574
Rebuild
Hanover and Caroline Counties, Virginia**

Dear Ms. Robb,

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont - Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or Rachel.M.Studebaker@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

A handwritten signature in black ink, appearing to read "J-P E", written over the printed name of Jason P. Ericson.

Jason P. Ericson
Director, Environmental Services

Attachment: Project Location Map

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



March 19, 2021

BY EMAIL

Mr. Conrad Spencer, III
Virginia Department of Mine, Minerals, and Energy
1100 Bank Street
Washington Building, 8th Floor
Richmond, Virginia 23219

**RE: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line #574
Rebuild Hanover and Caroline Counties, Virginia**

Dear Mr. Spencer,

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont - Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or Rachel.M.Studebaker@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

A handwritten signature in black ink, appearing to read "J-P E", written over a horizontal line.

Jason P. Ericson
Director, Environmental Services

Attachment: Project Location Map

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



March 19, 2021

BY EMAIL

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

**RE: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line #574
Rebuild Hanover and Caroline Counties, Virginia**

Dear Mr. Tignor,

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont - Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or Rachel.M.Studebaker@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

A handwritten signature in black ink, appearing to read "J-P E", written over a horizontal line.

Jason P. Ericson
Director, Environmental Services

Attachment: Project Location Map

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



March 19, 2021

BY EMAIL

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

**RE: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line #574
Rebuild Hanover and Caroline Counties, Virginia**

Dear Mr. Watkinson,

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont - Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or Rachel.M.Studebaker@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

A handwritten signature in black ink, appearing to read "J-P E".

Jason P. Ericson
Director, Environmental Services

Attachment: Project Location Map

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



March 19, 2021

BY EMAIL

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

**RE: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line #574
Rebuild Hanover and Caroline Counties, Virginia**

Dear Mr. Andersen,

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont - Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or Rachel.M.Studebaker@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

A handwritten signature in black ink, appearing to read "J-P E", located below the Dominion Energy Virginia text.

Jason P. Ericson
Director, Environmental Services

Attachment: Project Location Map

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



March 19, 2021

BY EMAIL

Ms. Trisha Beasley
Northern Regional Office
Department of Environmental Quality
13901 Crown Court
Woodbridge, VA 22193

**RE: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line #574
Rebuild Hanover and Caroline Counties, Virginia**

Dear Ms. Beasley,

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont - Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or Rachel.M.Studebaker@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

A handwritten signature in black ink, appearing to read "J-P-E", located below the Dominion Energy Virginia text.

Jason P. Ericson
Director, Environmental Services

Attachment: Project Location Map

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



March 19, 2021

BY EMAIL

Mr. Michael Dowd
Department of Environmental Quality
Air Division
P.O. Box 1105
Richmond, Virginia 23218

**RE: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line #574
Rebuild Hanover and Caroline Counties, Virginia**

Dear Mr. Dowd,

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont - Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or Rachel.M.Studebaker@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

A handwritten signature in black ink, appearing to read "J-P E", written over a horizontal line.

Jason P. Ericson
Director, Environmental Services

Attachment: Project Location Map

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



March 19, 2021

BY EMAIL

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

**RE: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line #574
Rebuild Hanover and Caroline Counties, Virginia**

Dear Ms. Ewing,

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont - Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or Rachel.M.Studebaker@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

A handwritten signature in black ink, appearing to read "J-P E", written over a horizontal line.

Jason P. Ericson
Director, Environmental Services

Attachment: Project Location Map



March 19, 2021

BY EMAIL

Ms. Michelle Henicheck
Office of Wetlands and Streams
Department of Environmental Quality
PO Box 1105
Richmond, Virginia 23218

**RE: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line
#574 Rebuild
Hanover and Caroline Counties, Virginia**

Dear Ms. Henicheck,

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont - Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location and a copy of the Desktop Wetland Review.

C2 Environmental completed a desktop wetland review using publicly available data to identify the potential limits of wetlands and other waters of the United States. It should be noted that the study did not include any on-site wetland delineation field investigations utilizing the 1987 Corps of Engineers Wetland Delineation Manual and methods described in the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0). A probability of occurrence was assigned to each potential wetland based upon the presence or absence of additional supporting data layers including USDA-NRCS hydric soil data, NWI wetland mapping, and FEMA 100-year floodplain maps. It should be noted that streams and open water have not been assigned a probability of occurrence and have been identified based upon their consistent presence in multiple years of aerials.

The Cowardin Classification of the wetlands within the project area have been combined into palustrine scrub-shrub (PSS) / palustrine emergent wetlands (PEM) and not separated. This is due to the fact that the study area is within a maintained ROW, and it's difficult to differentiate between

Elmont to Ladysmith
03/19/2021
Page 2 of 2

scrub-shrub and emergent wetlands even with the highest resolution aerals. Table 1 lists wetland acreages by probability as well as stream channels and open water.

Table 1. Results of Desktop Wetland Review

	Low	Medium	High	Total
PEM/PSS Wetlands	12.6 AC	36.1 AC	98.2 AC	146.9 AC
Stream Channel				2.8 AC (17,749 LF)
Open Water				0.4 AC

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or Rachel.M.Studebaker@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Regards,



Jason P. Ericson
Director, Environmental Services

Attachments:
Project Overview Map
Desktop Wetland Review

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



March 19, 2021

BY EMAIL

Ms. S. Rene Hypes
Virginia Department of Conservation and Recreation,
Division of Natural Heritage
600 East Main Street, 24th Floor
Richmond, Virginia 23219

**RE: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line #574
Rebuild Hanover and Caroline Counties, Virginia**

Dear Ms. S. Rene Hypes

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont - Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or Rachel.M.Studebaker@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

A handwritten signature in black ink, appearing to read "J-P-E", located below the Dominion Energy Virginia text.

Jason P. Ericson
Director, Environmental Services

Attachment: Project Location Map

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



March 19, 2021

BY EMAIL

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

**RE: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line #574
Rebuild Hanover and Caroline Counties, Virginia**

Dear Mr. Lasher,

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont - Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or Rachel.M.Studebaker@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

A handwritten signature in black ink, appearing to read "J-P E", located below the Dominion Energy Virginia text.

Jason P. Ericson
Director, Environmental Services

Attachment: Project Location Map

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



March 19, 2021

BY EMAIL

Mr. Todd Miller
U.S. Army Corps of Engineers
Norfolk District, Southern Section
9100 Arboretum Parkway, Suite 235
Richmond, VA 23236

**RE: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line #574
Rebuild Hanover and Caroline Counties, Virginia**

Dear Mr. Miller,

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont - Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or Rachel.M.Studebaker@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

A handwritten signature in black ink, appearing to read "J-P-E", located below the Dominion Energy Virginia text.

Jason P. Ericson
Director, Environmental Services

Attachment: Project Location Map

Dominion Energy Virginia
10900 Nuckols Rd, 4th Floor
Glen Allen, VA 23060
DominionEnergy.com



March 18, 2021

**Mr. Robert Alexander
Federal Aviation Administration, Eastern Regional Office
159-30 Rockaway Blvd
Jamaica, New York 11434**

**Reference: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line #574 Rebuild, Hanover and Caroline Counties, Virginia
Notice Pursuant to Va. Code §15.2-2202 E**

Dear Mr. Alexander,

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont - Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact me directly at (804)201-3053 or Greg.R.Baka@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Regards,

A handwritten signature in black ink that reads "Greg Baka".

Greg R. Baka
Siting and Permitting Specialist

Attachment: Project Location Map

Dominion Energy Virginia
10900 Nuckols Rd, 4th Floor
Glen Allen, VA 23060
DominionEnergy.com



March 18, 2021

Mr. Kyle Bates, P.E.
Virginia Department of Transportation, Fredericksburg District
87 Deacon Road
Fredericksburg, VA 22405

Reference: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line #574 Rebuild, Hanover and Caroline Counties, Virginia Notice Pursuant to Va. Code §15.2-2202 E

Dear Mr. Bates,

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont - Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact me directly at (804)201-3053 or Greg.R.Baka@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Regards,

A handwritten signature in black ink that reads "Greg Baka".

Greg R. Baka
Siting and Permitting Specialist

Attachment: Project Location Map

Dominion Energy Virginia
10900 Nuckols Rd, 4th Floor
Glen Allen, VA 23060
DominionEnergy.com



March 18, 2021

**Mr. John A. Budesky
Hanover County Administrator
7516 County Complex Road
Hanover, VA 23069**

**Reference: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line #574 Rebuild, Hanover and Caroline Counties, Virginia
Notice Pursuant to Va. Code §15.2-2202 E**

Dear Mr. Budesky,

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont – Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). Approximately 17.4 miles of the project is located directly in Hanover County. The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact me directly at (804)201-3053 or Greg.R.Baka@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Regards,

A handwritten signature in black ink that reads "Greg Baka".

Greg R. Baka
Siting and Permitting Specialist

Attachment: Project Location Map

Dominion Energy Virginia
10900 Nuckols Rd, 4th Floor
Glen Allen, VA 23060
DominionEnergy.com



March 18, 2021

Mr. Charles M. Culley, Jr.
Caroline County Administrator
P.O. Box 447
Bowling Green, VA ~~23009~~ 22427

Reference: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500kV Transmission Line Rebuild, Hanover and Caroline Counties, Virginia
Notice Pursuant to Va. Code §15.2-2202 E

Dear Mr. Culley,

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont – Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). Approximately 8.8 miles of the project is located directly in Caroline County. The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact me directly at (804)201-3053 or Greg.R.Baka@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Regards,

A handwritten signature in black ink that reads "Greg Baka".

Greg R. Baka
Siting and Permitting Specialist

Attachment: Project Location Map

Dominion Energy Virginia
10900 Nuckolls Rd, 4th Floor
Glen Allen, VA 23060
DominionEnergy.com



March 18, 2021

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

**Reference: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line #574 Rebuild, Hanover and Caroline Counties, Virginia
Notice Pursuant to Va. Code §15.2-2202 E**

Dear Mr. Denny,

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont - Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact me directly at (804)201-3053 or Greg.R.Baka@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Regards,

A handwritten signature in black ink that reads "Greg Baka".

Greg R. Baka
Siting and Permitting Specialist

Attachment: Project Location Map

Dominion Energy Virginia
10900 Nuckols Rd, 4th Floor
Glen Allen, VA 23060
DominionEnergy.com



March 18, 2021

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

**Reference: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line #574 Rebuild, Hanover and Caroline Counties, Virginia
Notice Pursuant to Va. Code §15.2-2202 E**

Dear Mr. Kirchen,

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont - Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact me directly at (804)201-3053 or Greg.R.Baka@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Regards,

A handwritten signature in black ink that reads "Greg Baka".

Greg R. Baka
Siting and Permitting Specialist

Attachment: Project Location Map

Dominion Energy Virginia
10900 Nuckols Rd, 4th Floor
Glen Allen, VA 23060
DominionEnergy.com



March 18, 2021

**Ms. Martha Little
Virginia Outdoors Foundation
600 East Main Street, Suite 402
Richmond, Virginia 23219**

**Reference: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line #574 Rebuild, Hanover and Caroline Counties, Virginia
Notice Pursuant to Va. Code §15.2-2202 E**

Dear Ms. Little,

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont - Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact me directly at (804)201-3053 or Greg.R.Baka@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Regards,

A handwritten signature in black ink that reads "Greg Baka".

Greg R. Baka
Siting and Permitting Specialist

Attachment: Project Location Map

Dominion Energy Virginia
10900 Nuckols Rd, 4th Floor
Glen Allen, VA 23060
DominionEnergy.com



March 18, 2021

**Mr. Marshall Winn
Virginia Department of Transportation, Richmond District
2430 Pine Forest Drive
Colonial Heights, VA 23834**

**Reference: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line #574 Rebuild, Hanover and Caroline Counties, Virginia
Notice Pursuant to Va. Code §15.2-2202 E**

Dear Mr. Winn,

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing Elmont - Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing an application for Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code §15.2-2202, the Company is writing to notify you of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Location Map depicting the rebuild route and project location.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact me directly at (804)201-3053 or Greg.R.Baka@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Regards,

A handwritten signature in black ink that reads "Greg Baka".

Greg R. Baka
Siting and Permitting Specialist

Attachment: Project Location Map



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

March 26, 2021

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

RE: Elmont to Ladysmith 500 kV Line #574 Rebuild Project – Hanover and Caroline Counties, Virginia

Dear Ms. Studebaker:

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

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

DOCUMENT SUBMISSIONS

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

ENVIRONMENTAL REVIEW UNDER VIRGINIA CODE 56-46.1

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

Department of Environmental Quality:

- DEQ Regional Office
- Air Division
- Office of Wetlands and Stream Protection

- Office of Local Government Programs
 - Division of Land Protection and Revitalization
 - Office of Stormwater Management
- Department of Conservation and Recreation
Department of Health
Department of Agriculture and Consumer Services
Department of Wildlife Resources
Virginia Marine Resources Commission
Department of Historic Resources
Department of Mines, Minerals, and Energy
Department of Forestry
Department of Transportation

DATA BASE ASSISTANCE

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

- DEQ Online Database: Virginia Environmental Geographic Information Systems

Information on Permitted Solid Waste Management Facilities, Impaired Waters, Petroleum Releases, Registered Petroleum Facilities, Permitted Discharge (Virginia Pollution Discharge Elimination System Permits) Facilities, Resource Conservation and Recovery Act (RCRA) Sites, Water Monitoring Stations, National Wetlands Inventory:

- www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx

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

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

- <http://128.172.160.131/gems2/>

- MARCO Mid-Atlantic Ocean Data Portal

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

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

- DHR Data Sharing System.

Survey records in the DHR inventory:

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

- DCR Natural Heritage Search

Produces lists of resources that occur in specific counties, watersheds or physiographic regions:

- www.dcr.virginia.gov/natural_heritage/dbsearchtool.shtml

- DWR Fish and Wildlife Information Service

Information about Virginia's Wildlife resources:

- <http://vafwis.org/fwis/>

- Total Maximum Daily Loads Approved Reports

- <https://www.deq.virginia.gov/programs/water/waterqualityinformationtmdls/tmdl/tmdldevelopment/approvedtmdlreports.aspx>

- Virginia Outdoors Foundation: Identify VOF-protected land

- <http://vof.maps.arcgis.com/home/index.html>

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

Information on hazardous waste sites, potentially hazardous waste sites and remedial activities across the nation, including sites that are on the National Priorities List (NPL) or being considered for the NPL:

- www.epa.gov/superfund/sites/cursites/index.htm

- EPA RCRAInfo Search

Information on hazardous waste facilities:

- www.epa.gov/enviro/facts/rcrainfo/search.html

- Total Maximum Daily Loads Approved Reports

- <https://www.deq.virginia.gov/programs/water/waterqualityinformationtmdls/tmdl/tmdldevelopment/approvedtmdlreports.aspx>

- EPA Envirofacts Database

EPA Environmental Information, including EPA-Regulated Facilities and Toxics Release Inventory Reports:

- www.epa.gov/enviro/index.html

- EPA NEPAassist Database

Facilitates the environmental review process and project planning:

- <http://nepaassisttool.epa.gov/nepaassist/entry.aspx>

If you have questions about the environmental review process, please feel free to contact me (telephone (804) 698-4204 or e-mail bettina.rayfield@deq.virginia.gov).

I hope this information is helpful to you.

Sincerely,

A handwritten signature in black ink, appearing to read "Bettina Rayfield". The signature is fluid and cursive, with a long horizontal stroke at the end.

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



COMMONWEALTH of VIRGINIA

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

Matthew J. Strickler
Secretary of Natural Resources

Steven G. Bowman
Commissioner

April 19, 2021

Dominion Energy Services, Inc.
Attn: Rachel Studebaker
120 Tredegar Street
Richmond, Virginia 23219

Re: Elmont to Ladysmith 500 kV Transmission Line #574
Rebuild Project

Dear Ms. Studebaker,

This will respond to the request for comments regarding the Elmont to Ladysmith 500 kV Transmission Line #574 Rebuild project, prepared by Dominion Energy Services, Inc. Specifically, the Dominion has proposed to rebuild the existing Elmont-Ladysmith 500 kV Transmission Line #574 between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County, Virginia.

We reviewed the project documents and found the proposed project is within the jurisdictional areas of the Virginia Marine Resources Commission (VMRC) may require a permit from this agency.

Please be advised that the VMRC pursuant to §28.2-1200 et seq of the Code of Virginia, administers permits required for submerged lands, tidal wetlands, and beaches and dunes. Any jurisdictional impacts will be reviewed by the VMRC during the Joint Permit Application process.

Please contact me at 757-902-5017 or by email at tiffany.birge@mrc.virginia.gov if you have questions. Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in black ink that reads "Tiffany L. Birge".

Tiffany Birge
Environmental Engineer

TLB
HM



DESKTOP WETLAND REVIEW
ELMONT-LADYSMITH 500 KV TRANSMISSION LINE #574
REBUILD

Hanover and Caroline Counties, Virginia

Prepared For:

Dominion Energy Virginia
c/o Rachel Studebaker
120 Tredegar Street
Richmond, Virginia 23219

Prepared By:

C2 Environmental, Inc.
11846 Rock Landing Drive, Suite A
Newport News, Virginia 23606
Project No. 0143

March 2021

TABLE OF CONTENTS

Section	Page
1.0 Introduction.....	1
2.0 Desktop Data Sources	1
3.0 Methodology and Wetland Occurance Probability	1
5.0 Results.....	2
5.0 Conclusion	2

TABLES

Table 1. Criteria for Probability of Wetland Occurance	2
Table 2. Results of Desktop Wetland Review	2

APPENDICES

Appendix A: Project Graphics

1.0 INTRODUCTION

C2 Environmental (C2 Env) has been retained by Dominion Energy Virginia (Dominion) to complete a desktop wetland review on the project known as Elmont-Ladysmith 500 kV Transmission Line #574 Rebuild. The approximate 26.2-mile, 511.7-acre project area consists of an existing transmission line right-of-way (ROW) located in Hanover and Caroline Counties, Virginia. The project area originates at the Elmont Substation in Hanover County located northeast of Greenwood Road (Route 625) and southwest of Cedar Lane (Route 623). The project area generally runs to the north terminating at the Ladysmith Substation in Caroline County located north of Route 604 (Gatewood Road), west of Jefferson Davis Highway (Route 1), and east of Countyline Church Road (Route 603).

It should be noted that this study does not include any on-site wetland delineation field investigations utilizing the *1987 Army Corps of Engineers Wetland Delineation Manual in conjunction with the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic Gulf Coastal Plain Region (version 2.0)* or the *2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0)*. Rather, publicly available data was used to identify the potential limits of wetlands and other Waters of the U.S. (WOUS).

2.0 DESKTOP DATA SOURCES

Resources used to complete the desktop review include the following:

- VGIN aerial imagery dated 2017;
- VGIN infrared imagery dated 2017;
- Google Earth historic imagery ranging from 1994 to 2018;
- U.S. Geologic Survey (USGS) topographic maps;
- USGS Digital Elevation Model (DEM) 10-foot contour data;
- U.S. Department of Agriculture National Resources Conservation Service (USDA-NRCS) hydric soil survey data;
- U.S. Fish and wildlife service (USFWS) National Wetland Inventory (NWI) wetland mapping;
- Federal Emergency Management Agency (FEMA) 100-year floodplain maps.

3.0 METHODOLOGY AND WETLAND OCCURRENCE PROBABILITY

Using the available infrared and aerial imagery along with the DEM and USGS topography, potential wetland areas were identified within the study area. The areas identified using the aerial imagery were typically darker in color, which is indicative of inundation or saturated soil conditions associated with wetlands. In many instances these dark signature areas are confined to concave landscapes as defined by the topography. However, wetland occurrence is not limited to concave landforms and can occur in flat landscapes. A probability of occurrence was assigned to each potential wetland based upon the presence or absence of additional supporting data layers including USDA-NRCS hydric soil data, NWI wetland mapping, and FEMA 100-year floodplain maps. Table 1 lists the probability criteria of wetland occurrence based upon the number of layers present in a given area. It should be

noted that streams and open water have not been assigned a probability of occurrence and have been identified based upon their consistent presence in multiple years of aeriels.

Table 1: Criteria for Probability of Wetland Occurrence

Probability	Criteria
Low	Areas identified with only topography and aeriels.
Medium	Areas identified with topography and aeriels with one additional layer (NRCS hydric soil mapping, NWI wetland mapping, or FEMA 100-year floodplain maps).
High	Areas identified with topography and aeriels with two or more additional layers (NRCS hydric soil mapping, NWI wetland mapping, or FEMA 100-year floodplain maps).

4.0 RESULTS

The results of the desktop wetland review are provided in the Desktop Wetland Review Map (Appendix A). The Cowardin Classification of the wetlands within the project area have been combined into palustrine scrub-shrub (PSS) / palustrine emergent wetlands (PEM) and not separated. This is due to the fact that the study area is within a maintained ROW, and it's difficult to differentiate between scrub-shrub and emergent wetlands even with the highest resolution aeriels. Table 2 lists wetland acreages by probability as well as stream channels and open water.

Table 2: Results of Desktop Wetland Review

	Low	Medium	High	Total
PEM/PSS Wetlands	12.6 AC	36.1 AC	98.2 AC	146.9 AC
Stream Channel				2.8 AC (17,749 LF)
Open Water				0.4 AC

5.0 CONCLUSION

C2 Env performed a Desktop Wetland Review on the Elmont-Ladysmith 500 kV Transmission Line #574 Rebuild project to determine the potential limits of wetlands and other WOUS within the project area using publicly available off-site resources. Prior to any land disturbing activities, C2 Env recommends a detailed delineation of wetland and other WOUS followed by confirmation by U.S. Army Corps of Engineers.

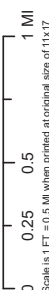
APPENDIX A

Project Graphics

DESKTOP WETLAND REVIEW MAP

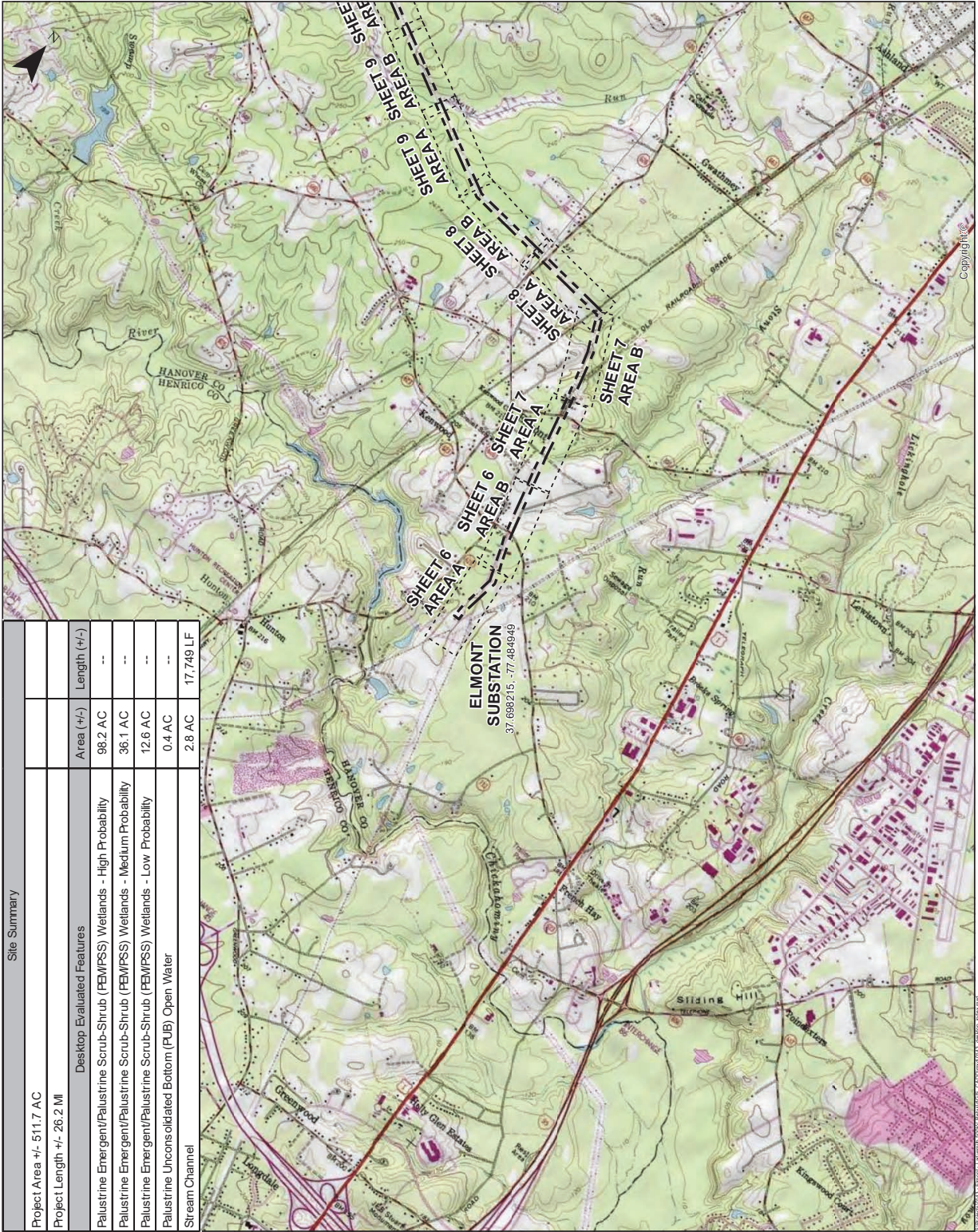
Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:	
Dominion Energy Virginia	
C2 Env Project:	
0143	
Prepared By:	
ELW	
Date:	
03/05/21	



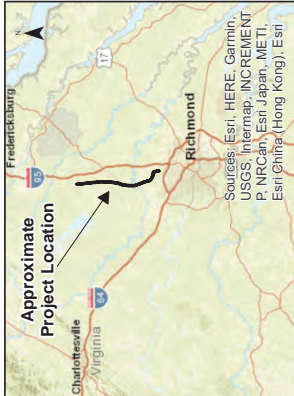
SITE DATA

- Project Area
- Map Sheet



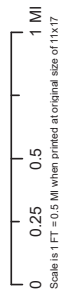
Site Summary			
Project Area +/- 511.7 AC		Area (+/-)	Length (+/-)
Project Length +/- 26.2 MI		98.2 AC	--
Palustrine Emergent/Palustrine Scrub-Shrub (PEMPSS) Wetlands - High Probability		36.1 AC	--
Palustrine Emergent/Palustrine Scrub-Shrub (PEMPSS) Wetlands - Medium Probability		12.6 AC	--
Palustrine Emergent/Palustrine Scrub-Shrub (PEMPSS) Wetlands - Low Probability		0.4 AC	--
Palustrine Unconsolidated Bottom (RUB) Open Water		2.8 AC	17.749 LF

- Notes:
1. Basemap from ESRI World Street Map, VGIN 2017
 2. Aerial imagery, USGS Aerial, Glen Allen, Hanover Academy
 3. Structure locations provided by Dominion Energy
 4. Wetland desktop evaluation conducted by C2 Environmental Inc. February 2021



Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:	Dominion Energy Virginia
C2 Env Project:	Prepared By:
0143	ELW
	Date:
	03/05/21

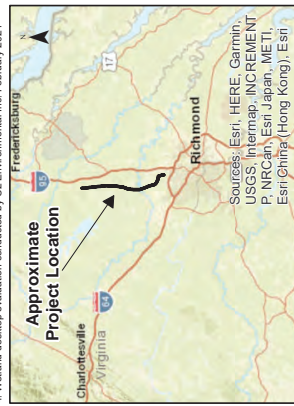


SITE DATA

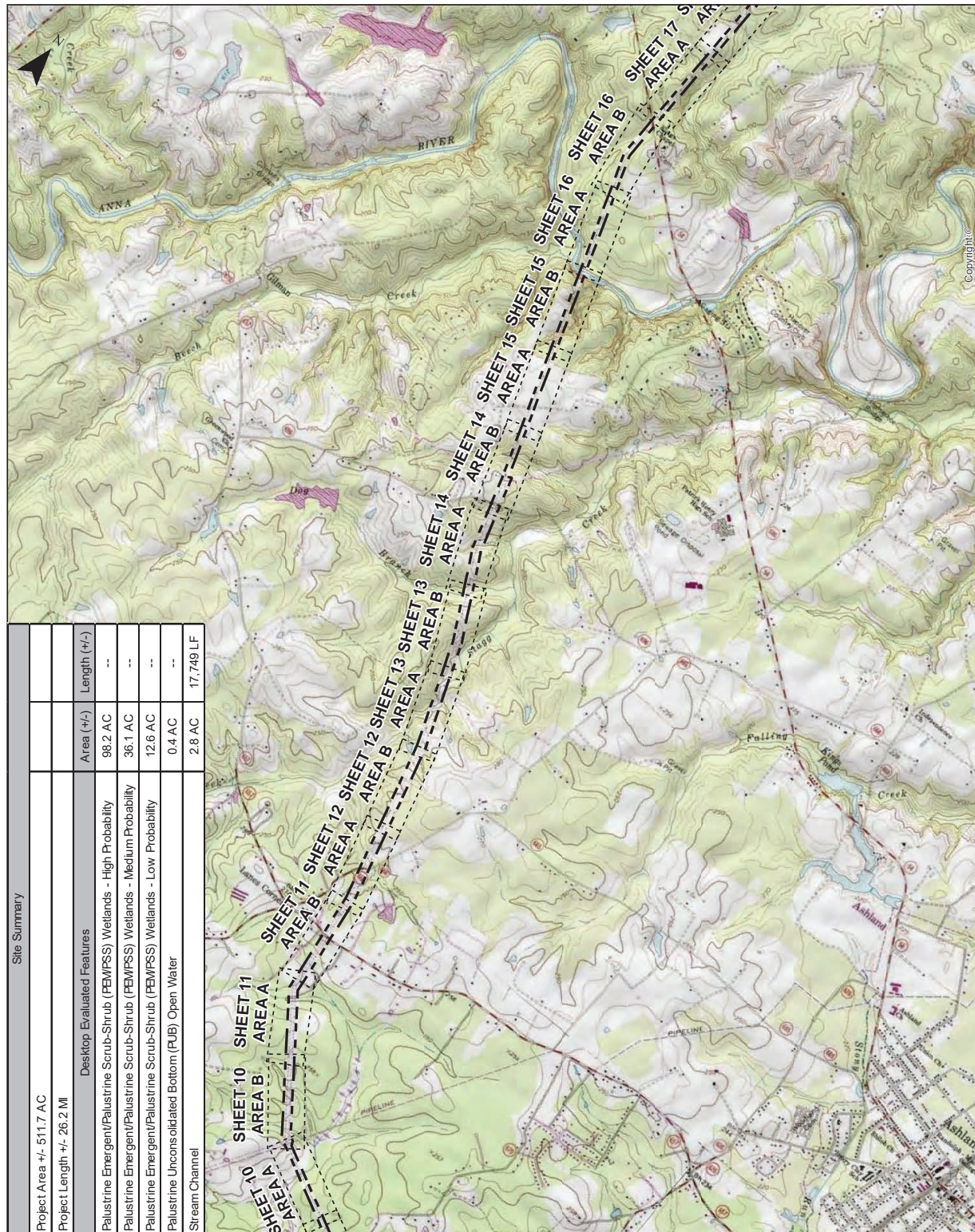
- Project Area
 Map Sheet

Notes:

1. Basemap from ESRI World Street Map, VGIN 2017
2. aerial imagery, USGS Ashland, Glen Allen, Hanover Academy, Ledyard, Ladysmith, and Yellow Tavern, VA Topographic Quad Maps
3. Structure locations provided by Dominion Energy
4. Roads, parcels, and contours provided by VGIN
5. Wetland desktop evaluation conducted by C2 Environmental Inc., February 2021



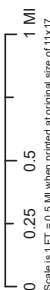
Site Summary			
Project Area +/-	511.7 AC		
Project Length +/-	26.2 MI		
Desktop Evaluated Features			
Palustrine Emergent/Palustrine Scrub-Shrub (PEW/PSS)	Wetlands - High Probability	98.2 AC	--
Palustrine Emergent/Palustrine Scrub-Shrub (PEW/PSS)	Wetlands - Medium Probability	36.1 AC	--
Palustrine Emergent/Palustrine Scrub-Shrub (PEW/PSS)	Wetlands - Low Probability	12.6 AC	--
Palustrine Unconsolidated Bottom (PUB)	Open Water	0.4 AC	--
Stream Channel		2.8 AC	17,749 LF



Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client: Dominion Energy Virginia

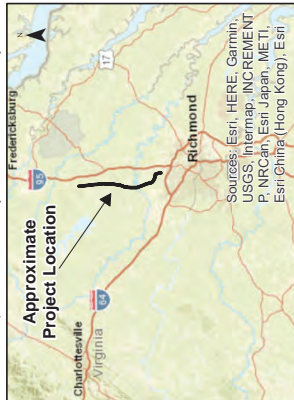
C2 Env Project: 0143
Prepared By: ELW
Date: 03/05/21



SITE DATA

-  Project Area
 Map Sheet

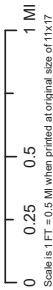
1. Basemap from ESRI World Street Map VGIN 2017
2. Structure locations provided by Dominion Energy
3. Roads, parcels, and contours provided by VGIN
4. Wetland desktop evaluation conducted by C2 Environmental Inc. February 2021

 ENVIRONMENTAL

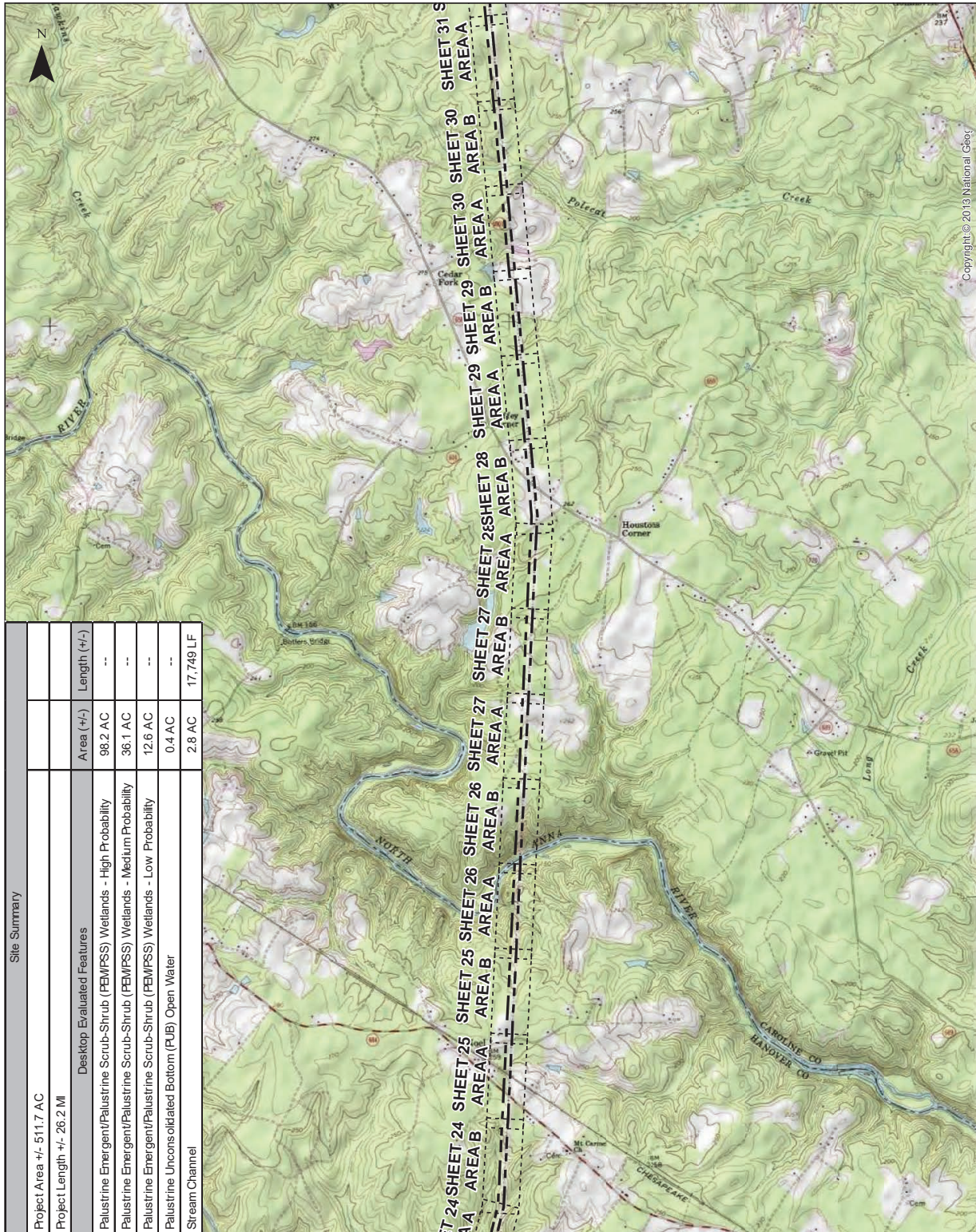
DESKTOP WETLAND REVIEW MAP

Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

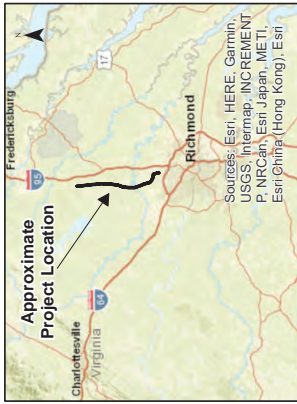
Client:	Dominion Energy Virginia
C2 Env Project:	0143
Prepared By:	ELW
Date:	03/05/21



- SITE DATA**
- Project Area
 - Map Sheet



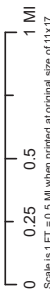
- Notes:**
1. Basemap from ESRI World Street Map, VGIN 2017
 2. Aerial imagery, USGS Aerial, GeoEye, and other sources
 3. Structure locations provided by Dominion Energy
 4. Wetland desktop evaluation conducted by C2 Environmental Inc. February 2021



Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client: Dominion Energy Virginia

C2 Env Project: 0143
Prepared By: ELW
Date: 03/05/21

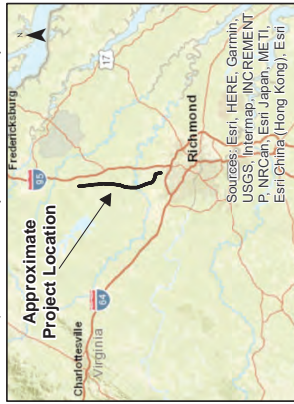


SITE DATA

- Project Area
- Map Sheet

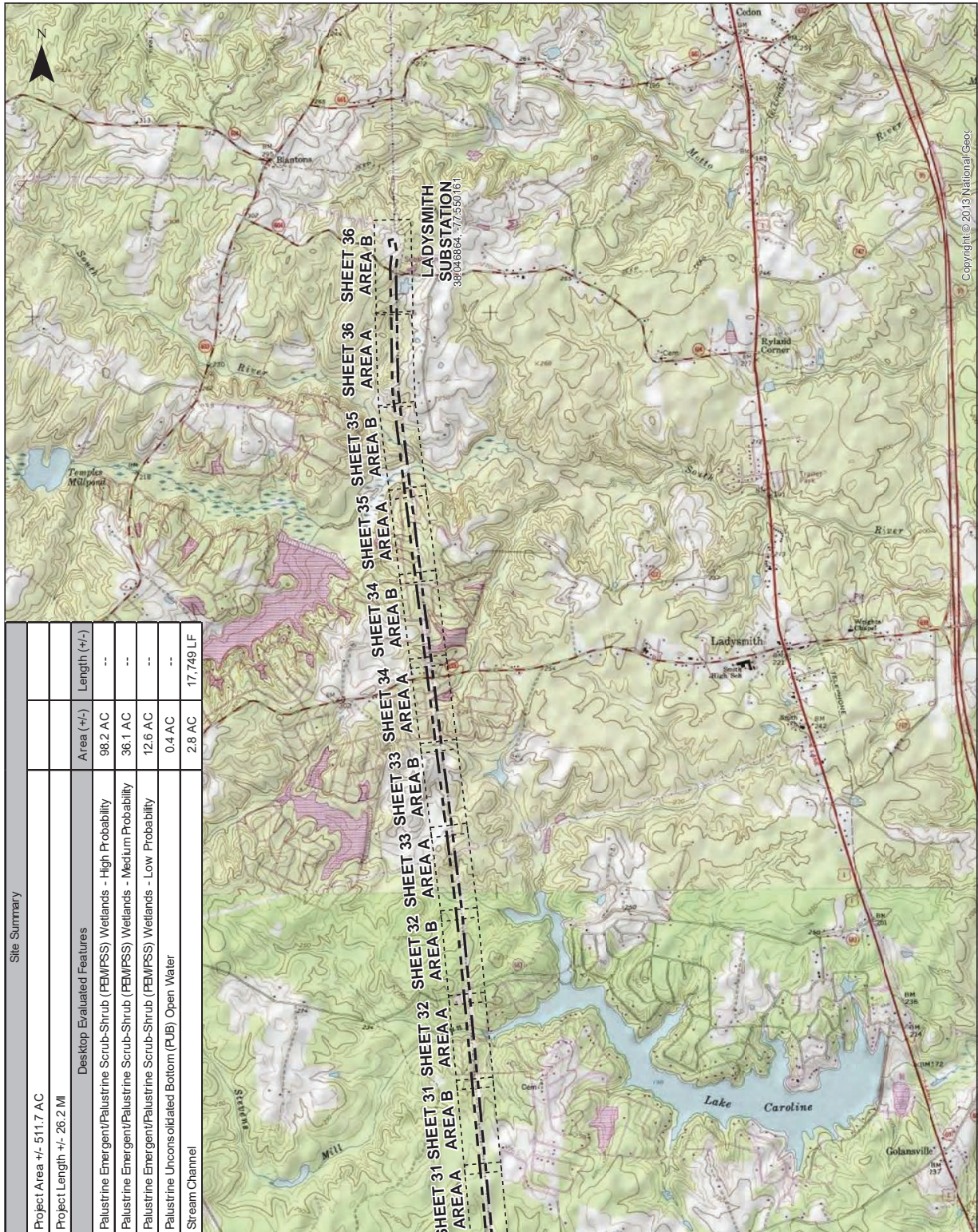
Notes:

1. Basemap from ESRI World Street Map, VGIN 2017 aerial imagery, USGS Ashland, Glen Allen, Hanover Academy, Hewlett, Ladysmith, and Yellow Tavern, VA, Topographic Quad Maps
2. Structure locations provided by Dominion Energy
3. Roads, parcels, and contours provided by VGIN



SHEET 5 OF 36

Site Summary			
Project Area +/- 511.7 AC			
Project Length +/- 26.2 MI			
Desktop Evaluated Features		Area (+/-)	Length (+/-)
Palustrine Emergent/Palustrine Scrub-Shrub (PEW PSS) Wetlands - High Probability		98.2 AC	--
Palustrine Emergent/Palustrine Scrub-Shrub (PEW PSS) Wetlands - Medium Probability		36.1 AC	--
Palustrine Emergent/Palustrine Scrub-Shrub (PEW PSS) Wetlands - Low Probability		12.6 AC	--
Palustrine Unconsolidated Bottom (RUB) Open Water		0.4 AC	--
Stream Channel		2.8 AC	17,749 LF

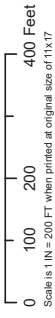


Copyright: © 2013 National Geog

DESKTOP WETLAND REVIEW MAP

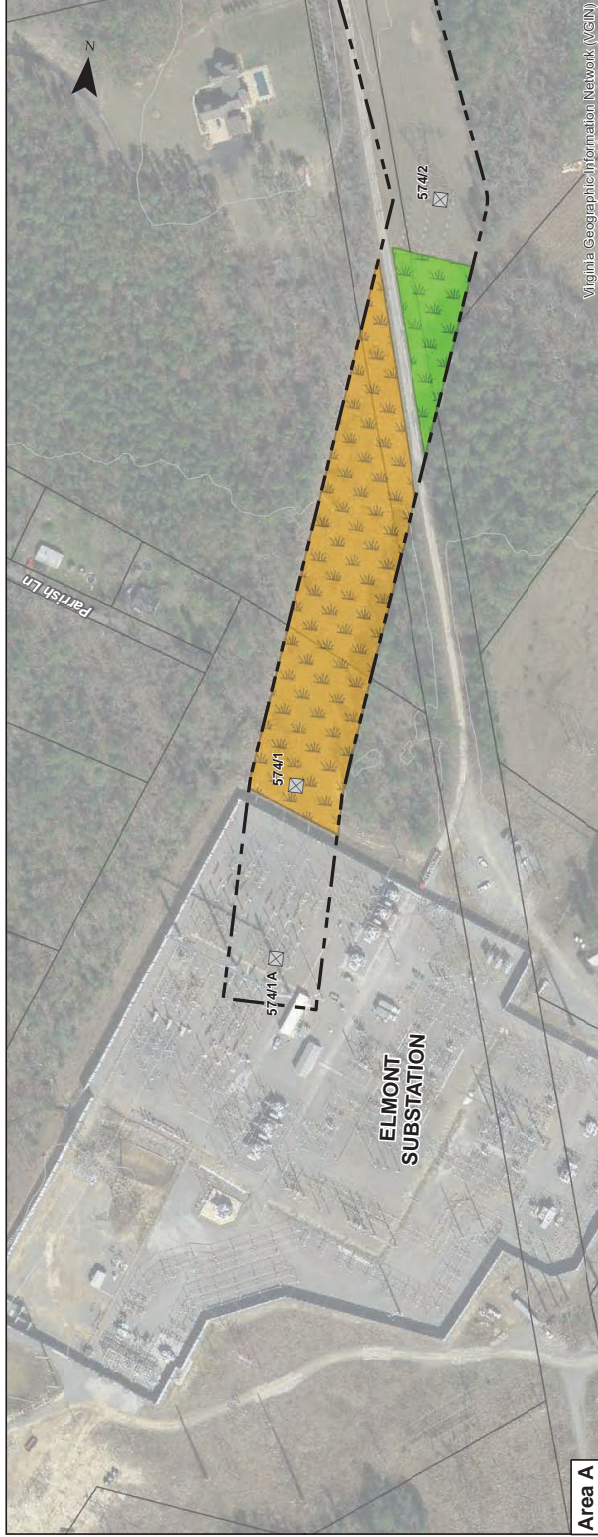
Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:	Dominion Energy Virginia
C2 Env Project:	0143
Prepared By:	ELW
Date:	03/05/21

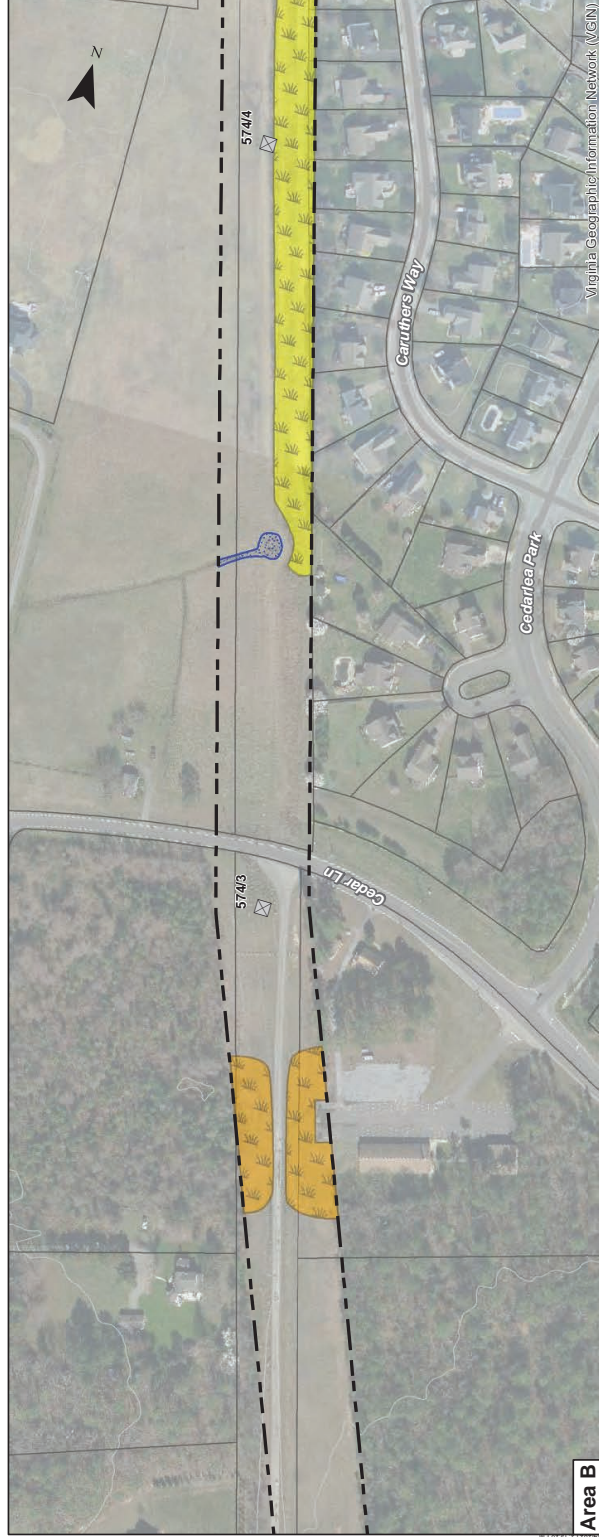


SITE DATA

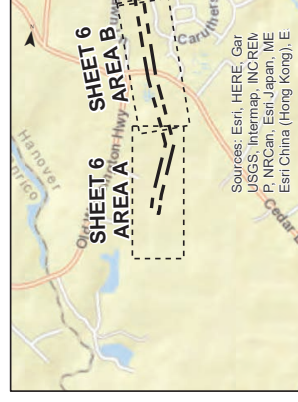
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



Area A



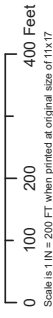
Area B



DESKTOP WETLAND REVIEW MAP

Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:	Dominion Energy Virginia
C2 Env Project:	0143
Prepared By:	ELW
Date:	03/05/21

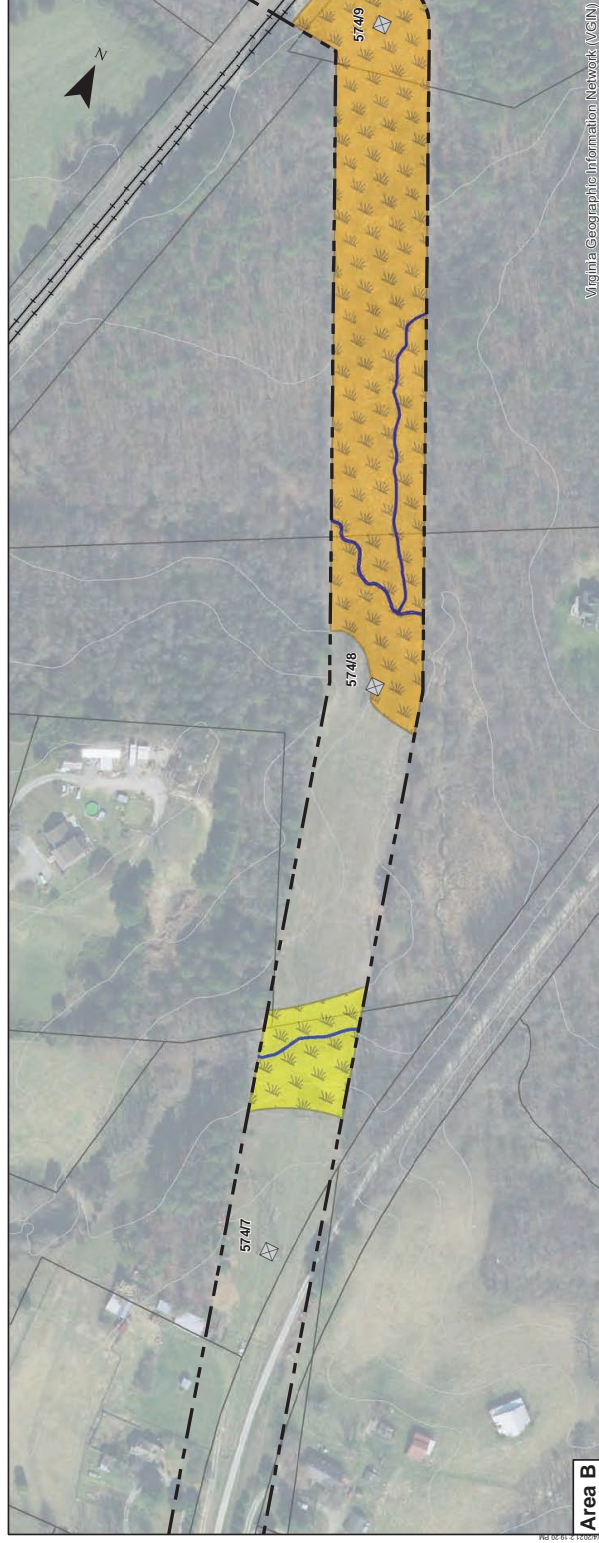


SITE DATA

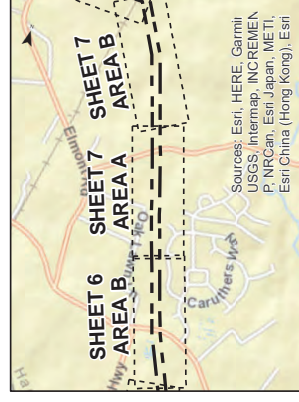
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



Area A



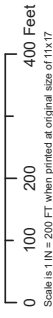
Area B



DESKTOP WETLAND REVIEW MAP

Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client: Dominion Energy Virginia	
C2 Env Project: 0143	Prepared By: ELW
Date: 03/05/21	



SITE DATA

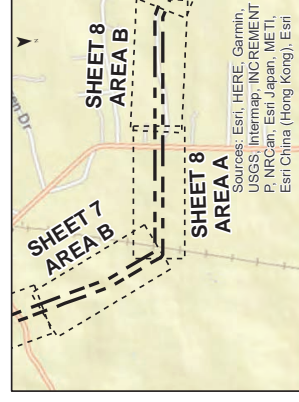
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



Area A



Area B



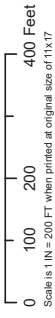
Sources: Esri, HERE, Garmin,
USGS, Intermap, INCREMENT
P, INRCan, Esri Japan, METI,
Esri China (Hong Kong), Esri



DESKTOP WETLAND REVIEW MAP

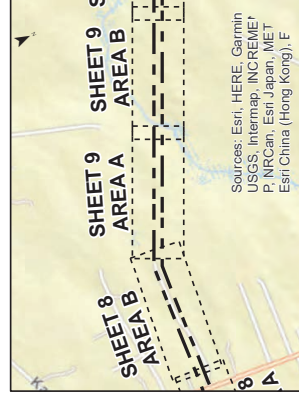
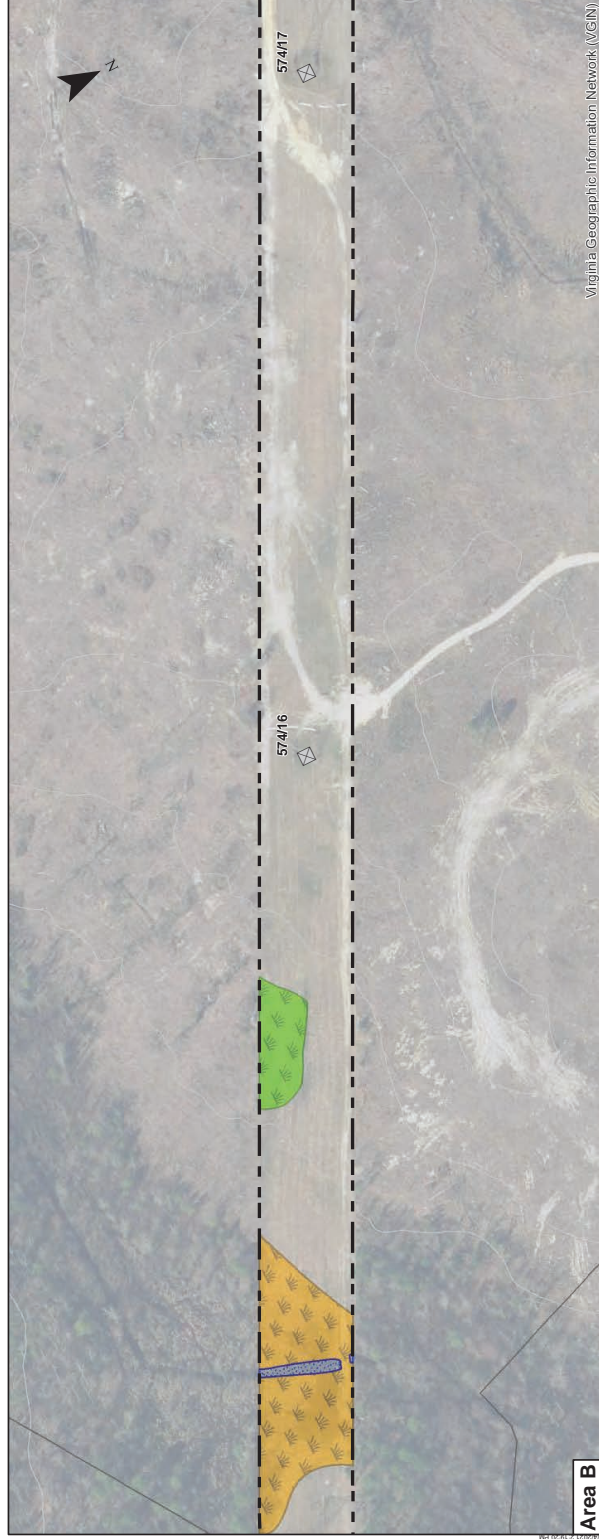
Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:		Dominion Energy Virginia	
C2 Env Project:		Prepared By:	
0143		ELW	
		Date:	
		03/05/21	



SITE DATA

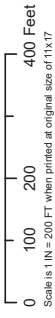
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



DESKTOP WETLAND REVIEW MAP

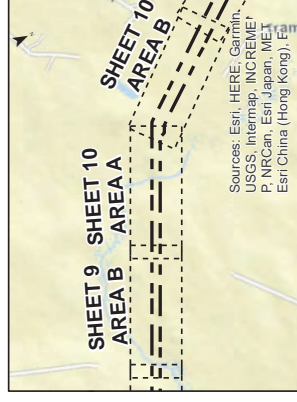
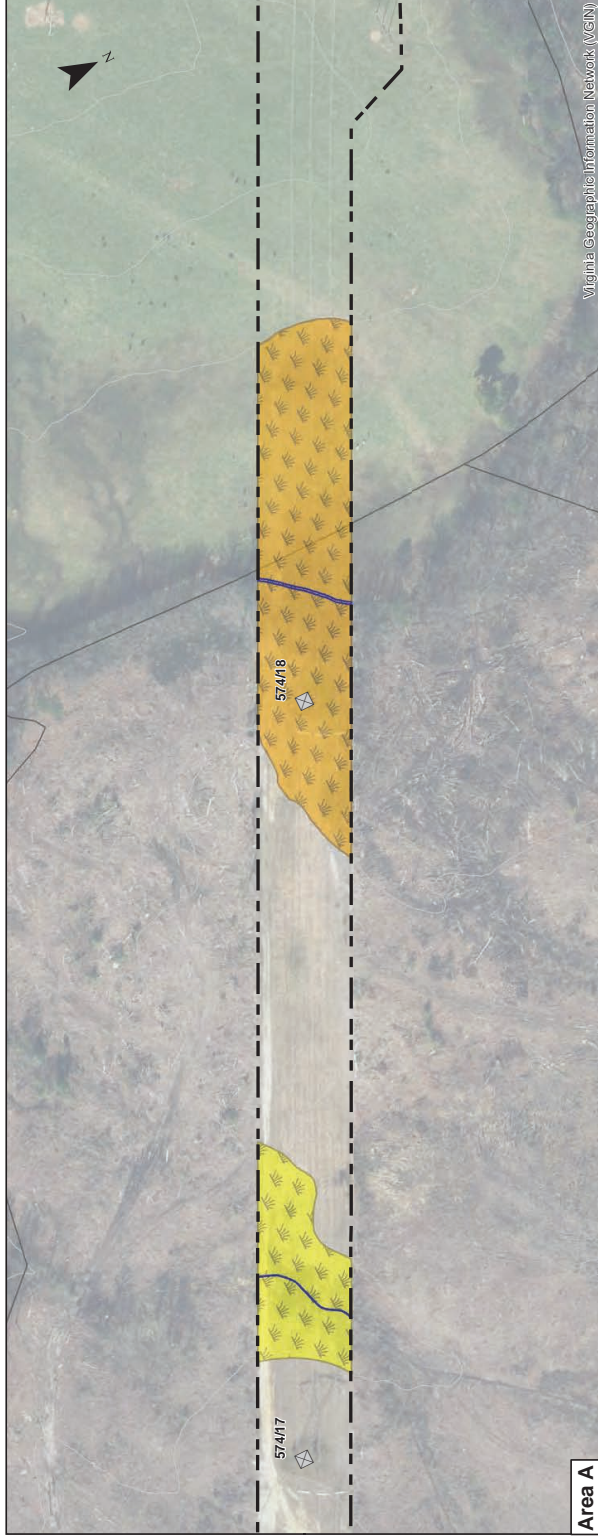
Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:		Dominion Energy Virginia	
C2 Env Project:		Prepared By:	
0143		ELW	
		Date:	
		03/05/21	



SITE DATA

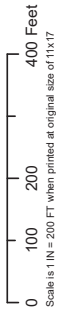
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



DESKTOP WETLAND REVIEW MAP

Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:		Dominion Energy Virginia	
C2 Env Project:		Prepared By:	
0143		ELW	
		Date:	
		03/05/21	



SITE DATA

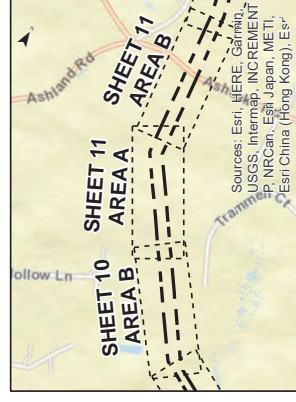
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



Area A



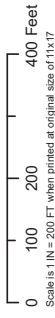
Area B



DESKTOP WETLAND REVIEW MAP

Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:		Dominion Energy Virginia	
C2 Env Project:		Prepared By:	Date:
0143		ELW	03/05/21



SITE DATA

- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



Area A



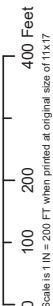
Area B



DESKTOP WETLAND REVIEW MAP

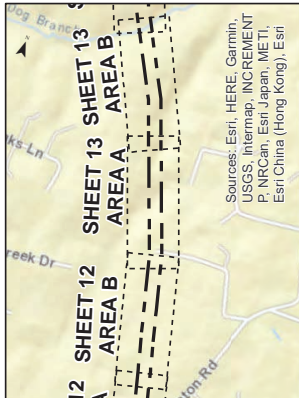
Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client: Dominion Energy Virginia	
C2 Env Project: 0143	Prepared By: ELW
Date: 03/05/21	



SITE DATA

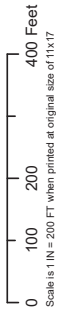
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



DESKTOP WETLAND REVIEW MAP

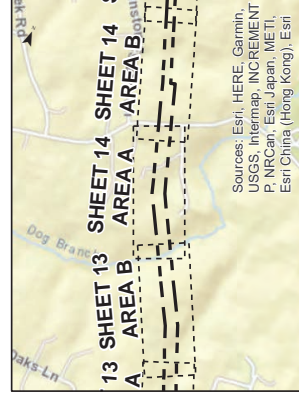
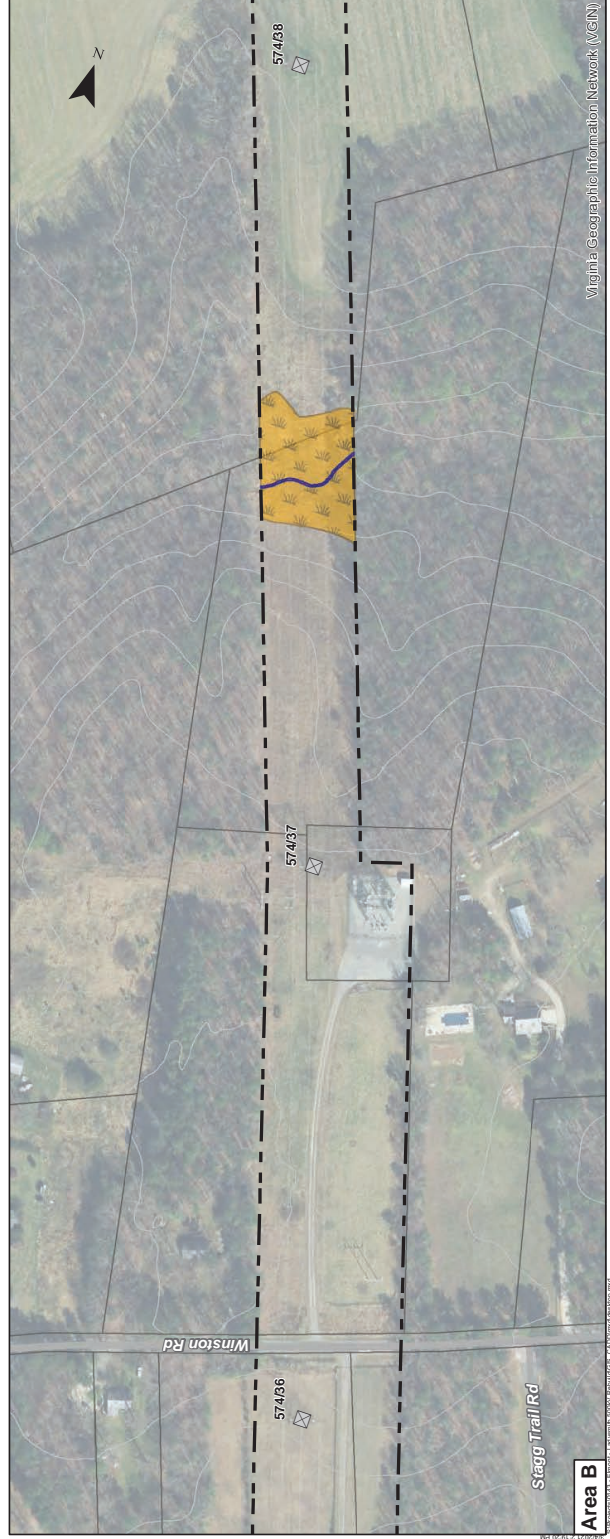
Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client: Dominion Energy Virginia	
C2 Env Project: 0143	Prepared By: ELW
Date: 03/05/21	



SITE DATA

- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



DESKTOP WETLAND REVIEW MAP

Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

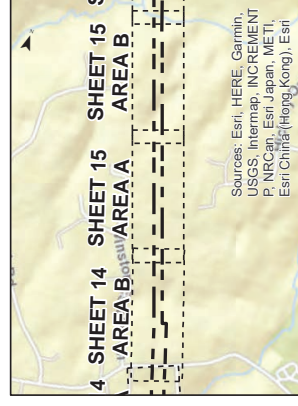
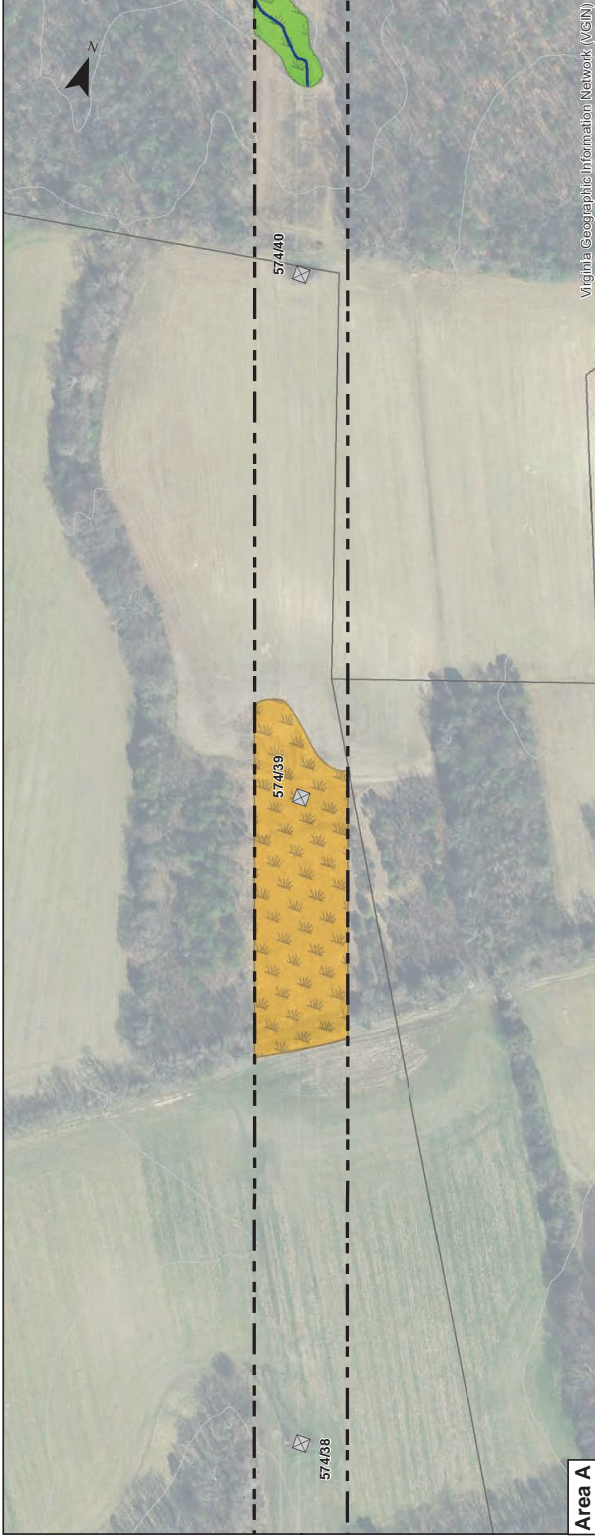
Client:
Dominion Energy Virginia

C2 Env Project: 0143
Prepared By: ELW
Date: 03/05/21

0 100 200 400 Feet
Scale is 1 IN = 200 FT when printed at original size of 11x17

SITE DATA

-  Project Area
-  Existing Structure
-  Approximate Stream Channel Limits
-  Approximate PEM/PSS High Probability Wetland Limits
-  Approximate PEM/PSS Medium Probability Wetland Limits
-  Approximate PEM/PSS Low Probability Wetland Limits
-  Approximate PUB Open Water Limits
-  Parcel Boundary
-  Existing 10 FT Contour
-  Railroad



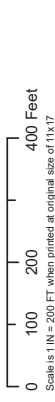
Sources: Esri, HERE, Garmin,
USGS, Intermap, INCREMENT
P, NRCAN, Esri Japan, METI,
Esri China (Hong Kong), Esri



DESKTOP WETLAND REVIEW MAP

Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:	Dominion Energy Virginia
C2 Env Project:	0143
Prepared By:	ELW
Date:	03/05/21

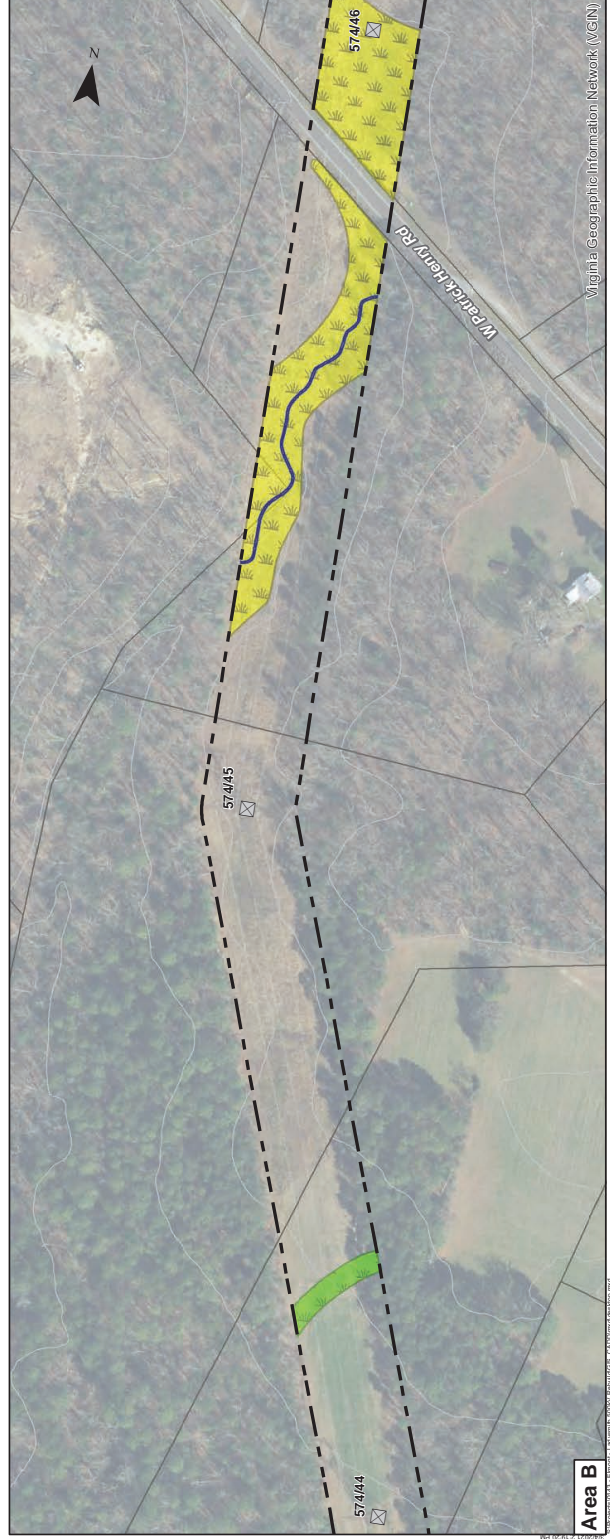


SITE DATA

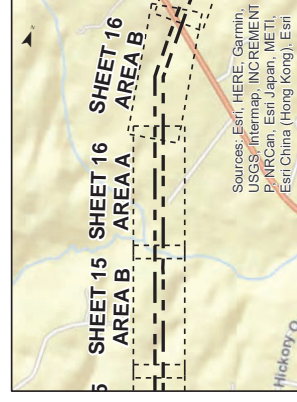
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



Area A



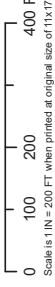
Area B



DESKTOP WETLAND REVIEW MAP

Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:		Dominion Energy Virginia	
C2 Env Project:		Prepared By: ELW	
0143		Date: 03/05/21	



SITE DATA

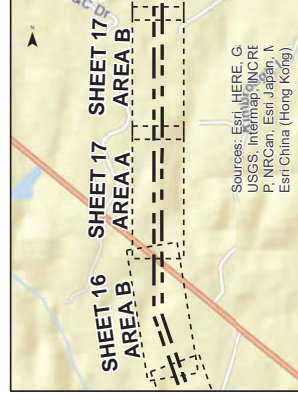
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PPSS High Probability Wetland Limits
- Approximate PEM/PPSS Medium Probability Wetland Limits
- Approximate PEM/PPSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



Area A



Area B



DESKTOP WETLAND REVIEW MAP

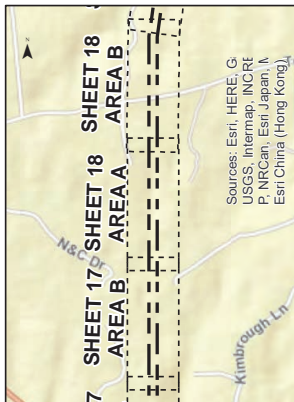
Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:		Dominion Energy Virginia	
C2 Env Project:		Prepared By:	
0143		ELW	
		Date:	
		03/05/21	



SITE DATA

- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



DESKTOP WETLAND REVIEW MAP

Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0143	ELW	03/05/21

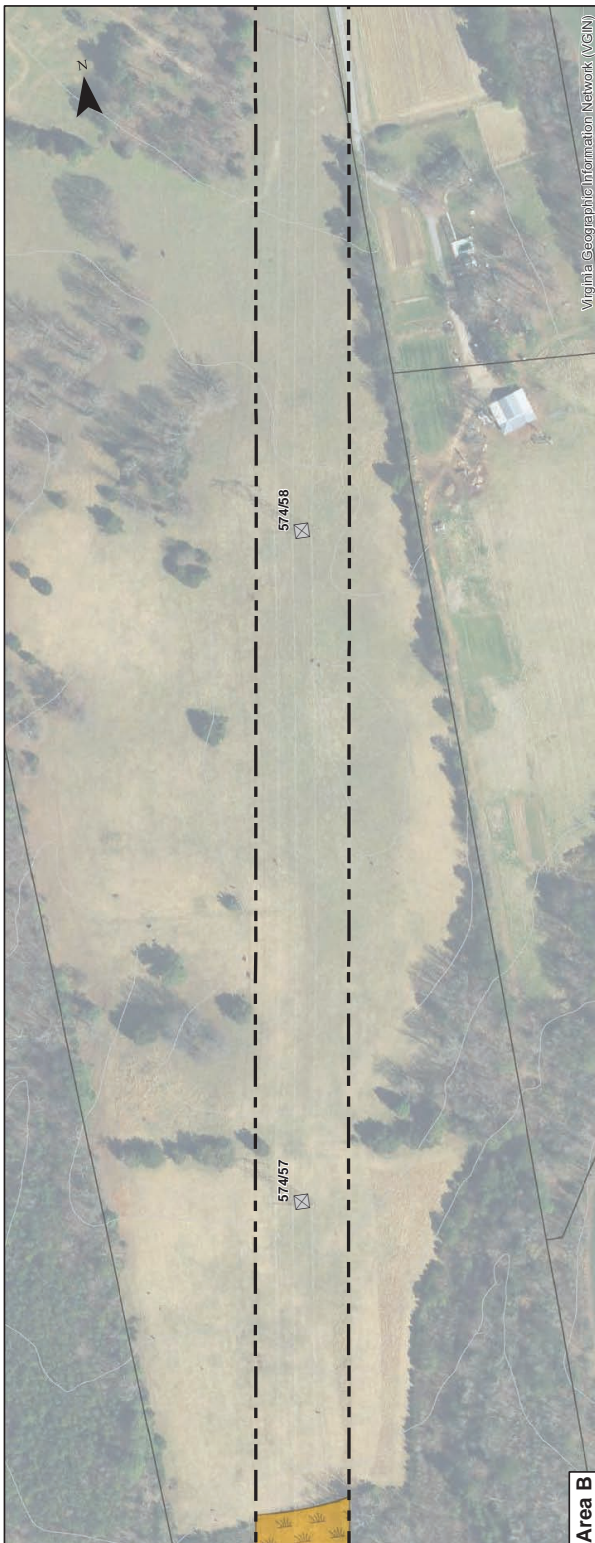


SITE DATA

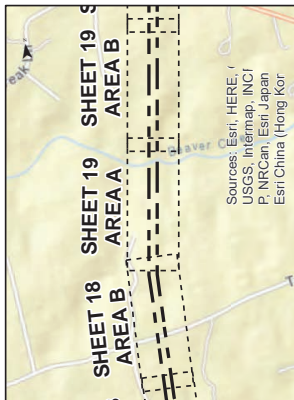
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



Area A



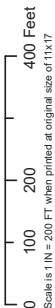
Area B



DESKTOP WETLAND REVIEW MAP

Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:		Dominion Energy Virginia	
C2 Env Project:		Prepared By:	
0143		ELW	
		Date:	
		03/05/21	



SITE DATA

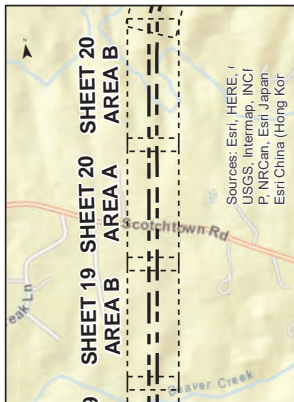
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



Area A



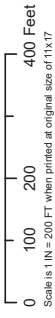
Area B



DESKTOP WETLAND REVIEW MAP

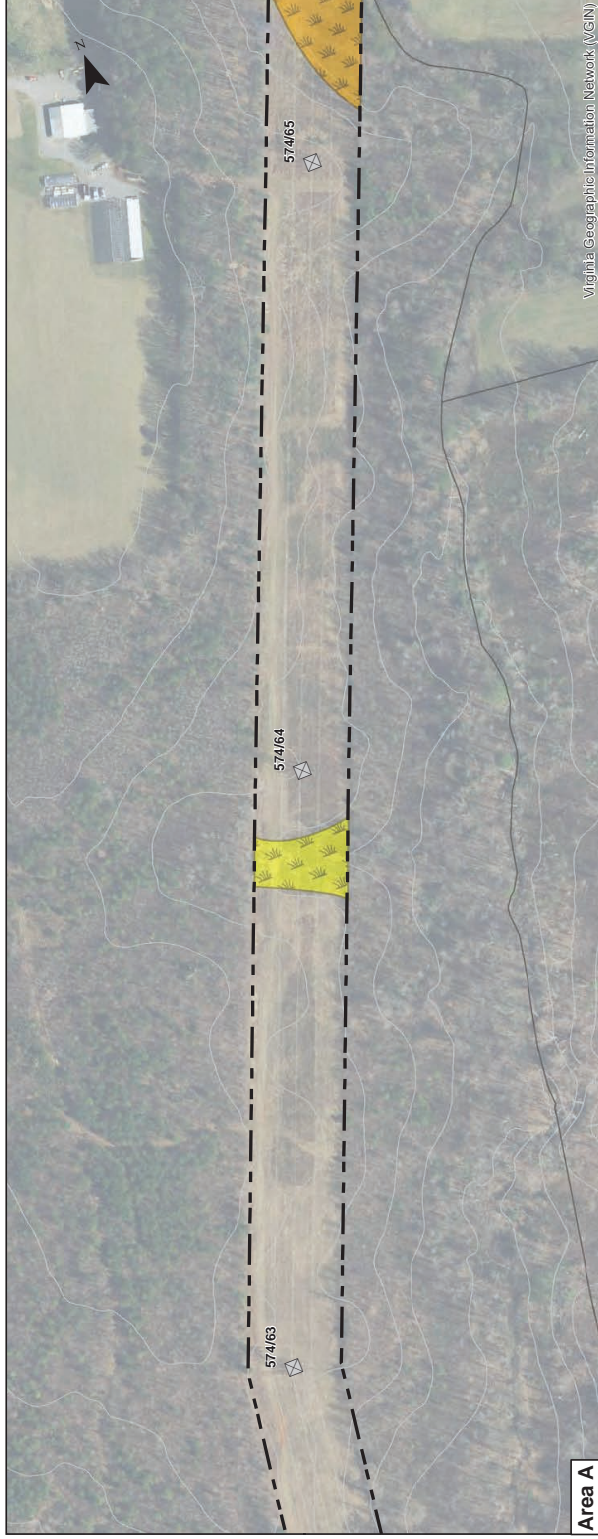
Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:	Dominion Energy Virginia
C2 Env Project:	0143
Prepared By:	ELW
Date:	03/05/21



SITE DATA

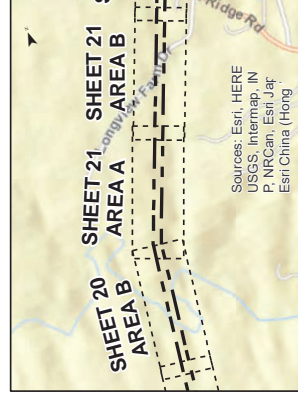
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



Area A



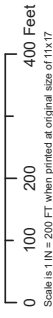
Area B



DESKTOP WETLAND REVIEW MAP

Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:	Dominion Energy Virginia
C2 Env Project:	0143
Prepared By:	ELW
Date:	03/05/21



SITE DATA

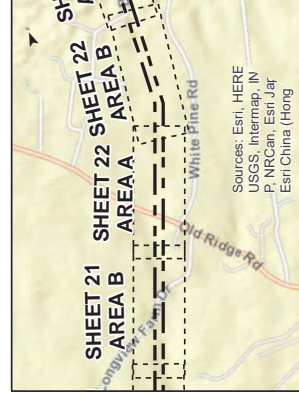
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



Area A



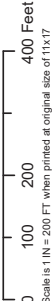
Area B



DESKTOP WETLAND REVIEW MAP

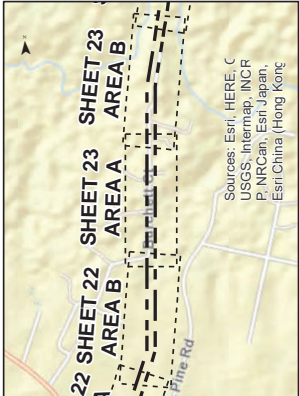
Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client: Dominion Energy Virginia	
C2 Env Project: 0143	Prepared By: ELW
Date: 03/05/21	



SITE DATA

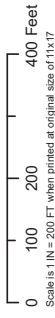
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



DESKTOP WETLAND REVIEW MAP

Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:		Dominion Energy Virginia	
C2 Env Project:		Prepared By:	
0143		ELW	
		Date:	
		03/05/21	



SITE DATA

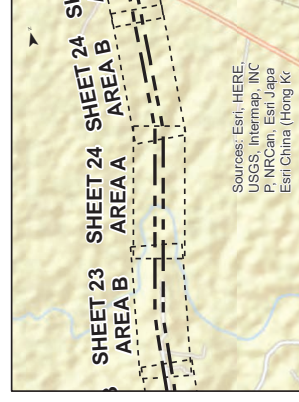
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



Area A



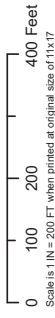
Area B



DESKTOP WETLAND REVIEW MAP

Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:	Dominion Energy Virginia
C2 Env Project:	0143
Prepared By:	ELW
Date:	03/05/21



SITE DATA

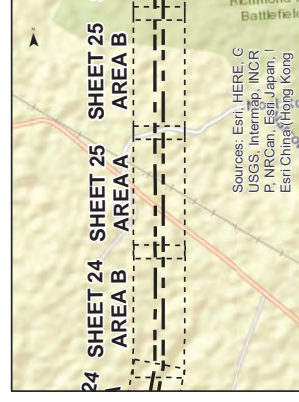
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



Area A



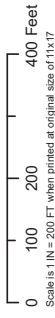
Area B



DESKTOP WETLAND REVIEW MAP

Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:		Dominion Energy Virginia	
C2 Env Project:		Prepared By:	
0143		ELW	
		Date:	
		03/05/21	



SITE DATA

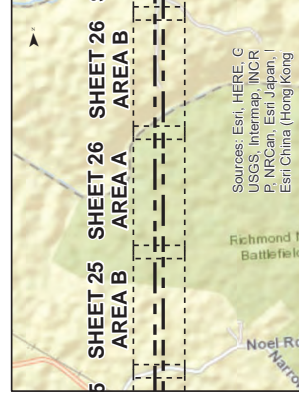
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



Area A



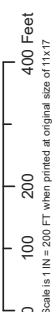
Area B



DESKTOP WETLAND REVIEW MAP

Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client: Dominion Energy Virginia	
C2 Env Project: 0143	Prepared By: ELW
Date: 03/05/21	



SITE DATA

- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad

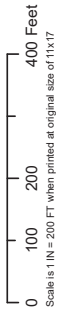


DESKTOP WETLAND REVIEW MAP

Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0143	ELW	03/05/21

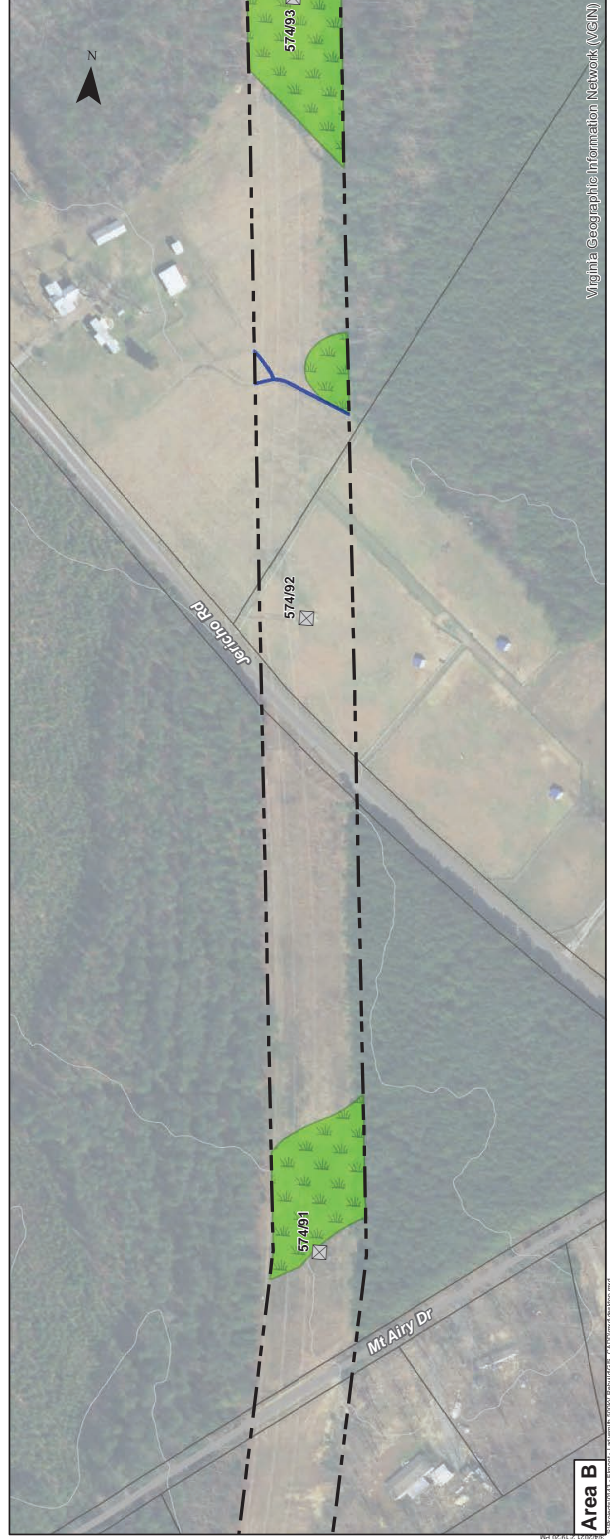


SITE DATA

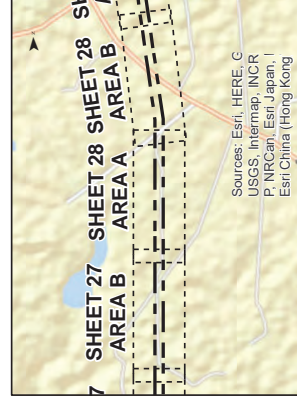
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



Area A



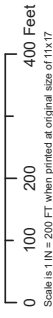
Area B



DESKTOP WETLAND REVIEW MAP

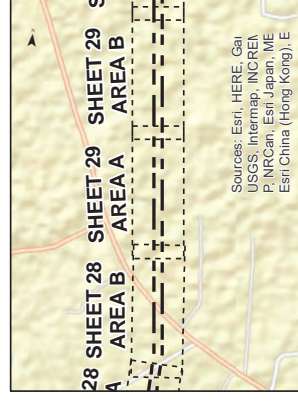
Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:		Dominion Energy Virginia	
C2 Env Project:		Prepared By:	
0143		ELW	
		Date:	
		03/05/21	



SITE DATA

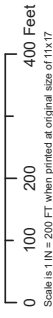
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



DESKTOP WETLAND REVIEW MAP

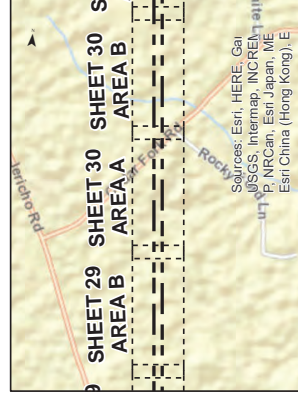
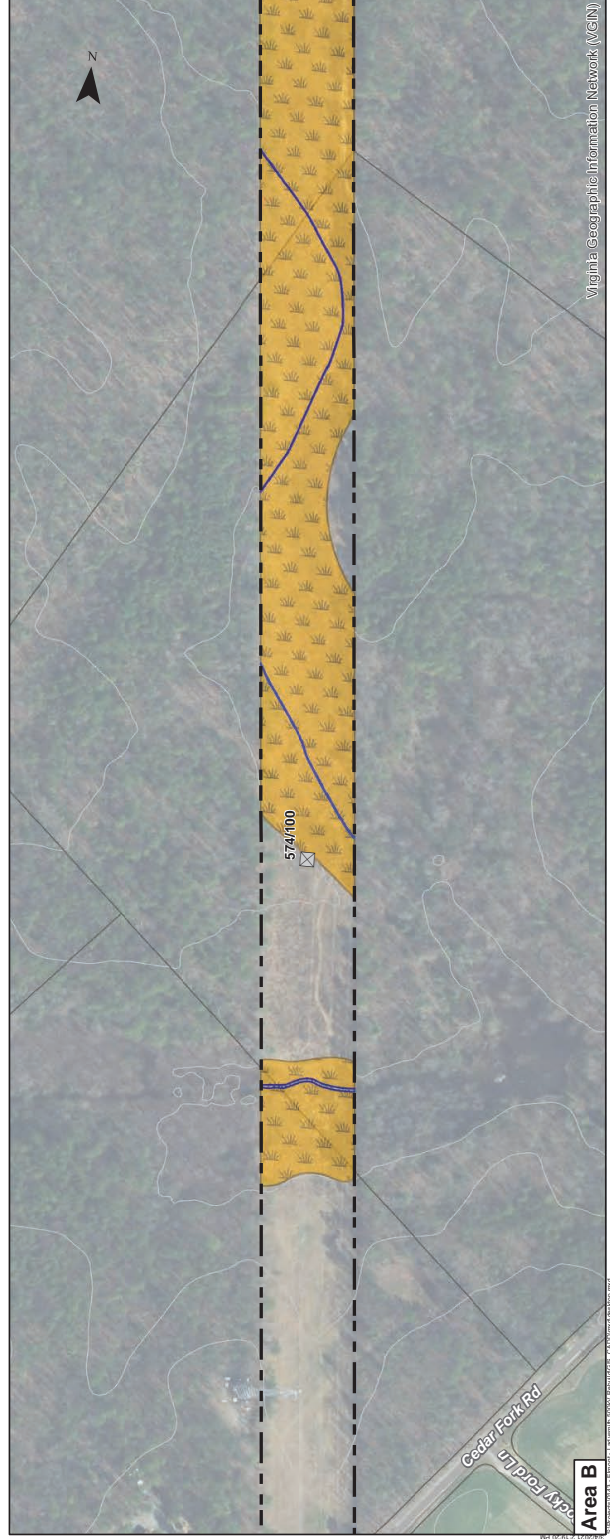
Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:	Dominion Energy Virginia
C2 Env Project:	0143
Prepared By:	ELW
Date:	03/05/21



SITE DATA

- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad

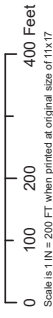


DESKTOP WETLAND REVIEW MAP

Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

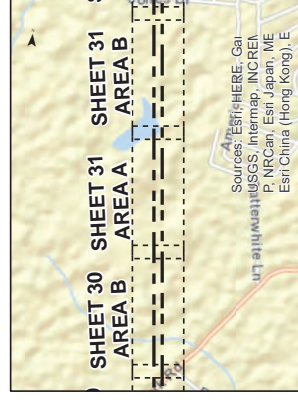
Client:
Dominion Energy Virginia

C2 Env Project: 0143
Prepared By: ELW
Date: 03/05/21



SITE DATA

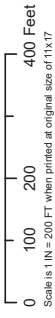
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



DESKTOP WETLAND REVIEW MAP

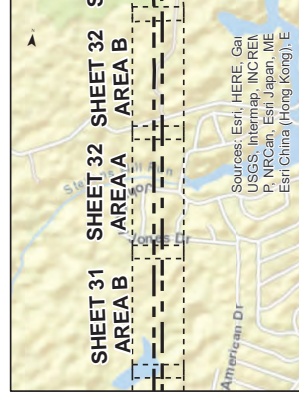
Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:	
Dominion Energy Virginia	
C2 Env Project:	Prepared By:
0143	ELW
Date:	
03/05/21	



SITE DATA

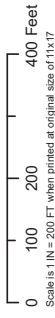
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



DESKTOP WETLAND REVIEW MAP

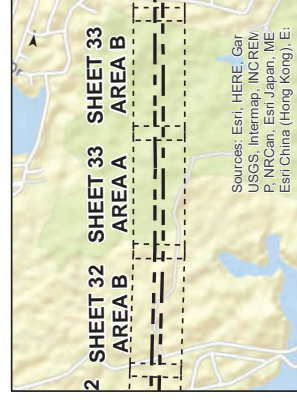
Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:	Dominion Energy Virginia
C2 Env Project:	0143
Prepared By:	ELW
Date:	03/05/21



SITE DATA

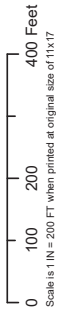
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



DESKTOP WETLAND REVIEW MAP

Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:	Dominion Energy Virginia
C2 Env Project:	0143
Prepared By:	ELW
Date:	03/05/21



SITE DATA

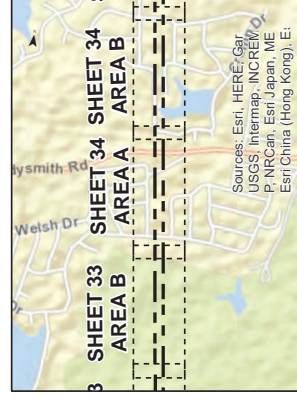
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



Area A



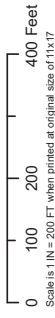
Area B



DESKTOP WETLAND REVIEW MAP

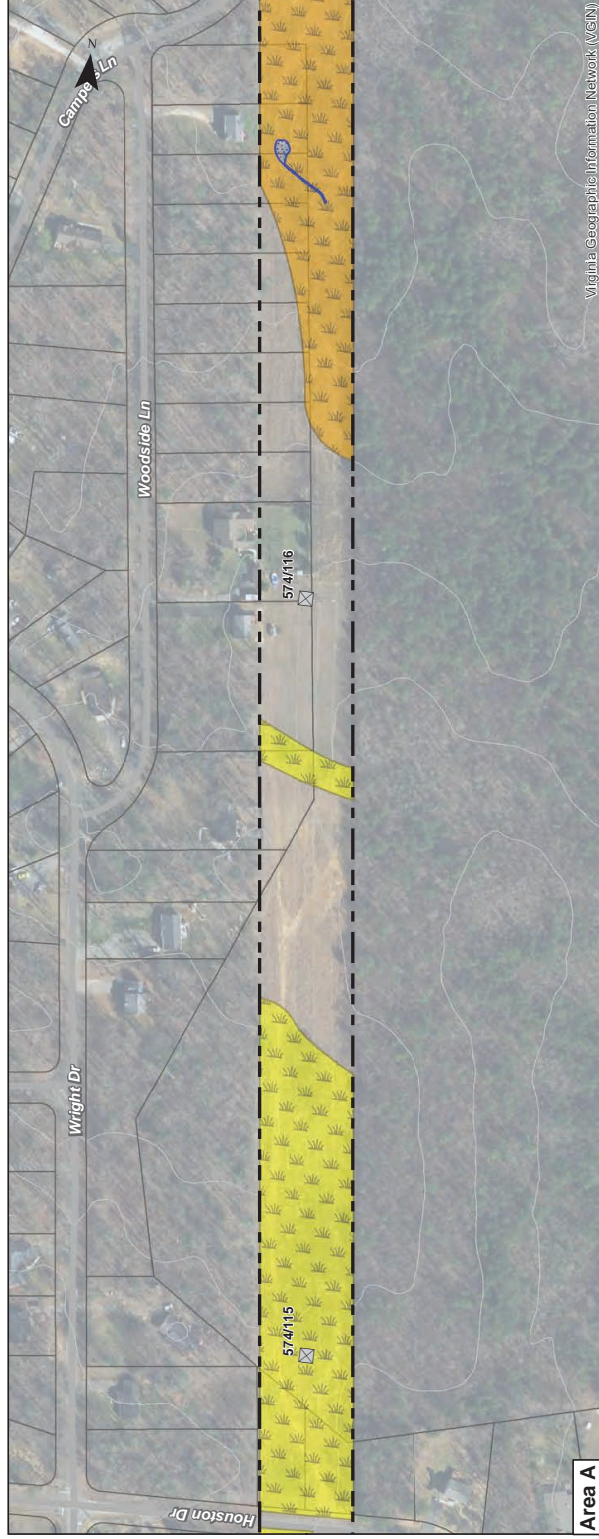
Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

Client:	Dominion Energy Virginia
C2 Env Project:	0143
Prepared By:	ELW
Date:	03/05/21



SITE DATA

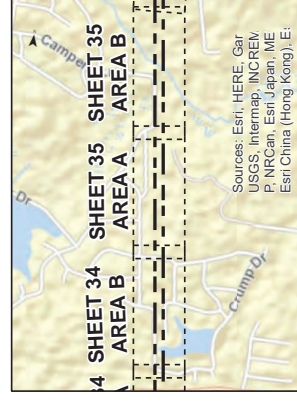
- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad



Area A



Area B

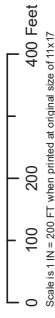


DESKTOP WETLAND REVIEW MAP

Elmont-Ladysmith 500 kV Transmission Line #574
Caroline and Hanover Counties, Virginia

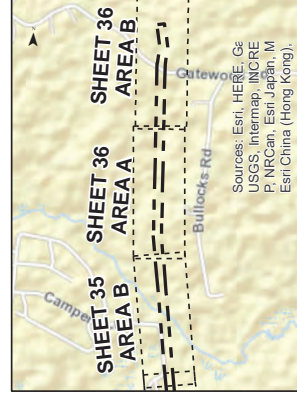
Client:
Dominion Energy Virginia

C2 Env Project: 0143
Prepared By: ELW
Date: 03/05/21



SITE DATA

- Project Area
- Existing Structure
- Approximate Stream Channel Limits
- Approximate PEM/PSS High Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PUB Open Water Limits
- Parcel Boundary
- Existing 10 FT Contour
- Railroad





COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 1111 E. Main Street, Suite 1400, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

April 20, 2021

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

RE: Dominion Energy Virginia's Proposed Elmont - Ladysmith 500 kV Transmission Line #574 Rebuild, Hanover and Caroline Counties, Virginia

Dear Ms. Studebaker;

In accordance with the Department of Environmental Quality-State Corporation Commission *Memorandum of Agreement Regarding Wetland Impact Consultation* (July 2003), we have reviewed the information submitted by Dominion Energy Virginia (here after, Dominion) regarding potential wetland impacts on the above referenced project. Dominion is proposing to rebuild the existing Elmont - Ladysmith 500 kV Transmission Line #574 along a 26.2-mile corridor between the existing Elmont Substation in Hanover County and the existing Ladysmith Substation in Caroline County (collectively, the "Rebuild Project"). The Rebuild Project will replace aging infrastructure that is at the end of its service life, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Rebuild Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

Summary of Findings

C2 Environmental completed a desktop wetland review using publicly available data to identify the potential limits of wetlands and other waters of the United States. It should be noted that the study did not include any on-site wetland delineation field investigations utilizing the 1987 Corps of Engineers Wetland Delineation Manual and methods described in the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0). A probability of occurrence was assigned to each potential wetland based upon the presence or absence of additional supporting data layers including USDA-NRCS hydric soil data, NWI wetland mapping, and FEMA 100-year floodplain maps. It should be noted that streams and open water have not been assigned a probability of occurrence and have been identified based upon their consistent presence in multiple years of aeriels. The Cowardin Classification of the wetlands within the project area have been combined into palustrine scrub-shrub (PSS) / palustrine emergent wetlands (PEM) and not separated. This is due to the fact that the study area is within a maintained ROW, and it's difficult to differentiate between scrub-shrub and

emergent wetlands even with the highest resolution aerials. Table 1 lists wetland acreages by probability as well as stream channels and open water.

Table 1. Results of Desktop Wetland Review

	Low	Medium	High	Total
PEM/PSS Wetlands	12.6 AC	36.1 AC	98.2 AC	146.9 AC
Stream Channel				2.8 AC (17,749 LF)
Open Water				0.4 AC

Water Quality and Wetlands. Measures such as but not limited to Best Management Practices (BMPs) must be taken to avoid and minimize impacts to surface waters during construction activities, including potential water quality impacts resulting from construction site runoff. The disturbance of land and surface waters, which include wetlands, open water, and streams, may require prior approval by DEQ; the U.S. Army Corps of Engineers; the Virginia Marine Resources Commission (VMRC); and/or local government wetlands boards (generally in the northern and piedmont regions of Virginia). The Army Corps of Engineers and DEQ work in conjunction to provide official confirmation of whether there are federal and/or state jurisdictional surface waters that may be impacted by the proposed project. VMRC provides its own review to determine its agency jurisdiction. Review of National Wetland Inventory maps or topographic maps for locating wetlands, open waters, or streams may not be sufficient; there may need to be a site-specific review by a qualified professional. If construction activities will occur in or along any streams (perennial, intermittent, or ephemeral), open water or wetlands, the applicant should contact the DEQ- VWP managers at our Northern Virginia and Piedmont Regional Offices to determine the need for any permits prior to commencing work that could impact surface waters. DEQ's permit need decisions neither replace nor supersede requirements set forth by other local, state, federal, and Tribal laws, nor eliminate the need to obtain additional permits, approvals, consultations, or authorizations as required by law before proposed activities may commence.

Recommendations and Potential Permits

DEQ offers the following recommendations:

1. Prior to commencing project work, all surface waters on the project site should be delineated by a qualified professional and verified by the U.S. Army Corps of Engineers (the Corps) for federal jurisdictional waters and by DEQ for state jurisdictional waters.
2. Wetland and stream impacts should be avoided and minimized to the maximum extent practicable.
3. If the scope of the project changes, additional review will be necessary by one or more offices in the Commonwealth's Secretariat of Natural Resources and/or the Corps.

4. At a minimum, any required compensation for impacts to State Waters, including the compensation for permanent conversion of forested wetlands to emergent wetlands, should be in accordance with all applicable state regulations and laws. Consider mitigating impacts to forested or converted wetlands by establishing new forested wetlands within the impacted watershed.
5. Any temporary impacts to surface waters associated with this project should be restored to pre-existing conditions.
6. No activity may substantially disrupt the movement of aquatic life indigenous to the water body, including those species, which normally migrate through the area, unless the primary purpose of the activity is to impound water. Culverts placed in streams must be installed to maintain low flow conditions. No activity may cause more than minimal adverse effect on navigation. Furthermore the activity must not impede the passage of normal or expected high flows and the structure or discharge must withstand expected high flows.
7. Erosion and sedimentation controls should be designed in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992. These controls should be placed prior to clearing and grading and maintained in good working order to minimize impacts to state waters. These controls should remain in place until the area is stabilized and should then be removed. Any exposed slopes and streambanks should be stabilized immediately upon completion of work in each permitted area. All denuded areas should be properly stabilized in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992.
8. No machinery may enter surface waters, unless authorized by a Virginia Water Protection (VWP) individual permit, general permit, or general permit coverage.
9. Heavy equipment in temporarily impacted surface waters should be placed on mats, geotextile fabric, or other suitable material, to minimize soil disturbance to the maximum extent practicable. Equipment and materials should be removed immediately upon completion of work.
10. Activities should be conducted in accordance with any Time-of-Year restriction(s) as recommended by the Department of Game and Inland Fisheries, the Department of Conservation and Recreation, or the Virginia Marine Resources Commission. The permittee should retain a copy of the agency correspondence concerning the Time-of-Year restriction(s), or the lack thereof, for the duration of the construction phase of the project.
11. All construction, construction access, and demolition activities associated with this project should be accomplished in a manner that minimizes construction materials or waste materials from entering surface waters, unless authorized by a Virginia Water Protection (VWP) individual permit, general permit, or general permit coverage. Wet, excess, or waste concrete should be prohibited from entering surface waters.
12. Herbicides used in or around any surface water should be approved for aquatic use by the United States Environmental Protection Agency (EPA) or the U.S. Fish & Wildlife Service. These herbicides should be applied according to label directions by a licensed herbicide applicator. A non-petroleum based surfactant should be used in or around any surface waters.

Permits:

Based on DEQ's review of the information provided by Dominion emailed on March 22, 2021, the proposed project may require a Virginia Water Protection (VWP) individual permit or general permit coverage. The applicant may submit a Joint Permit Application (JPA) in accordance with form instructions for further evaluation and final permit need determination by DEQ.

Should you have any questions, please don't hesitate to contact me at 804-698-4007 or at michelle.henichuck@deq.virginia.gov.

Sincerely,

Michelle Henichuck

Michelle Henichuck, PWS
Senior Wetland Ecologist
Office of Wetlands & Stream Protection

Cc: Trisha Beasley, DEQ - NVRO
Jaime Bauer Robb, DEQ - PRO
Bettina Sullivan, DEQ - Office of Environmental Review

Rachel M Studebaker (Services - 6)

From: Hamilton, Julie S CIV USARMY CENAO (USA) <Julie.S.Hamilton@usace.army.mil>
Sent: Monday, March 22, 2021 2:07 PM
To: Rachel M Studebaker (Services - 6)
Cc: Miller, Todd M CIV USARMY CENAO (USA); Smith, Marshall Tucker (Tucker) CIV USARMY CENAO (USA)
Subject: [EXTERNAL] Elmont - Ladysmith 500 kV - comments
Attachments: NAO_NWP-57.pdf; Clean Water Act Section 401 Certification Rule 85 FR 42210_20200713.pdf

This is an EXTERNAL email that was NOT sent from Dominion Energy. Are you expecting this message? Are you expecting a link or attachment? DO NOT click links or open attachments until you verify them

Rachel,

We received a letter dated March 19, 2021 requesting preliminary comments regarding the above rebuild project. Please review the 2021 NWP 57 (attached). Please also review the 401 water quality certification process (attached). The 401 certification process has changed and requires a pre-filling meeting with DEQ facilitated by submitting a list of 9 things to the Corps and DEQ at the same time. Please check the Norfolk USACE website to review the NWP 57 before applying since 401 certification and CZMA information may be added at a later date. This permit was recently issued by USACE HQ and all of the certifications have not been finalized as of today. The USACE permit cannot be verified without the 401 certification or CZMA.

The normal coordination's would take place with DHR and FWS. Please keep in mind if the powerline towers are raised in height historic resources may be adversely affected. Linear projects can be cumbersome when coordinating with DHR and FWS. If you can supply aerial maps with the corridor shown along with impacts this makes it much easier for coordination.

This project falls within Southern and Northern Regulatory Sections, therefore both chiefs are copied above.

If you have any specific questions about the 401 certification please reach out and I will do my best to assist with this very new process.

Julie S. Hamilton
Environmental Scientist
US Army Corps of Engineers
Norfolk District
Southern Virginia Regulatory Section
Richmond Field Office
Mobile 804.436.4725
www.nao.usace.army.mil



MEMORANDUM

To: Rachel M. Studebaker, Dominion Energy Virginia
From: Grace Flick, C2 Environmental, Inc.
Date: March 22, 2021
Project: Elmont-Ladysmith 500 kV Transmission Line #574 Rebuild
Reference: Solid and Hazardous Waste Review

On behalf of Dominion Energy Virginia (Dominion), C2 Environmental, Inc. (C2Env) has completed online database searches for solid and hazardous wastes and petroleum release sites within a 0.5-mile radius of the proposed Elmont-Ladysmith 500 kV Transmission Line #574 Rebuild project. The proposed project includes the rebuild of the of approximately 26.2 miles of existing 500 kV overhead electric transmission line. This project will take place in the existing, cleared transmission line right-of-way (ROW) that begins at the Elmont Substation in Hanover County, Virginia and terminates at the Ladysmith Substation in Caroline County, Virginia.

Publicly available data from the Environmental Protection Agency (EPA) Facility Registry System (FRS) were obtained, which provide information about facilities, sites, or places subject to environmental regulation or of environmental interest. Although this data set includes all sites subject to environmental regulation by the EPA or other state authority, such as sites that fall under air emissions or wastewater programs, the results reported here only include those sites which fall under the EPA's hazardous waste, solid waste, remediation, and underground storage tank programs. These sites include the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)/Superfund; Resource Conservation and Recovery Act (RCRA); and brownfield sites. Per this database, there are no registered RCRA sites present within 0.5-mile of the project.

The Virginia Department of Environmental Quality (DEQ) records were also searched for the presence of solid waste management facilities, Voluntary Remediation Program sites and petroleum releases within 0.5-mile of the proposed project. A total of fifteen (15) petroleum release sites were identified within the search area. The closest site (PC Number: 20124251) is located approximately 400 linear feet from the project centerline. This site falls outside of the ROW and has been closed. Additionally, none of the other identified petroleum release sites identified within 0.5-mile of the proposed project intersect with the project ROW and all have been closed (Table 1). Dominion has a

procedure in place to handle petroleum contaminated soil if encountered; however, as all the release sites are located outside of the project area, none of the petroleum release sites are expected to have an impact on the proposed project.

Two registered tank facilities were identified within the 0.5-mile search radius of the proposed project. The nearest site (Facility ID: 4020130) is located approximately 84 linear feet from the project area. This site has one inactive underground storage tank. The site is not within the project ROW (Table 2).

In conclusion, there are no RCRA sites, fifteen (15) petroleum release sites, and two (2) registered tank sites that are located within a 0.5-mile radius of the project site. None of the sites are located within the project ROW. No EPA registered Brownfield sites or CERCLA/Superfund sites, no solid waste permit and no Virginia Voluntary Remediation Program (VRP) sites are located within 0.5-mile of the project area.

Table 1. Petroleum releases identified by the DEQ as occurring within 0.5-mile of the Elmont-Ladysmith Rebuild Project

Site Name	PC Number	Location	Latitude	Longitude	Status	Type of Release	Federally Registered Tank	Proximity to Centerline (feet)
Short Residence	19984291	Glen Allen	37.696999197	-77.48724085	Closed	Confirmed	N	797
Morris Super Market	19942343	Ashland	37.71572877	-77.49359889	Closed	Suspected	Y	1,078
Beard Residence	19994330	Ashland	37.79394612	-77.54922003	Closed	Confirmed	N	2,713
Small Fred Residence	20024429	Doswell	37.80139581	-77.5554745	Closed	Confirmed	N	1,958
Edwards Harriette Residence	20074291	Glen Allen	37.70023716	-77.4799554	Closed	Confirmed	N	1,361
Leonard Ann Residence	20124035	Ashland	37.78643077	-77.55010391	Closed	Confirmed	N	1,556
Bergamini William Residence	20124251	Richmond	37.70908338	-77.48891819	Closed	Confirmed	N	400
Brockenbrough Allan Residence	20104185	Ashland	37.72634863	-77.50006166	Closed	Confirmed	N	1,590
Baughan Nancy Property	20094008	Ashland	37.71538224	-77.50195771	Closed	Confirmed	N	3,576
Tyson Barbara Property	20104093	Glen Allen	37.70504893	-77.49014949	Closed	Confirmed	N	1,177
Gray Alfred V and Sylvia Property	20183107	Ruther Glen	37.949697	-77.545345	Closed	Confirmed	N	1,659
Vanover David Residence	20154285	Ashland	37.787729	-77.547463	Closed	Confirmed	N	2,419
Tyson Hazel Residence	20154273	Ashland	37.714972	-77.491826	Closed	Confirmed	N	675
Swingle Residence	20184341	Glen Allen	37.712577	-77.491156	Closed	Confirmed	N	704
Bullock Michael Property	20203137	Ruther Glen	38.013916	-77.552834	Closed	Confirmed	N	1,716

Table 2. Registered Tank Sites identified by the DEQ as occurring within 0.5-mile of the Elmont-Ladysmith Rebuild Project

Site Name	Facility ID	Location	Latitude	Longitude	Number and Type of Tank	Status	Proximity to Centerline (feet)
Frog Level Market	3016438	Doswell	37.8033	-77.5591	4 UST	Inactive	925
South Anna Water Treatment Plant	4020130	Ashland	37.804332	-77.562037	1 UST	Inactive	84

UST: Underground Storage Tank



MEMORANDUM

To: Rachel M. Studebaker, Dominion Energy Virginia
From: Grace Flick, C2 Environmental, Inc.
Date: March 22, 2021
Project: Elmont-Ladysmith 500 kV Transmission Line #574 Rebuild
Reference: Threatened and Endangered Species Review

On behalf of Dominion Energy Virginia (Dominion), C2 Environmental, Inc. (C2Env) has completed online database searches for federal and state threatened and endangered species for the Elmont-Ladysmith 500 kV Transmission Line #574 Rebuild project. The proposed project includes the rebuild of approximately 26.2 miles of existing 500kV overhead electric transmission line. The project will take place within the existing, cleared transmission line right-of-way (ROW) that begins at the Elmont Substation in Hanover County, Virginia and terminates at the Ladysmith Substation in Caroline County, Virginia. The online database searches included the following:

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

Database searches were completed on January 15, 2021.

Results

Species identified by the database searches to have a confirmed or potential presence within the project vicinity are discussed below in Table 1.

Table 1. Database Search Results

Species	Status	Database	Results
Indiana bat (<i>Myotis sodalis</i>)	FE, SE	USFWS	Noted as potentially occurring in the project area. The project is located outside of critical habitat.
Northern long-eared bat (<i>Myotis septentrionalis</i>)	FT, ST	USFWS	Noted as potentially occurring in the project area. No known hibernacula or maternity roosts are identified in the vicinity of the project.
Dwarf wedgemussel (<i>Alasmidonta heterodon</i>)	FE, SE	USFWS, VAFWIS, DCR	Observed within the vicinity of the project.
Yellow lance (<i>Elliptio lanceolata</i>)	FT, ST	USFWS, VAFWIS, DCR	Observed within the vicinity of the project.
Swamp-pink (<i>Helonias bullata</i>)	FT, SE	DCR	Noted as potentially occurring in the vicinity of the project.
New Jersey rush (<i>Juncus caesariensis</i>)	ST	DCR	Noted as potentially occurring in the vicinity of the project.
Tiger salamander (<i>Ambystoma tigrinum</i>)	SE	DCR	Noted as potentially occurring in the vicinity of the project
Green floater (<i>Lasmigona subviridis</i>)	ST	DCR	Noted as potentially occurring in the vicinity of the project
Small whorled pogonia (<i>Isotria medeoloides</i>)	FT, SE	DCR	Noted as potentially occurring in the vicinity of the project.
Bald eagle (<i>Haliaeetus leucocephalus</i>)	FP	USFWS, CCB	No bald eagle nests are located within 660 feet of the project area. No bald eagle concentration areas are present within the project vicinity.

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

Conclusions

The following conclusions are based upon the proposed scope of work, as described by Dominion. The proposed scope of work assumes construction access will avoid stream crossings where practical or use crane mats to span stream crossings, and erosion and sediment controls will be used as appropriate throughout the project to protect wetlands and water resources. The scope of work assumes the work will occur within the existing, cleared and maintained ROW, although limited clearing may be required within the existing ROW easement and construction access roads.

The federal endangered Indiana bat has been identified by USFWS as potentially occurring within the proposed project area. The project occurs outside the designated critical habitat

for this species. The proposed project will occur within an existing maintained ROW and tree removal is expected to be limited to danger trees and select limbing.

The project is located within the White Nose Syndrome Zone for the federal and state threatened northern long-eared bat (NLEB). The NLEB has been identified by USFWS as potentially occurring within the proposed project area. However, DWR records indicate that no known hibernacula or maternity roost trees occur within the vicinity. The proposed project will occur within an existing maintained ROW and tree removal is expected to be limited to danger trees and select limbing. The project is expected to rely upon the Programmatic Biological Opinion for the Final 4(d) Rule on the NLEB with no required time of year restriction for tree removal.

USFWS, DWR, and DCR, identified the federal and state endangered dwarf wedgemussel as occurring within the project vicinity. This species is found in streams with sandy, silty, or cobble bottoms with a moderate current and good water quality. No impacts to this species are expected as no in-stream work is anticipated in conjunction with the project.

The federal and state threatened yellow lance has been identified by USFWS, DCR, and DWR as occurring within the vicinity of the project. This species generally prefers sandy substrates and can be found in main channels of stream systems as well as small stream channels. No impacts to this species are expected as no in-stream work is anticipated in conjunction with the project.

DCR identified the federal threatened and state endangered swamp-pink as potentially occurring within the project vicinity. This species is typically found within forested wetlands that are saturated year-round. No impacts to this species are expected as the project area consists of the existing transmission line ROW.

The state threatened New Jersey rush has been identified by DCR as potentially occurring within the project vicinity. This species can be found within wetlands that are consistently wet, but without standing water, or along stream banks and pond edges. Habitat for this species may be present within the project area.

DCR identified the state endangered tiger salamander as potentially occurring within the project vicinity. This species can be found in many terrestrial habitats with substrate suitable for burrowing and require a body of water nearby for breeding. Habitat for this species may be present within the project area.

The state threatened green floater has been identified by DCR potentially occurring within the project vicinity. This species prefers smaller streams with sand or gravel bottoms. It can occur in pools or calm waters, lacking strong currents. It prefers shallow water but is more

likely to occur in streams not prone to drying. No impacts to this species are expected as no in-stream work is anticipated in conjunction with the project.

The federal threatened and state endangered small whorled pogonia has been identified by DCR as potentially occurring within the project vicinity. This species typically occurs in forests with acidic soils with an open understory. No impacts to this species are expected as the project area consists of the existing transmission line ROW.

The CCB Bald Eagle Nest Locator identified no bald eagle nests within 660-feet of the project. The closest identified nest to the project is located approximately 0.35-miles from the project area. The USFWS Bald Eagle Concentration Area Map additionally confirms that the project is not located within a designated Eagle Concentration Area.

The complete results from the database searches are attached for your reference. If you have any questions, please contact me at your earliest convenience.

Attachments: USFWS-IPaC Database Search Results
USFWS Indiana Bat Final Critical Habitat Map
USFWS VA Field Office Critical Habitat Map
USFWS Bald Eagle Concentration Area Map
CCB Bald Eagle Nest Locator Map
VAFWIS-DWR Database Search Results
DGIF-NLEB Winter Habitat and Roost Tree Map
DCR - NHDE Database Search Results

ATTACHMENT

USFWS-IPaC



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032
<http://www.fws.gov/northeast/virginiafield/>



In Reply Refer To:
Consultation Code: 05E2VA00-2021-SLI-1530
Event Code: 05E2VA00-2021-E-04472
Project Name: Elmont-Ladysmith 500kV Rebuild

January 15, 2021

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

To Whom It May Concern:

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

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

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

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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

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

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

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

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>;

<http://www.towerkill.com>; and

www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

[http://](http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html)

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

Attachment(s):

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

Official Species List

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

This species list is provided by:

Virginia Ecological Services Field Office

6669 Short Lane

Gloucester, VA 23061-4410

(804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2021-SLI-1530

Event Code: 05E2VA00-2021-E-04472

Project Name: Elmont-Ladysmith 500kV Rebuild

Project Type: TRANSMISSION LINE

Project Description: Transmission line rebuild

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@37.87255385,-77.5472425832169,14z>



Counties: Caroline and Hanover counties, Virginia

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

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

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

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

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

Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Clams

NAME	STATUS
Dwarf Wedgemussel <i>Alasmidonta heterodon</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/784	Endangered
Yellow Lance <i>Elliptio lanceolata</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/4511	Threatened

Critical habitats

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

USFWS National Wildlife Refuge Lands And Fish Hatcheries

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

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

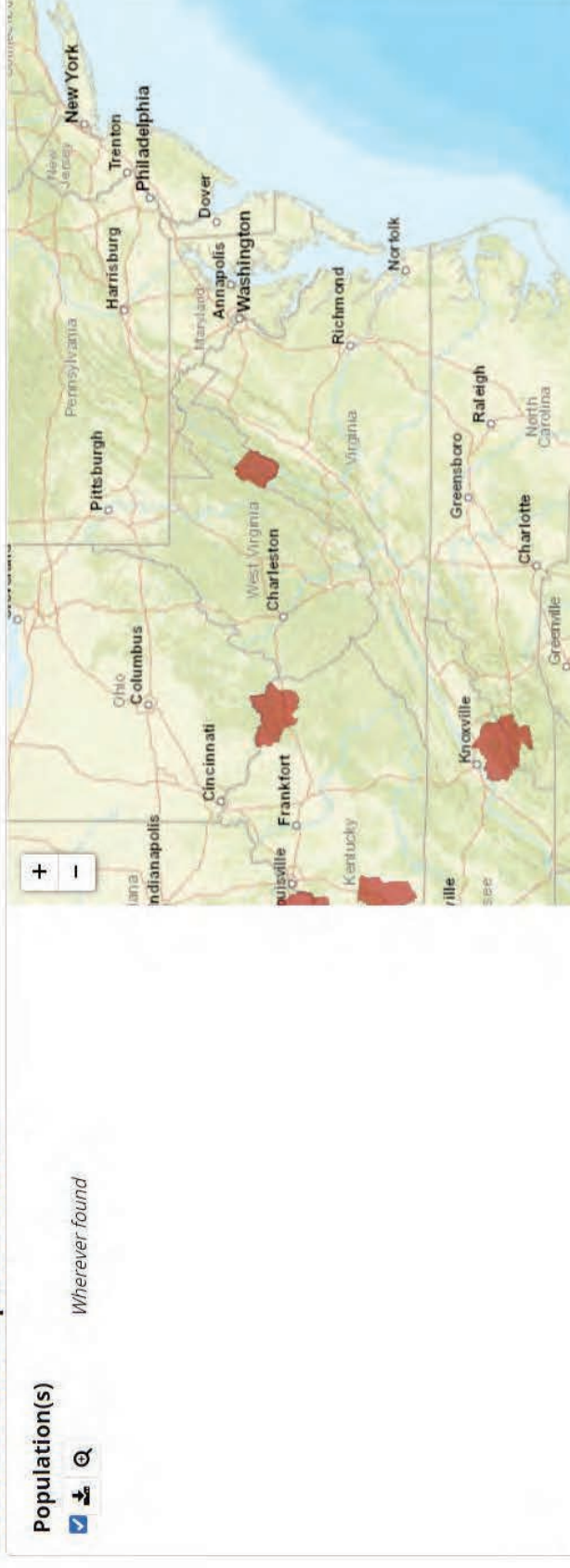
ATTACHMENT

USFWS Indiana Bat Final Critical Habitat

Indiana Bat Critical Habitat

» Critical Habitat

Critical Habitat Spatial Extents



ATTACHMENT

USFWS VA Field Office Critical Habitat

USFWS Critical Habitat Map



January 15, 2021

1:4,622,324

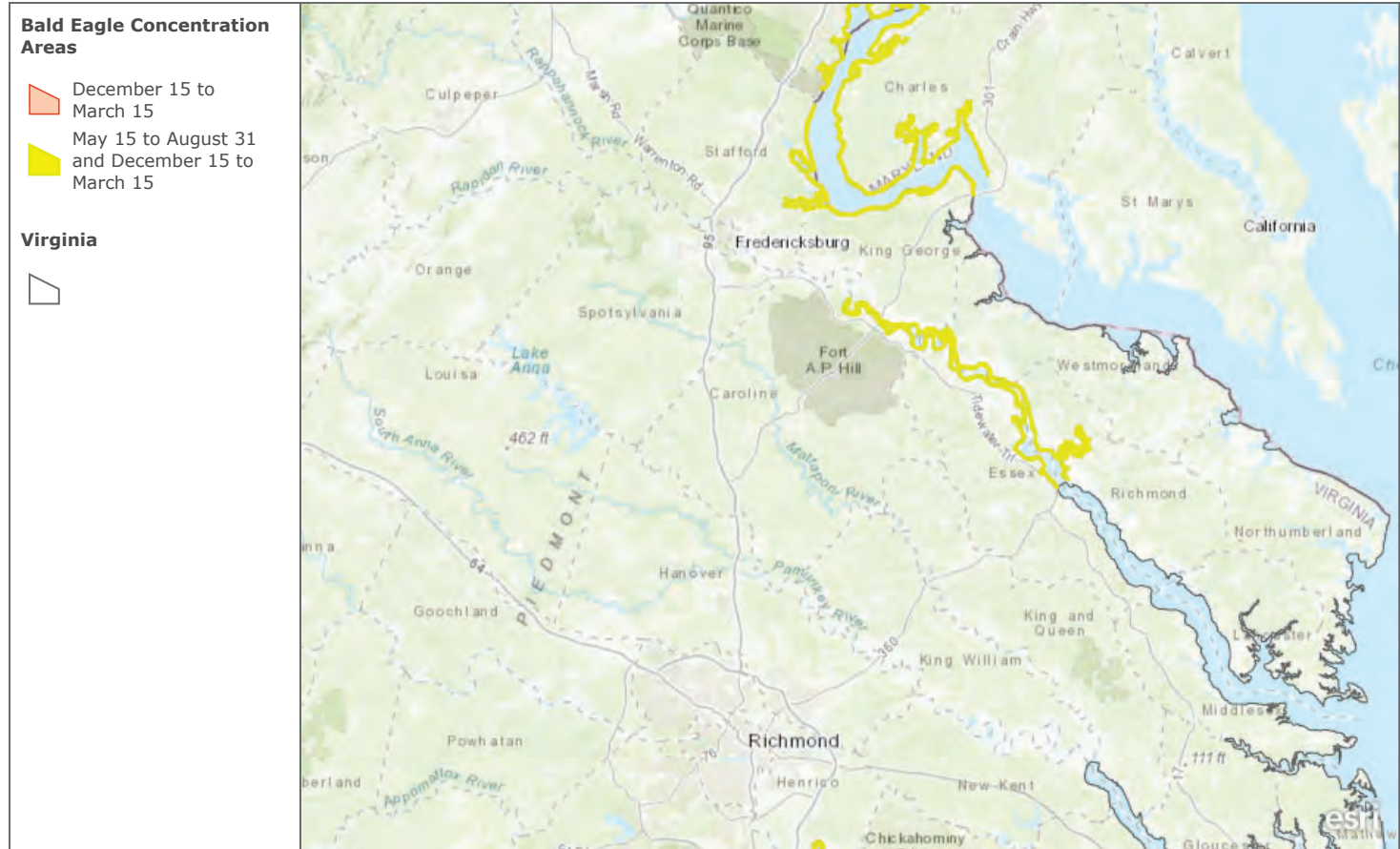
Virginia Critical Habitat (published)

0 30 60 120 mi
0 45 90 180 km

ATTACHMENT

USFWS Bald Eagle Concentration Area

USFWS Bald Eagle Concentration Areas - Virginia



This map depicts designated Bald Eagle Concentration Areas in the State of Virginia. The Intent of this map is to provide information to the public about shoreline areas that ar ...

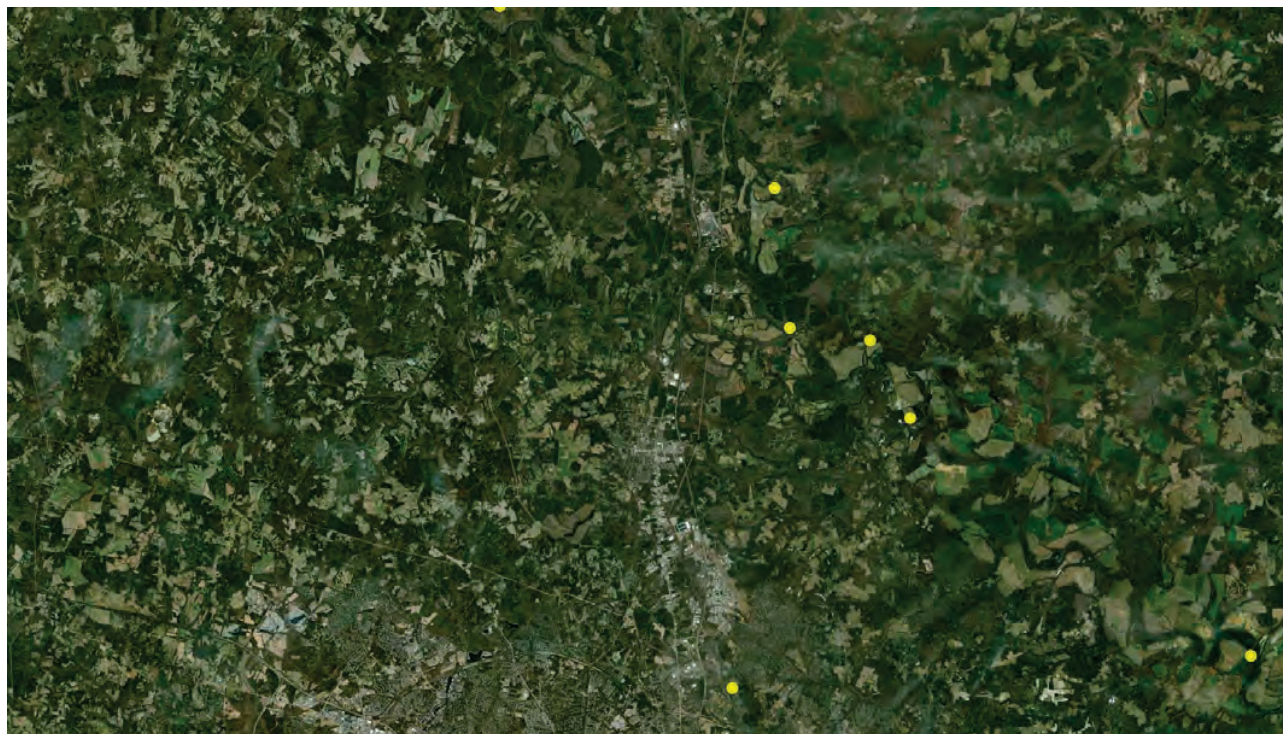
Esri, HERE, Garmin, FAO, USGS, NGA, EPA, NPS

ATTACHMENT

CCB Bald Eagle Nest Locator



CCB Mapping Portal



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

Map Center [longitude, latitude]: [-77.49309539794922, 37.78930232286027]

Map Link:

https://ccbbirds.org/maps/#layer=VA+Eagle+Nest+Locator&layer=VA+Eagle+Nest+Buffers&layer=Eagle+Roosts&layer=Eagle+Roost+Buffers&zoom=12&lat=37.78930232286027&lng=-77.49309539794922&legend=legend_tab_59557df6-c07b-11e5-a485-0e31c9be1b51&base=World+Imagery+%28ESRI%29

Report Generated On: 01/15/2021

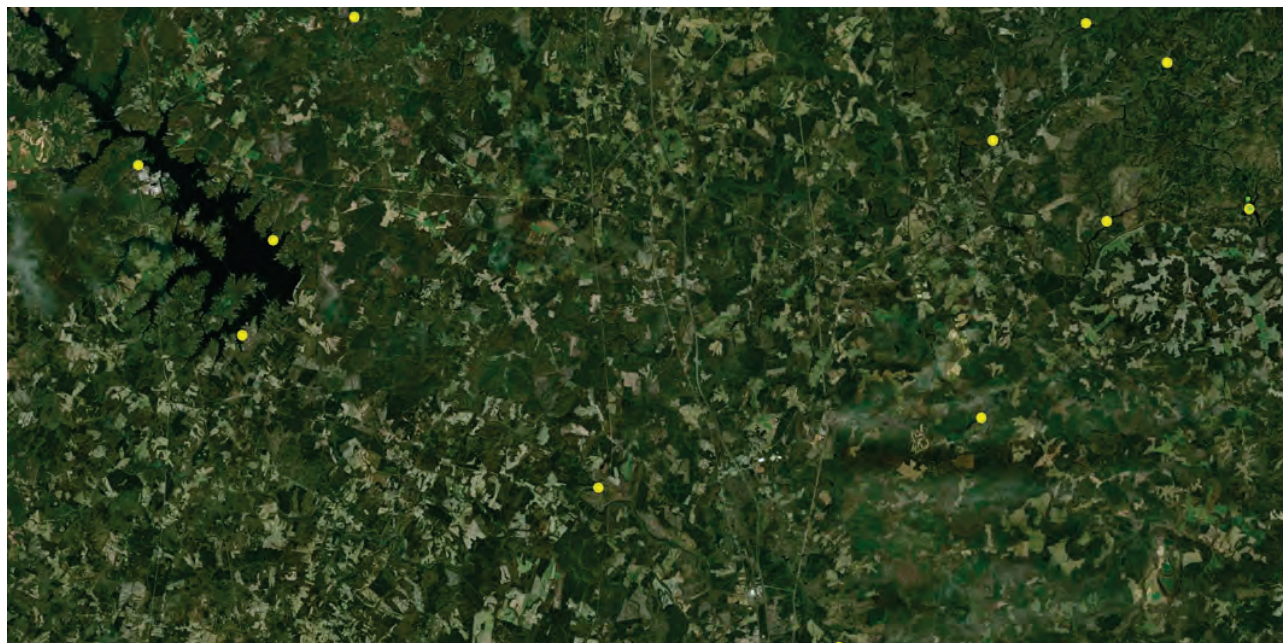
The Center for Conservation Biology (CCB) provides certain data online as a free service to the public and the regulatory sector. CCB encourages the use of its data sets in wildlife conservation and management applications. These data are protected by intellectual property laws. All users are reminded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

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

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



CCB Mapping Portal



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

Map Center [longitude, latitude]: [-77.51815795898438, 37.99521572699314]

Map Link:

https://ccbbirds.org/maps/#layer=VA+Eagle+Nest+Locator&layer=VA+Eagle+Nest+Buffers&layer=Eagle+Roosts&layer=Eagle+Roost+Buffers&zoom=12&lat=37.99521572699314&lng=-77.51815795898438&legend=legend_tab_59557df6-c07b-11e5-a485-0e31c9be1b51&base=World+Imagery+%28ESRI%29

Report Generated On: 01/15/2021

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

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

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

ATTACHMENT

DWR - VAFWIS

**VaFWIS - Department
of Game and Inland
Fisheries**37.87245 -77.51814
is the Search Point **Search Point**

- ☒ Change to "clicked" map point
- ☐ Fixed at 37.87245 -77.51814

Show Position Rings

- ☐ Yes ☒ No

4 miles and 1 mile at the Search Point

Show Search Area

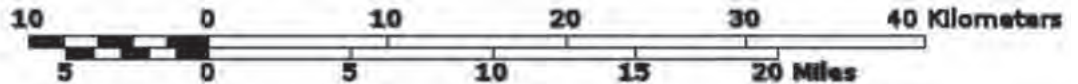
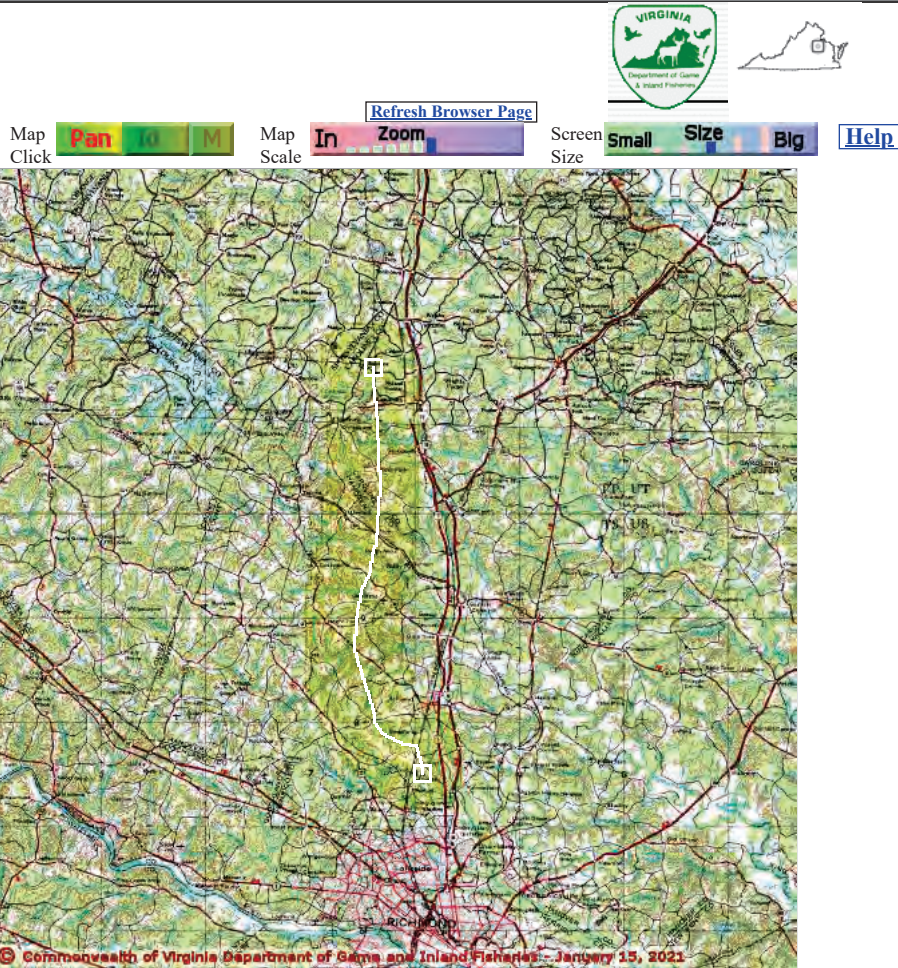
- ☒ Yes ☐ No

2 Search distance miles buffer

Search Point is at map center

Base Map [Choices](#)Topography **Map Overlay** [Choices](#)

Current List: Search

Map Overlay Legend**2 mile radius
Search Area**

Point of Search 37.87245 -77.51814

Map Location 37.87245 -77.51814

Select **Coordinate System**: ☐ Degrees, Minutes, Seconds Latitude - Longitude☒ Decimal Degrees Latitude - Longitude☐ Meters UTM NAD83 East North Zone☐ Meters UTM NAD27 East North ZoneBase Map source: USGS 1:250,000 topographic maps (see [Microsoft terraserver-usa.com](http://Microsoft.terraserver-usa.com) for details)

Map projection is UTM Zone 18 NAD 1983 with left 240115 and top 4233053. Pixel size is 74. . Coordinates displayed are decimal Degrees North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixels. The map display represents 76800 meters east to west by 76800 meters north to south for a total of 5898.2 square kilometers. The map display represents 252011 feet east to west by 252011 feet north to south for a total of 2278.0 square miles.

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

Shaded topographic maps are from TOPO! ©2006 National Geographic
<http://www.national.geographic.com/topo>

All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.

map assembled 2021-01-15 10:06:29 (qa/qc March 21, 2016 12:20 - tn=1072526 dist=3218 I)
\$poi=37.8216000 -77.5292000

VaFWIS Search Report Compiled on 1/15/2021, 10:08:32 AM[Help](#)

Known or likely to occur within a **2 mile buffer around line beginning 37.8216000 -77.5291999**
in **033 Caroline County, 085 Hanover County, 087 Henrico County, 177 Spotsylvania County, VA**

[View Map of
Site Location](#)

593 Known or Likely Species ordered by Status Concern for Conservation
(displaying first 30) (30 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
040228	FESE	Ia	Woodpecker, red-cockaded	Picoides borealis		BOVA
050023	FESE	Ia	Bat, Indiana	Myotis sodalis		BOVA
060017	FESE	Ia	Spinymussel, James	Parvaspina collina		BOVA
060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes	BOVA,TEWaters,Habitat,SppObs,HU6
010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus		BOVA
050022	FTST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
060029	FTST	IIa	Lance, yellow	Elliptio lanceolata	Yes	BOVA,SppObs,HU6
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA
050034	SE	Ia	Bat, Rafinesque's eastern big- eared	Corynorhinus rafinesquii macrotis		BOVA,HU6
050027	SE	Ia	Bat, tri- colored	Perimyotis subflavus		BOVA
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
040385	ST	Ia	Sparrow, Bachman's	Peucaea aestivalis		BOVA
060173	FPST	Ia	Pigtoe, Atlantic	Fusconaia masoni		BOVA
060081	ST	IIa	Floater, green	Lasmigona subviridis		BOVA
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
030063	CC	IIIa	Turtle, spotted	Clemmys guttata		BOVA,HU6

010077	Ia	Shiner, bridle	Notropis bifrenatus		BOVA
040092	Ia	Eagle, golden	Aquila chrysaetos		BOVA,HU6
100248	Ia	Fritillary, regal	Speyeria idalia idalia		BOVA,HU6
060084	Ib	Pigtoe, Virginia	Lexingtonia subplana		BOVA
040052	IIa	Duck, American black	Anas rubripes		BOVA,HU6
040029	IIa	Heron, little blue	Egretta caerulea caerulea	Yes	BOVA,BBA,SppObs
040036	IIa	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040181	IIa	Tern, common	Sterna hirundo		BOVA,HU6
040320	IIa	Warbler, cerulean	Setophaga cerulea		BOVA,HU6
040140	IIa	Woodcock, American	Scolopax minor		BOVA,HU6
060071	IIa	Lampmussel, yellow	Lampsilis cariosa		BOVA,HU6
040203	IIb	Cuckoo, black-billed	Coccyzus erythrophthalmus		BOVA
040105	IIb	Rail, king	Rallus elegans		BOVA
060175	IIb	Slabshell, Roanoke	Elliptio roanokensis		BOVA

To view **All 593 species** [View 593](#)

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

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

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

IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

Virginia 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.

[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](#)

Stream ID	Stream Name	Reach Status	Anadromous Fish Species			View Map
			Different Species	Highest TE *	Highest Tier **	
C39	Little river	Confirmed	1			Yes

Impediments to Fish Passage (14 records)[View Map of All
Fish Impediments](#)

ID	Name	River	View Map
1300	ASHLAND WATER SUPPLY DAM	SOUTH ANNA RIVER	Yes
533	CAMPBELL DAM	BEAVER CREEK	Yes
378	CHICKAHOMINY MILL DAM	CHICKAHOMINY RIVER	Yes
538	LAKE CLAYBANK DAM	TR-SOUTH ANNA	Yes
564	LAKE DEVOLIA DAM	TR-SOUTH RIVER	Yes
566	LAKE DOVER DAM	TR-STEVENSONS MILL CREEK	Yes
565	LAKE HERITAGE DAM	TR-STEVENSONS MILL CREEK	Yes
548	LAKE LANDOR DAM	TR-SOUTH RIVER	Yes
384	MILES DAM	TR-CHICKAHOMINY RIVER	Yes
850	POLLARDS DAM	TR-SOUTH ANNA RIVER	Yes
583	STANLEY DAM	TR-SOUTH ANNA RIVER	Yes
374	SWAMP CREEK DAM	GRASSY SWAMP CREEK	Yes
549	TEMPLES MILL DAM	SOUTH RIVER	Yes
674	USRY PROPERTY INC. DAM	TR-N ANNA RIVER	Yes

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters (19 Reaches)[View Map of All
Threatened and Endangered Waters](#)

Stream Name	T&E Waters Species						View Map
	Highest TE *	BOVA Code, Status *, Tier **, Common & Scientific Name					
South Anna River (0104006.)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
South Anna River (0105218.)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
South Anna River (0109085.)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
South Anna River (0109086.)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes

South Anna River (0114149.)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
South Anna River (0114727.)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
South Anna River (0114876.)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
South Anna River (0115188.)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
South Anna River (0116044.)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
South Anna River (0117073.)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
South Anna River (0127399.)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
South Anna River (0127505.)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
South Anna River (0128556.)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
South Anna River (0129351.)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
South Anna River (0131824.)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
South Anna River (0131962.)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
South Anna River (0132011.)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
South Anna River (0132381.)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
South Anna River (0138407.)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Species Observations (315 records - displaying first 20 , 4
Observations with Threatened or
Endangered species)

[View Map of All Query Results](#)
[Species Observations](#)

obsID	class	Date Observed	Observer	N Species			View Map
				Different Species	Highest TE*	Highest Tier**	
3049	SppObs	Jan 1 1900	M. B. Riddick, 1973	1	FESE	I	Yes
8088	SppObs	Jun 6 1994	RICHARD NEVES, C. GATENBY, M. LATHAM, D. NEVES	2	FTST	II	Yes
8699	SppObs	Jun 6 1994	C. GATENBY, VPI& SU, R. NEVES, D. NEVES	2	FTST	II	Yes
54859	SppObs	Jan 1 1900	DR. RICHARD J. NEVES, FISHERIES AND WILDLIFE SCIENCES, VA TECH	5	FTST	II	Yes
4965	SppObs	Jan 1 1900	B. Moores	1		II	Yes
625049	SppObs	Oct 25 2016	Jason; Hill Drew; Miller	27		III	Yes
624523	SppObs	Oct 21 2014	PAUL; VIDONIC	12		III	Yes
624632	SppObs	Oct 2 2014	PAUL; VIDONIC	5		III	Yes
624658	SppObs	Jul 21 2014	PAUL; VIDONIC	15		III	Yes
620184	SppObs	Sep 9 2013	Paul; Vidonic	13		III	Yes
621535	SppObs	Jul 31 2013	Paul; Vidonic	16		III	Yes
620843	SppObs	Jun 5 2013	Paul; Vidonic	12		III	Yes
616690	SppObs	Sep 21 2012	PMV	6		III	Yes
616691	SppObs	Sep 21 2012	PMV	18		III	Yes
616666	SppObs	Jul 12 2012	PMV	8		III	Yes
616667	SppObs	Jul 12 2012	PMV	13		III	Yes
613447	SppObs	Sep 19 2011	PMV	13		III	Yes
613424	SppObs	Jul 18	PMV	15		III	Yes

		2011					
604024	SppObs	Sep 4 2008	R. S. Andrews	11		III	Yes
601226	SppObs	Jul 17 2008	R. S. Andrews	11		III	Yes

Displayed 20 Species Observations

Selected 315 Observations [View all 315 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](#)

Stream Name	Tier Species						View Map
	Highest TE [*]	BOVA Code, Status [*] , Tier ^{**} , Common & Scientific Name					
South Anna River (20801061)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
South Anna River (20801061)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

Virginia Breeding Bird Atlas Blocks (4 records)

[View Map of All Query Results](#)
[Virginia Breeding Bird Atlas Blocks](#)

BBA ID	Atlas Quadrangle Block Name	Breeding Bird Atlas Species			View Map
		Different Species	Highest TE *	Highest Tier **	
50116	Hanover Academy, SE	72		II	Yes
50126	Hewlett, SE	55		III	Yes
50136	Ladysmith, SE	60		III	Yes
50135	Ladysmith, SW	8		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
033	Caroline	374	FTSE	I
085	Hanover	384	FTSE	I
087	Henrico	389	FESE	I

177	Spotsylvania	379	FTSE	I
-----	------------------------------	-----	------	---

USGS 7.5' Quadrangles:

Glen Allen
Hanover Academy
Hewlett
Ladysmith
Yellow Tavern
Ashland

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
JL16	Chickahominy River-Grassy Swamp Creek	60	SE	I
JL17	Chickahominy River-Stony Run	66	SE	I
JL18	Upham Brook	54	SS	II
YO10	Newfound River	58	SE	I
YO11	South Anna River-Cedar Creek	58	FESE	I
YO23	North Anna River-Hawkins Creek	59	SE	I
YO25	Lower Little River	59	SE	I
YO26	North Anna River-Long Creek	58	SE	I
YO46	South River	56	FTST	I
YO48	Polecat Creek	53	FTST	II

Compiled on 1/15/2021, 10:08:32 AM 11072526.0 report=all searchType= L dist= 3218 poi= 37.8216000 -77.5291999 siteDD= 38.0466730 -77.5501989;38.0363370 -77.5499659;37.9985250 -77.5445949;37.9444600 -77.5390499;37.8948250 -77.5427599;37.8854460 -77.5457689;37.8720880 -77.5473519;37.8540300 -77.5569879;37.8289010 -77.5618769;37.8017500 -77.5623699;37.7727200 -77.5502419;37.7594500 -77.5427379;37.7476240 -77.5390069;37.7401830 -77.5377079;37.7314510 -77.5296389;37.7225590 -77.5077229;37.7214130 -77.4923069;37.7187510 -77.4908049;37.7016580 -77.4845639;37.6982070 -77.4848739;

PixelSize=64; Anadromous=0.089148; BBA=0.239443; BECAR=0.054126; Bats=0.054663; Buffer=1.346199; County=0.190668; HU6=0.328649; Impediments=0.062743; Init=1.452698; PublicLands=0.115221; Quad=0.189168; SppObs=0.954776; TEWaters=0.105982; TierReaches=0.136898; TierTerrestrial=0.263468; Total=4.804827; Tracking_BOVA=0.221211; Trout=0.105029; huva=0.228567

VaFWIS - Department of Game and Inland Fisheries37.87245 -77.51814
is the Search Point **Search Point**

- ☒ Change to "clicked" map point
- ☐ Fixed at 37.87245 -77.51814

Show Position Rings

- ☐ Yes ☒ No

4 miles and 1 mile at the Search Point

Show Search Area

- ☒ Yes ☐ No

2 Search distance miles buffer

Search Point is at map center

Base Map [Choices](#)

Topography

Map Overlay [Choices](#)

Current List: Anadromous, Search

Map Overlay Legend**Anadromous Fish Reach**

Confirmed

Potential

Impediment

2 mile radius Search Area

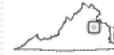
[back](#)

Map Click

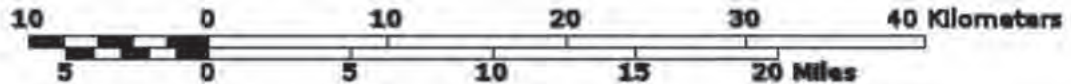
Map Scale

[Refresh Browser Page](#)

Screen Size

[Help](#)

© Commonwealth of Virginia Department of Game and Inland Fisheries - January 15, 2021



Point of Search 37.87245 -77.51814

Map Location 37.87245 -77.51814

Select **Coordinate System**: ☐ Degrees, Minutes, Seconds Latitude - Longitude☒ Decimal Degrees Latitude - Longitude☐ Meters UTM NAD83 East North Zone☐ Meters UTM NAD27 East North ZoneBase Map source: USGS 1:250,000 topographic maps (see [Microsoft terraser-ver-usa.com](https://www.microsoft.com/terraser-ver-usa.com) for details)

Map projection is UTM Zone 18 NAD 1983 with left 240115 and top 4233053. Pixel size is 74. . Coordinates displayed are decimal Degrees North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixels. The map display represents 76800 meters east to west by 76800 meters north to south for a total of 5898.2 square kilometers. The map display represents 252011 feet east to west by 252011 feet north to south for a total of 2278.0 square miles.

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

Shaded topographic maps are from TOPO! ©2006 National Geographic

<http://www.national.geographic.com/topo>

All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.

map assembled 2021-01-15 10:06:29 (qa/qc March 21, 2016 12:20 - tn=1072526 dist=3218 I)
\$poi=37.8216000 -77.5292000

1 Species Observations where Wedgemussel, dwarf (060003) observed

37,49,17.7 -77,31,45.1
is the Search Point

Show Position Rings

☒ Yes ☐ No

4 miles and 1 mile at the Search Point

Show Search Area

☒ Yes ☐ No

2 Search distance miles
buffer

Display Search Point is not
at center at map center


Base Map Choices

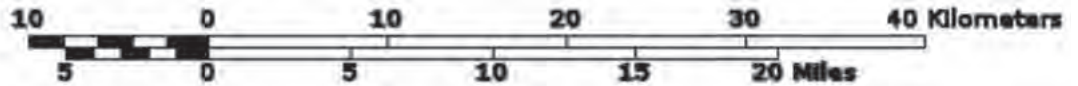
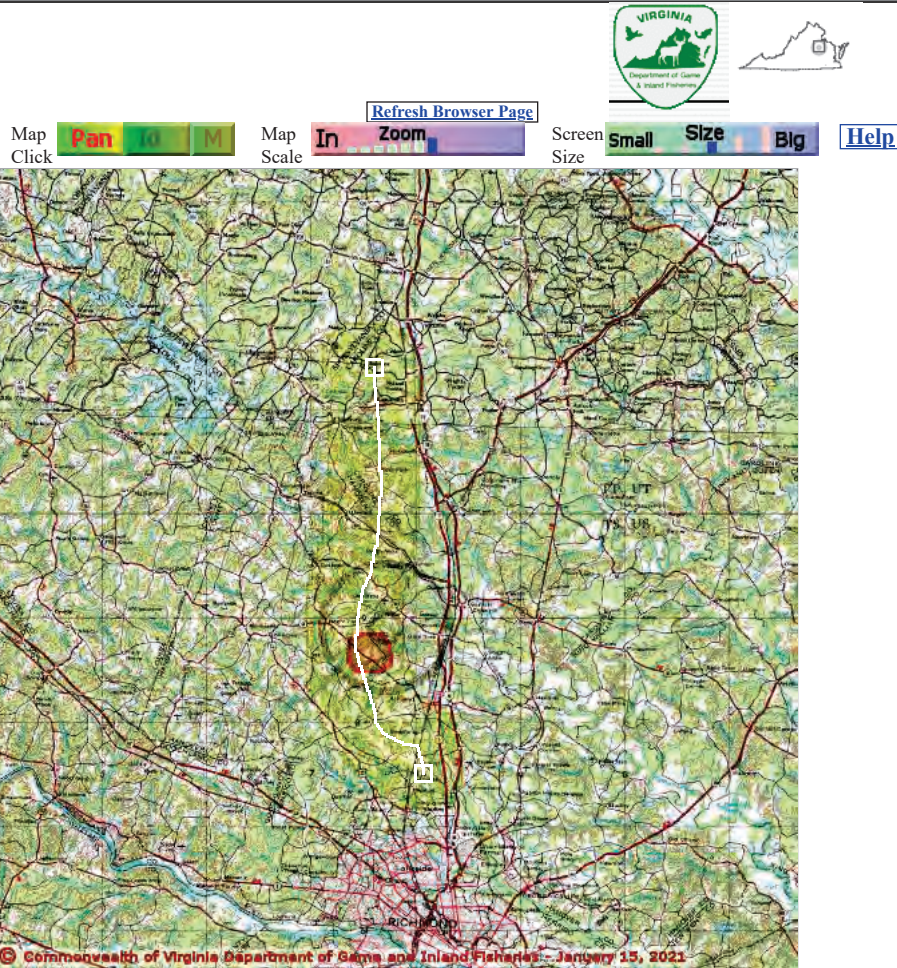
Topography

Map Overlay Choices

Current List: Position, Search,
SppObs

Map Overlay Legend

-  Position Rings
4 miles and 1
mile at the
Search Point
-  2 mile radius
Search Area
-  Data
Observation Site



Point of Search 37,49,17.7 -77,31,45.1

Map Location 37,52,20.8 -77,31,05.3

Select **Coordinate System**: ☒ Degrees, Minutes, Seconds Latitude - Longitude

☐ Decimal Degrees Latitude - Longitude

☐ Meters UTM NAD83 East North Zone

☐ Meters UTM NAD27 East North Zone

Base Map source: USGS 1:250,000 topographic maps (see [Microsoft terraserver-usa.com](http://Microsoft.terraserver-usa.com) for details)

Map projection is UTM Zone 18 NAD 1983 with left 240115 and top 4233053. Pixel size is 74. . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixels. The map display represents 76800 meters east to west by 76800 meters north to south for a total of 5898.2 square kilometers. The map display represents 252011 feet east to west by 252011 feet north to south for a total of 2278.0 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 acquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network.

Shaded topographic maps are from TOPO! ©2006 National Geographic

<http://www.national.geographic.com/topo>

All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.

map assembled 2021-01-15 10:09:20 (qa/qc March 21, 2016 12:20 - tn=1072526.1 dist=3218

1)

\$poi=37.8216000 -77.5291999

3 Species Observations where Lance, yellow (060029) observed

37,49,17.7 -77,31,45.1
is the Search Point

Show Position Rings

☒ Yes ☐ No

4 miles and 1 mile at the Search Point

Show Search Area

☒ Yes ☐ No

2 Search distance miles
buffer

Display Search Point is not
at center at map center

Base Map [Choices](#)

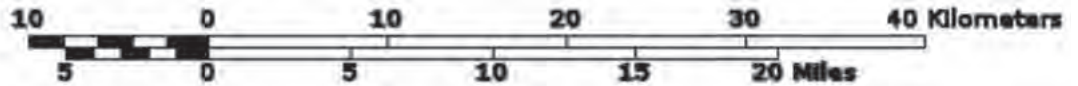
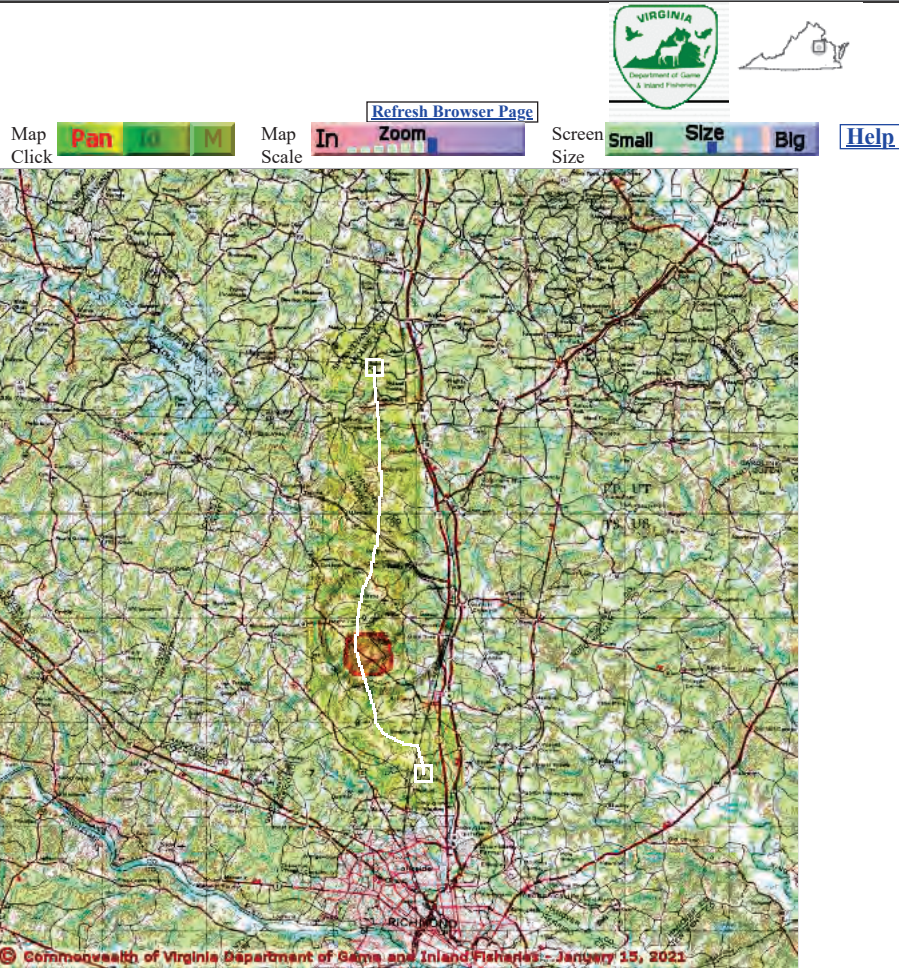
Topography ☒

Map Overlay [Choices](#)

Current List: Position, Search,
SppObs

Map Overlay Legend

-  Position Rings
4 miles and 1
mile at the
Search Point
-  2 mile radius
Search Area
-  Data
Observation Site



Point of Search 37,49,17.7 -77,31,45.1

Map Location 37,52,20.8 -77,31,05.3

Select **Coordinate System**: ☒ Degrees, Minutes, Seconds Latitude - Longitude

☐ Decimal Degrees Latitude - Longitude

☐ Meters UTM NAD83 East North Zone

☐ Meters UTM NAD27 East North Zone

Base Map source: USGS 1:250,000 topographic maps (see [Microsoft terraserver-usa.com](http://Microsoft.terraserver-usa.com) for details)

Map projection is UTM Zone 18 NAD 1983 with left 240115 and top 4233053. Pixel size is 74. . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixels. The map display represents 76800 meters east to west by 76800 meters north to south for a total of 5898.2 square kilometers. The map display represents 252011 feet east to west by 252011 feet north to south for a total of 2278.0 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 acquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network.

Shaded topographic maps are from TOPO! ©2006 National Geographic
<http://www.national.geographic.com/topo>

All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.

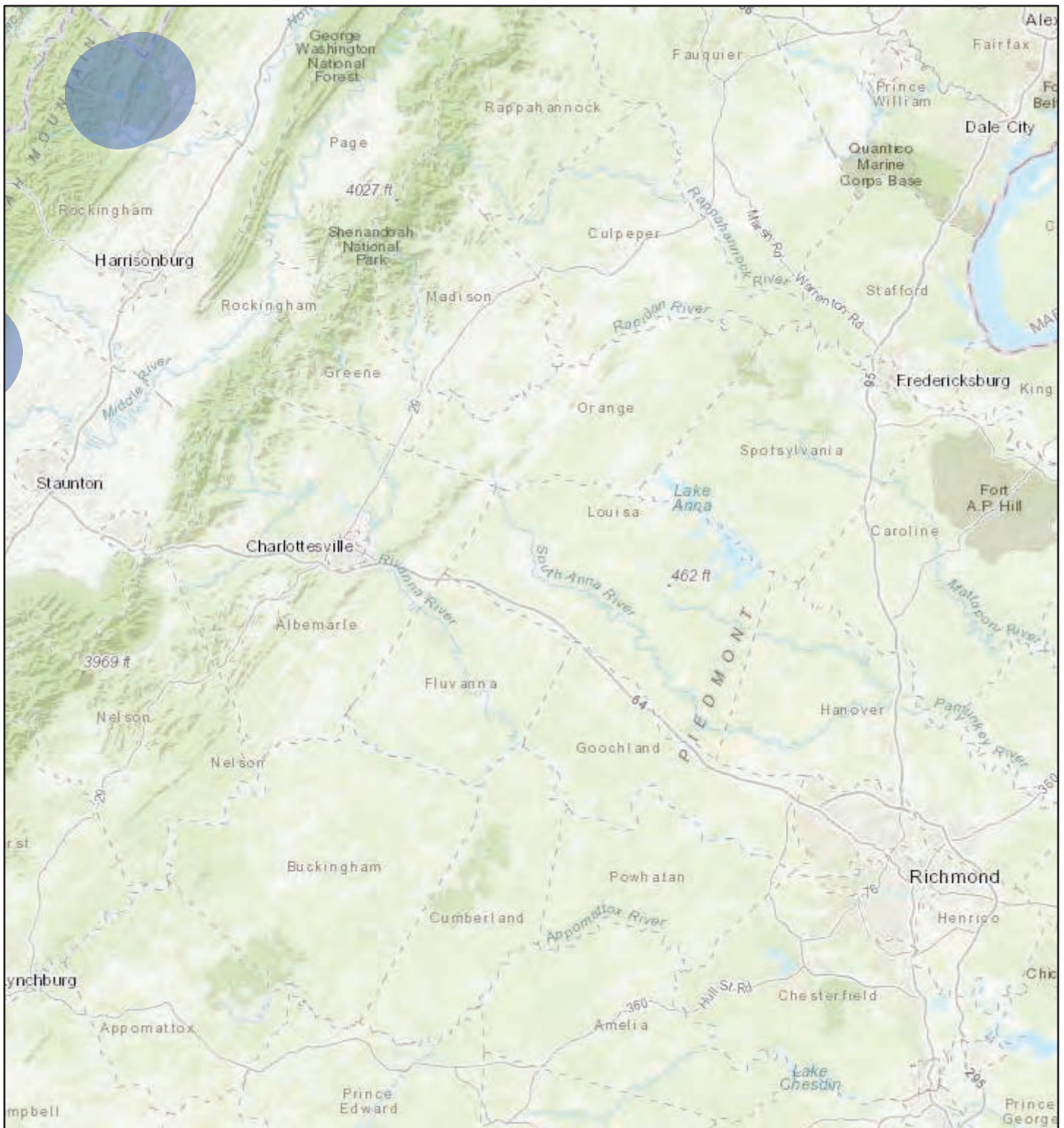
map assembled 2021-01-15 10:10:07 (qa/qc March 21, 2016 12:20 - tn=1072526.1 dist=3218
1)

\$poi=37.8216000 -77.5291999



ATTACHMENT

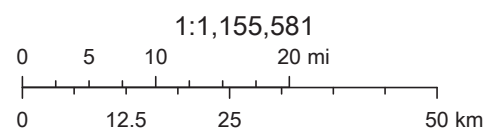
DWR-NLEB Winter Habitat and Roost Tree Map

NLEB Locations and Roost Trees



1/15/2021, 10:34:19 AM

-  NLEB Hibernaculum 5.5 Mile Buffer
-  NLEB Hibernaculum Half Mile Buffer



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

ATTACHMENT

DCR-NHDE

Natural Heritage Resources

Your Criteria

Federal Legal Status: LE - Listed endangered,LT - Listed threatened

State Legal Status: LE - Listed endangered,LT - Listed threatened

Watershed (8 digit HUC): 02080105 - Mattaponi River,02080106 - Pamunkey River,02080206 - Lower James River

Subwatershed (12 digit HUC): YO46 - South River-Mays Run,YO48 - Polecat Creek,YO10 - Newfound River,YO11 - South Anna River-Cedar Creek,YO25 - (Lower) Little River-Beaverdam Creek,YO26 - North Anna River-Long Creek,JL17 - Chickahominy River-Stony Run

Search Run: 1/15/2021 10:30:38 AM

Result Summary

Total Species returned: 8

Total Communities returned: 0

Click scientific names below to go to NatureServe report.

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

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
Mattaponi								
Polecat Creek								
VASCULAR PLANTS								
Swamp-pink	Helonias bullata	Helonias bullata	G3	S2S3	LT	LE	38	Y
New Jersey Rush	Juncus caesariensis	Juncus caesariensis	G2G3	S2	SOC	LT	13	Y
South River-Mays Run								
VASCULAR PLANTS								
New Jersey Rush	Juncus caesariensis	Juncus caesariensis	G2G3	S2	SOC	LT	13	Y
Pamunkey								
South Anna River-Cedar Creek								
AMPHIBIANS								
Tiger Salamander	Ambystoma tigrinum	Ambystoma tigrinum	G5	S1	None	LE	13	Y
BIVALVIA (MUSSELS)								
Dwarf Wedgemussel	Alasmidonta heterodon	Alasmidonta heterodon	G1G2	S1	LE	LE	15	Y
Yellow Lance	Elliptio lanceolata	Elliptio lanceolata	G2	S2	LT	LT	47	Y
Green Floater	Lasmigona subviridis	Lasmigona subviridis	G3	S2	None	LT	65	Y

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Conservation Zone
VASCULAR PLANTS								
Small Whorled Pogonia	Isotria medeoloides	Isotria medeoloides	G2G3	S2	LT	LE	60	Y

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

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

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

Rachel M Studebaker (Services - 6)

From: Hypes, Rene' <rene.hypes@dcr.virginia.gov>
Sent: Monday, March 22, 2021 10:41 AM
To: Rachel M Studebaker (Services - 6)
Cc: Meader, Tyler (DCR); Bulluck, Jason
Subject: [EXTERNAL] Re: Elmont to Ladysmith 500 kV Line #574 Rebuild Project

This is an EXTERNAL email that was NOT sent from Dominion Energy. Are you expecting this message? Are you expecting a link or attachment? DO NOT click links or open attachments until you verify them

Ms. Studebaker,

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

Please let me know if you have any questions.

Sincerely,

Rene' Hypes

On Mon, Mar 22, 2021 at 10:37 AM Rachel.M.Studebaker@dominionenergy.com
<Rachel.M.Studebaker@dominionenergy.com> wrote:

Ms. Hypes,

Please see the attached letter and project map notifying you of the proposed transmission line rebuild project located in Hanover and Caroline Counties, Virginia.

Please contact me with any questions or for additional information.

Thank you,

Rachel Studebaker

Environmental Specialist II

Dominion Energy Services

120 Tredegar Street, Richmond, VA 23219

Office: (804) 273-4086

Cell: (804) 217-1847



CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.

--

S. Rene' Hypes

Project Review Coordinator

Department of Conservation and Recreation

Division of Natural Heritage

600 East Main Street, 24th Floor

Richmond, Virginia 23219

[804-371-2708](tel:804-371-2708) (phone)

[804-371-2674](tel:804-371-2674) (fax)

rene.hypes@dcr.virginia.gov

Conserving VA's Biodiversity through Inventory, Protection and Stewardship

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

Matthew J. Strickler
Secretary of Natural Resources

Clyde E. Cristman
Director



Rochelle Altholz
*Deputy Director of
Administration and Finance*

Russell W. Baxter
*Deputy Director of
Dam Safety & Floodplain
Management and Soil & Water
Conservation*

Nathan Burrell
*Deputy Director of
Government and Community Relations*

Thomas L. Smith
*Deputy Director of
Operations*

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

March 29, 2021

Grace Flick
C2 Environmental, Inc.
11846 Rock Landing Drive, Suite A
Newport News, VA 23606

Re: Elmont to Ladysmith 500 kV Transmission Line 574 Rebuild

Dear Ms. Flick:

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

According to the information currently in our files, the South Anna River – Stone Horse Stream Conservation Unit (SCU) is located within the project site. SCUs identify stream reaches that contain aquatic natural heritage resources, including 2 miles upstream and 1 mile downstream of documented occurrences, and all tributaries within this reach. SCUs are also given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain. The South Anna River – Stone Horse SCU has been given a biodiversity ranking of B3, which represents a site of high significance. The natural heritage resources associated with this site are:

<i>Elliptio lanceolata</i>	Yellow lance	G2G3/S2S3/LT/LT
Aquatic Natural Community (NP-Pamunkey First Order Stream)		G3G4/S3S4/NL/NL

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).

The documented Aquatic Natural Community is 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. First, this stream is 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. This stream reach 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, this stream contributes 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.

In addition, the South Anna River has been designated by the VDWR as a "Threatened and Endangered Species Water" for the Dwarf wedgemussel.

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 the Dwarf wedgemussel, DCR also recommends coordination with the USFWS and the VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with protected species legislation.

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

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

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

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

A fee of \$625.00 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 VDWR maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from <https://vafwis.dgif.virginia.gov/fwis/> or contact Ernie Aschenbach at 804-367-2733 or Ernie.Aschenbach@dwr.virginia.gov.

Should you have any questions or concerns, please contact me at 804-225-2429. Thank you for the opportunity to comment on this project.

Sincerely,

A handwritten signature in dark ink, appearing to read "Tyler Meader". The signature is fluid and cursive, with the first name "Tyler" and last name "Meader" clearly distinguishable.

Tyler Meader
Natural Heritage Locality Liaison

CC: Troy Andersen, USFWS
Amy Ewing, VDWR

Literature Cited

- NatureServe. 2009. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: April 5, 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.

Rachel M Studebaker (Services - 6)

From: Ewing, Amy <amy.ewing@dwr.virginia.gov>
Sent: Monday, March 22, 2021 12:02 PM
To: Rachel M Studebaker (Services - 6)
Subject: [EXTERNAL] Re: Elmont to Ladysmith 500 kV Line #574 Rebuild Project

This is an EXTERNAL email that was NOT sent from Dominion Energy. Are you expecting this message? Are you expecting a link or attachment? DO NOT click links or open attachments until you verify them

Thank you for contacting us about your project. Due to staffing limitations, we are unable to review and provide comments on projects that are not currently involved in one of the regulatory review processes for which we are a formal consulting agency (see <https://www.DWR.virginia.gov/environmental-programs/>). If your project becomes involved in one of these review processes, we will review the project at that time and provide our comments to the requesting agency. In advance of that, we recommend that you conduct a preliminary desktop analysis to evaluate your project's potential impacts upon the Commonwealth's wildlife resources by accessing our online information system, the Virginia Fish and Wildlife Information Service (VAFWIS) and using the **Geographic Search** function to generate an **Initial Project Assessment** (IPA) report.

We recommend the following steps:

A. Access VAFWIS at this link: <https://vafwis.DWR.virginia.gov/fwis/>

If you are not already a VAFWIS subscriber, you should request to become one by emailing a request to VAFWIS_support@DWR.virginia.gov. VAFWIS Subscriptions are free of charge. As a subscriber, one is able to generate an IPA for the project area (project site plus a minimum 2-mile buffer) which generates a list of imperiled wildlife and designated wildlife resources known from the project area. You may also access VAFWIS as a visitor, but access to data and mapping at this user level is restricted.

Alternatively, you may contact our Geographic Information Systems (GIS) Coordinator, Jay Kapalczynski, at Jay.Kapalczynski@DWR.virginia.gov to request access to the Wildlife Mapping and Environmental Review Map Service (WERMS) which allows you to download GIS data into your own system.

B. Access information about the location of bat hibernacula and roosts from the following locations:

Northern Long-Eared Bats: <https://www.dwr.virginia.gov/wildlife/bats/northern-long-eared-bat-application/>

Little Brown Bats and Tricolored Bats: <https://www.dwr.virginia.gov/wildlife/bats/little-brown-bat-tri-colored-bat-winter-habitat-roosts-application/>

C. Access up to date information about the location and status of bald eagle nests in Virginia by accessing the Center for Conservation Biology's Eagle Nest Locator at <https://ccbbirds.org/what-we-do/research/species-of-concern/virginia-eagles/nest-locator/>

D. Review the DWR information, guidance, and protocols available on our website at the bottom of [this page](#) in the "Additional Resources" section and implement, as appropriate.

E. Include the results of your desktop analysis with your project documents, applications, etc.



Amy Martin Ewing

*Environmental Services Biologist
Manager, Wildlife Information*
she/her/hers

P 804.367.2211

Department of Wildlife Resources

CONSERVE. CONNECT. PROTECT.

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

www.VirginiaWildlife.gov

On Mon, Mar 22, 2021 at 10:37 AM Rachel.M.Studebaker@dominionenergy.com
<Rachel.M.Studebaker@dominionenergy.com> wrote:

Ms. Ewing,

Please see the attached letter and project map notifying you of the proposed transmission line rebuild project located in Hanover and Caroline Counties, Virginia.

Please contact me with any questions or for additional information.

Thank you,

Rachel Studebaker

Environmental Specialist II

Dominion Energy Services

120 Tredegar Street, Richmond, VA 23219

Office: (804) 273-4086

Cell: (804) 217-1847



CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.

Rachel M Studebaker (Services - 6)

From: Case, Rachel L <rachel_case@fws.gov> on behalf of Virginia Field Office, FW5 <virginiafieldoffice@fws.gov>
Sent: Tuesday, March 23, 2021 10:58 AM
To: Rachel M Studebaker (Services - 6)
Subject: [EXTERNAL] Re: [EXTERNAL] Elmont to Ladysmith 500 kV Line #574 Rebuild Project

This is an EXTERNAL email that was NOT sent from Dominion Energy. Are you expecting this message? Are you expecting a link or attachment? DO NOT click links or open attachments until you verify them

Hi Rachel,

Thank you for notifying our office about this project. If you are seeking Section 7 review for this project, you will need to utilize our online review process. An overview of this process can be found on our website at <https://www.fws.gov/northeast/virginiafield/endangered/projectreviews.html>.

Please let me know if you have any questions.

Thanks,
Rachel

From: Andersen, Troy M <troy_andersen@fws.gov>
Sent: Monday, March 22, 2021 11:19 AM
To: Virginia Field Office, FW5 <virginiafieldoffice@fws.gov>
Subject: FW: [EXTERNAL] Elmont to Ladysmith 500 kV Line #574 Rebuild Project

From: Rachel.M.Studebaker@dominionenergy.com <Rachel.M.Studebaker@dominionenergy.com>
Sent: Monday, March 22, 2021 10:39 AM
To: Andersen, Troy M <troy_andersen@fws.gov>
Subject: [EXTERNAL] Elmont to Ladysmith 500 kV Line #574 Rebuild Project

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Mr. Andersen,

Please see the attached letter and project map notifying you of the proposed transmission line rebuild project located in Hanover and Caroline Counties, Virginia.

Please contact me with any questions or for additional information.

Thank you,

Rachel Studebaker

Environmental Specialist II
Dominion Energy Services
120 Tredegar Street, Richmond, VA 23219
Office: (804) 273-4086
Cell: (804) 217-1847



CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.



Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

1111 E. Main Street, Suite 1400, Richmond, Virginia 23219

P.O. Box 1105, Richmond, Virginia 23218

(800) 592-5482

www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director
(804) 698-4000

August 13, 2019

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

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

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

Dear Mr. Williams:

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

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

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

1. Variance, exception, and deviation requests must be submitted separately from this Annual Standards and Specifications submission to DEQ. DEQ may require project-specific plans associated with variance requests to be submitted for review and approval.
2. The following information must be submitted to DEQ for each project at least two weeks in advance of the commencement of regulated land-disturbing activities. Notifications shall be sent by email to: StandardsandSpecs@deq.virginia.gov
 - i: Project name or project number;
 - ii: Project location (including nearest intersection, latitude and longitude, access point);
 - iii: On-site project manager name and contact info;
 - iv: Responsible Land Disturber (RLD) name and contact info;
 - v: Project description;

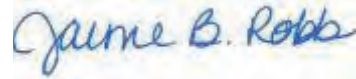
Dominion Energy (Electric Transmission) – AS&S for ESC and SWM
August 12, 2019
Page 2 of 2

- vi: Acreage of disturbance for project;
 - vii: Project start and finish date; and
 - viii: Any variances/exceptions/waivers associated with this project.
3. Project tracking of all regulated land disturbing activities (LDA) must be submitted to the DEQ on a bi-annual basis. Project tracking records shall contain the same information as required in the two week e-notifications for each regulated LDA.
 4. Erosion & Sediment Control and Stormwater Management plan review and approval must be conducted by DEQ-Certified plan reviewers and documented in writing.

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

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

Sincerely,



Jaime B. Robb, Manager
Office of Stormwater Management

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

Case Decision Information:

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



COMMONWEALTH of VIRGINIA

Matt Strickler
Secretary of Natural Resources

Department of Historic Resources
2801 Kensington Avenue, Richmond, Virginia 23221

Julie V. Langan
Director

Tel: (804) 367-2323
Fax: (804) 367-2391
www.dhr.virginia.gov

April 13, 2021

The Electric Transmission Project Team
Dominion Energy
10900 Nuckols Road; 4th Floor
Glen Allen, VA 23060

Re: Elmont - Ladysmith 500 kV Transmission Line #574 Rebuild
Caroline and Hanover Counties, VA
DHR File No. 2021-0103

To The Electric Transmission Project Team:

Thank you for initiating consultation with the Virginia Department of Historic Resources (DHR) on the project referenced above. The project, as presented, is the replacement of existing towers along 26.2 miles of transmission line right-of-way between the Ladysmith and Elmont substations in Caroline and Hanover Counties. Our comments are provided as assistance to Dominion Energy (Dominion) in the preparation of an application to the State Corporation Commission (SCC). We reserve the right to provide additional comment through the Federal Section 106 process, if applicable.

A preliminary search of our Archives shows 109 recorded historic architectural resources within one-half (1/2) mile of the line, including five (5) properties determined eligible or potentially eligible for listing in the Virginia Landmarks Register (VLR) and National Register of Historic Places (NRHP). Depending on the design specifics of the project, this project has the potential to both directly and indirectly affect significant historic resources. To aid in your assessment of potential impacts to historic resources and prior to finalizing Dominion's application to the SCC, we recommend that a pre-application analysis be prepared and submitted to DHR in accordance with Section I of the DHR's *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia*. Once an alternative is approved by the SCC, we are likely to recommend full architectural and archaeological studies and mitigation of all moderate to severe impacts to VLR/NRHP-eligible resources.

We look forward to working with Dominion throughout this project. If you have any questions, please do not hesitate to contact me at tim.roberts@dhr.virginia.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Tim Roberts".

Timothy Roberts, Project Review Archaeologist
Review and Compliance Division

Eastern Region Office
2801 Kensington Avenue
Richmond, VA 23221
Tel: (804) 367-2323
Fax: (804) 367-2391

Western Region Office
962 Kime Lane
Salem, VA 24153
Tel: (540) 387-5443
Fax: (540) 387-5446

Northern Region Office
5357 Main Street
PO Box 519
Stephens City, VA 22655
Tel: (540) 868-7029
Fax: (540) 868-7033

REPORT >

**SCC Pre-Application Analysis
Of Cultural Resources for the
Elmont-Ladysmith Line# 574
500kV Rebuild and Related Projects**

LOCATION > Caroline and Hanover Counties, Virginia

DATE > APRIL 2021

PREPARED FOR >

Dominion Energy



PREPARED BY >

Dutton + Associates, LLC

Dutton + Associates

CULTURAL RESOURCE SURVEY, PLANNING, AND MANAGEMENT

PROJECT REVIEW # >

**SCC Pre-Application Analysis
of Cultural Resources for the
Elmont-Ladysmith Line #574
500kV Rebuild and Related Projects**

Caroline and Hanover Counties, Virginia

PREPARED FOR:

DOMINION ENERGY
701 EAST CARY STREET, 12TH FLOOR
RICHMOND, VIRGINIA 23219
804.711.6948

PREPARED BY:

DUTTON + ASSOCIATES, LLC
1115 Crowder Drive
Midlothian, Virginia 23236
804.644.8290

PRINCIPAL INVESTIGATOR:

Robert J. Taylor, Jr. M.A.

April 2021

ABSTRACT

In March 2021, Dutton + Associates, LLC (D+A) conducted a Pre-Application Analysis (analysis) of cultural resources for the Elmont-Ladysmith Line #574 500kV Rebuild Project. The analysis was performed for Dominion Energy (Dominion) in support of a State Corporation Commission (SCC) application. The analysis was conducted in accordance with Virginia Department of Historic Resources' (VDHR) guidance titled Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia (January 2008) and Commonwealth of Virginia State Corporation Commission Division of Public Utility Regulation Guidelines for Transmission Line Applications Filed Under Title 56 of the Code of Virginia (August 2017).

As part of Elmont-Ladysmith Line #574 500kV Rebuild and Related Projects, Dominion proposes to rebuild approximately 26.2 miles of an existing transmission line which runs from the existing Elmont switching station in Hanover County, Virginia to the existing Ladysmith switching station in Caroline County (Figures 2-1 and 2-2). The existing line, which was built in 1966, is suspended primarily on COR-TEN steel lattice towers that average 111-feet in height. They will be replaced on a one-to-one basis primarily with galvanized steel lattice towers, as well as a smaller number of galvanized steel 3-pole structures that average 145-feet in height (Table 2-1). All replacement structures will be dually galvanized steel structures that can support a 500 kV circuit with an underbuild that permits a future 230kV circuit. Conductor and shield wire will also be dually to reduce glare. The project will also entail the removal of one single circuit 500 kV galvanized steel lattice tower supporting existing Line #568 (Ladysmith – Possum Point) within the Ladysmith switching station, which will be replaced with two single circuit 500 kV chemically dually galvanized steel lattice towers. The project will be constructed within existing ROW and no additional clearing or ROW will be required as part of the project.

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

Review of the VDHR VCRIS inventory records revealed a total of 327 previously recorded architectural resources are located within 1.5 mile of the proposed project. Of these, there is one

(1) NHL located within 1.5 mile of the proposed project, no properties listed in the NRHP and one (1) battlefield located within 1.0 mile of the project, and four (4) properties that have been determined eligible or potentially eligible for listing in the NRHP within 0.5 mile of the project.

VDHR VCRIS records reveals there are twenty-seven (27) previously recorded archaeological sites within one mile of the project area, none of which are located within or adjacent to the project area (within 100 feet of the project centerline). Previously recorded sites within one mile of the project primarily consist of prehistoric lithic scatters, camps, and occupation sites. There are also historic-period domestic sites, a cemetery, iron furnace, and artifact scatters. One of the sites within one mile has been previously determined eligible for listing in the NRHP; however, this site is not located directly within or adjacent to the project. One additional site has been determined not eligible for listing in the NRHP by the VDHR, and the remaining sites have not been formally evaluated.

Field inspection, representative photographs, and photo simulation reveal that the project extends through a mostly wooded landscape for much of its length, and therefore will be partly to completely screened from many vantage points within and near the historic properties. The exception is from Cool Water, where the existing line and structures are only visible from discrete vantage points within the property, but the project will introduce increased visibility of the structures already visible, and additional visibility of structures that are currently not visible. **It is therefore D+A's opinion that the proposed Elmont-Ladysmith Line# 574 500kV Rebuild and Related Projects may have as much as a moderate impact on Cool Water.** Assessment shows there will be less visibility from the other historic resources, and generally limited to increased visibility of structures that are already visible with no additional visibility of more structures. Where structures can be seen, visibility will be limited to one or two structures, with no wide or uninterrupted views of multiple structures. **It is therefore D+A's opinion that the proposed Elmont-Ladysmith Line# 574 500kV Rebuild and Related Projects will have no more than a minimal impact on Scotchtown, North Anna Battlefield, Richmond-Ashland Trolley Line, or the RF&P Railroad Corridor and Historic District.**

A summary of findings and recommendations is provided in the table below.

Potential Impacts Summary for Architectural Resources

VDHR #	Resource Name, Address	NRHP-Status	Distance from Project	Recommended Impact
042-0030	Patrick Henry Home (Scotchtown), 16120 Chiswell Lane	NHL	1.25 Mile	No Impact
042-0075	Cool Water, Ridge Road	NRHP-Eligible	Crossed by ROW	Moderate
042-0123	North Anna Battlefield	NRHP-Eligible	Within 1 Mile and Crossed by ROW	Minimal
043-5347	Richmond-Ashland Trolley Line	NRHP-Eligible	Crossed by ROW	Minimal
088-5413	CSX Railroad Corridor, Richmond, Fredericksburg & Potomac Railroad	NRHP-Eligible	Crossed by ROW	Minimal
500-0001	Richmond, Fredericksburg and Potomac Railroad, Richmond, Fredericksburg and Potomac Railroad Historic District	NRHP-Eligible	Crossed by ROW	Minimal

*With regards to archaeology, there are no previously recorded sites within or immediately adjacent (within 100-feet of the centerline) to the project area. **It is therefore D+A's opinion that the proposed Elmont-Ladysmith Line# 574 500kV Rebuild and Related Projects will have no impact on any previously identified archaeological sites.***

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

1. INTRODUCTION	1-1
2. PROJECT DESCRIPTION	2-1
3. RESEARCH DESIGN	3-1
Archival Research	3-1
Field Reconnaissance	3-1
Assessment of Potential Impacts	3-2
Report Preparation	3-2
4. ARCHIVAL RESEARCH	4-1
Previously Surveyed Areas	4-1
Architectural Resources	4-4
Archaeological Resources	4-10
NPS American Battlefield Protection Program (ABPP)	4-14
5. RESULTS OF FIELD RECONNAISSANCE	5-1
National Historic Landmarks	5-3
National Register of Historic Places – Listed Properties Battlefields, and Landscapes	5-19
National Register of Historic Places – Eligible Properties	5-41
6. SUMMARY OF POTENTIAL IMPACTS	6-1
7. REFERENCES	7-1

LIST OF FIGURES

Figure 2-1: Project Alignment General Location. Source: Dominion Energy	2-1
Figure 2-2: Project Alignment Setting	2-2
Figure 2-3: Representative existing and proposed structures (574/1 -19). Source: Dominion Energy	2-6
Figure 2-4: Representative existing and proposed structures (574/19 -37). Source: Dominion Energy	2-7
Figure 2-5: Representative existing and proposed structures (574/37 – 124). Source: Dominion Energy	2-7
Figure 4-1: Previously conducted phase I surveys within 1-mile of the project area (northern half). Source: VCRIS	4-2
Figure 4-2: Previously conducted phase I surveys within 1-mile of the project area (southern half). Source: VCRIS	4-3
Figure 4-3: All previously identified architectural resources within 1.5-mile of the project area (northern half). Source: VCRIS	4-6
Figure 4-4: All previously identified architectural resources within 1.5-mile of the project area (southern half). Source: VCRIS	4-7
Figure 4-5: NHL, NRHP-Listed, and NRHP-eligible architectural resources within their respective study tiers around the project area (northern half). Source: VCRIS	4-8
Figure 4-6: NHL, NRHP-Listed, and NRHP-eligible architectural resources within their respective study tiers around the project area (southern half). Source: VCRIS	4-9
Figure 4-7: Previously recorded archaeological resources located within one mile of project area (northern half). Source: VCRIS	4-12

Figure 4-8: Previously recorded archaeological resources located within one mile of project area (southern half). Source: VCRIS.....	4-13
Figure 4-9: Battlefields in relation to the project area (northern half). Source: VCRIS/ American Battlefield Protection Program (ABPP).....	4-15
Figure 4-10: Battlefields in relation to the project area (northern half). Source: VCRIS/ American Battlefield Protection Program (ABPP).....	4-16
Figure 5-1: Scotchtown in relation to the project area and tiered buffers.	5-6
Figure 5-2: Scotchtown in relation to the project study tiers with location and direction of representative photography (shown in yellow) and photo simulations (shown in green).	5-7
Figure 5-3: Photo location 1- View of Scotchtown front facade, facing northwest.	5-8
Figure 5-4: Photo location 2- View from Scotchtown front towards the project alignment (not visible), facing southeast.....	5-8
Figure 5-5: Photo location 3- View from Scotchtown visitor center towards the project alignment (not visible), facing southeast.	5-9
Figure 5-6: Photo location 4- View from Scotchtown parking lot towards the project alignment (not visible), facing north.....	5-9
Figure 5-7: Photo location 5- View from Scotchtown parking lot towards the project alignment (not visible), facing northeast.	5-10
Figure 5-8: Photo location 6- View from Scotchtown parking lot towards the project alignment (not visible), facing east.....	5-10
Figure 5-9: Photo location 7- View from Scotchtown parking lot towards the project alignment (not visible), facing southeast.	5-11
Figure 5-10: Photo location 8- View from Chiswell Lane towards the project alignment (not visible), facing.....	5-11
Figure 5-11: Scotchtown Photo Simulation 1 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC	5-13
Figure 5-12: Scotchtown Photo Simulation 1 – Existing view from front lawn. Source: GTTE, LLC.....	5-14
Figure 5-13: Scotchtown Photo Simulation 1 – Proposed view from front lawn (visible structures shown as they would appear, structures not visible shown in yellow). Source: GTTE, LLC.....	5-15
Figure 5-14: Scotchtown Photo Simulation 2 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC	5-16
Figure 5-15: Scotchtown Photo Simulation 2 – Existing view from Chiswell Lane. Source: GTTE, LLC.....	5-17
Figure 5-16: Scotchtown Photo Simulation 2 – Proposed view from Chiswell Lane (visible structures shown as they would appear, structures not visible shown in yellow). Source: GTTE, LLC.....	5-18
Figure 5-17: North Anna Battlefield, with ABPP tiers, in relation to the project area and tiered study buffers with location and direction of representative photography (shown in yellow) and photo simulations (shown in green).	5-23
Figure 5-18: Photo location 1- Representative view of battlefield terrain in the vicinity of the project area (Noel Road), facing northwest.	5-24
Figure 5-19: Photo location 2- View from NPS-owned battlefield property along Noel Road towards the project alignment (one structure visible through trees), facing west.	5-24

Figure 5-20: Photo location 3- View from Mount Carmel Baptist Church along Verndon Road towards the project alignment (two structures visible), facing northwest.	5-25
Figure 5-21: Photo location 4- View from Verndon Road at the project alignment crossing (multiple structures visible), facing north.	5-25
Figure 5-22: Photo location 5- View from Verndon Road at edge of Battlefield towards the project alignment (not visible), facing east.	5-26
Figure 5-23: Photo location 6- View from Verndon Road at 0.5 mile buffer towards the project alignment (one structure visible), facing northwest.	5-26
Figure 5-24: Photo location 7- View from Verndon Road at 1.0 mile buffer towards the project alignment (not visible), facing west.	5-27
Figure 5-25: Photo location 8- View from Verndon Road near entrance to North Anna Battlefield Park towards the project alignment (not visible), facing west.	5-27
Figure 5-26: North Anna Battlefield Photo Simulation 1 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC.	5-29
Figure 5-27: North Anna Battlefield Photo Simulation 1 – Existing view from Noel Road. Source: GTTE, LLC.	5-30
Figure 5-28: North Anna Battlefield Photo Simulation 1 – Proposed view from Noel Road (visible structures shown as they would appear, structures not visible shown in yellow). Source: GTTE, LLC.	5-31
Figure 5-29: North Anna Battlefield Photo Simulation 2 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC.	5-32
Figure 5-30: North Anna Battlefield Photo Simulation 2 – Existing view from Verndon Road (east of project). Source: GTTE, LLC.	5-33
Figure 5-31: North Anna Battlefield Photo Simulation 2 – Proposed view from Verndon Road (east of project) (visible structures shown as they would appear, structures not visible shown in yellow). Source: GTTE, LLC.	5-34
Figure 5-32: North Anna Battlefield Photo Simulation 3 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC.	5-35
Figure 5-33: North Anna Battlefield Photo Simulation 3 – Existing view from Verndon Road (west of project). Source: GTTE, LLC.	5-36
Figure 5-34: North Anna Battlefield Photo Simulation 3 – Proposed view from Verndon Road (west of project) (visible structures shown as they would appear, structures not visible shown in yellow). Source: GTTE, LLC.	5-37
Figure 5-35: North Anna Battlefield Photo Simulation 4 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC.	5-38
Figure 5-36: North Anna Battlefield Photo Simulation 4 – Existing view from NPS Property. Source: GTTE, LLC.	5-39
Figure 5-37: North Anna Battlefield Photo Simulation 4 – Proposed view from NPS Property (visible structures shown as they would appear, structures not visible shown in yellow). Source: GTTE, LLC.	5-40
Figure 5-38: Cool Water in relation to the project area and tiered buffers.	5-45
Figure 5-39: Cool Water in relation to the project area with location and direction of representative photography (shown in yellow) and photo simulations (shown in green).	5-46
Figure 5-40: Photo location 1- View of Cool Water front facade, facing northeast.	5-47
Figure 5-41: Photo location 2- View from Cool Water front towards the project alignment (line visible, no structures), facing west.	5-47

Figure 5-42: Photo location 3- View from Cool Water front towards the project alignment (one structure visible), facing northwest.....	5-48
Figure 5-43: Photo location 4- View from Cool Water front towards the project alignment (not visible), facing southwest.....	5-48
Figure 5-44: Photo location 5- View from Cool Water outbuilding complex towards the project alignment (one structure visible through vegetation), facing northwest.....	5-49
Figure 5-45: Photo location 6- View from Cool Water outbuilding complex towards the project alignment (one structure visible), facing northwest.....	5-49
Figure 5-46: Photo location 7- View from approach to Cool Water towards the project alignment (not visible), facing west.....	5-50
Figure 5-47: Photo location 8- View from approach to Cool Water towards the project alignment (one structure visible), facing northwest.....	5-50
Figure 5-48: Photo location 9- View from Cool Water driveway towards the project alignment (one structure visible), facing west.....	5-51
Figure 5-49: Photo location 10- View from Cool Water driveway towards the project alignment (one structure visible through treeline), facing southwest.....	5-51
Figure 5-50: Cool Water Photo Simulation 1 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC	5-53
Figure 5-51: Cool Water Photo Simulation 1 – Existing view from driveway. Source: GTTE, LLC	5-54
Figure 5-52: Cool Water Photo Simulation 1 – Proposed view from driveway (visible structures shown as they would appear, structures not visible shown in yellow). Source: GTTE, LLC ...	5-55
Figure 5-53: Cool Water Photo Simulation 2 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC	5-56
Figure 5-54: Cool Water Photo Simulation 2 – Existing view from homesite. Source: GTTE, LLC	5-57
Figure 5-55: Cool Water Photo Simulation 2 – Proposed view from homesite (visible structures shown as they would appear, structures not visible shown in yellow). Source: GTTE, LLC ...	5-58
Figure 5-56: Richmond-Ashland Trolley Line in relation to the project area and tiered buffers with location and direction of representative photography (shown in yellow) and photo simulations (shown in green).	5-61
Figure 5-57: Photo location 1- View of Richmond-Ashland Trolley corridor with shared project area ROW from Cedar Lane, facing south.....	5-62
Figure 5-58: Photo location 2- View of Richmond-Ashland Trolley corridor with shared project area ROW from Cedar Lane, facing north.....	5-62
Figure 5-59: Photo location 3- View of Richmond-Ashland Trolley corridor with shared project area ROW from Cobb Lane, facing south.	5-63
Figure 5-60: Photo location 4- View of Richmond-Ashland Trolley corridor where it splits from project area ROW from Cobb Lane, facing north.....	5-63
Figure 5-61: Photo location 5- View of Richmond-Ashland Trolley corridor from Gwathmey Church Lane, facing north.	5-64
Figure 5-62: Photo location 6- View from Richmond-Ashland Trolley corridor towards the project area from Gwathmey Church Lane (not visible), facing south.....	5-64
Figure 5-63: Richmond-Ashland Trolley Photo Simulation 1 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC.....	5-65

Figure 5-64: Richmond-Ashland Trolley Photo Simulation 1 – Existing view from corridor split looking north. Source: GTTE, LLC.....	5-66
Figure 5-65: Richmond-Ashland Trolley Photo Simulation 1 – Proposed view from corridor split north (visible structures shown as they would appear on the landscape, structures not visible shown in yellow). Source: GTTE, LLC.....	5-67
Figure 5-66: Richmond-Ashland Trolley Photo Simulation 1 – Existing view from corridor split looking south. Source: GTTE, LLC.....	5-68
Figure 5-67: Richmond-Ashland Trolley Photo Simulation 1 – Proposed view from corridor split south (visible structures shown as they would appear on the landscape, structures not visible shown in yellow). Source: GTTE, LLC.....	5-69
Figure 5-68: Richmond-Ashland Trolley Photo Simulation 2 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC.....	5-70
Figure 5-69: Richmond-Ashland Trolley Photo Simulation 2 – Existing view from Cedar Lane. Source: GTTE, LLC.....	5-71
Figure 5-70: Richmond-Ashland Trolley Photo Simulation 2 – Proposed view from Cedar Lane (visible structures shown as they would appear on the landscape, structures not visible shown in yellow). Source: GTTE, LLC	5-72
Figure 5-71: RF&P Railroad Corridor and Historic District in relation to the project area and tiered buffers with location and direction of representative photography (shown in yellow) and photo simulations (shown in green).....	5-75
Figure 5-72: Photo location 1- View from RF&P railroad corridor at Cedar Lane towards the project area (not visible), facing southeast.	5-76
Figure 5-73: Photo location 2- View up RF&P railroad corridor at Cedar Lane towards the project area (not visible), facing north.	5-76
Figure 5-74: Photo location 3- View from RF&P railroad corridor at Elmont Road towards the project area (not visible), facing southeast.	5-77
Figure 5-75: Photo location 4- View up RF&P railroad corridor at Elmont Road towards the project area (line is visible suspended over corridor, no structures visible), facing north.	5-77
Figure 5-76: Photo location 5- View from Elmont Road near RF&P Railroad towards the project area (line is visible as it is suspended over road, no structures visible), facing east.	5-78
Figure 5-77: Photo location 6- View from project area at crossing of Elmont Road towards the RF&P Railroad (not visible), facing east.....	5-78
Figure 5-78: Photo location 7- View down RF&P railroad corridor at Gwathmey Church Road towards the project area (not visible), facing south.	5-79
Figure 5-79: RF&P Railroad Photo Simulation 1 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC	5-81
Figure 5-80: RF&P Railroad Photo Simulation 1 – Existing view from Elmont Road. Source: GTTE, LLC.....	5-82
Figure 5-81: RF&P Railroad Photo Simulation 1 – Proposed view from Elmont Road (visible structures shown as they would appear on the landscape, structures not visible shown in yellow). Source: GTTE, LLC.....	5-83
Figure 5-82: RF&P Railroad Photo Simulation 2 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC	5-84
Figure 5-83: RF&P Railroad Photo Simulation 2 – Existing view from Cedar Lane. Source: GTTE, LLC.....	5-85

Figure 5-84: RF&P Railroad Photo Simulation 2 – Proposed view from Cedar Lane (visible structures shown as they would appear on the landscape, structures not visible shown in yellow). Source: GTTE, LLC..... 5-86

LIST OF TABLES

Table 2-1: Table of existing and proposed structure heights. Source: Dominion Energy 2-3
Table 4-1: Previously conducted cultural resource surveys within 1-mile of the Project Area. Source: VCRIS..... 4-1
Table 4-2: Previously recorded architectural resources within their respective tiered buffer zones for the Elmont-Ladysmith Line# 574 500kV Rebuild Project..... 4-5
Table 4-3: Previously recorded archaeological resources within one mile of the project area. Bold listings denote sites determined eligible for the NRHP. 4-10
Table 5-1: Previously Recorded Architectural Resources within their Respective Tiered Buffer Zones for the Elmont-Ladysmith Line# 574 500kV Rebuild Project..... 5-1
Table 6-1: Potential impacts summary for architectural resources..... 6-2

1. INTRODUCTION

In March 2021, Dutton + Associates, LLC (D+A) conducted a Pre-Application Analysis (analysis) of cultural resources for the Elmont-Ladysmith Line #574 500kV Rebuild and Related Projects. The analysis was performed for Dominion Energy (Dominion) in support of a State Corporation Commission (SCC) application. The analysis was conducted in accordance with Virginia Department of Historic Resources' (VDHR) guidance titled *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (January 2008) and Commonwealth of Virginia State Corporation Commission Division of Public Utility Regulation *Guidelines for Transmission Line Applications Filed Under Title 56 of the Code of Virginia* (August 2017).

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

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

THIS PAGE LEFT INTENTIONALLY BLANK

2. PROJECT DESCRIPTION

As part of Elmont-Ladysmith Line #574 500kV Rebuild and Related Projects, Dominion proposes to rebuild approximately 26.2 miles of an existing transmission line which runs from the existing Elmont switching station in Hanover County, Virginia to the existing Ladysmith switching station in Caroline County (Figures 2-1 and 2-2). The existing line, which was built in 1966, is suspended primarily on COR-TEN steel lattice towers that average 111-feet in height. They will be replaced on a one-to-one basis primarily with galvanized steel lattice towers, as well as a smaller number of galvanized steel 3-pole structures that average 145-feet in height (Table 2-1). All replacement structures will be dually galvanized steel structures that can support a 500 kV circuit with an underbuild that permits a future 230kV circuit. Conductor and shield wire will also be dually to reduce glare. The project will also entail the removal of one single circuit 500 kV galvanized steel lattice tower supporting existing Line #568 (Ladysmith – Possum Point) within the Ladysmith switching station, which will be replaced with two single circuit 500 kV chemically dually galvanized steel lattice towers. The project will be constructed within existing ROW and no additional clearing or ROW will be required as part of the project. Representative existing and proposed structure schematics are depicted in Figures 2-3 through 2-5.

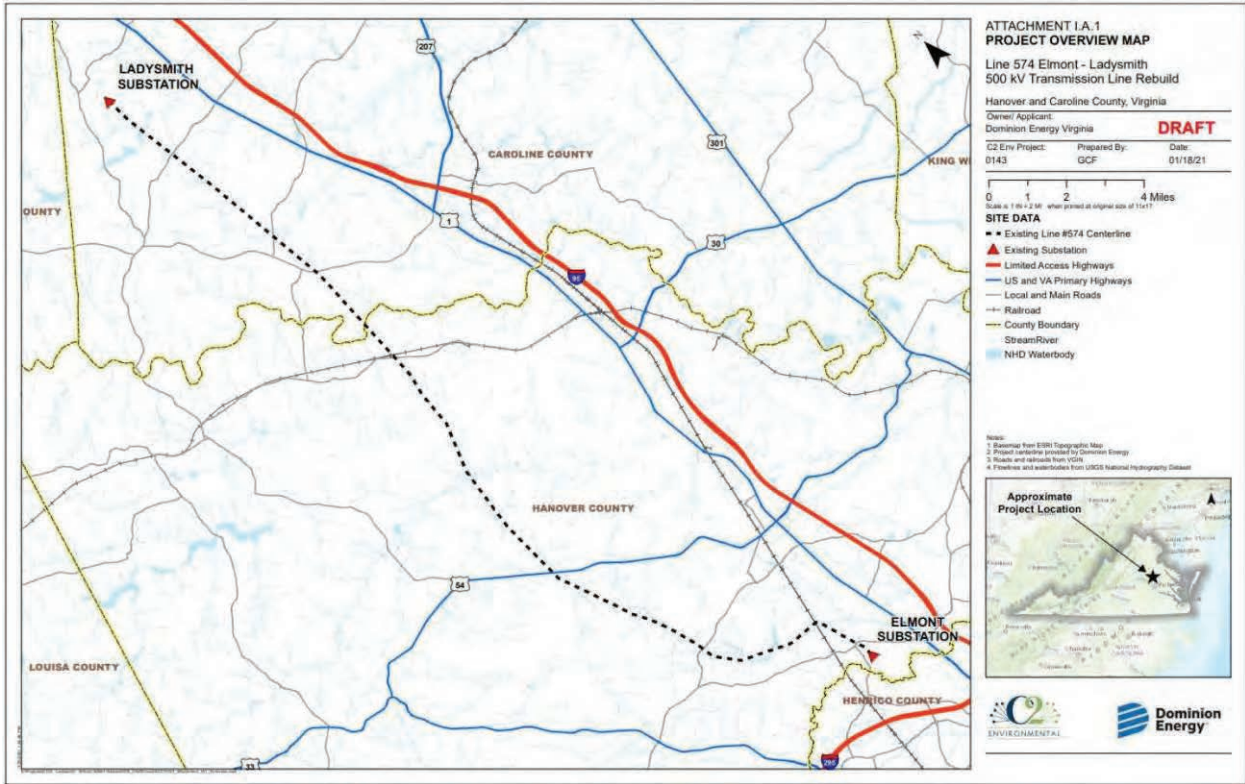


Figure 2-1: Project Alignment General Location. Source: Dominion Energy

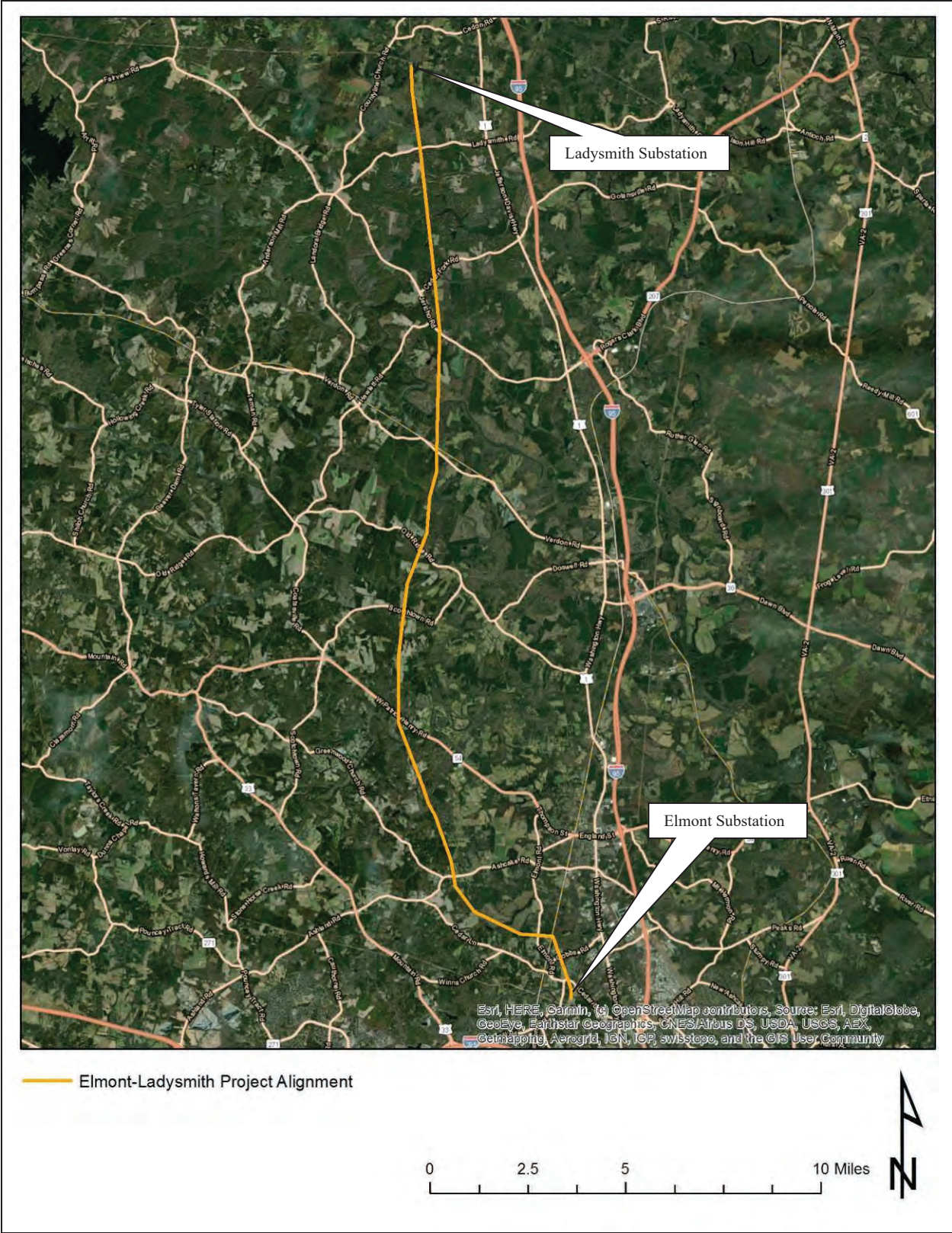


Figure 2-2: Project Alignment Setting.

Table 2-1: Table of existing and proposed structure heights for the Elmont-Ladysmith Line #574 Rebuild. Source: Dominion Energy

Structure Number	Existing Structure Height (ft)	Proposed Structure Height (ft)	Attachment II.B.3. Structure Type
574/1	114	120	ii
574/2	112	160	ii
574/3	117	160	ii
574/4	95	139	i
574/5	100	134	i
574/6	110	139	i
574/7	115	134	i
574/8	82	125	ii
574/9	114	135	ii
574/10	95	154	i
574/11	95	139	i
574/12	125	154	i
574/13	107	150	ii
574/14	120	154	i
574/15	95	139	i
574/16	125	154	i
574/17	110	149	i
574/18	120	154	i
574/19	102	150	iv
574/20	140	169	iii
574/21	135	164	iii
574/22	97	140	iv
574/23	100	139	iii
574/24	95	134	iii
574/25	92	135	iv
574/26	110	134	iii
574/27	105	144	iii
574/28	110	144	iii
574/29	97	135	iv
574/30	110	149	iii
574/31	110	144	iii
574/32	97	135	iv
574/33	95	134	iii
574/34	85	119	iii
574/35	82	125	iv
574/36	115	134	iii
574/37	90	139	v
574/38	120	139	v
574/39	90	134	v

PROJECT DESCRIPTION

Structure Number	Existing Structure Height (ft)	Proposed Structure Height (ft)	Attachment II.B.3. Structure Type
574/40	100	139	v
574/41	125	154	v
574/42	105	139	v
574/43	95	134	v
574/44	136	159	v
574/45	107	150	vi
574/46	105	144	v
574/47	120	144	v
574/48	90	134	v
574/49	90	119	v
574/50	90	119	v
574/51	105	134	v
574/52	115	154	v
574/53	141	154	v
574/54	87	135	vi
574/55	100	119	v
574/56	75	119	v
574/57	110	144	v
574/58	120	159	v
574/59	141	164	v
574/60	110	139	v
574/61	120	134	v
574/62	75	134	v
574/63	92	140	vi
574/64	115	134	v
574/65	90	124	v
574/66	145	169	v
574/67	120	169	v
574/68	146	164	v
574/69	87	135	vi
574/70	145	174	v
574/71	140	174	v
574/72	125	164	v
574/73	92	135	vi
574/74	115	144	v
574/75	100	134	v
574/76	107	150	vi
574/77	120	154	v
574/78	95	134	v
574/79	110	144	v
574/80	115	149	v

PROJECT DESCRIPTION

Structure Number	Existing Structure Height (ft)	Proposed Structure Height (ft)	Attachment II.B.3. Structure Type
574/81	105	139	v
574/82	110	154	v
574/83	130	164	v
574/84	120	159	v
574/85	140	164	v
574/86	120	164	v
574/87	115	149	v
574/88	115	144	v
574/89	110	154	v
574/90	125	149	v
574/91	92	125	vi
574/92	115	144	v
574/93	80	129	v
574/94	95	129	v
574/95	105	134	v
574/96	115	144	v
574/97	100	139	v
574/98	100	134	v
574/99	110	154	v
574/100	150	169	v
574/101	130	164	v
574/102	110	154	v
574/103	115	144	v
574/104	105	149	v
574/105	140	169	v
574/106	125	174	v
574/107	115	154	v
574/108	125	154	v
574/109	120	159	v
574/110	135	164	v
574/111	110	139	v
574/112	115	154	v
574/113	120	154	v
574/114	120	159	v
574/115	115	139	v
574/116	110	154	v
574/117	125	154	v
574/118	125	159	v
574/119	82	120	vi
574/120	110	134	v
574/121	105	154	v

Structure Number	Existing Structure Height (ft)	Proposed Structure Height (ft)	Attachment II.B.3. Structure Type
574/122	115	140	vi
574/123	160	160	vii
Min	75	119	
Max	160	174	
Average	111	145	

Table 2-2: Table of existing and proposed structure heights to be rebuilt on the Ladysmith-Possum Point Line #568. Source: Dominion Energy

Structure Number (Line #568)	Existing Structure Height (ft)	Proposed Structure Height (ft)	Attachment II.B.3. Structure Type
257	160	160	x
258 (New)	n/a	160	x

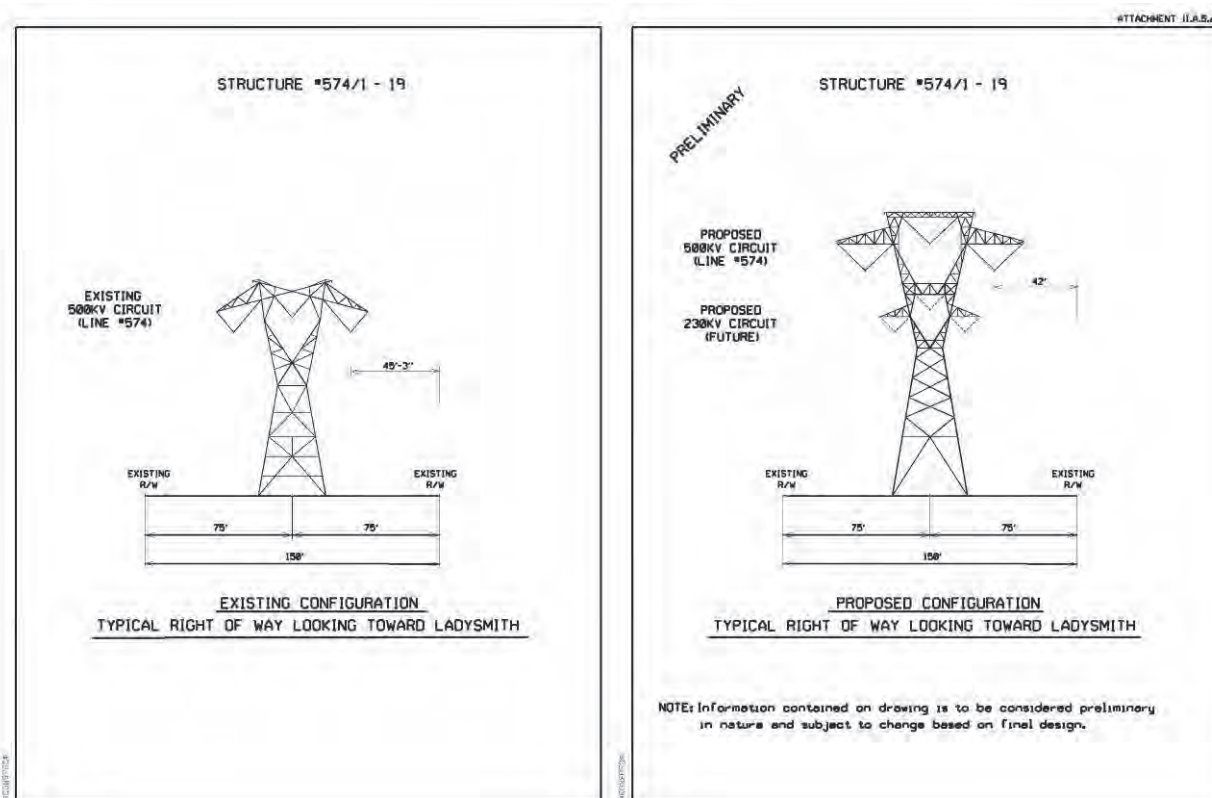


Figure 2-3: Representative existing and proposed structures (574/1-19). Source: Dominion Energy

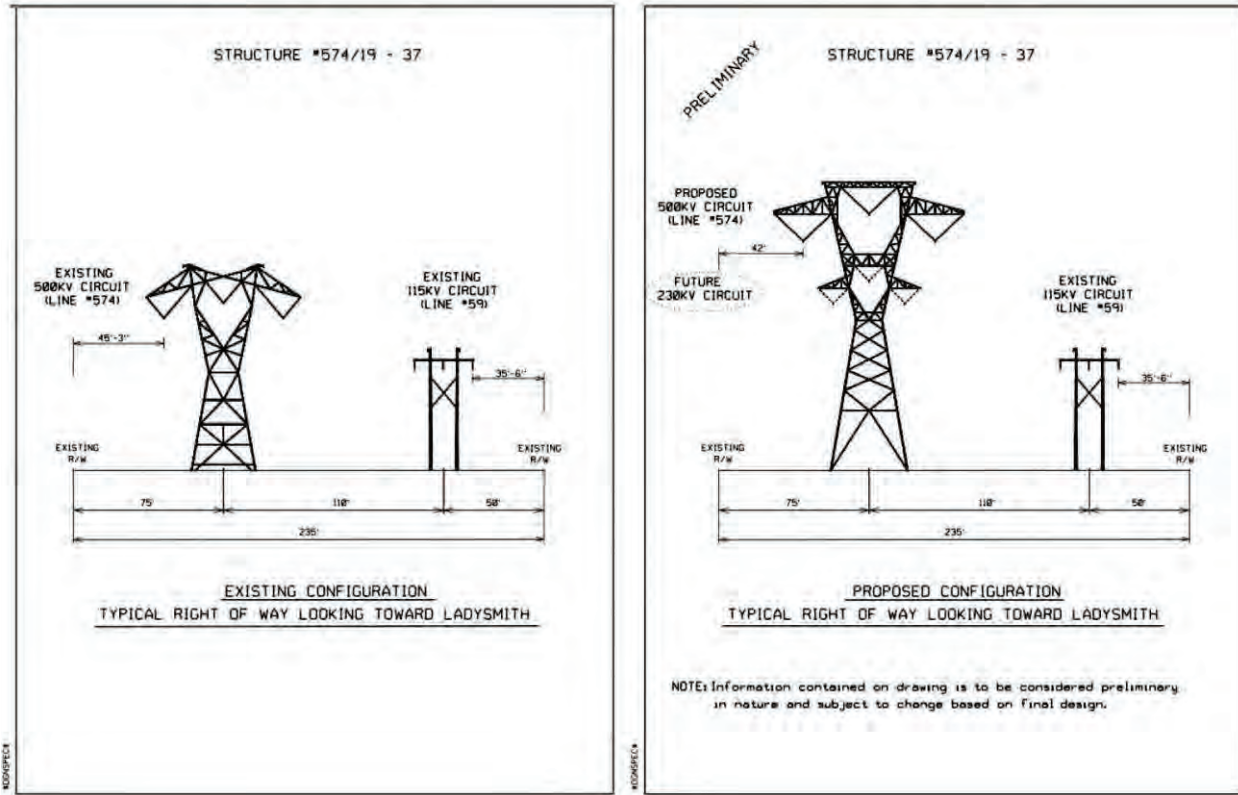


Figure 2-4: Representative existing and proposed structures (574/19 - 37). Source: Dominion Energy

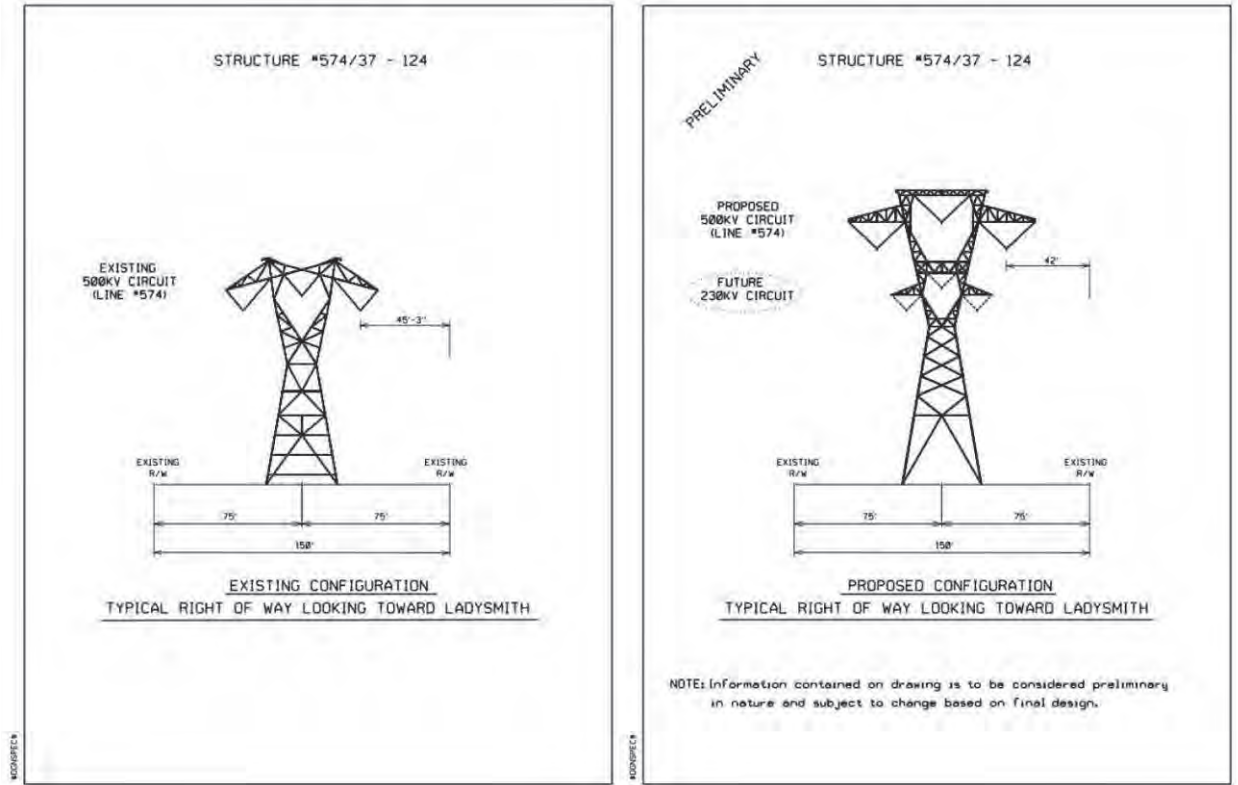


Figure 2-5: Representative existing and proposed structures (574/37 - 124). Source: Dominion Energy

THIS PAGE INTENTIONALLY LEFT BLANK

3. RESEARCH DESIGN

The intent of this effort was to identify all known historic properties within the vicinity of the proposed project area in order to assess them for potential impacts brought about by the project. Historic properties include architectural and archaeological (terrestrial and underwater) resources, historic and cultural landscapes, battlefields, and historic districts. For each previously recorded historic property, an examination of property documentation, current aerial photography, and a field reconnaissance was undertaken to assess each property's integrity of feeling, setting, and association, and to provide photo documentation of the property including views toward the proposed project. The D+A personnel who directed and conducted this survey meet the professional qualification standards of the Department of the Interior (48 FR 44738-9).

ARCHIVAL RESEARCH

In March 2021, D+A conducted archival research with the goal of identifying all previously recorded historic properties and any additional historic property locations referred to in historic documents and other archives, as well as consultation with local informants and other professionals with intimate knowledge of the project area as appropriate. Background research was conducted at the VDHR and on the internet and included the following sources:

- VDHR Virginia Cultural Resource Information System (V-CRIS) site files; and
- National Park Service (NPS), American Battlefield Protection Program (ABPP), maps and related documentation.

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

FIELD RECONNAISSANCE

Field reconnaissance included visual inspection of those previously recorded historic properties listed in the NRHP located within 1-mile of the project area, and all properties considered eligible for listing in the NRHP within 0.5-miles of the project area. Visual inspection included digital photo documentation of each property's existing conditions including its setting and views toward the proposed project. Photographs were taken of primary resource elevations, general setting, and existing viewsheds. All photographs were taken from public right-of-way or where property access was granted. No subsurface archaeological testing was conducted as part of this effort.

ASSESSMENT OF POTENTIAL IMPACTS

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

When assessing impacts, D+A considered those qualities and characteristics that qualify the property for listing and whether the project had the potential to alter or diminish the integrity of the property and its associated significance. Specific attention was given to determining whether or not the proposed project would introduce new visual elements into a property's viewshed, which would either directly or indirectly alter those qualities or characteristics that qualify the historic property for listing in the NRHP. Identified impacts were characterized as severe (fully visible and incompatible with character-defining viewshed or setting), moderate (partially visible and incompatible with character-defining viewshed or setting), or minimal (not visible and/or not out of character with existing viewscape).

REPORT PREPARATION

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

4. ARCHIVAL RESEARCH

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

PREVIOUSLY SURVEYED AREAS

VDHR and VCRIS records indicate that there have been four prior Phase I cultural resource surveys within one mile of the project area, none of which directly included portions of the project area. These surveys are at minimum archaeological in nature, although some include architectural resources as well. Three of the surveys conducted within one mile were related to other utility and transmission line projects; while one was related to a transportation project. The previously conducted cultural resource surveys are listed in Table 4-1 and illustrated in Figures 4-1 and 4-2.

Table 4-1: Previously conducted cultural resource surveys within 1-mile of the Project Area. Source: VCRIS.

VDHR Survey #	Title	Author	Date
HN-021	Phase I Cultural Resource Survey, Route 810, Hanover County, Virginia	Virginia Department of Transportation (Highways and Transportation)	1992
HN-039	Phase I Intensive Cultural Resources Survey ; Elmont-Old Church 230 kV Transmission Line Hanover & Henrico Counties, VA	Browning Associates, Ltd.	1992
HN-048	Phase I Cultural Resources Investigations of Proposed 15.8-Mile Elmont to Old Church Overhead Transmission Line, Hanover and Henrico Counties, Virginia	Gray and Pape, Inc.	1993
SP-157	Archaeological Survey as Part of a Cultural Resource Survey of the Proposed North Anna-Ladysmith 500kV Transmission Line, Louisa, Spotsylvania, and Caroline Counties, Virginia	Virginia Department of Transportation (Highways and Transportation)	2009

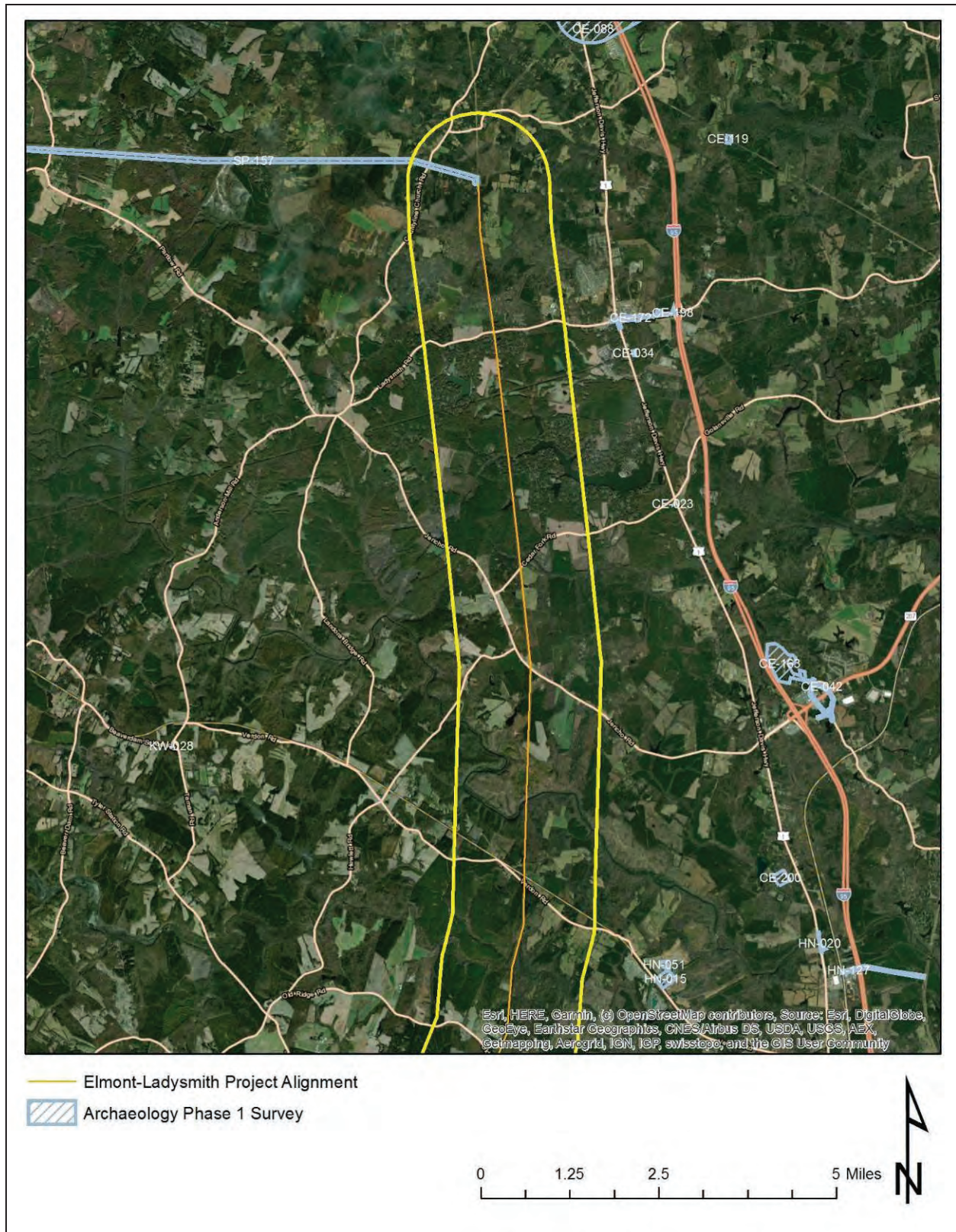


Figure 4-1: Previously conducted phase I surveys within 1-mile of the project area (northern half). Source: VCRIS

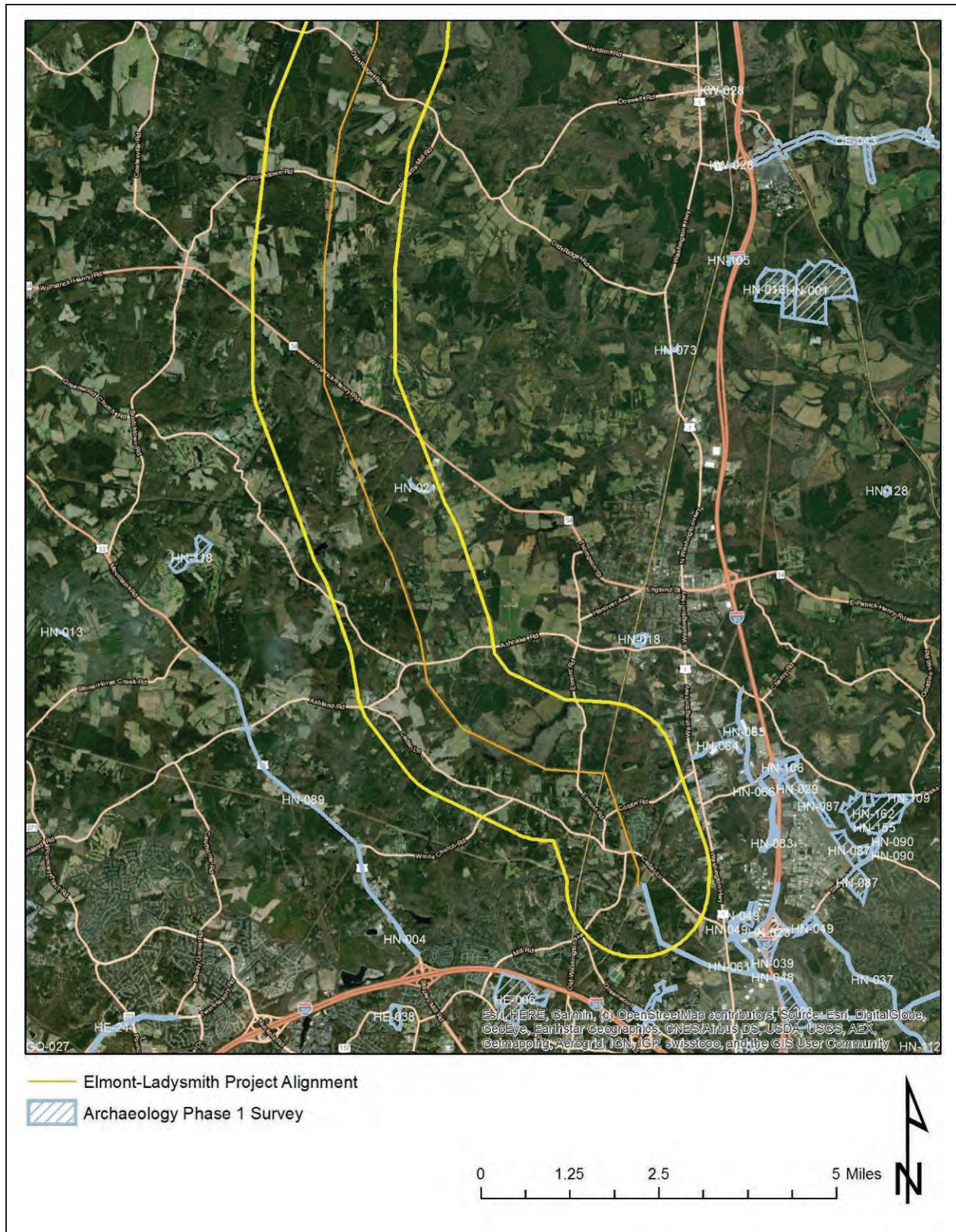


Figure 4-2: Previously conducted phase I surveys within 1-mile of the project area (southern half). Source: VCRIS

ARCHITECTURAL RESOURCES

Review of the VDHR VCRIS inventory records revealed a total of 327 previously recorded architectural resources are located within 1.5 mile of the proposed project. Of these, there is one (1) NHL located within 1.5 mile of the proposed project, no properties listed in the NRHP and one (1) battlefield located within 1.0 mile of the project, and four (4) properties that have been determined eligible or potentially eligible for listing in the NRHP within 0.5 mile of the project. There are an additional four (4) resources that are documented in VCRIS as “Considered Eligible for Environmental Review purposes only” located within 0.5 mile of the project.

Table 4-2 lists all NHLs, NRHP-listed, and NRHP-eligible resources within their respective buffered tiers. Maps of all previously recorded architectural resources within 1.5-mile of the project are depicted in Figures 4-3 and 4-4, and maps of the NHL, NRHP-listed, and NRHP-eligible resources within their respective study tiers are included in Figures 4-5 and 4-6.

Table 4-2: Previously recorded architectural resources within their respective tiered buffer zones for the Elmont-Ladysmith Line# 574 500kV Rebuild Project

Buffer(miles)	Considered Resources	VDHR #	Description
1.5	National Historic Landmarks	042-0030	Patrick Henry Home (Scotchtown), 16120 Chiswell Lane
1.0	National Historic Landmarks	None	N/A
	National Register- Listed	None	N/A
	Battlefields	None	N/A
	Historic Landscapes	None	N/A
0.5	National Historic Landmarks	None	N/A
	National Register- Listed	None	N/A
	Battlefields	None	N/A
	Historic Landscapes	None	N/A
	National Register- Eligible	043-5347	Richmond-Ashland Trolley Line
	Considered Eligible for Environmental Review Purposes Only*	042-0326	House, 11230 Lake Shore Court
		042-5527	House, 11054 Old Washington Highway
		042-5542	House, 11262 Chickahominy River Lane
		042-5543	House, 11329 Cedar Lane
0.0 (ROW)	National Historic Landmarks	None	N/A
	National Register- Listed	None	N/A
	Battlefields	042-0123	North Anna Battlefield
	Historic Landscapes	None	N/A
	National Register- Eligible	042-0075	Cool Water, Ridge Road
		088-5413	CSX Railroad Corridor, Richmond, Fredericksburg & Potomac Railroad
		500-0001	Richmond, Fredericksburg and Potomac Railroad, Richmond, Fredericksburg and Potomac Railroad Historic District

*Upon further review, it was revealed that the four resources considered eligible for environmental review purposes were recorded as such by the VDHR because they were not accessible for evaluation at the time of survey, however, they were within the boundaries of the Elmont Historic District that was considered potentially NRHP-eligible at the time. Since then, the Elmont Historic District has been determined not eligible for listing by the VDHR. As such, these four resources will not be treated as eligible for the purposes of this effort.

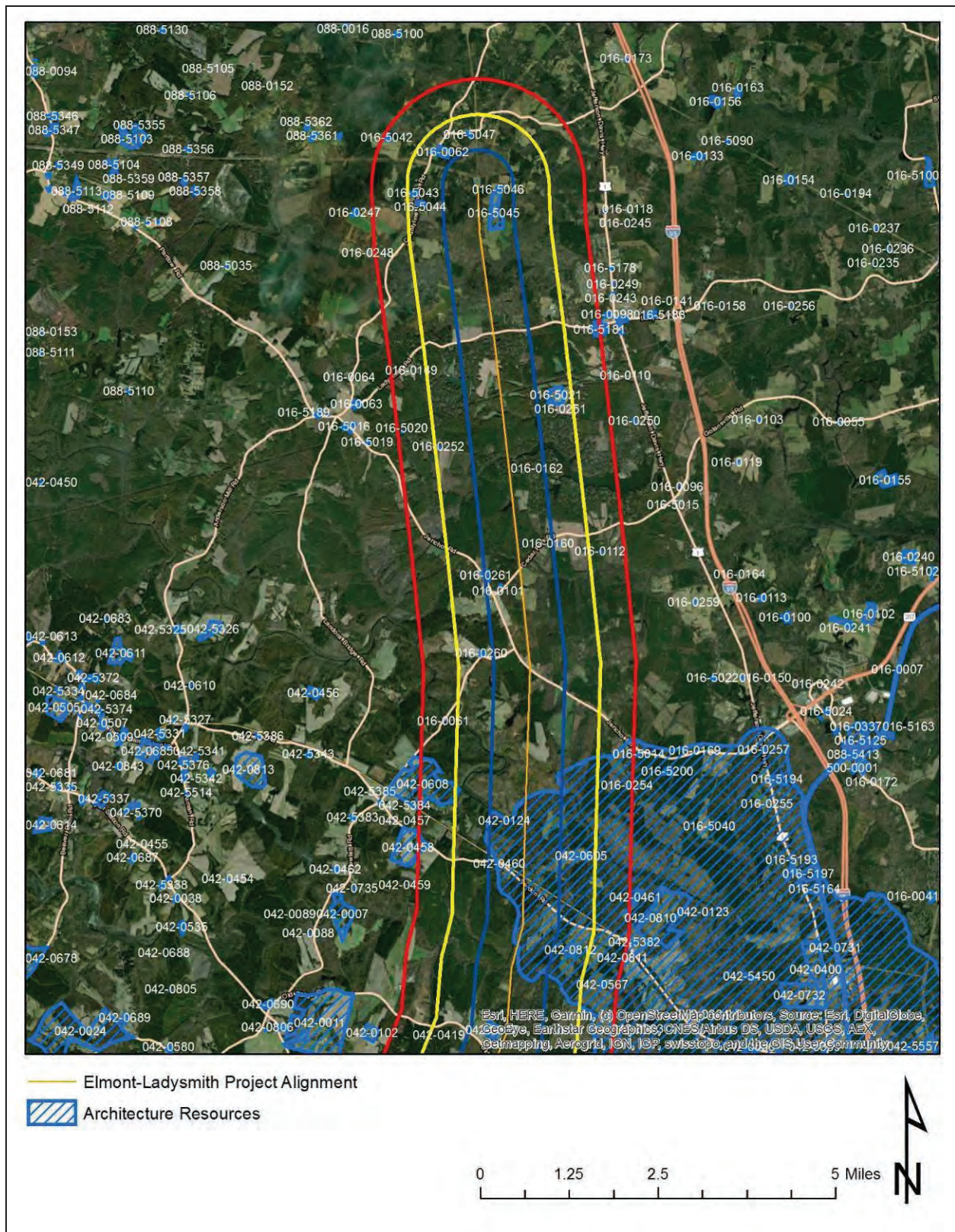


Figure 4-3: All previously identified architectural resources within 1.5-mile of the project area (northern half). Source: VCRIS

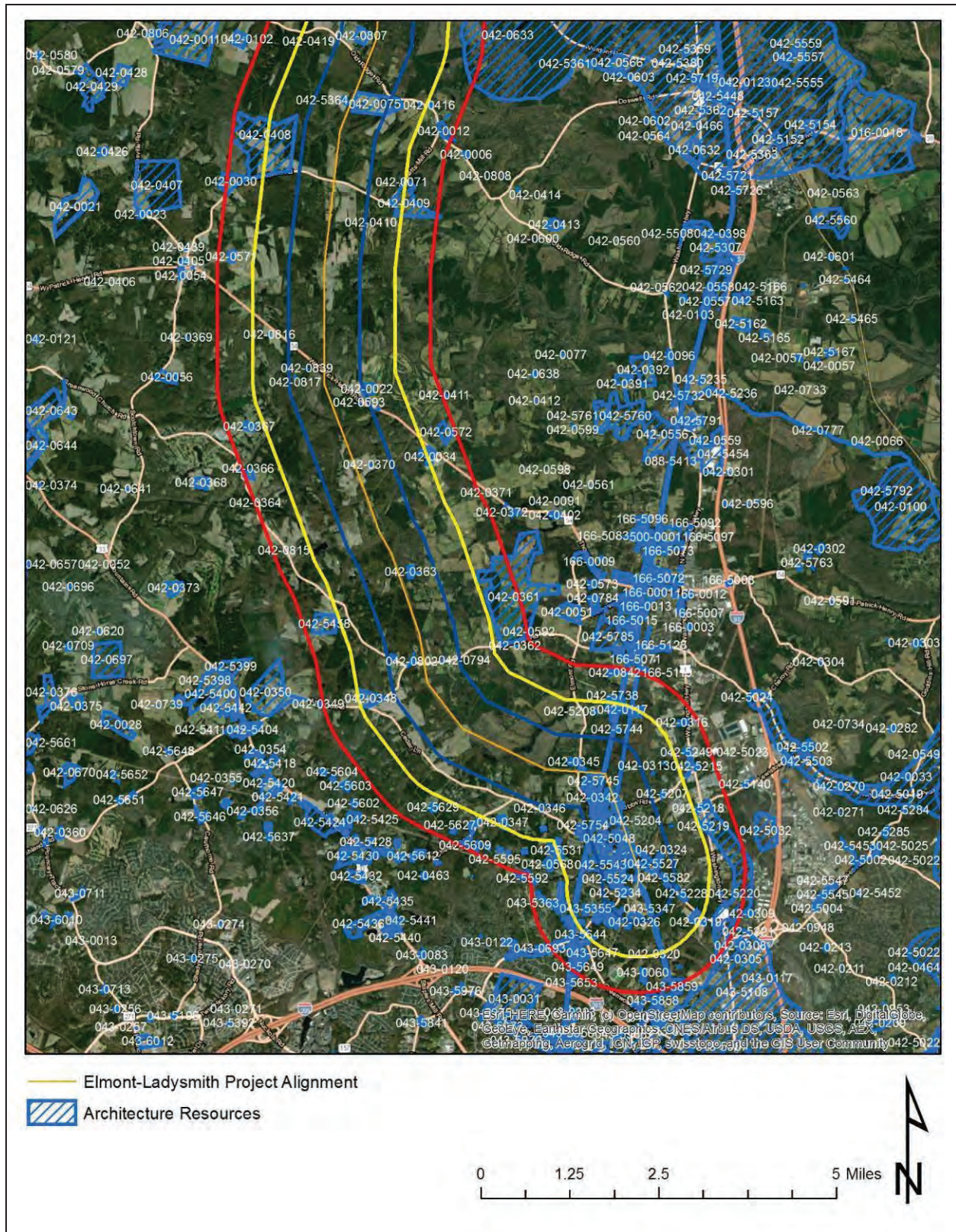


Figure 4-4: All previously identified architectural resources within 1.5-mile of the project area (southern half). Source: VCRIS

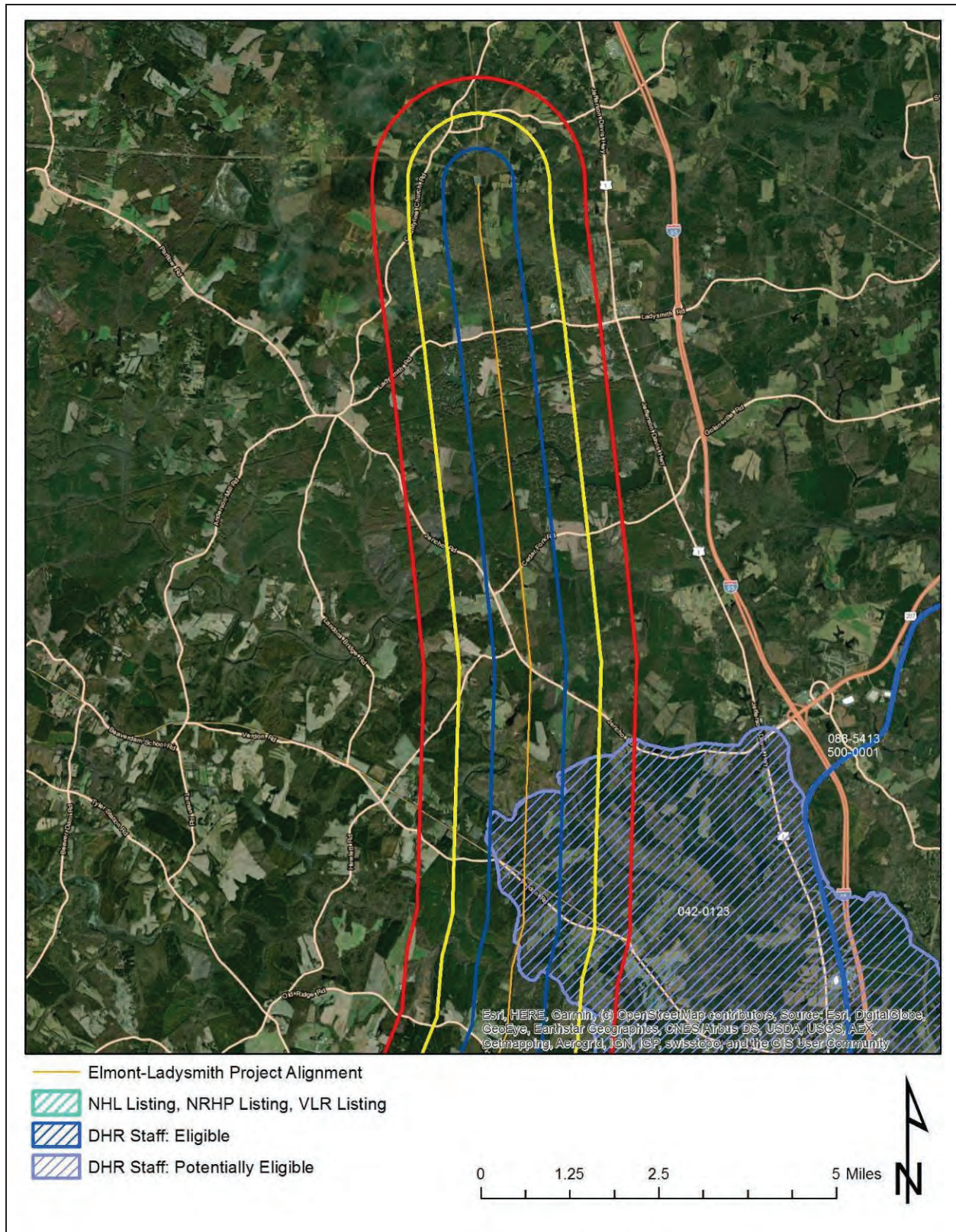


Figure 4-5: NHL, NRHP-Listed, and NRHP-eligible architectural resources within their respective study tiers around the project area (northern half). Source: VCRIS

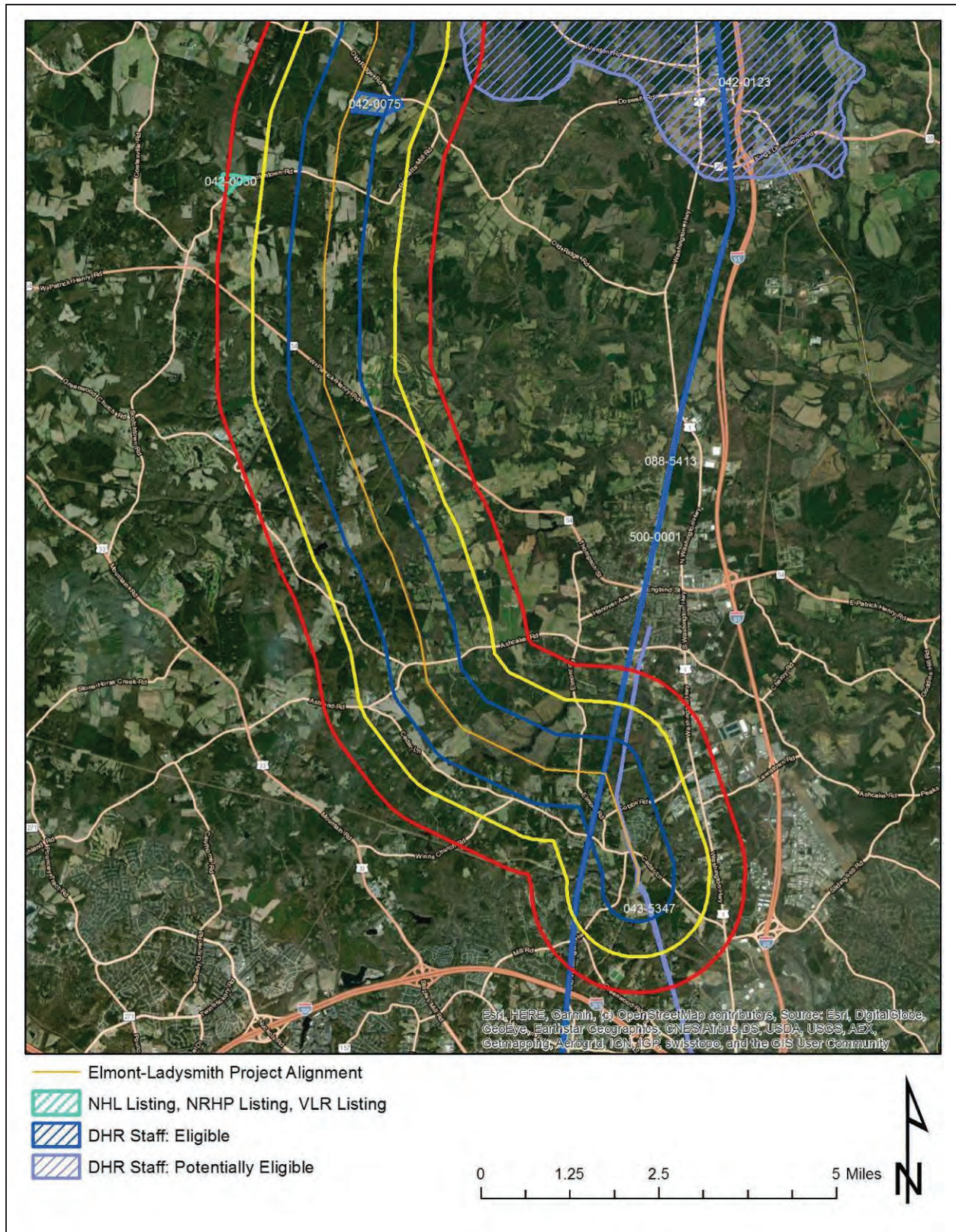


Figure 4-6: NHL, NRHP-Listed, and NRHP-eligible architectural resources within their respective study tiers around the project area (southern half). Source: VCRIS

ARCHAEOLOGICAL RESOURCES

Review of the VDHR VCRIS records reveals there are twenty-seven (27) previously recorded archaeological sites within one mile of the project area, none of which are located within or adjacent to the project area (within 100 feet of the project centerline). Previously recorded sites within one mile of the project primarily consist of prehistoric lithic scatters, camps, and occupation sites. There are also historic-period domestic sites, a cemetery, iron furnace, and artifact scatters. One of the sites within one mile has been previously determined eligible for listing in the NRHP; however, this site is not located directly within or adjacent to the project. One additional site has been determined not eligible for listing in the NRHP by the VDHR, and the remaining sites have not been formally evaluated.

Table 4-3 lists the previously recorded archaeological resources within one-mile of the project area. Figures 4-7 and 4-8 illustrate the locations of the previously recorded sites in relation to the project area.

Table 4-3: Previously recorded archaeological resources within one mile of the project area. Bold listings denote sites determined eligible for the NRHP.

VDHR #	Site Category	Site Type	Temporal Association	NRHP Status
44CE0108	<Null>	<Null>	Historic/Unknown	Not Evaluated
44CE0109	<Null>	<Null>	Historic/Unknown	Not Evaluated
44CE0461	Funerary	Cemetery	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	Not Evaluated
44CE0939	Indeterminate	Artifact scatter	Pre-Contact, Early Woodland (1200 B.C.E - 299 C.E)	Not Evaluated
44CE0940	Indeterminate	Artifact scatter	Pre-Contact	Not Evaluated
44CE0941	Indeterminate	Artifact scatter	Pre-Contact	Not Evaluated
44CE0942	Industry/Processing/Extraction	Lithic procurement site	Pre-Contact	Not Evaluated
44CE0943	Indeterminate	Artifact scatter	Pre-Contact	Not Evaluated
44CE0944	Domestic	Farmstead	World War I to World War II (1917 - 1945)	Not Evaluated
44CE0945	Indeterminate	Artifact scatter	Pre-Contact	Not Evaluated
44CE0946	Indeterminate	Artifact scatter	Pre-Contact	Not Evaluated
44CE0947	Indeterminate	Artifact scatter	Pre-Contact	Not Evaluated
44CE0948	Indeterminate	Artifact scatter	Pre-Contact	Not Evaluated
44CE0949	Indeterminate	Artifact scatter	Pre-Contact	Not Evaluated
44CE0950	Indeterminate	Artifact scatter	Pre-Contact	Not Evaluated
44CE0951	Indeterminate	Artifact scatter	Pre-Contact	Not Evaluated
44CE0952	Indeterminate	Artifact scatter	Pre-Contact	Not Evaluated
44CE0953	Domestic	Camp	Pre-Contact, Late Archaic Period (3000 - 1201 B.C.E), Early Woodland (1200 B.C.E - 299 C.E)	Not Evaluated
44CE0954	Indeterminate	Artifact scatter	Pre-Contact	Not Evaluated
44CE0955	Indeterminate	Artifact scatter	Pre-Contact	Not Evaluated
44HN0010	Industry/Processing/Extraction	Lithic workshop	Historic/Unknown, Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44HN0090	Domestic	Farmstead	18th Century (1700 - 1799), 19th	Not Evaluated

VDHR #	Site Category	Site Type	Temporal Association	NRHP Status
			Century (1800 - 1899)	
44HN0118	DSS Legacy	Iron furnace	18th Century (1700 - 1799)	Not Evaluated
44HN0196	<Null>	<Null>	Middle Archaic (6500 - 3001 B.C.)	Not Evaluated
44HN0220	<Null>	<Null>	Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	DHR Staff: Eligible
44HN0237	<Null>	<Null>	<Null>	DHR Staff: Not Eligible
44HN0414	Indeterminate	Artifact scatter	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	Not Evaluated

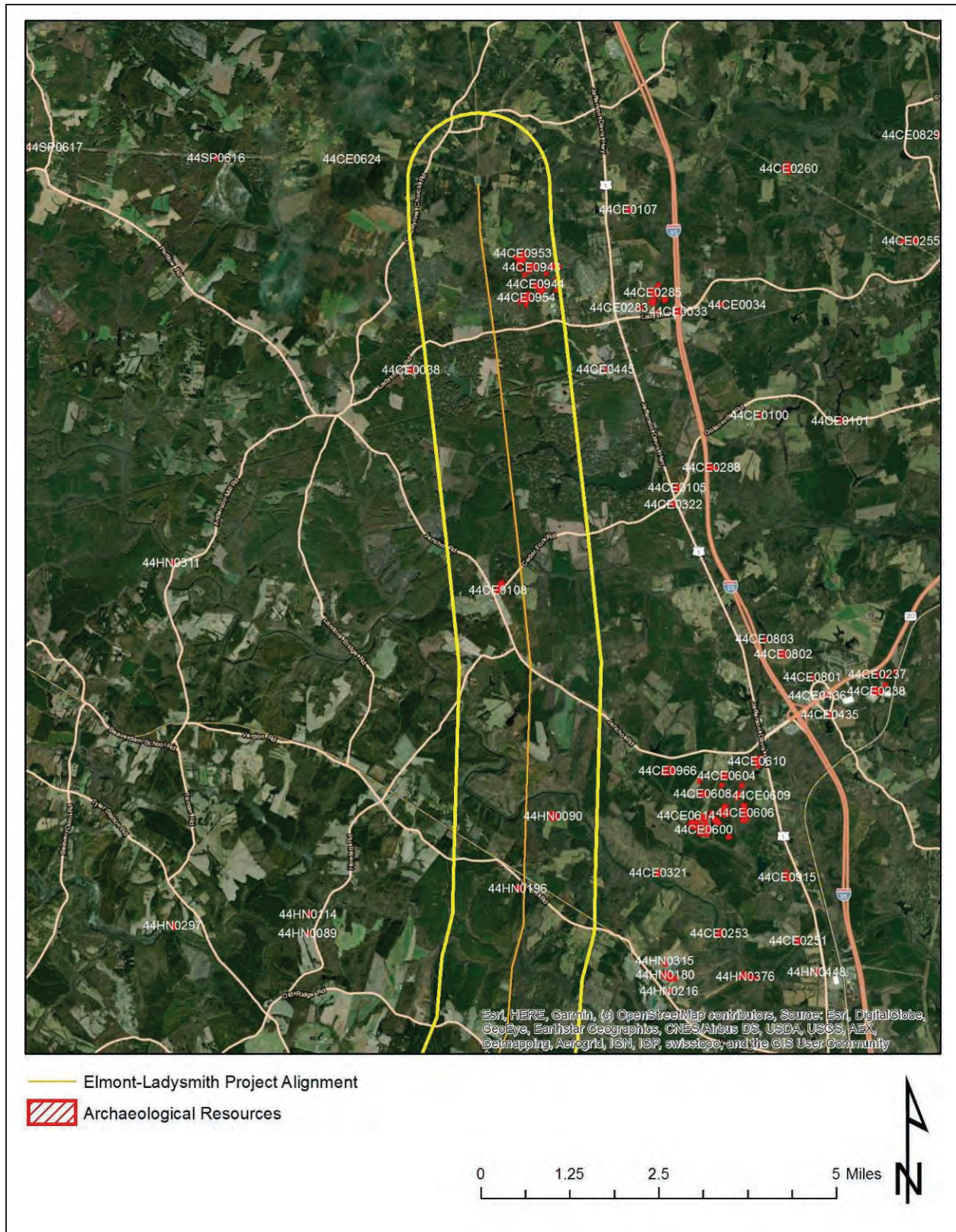


Figure 4-7: Previously recorded archaeological resources located within one mile of project area (northern half). Source: VCRIS

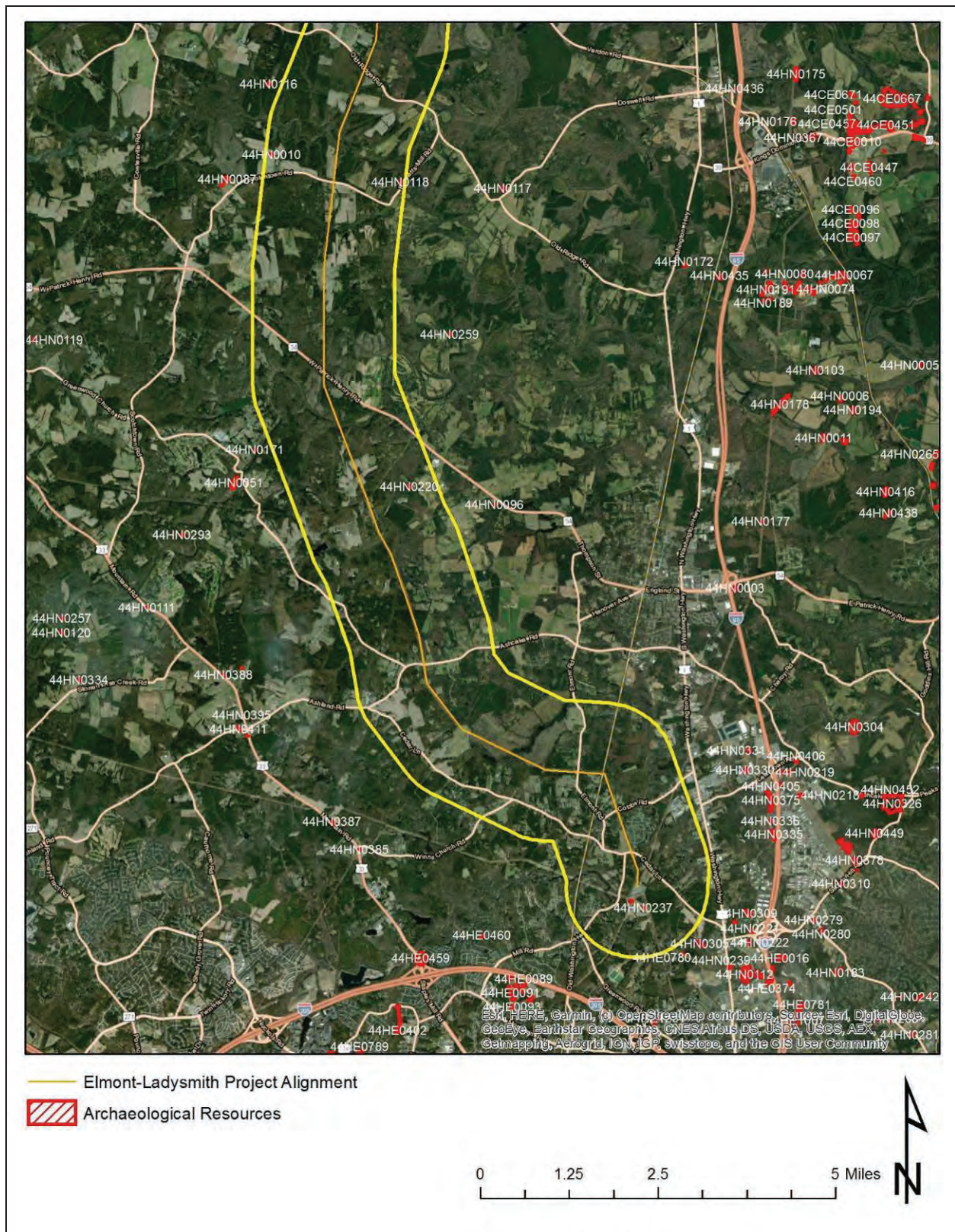


Figure 4-8: Previously recorded archaeological resources located within one mile of project area (southern half). Source: VCRIS

NPS AMERICAN BATTLEFIELD PROTECTION PROGRAM (ABPP)

A review of the NPS ABPP records and maps prepared by the Civil War Sites Advisory Commission (CWSAC) revealed the project area extends through portions of the North Anna Battlefield.

As defined by the ABPP in 2009, battlefields may be divided into three tiers that correlate to both the historic association and the current level of integrity and preservation. The battlefield *study area* represents the historic extent of the battle as it unfolded upon the landscape; the battlefield *core area* represents the areas of fighting on the battlefield and typically includes the areas of greatest importance to understanding the events of the battle; and the *potential National Register boundaries* encompass the area that remains reasonably intact and warrant preservation.

This review revealed that the project area crosses directly through portions of the North Anna Battlefield. The portions of the battlefield directly crossed by the project include Study Area, Core Area, and potential National Register area (Figures 4-9 and 4-10).

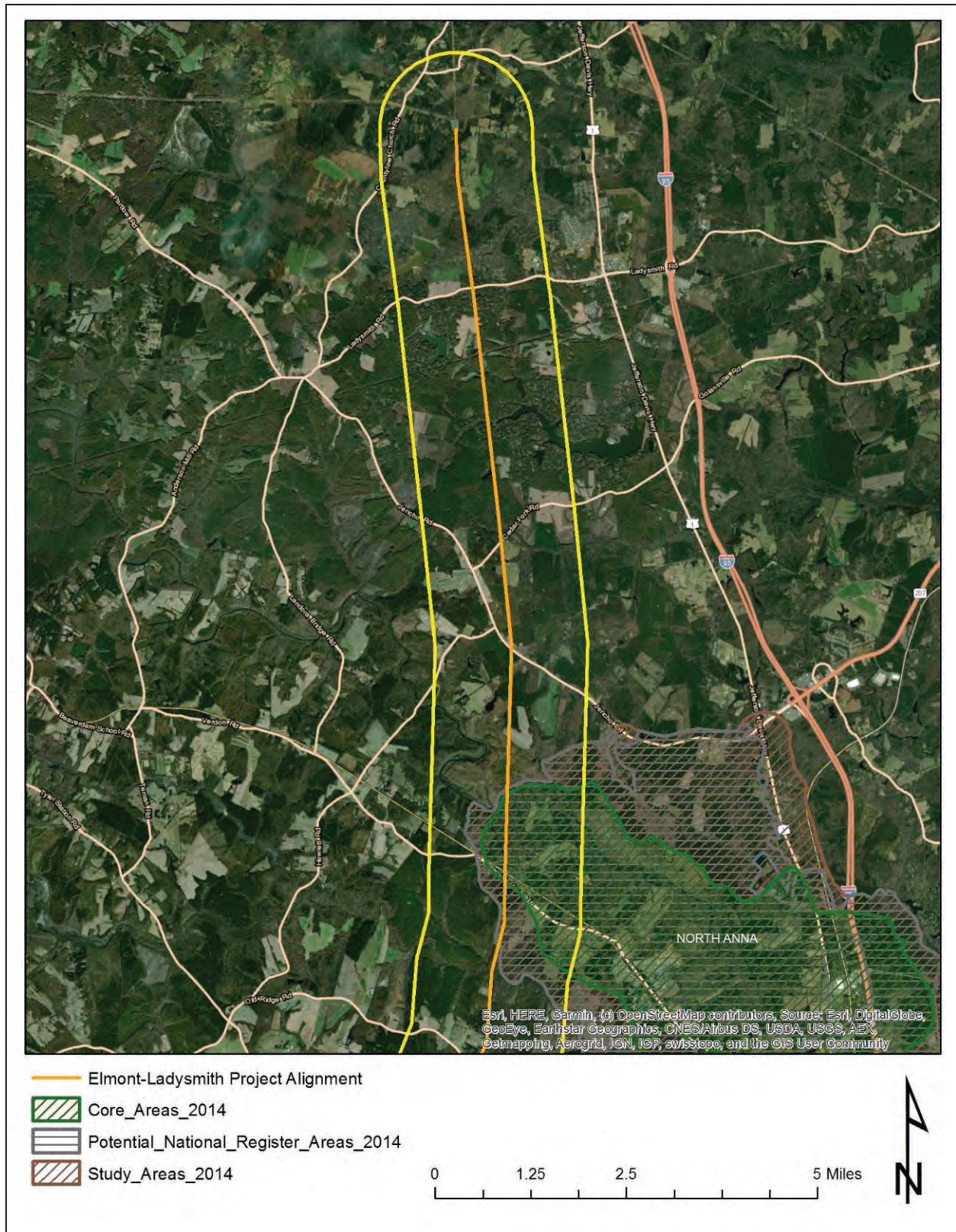


Figure 4-9: Battlefields in relation to the project area (northern half). Source: VCRIS/ American Battlefield Protection Program (ABPP).

5. RESULTS OF FIELD RECONNAISSANCE

In accordance with the VDHR guidelines for assessing impacts of proposed electric transmission lines on historic resources, previously recorded historic architectural properties designated an NHL, or either listed or determined eligible or potentially eligible for listing in the NRHP located within 1.5 mile, 1.0 mile, or 0.5 mile of the project were field verified for existing conditions and photo documented (Table 5-1). Inspection and analysis of the setting around the resource and views towards the project were also assessed. The results of the field reconnaissance for each resource are organized by tier and summarized in the following pages.

Table 5-1: Previously Recorded Architectural Resources within their Respective Tiered Buffer Zones for the Elmont-Ladysmith Line# 574 500kV Rebuild Project

VDHR #	Resource Name, Address	NRHP-Status	Distance from Project
042-0030	Patrick Henry Home (Scotchtown), 16120 Chiswell Lane	NHL	~1.25 Mile
042-0075	Cool Water, Ridge Road	NRHP-Eligible	Crossed by ROW
042-0123	North Anna Battlefield	NRHP-Eligible	Within 1 Mile and Crossed by ROW
043-5347	Richmond-Ashland Trolley Line	NRHP-Eligible	Crossed by ROW
088-5413	CSX Railroad Corridor, Richmond, Fredericksburg & Potomac Railroad	NRHP-Eligible	Crossed by ROW
500-0001	Richmond, Fredericksburg and Potomac Railroad, Richmond, Fredericksburg and Potomac Railroad Historic District	NRHP-Eligible	Crossed by ROW

THIS PAGE INTENTIONALLY LEFT BLANK

NATIONAL HISTORIC LANDMARKS
Located within 1.5 Miles of the Project

THIS PAGE INTENTIONALLY LEFT BLANK

Scotchtown (VDHR ID# 042-0030)

Scotchtown was built by Colonel Charles Chiswell of Williamsburg for his country home on a tract which he acquired in 1717. The exact date of construction is uncertain, however, since the land grant provided that the property be seated within two years, it is believed that the house was likely built about 1719. Patrick Henry bought Scotchtown in 1771 and lived there until 1777. The house is now owned by the Association for the Preservation of Virginia's Antiquities, who operate it as a museum to Patrick Henry. The property was designated a National Historic Landmark in 1965.

In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around the resource property with emphasis on views towards the project area to document existing setting, sitelines, and viewshed. This assessment found that the Scotchtown property boundary is located roughly 1.25 mile from the project at its nearest point, however, the home is set at the opposite side of the property, nearly 1.5 mile away. The home is oriented to the south with the project extending through the landscape to its east side. The home rests on a manicured lawn with open field to the front and a thick treeline to the east. The landscape between the Scotchtown property and the project consists primarily of a thickly wooded, rolling landscape with a patchwork of open fields and a handful of scattered homes and development.

Inspection from the Scotchtown property revealed that the existing transmission line is not visible from any vantage point. The yard in which the house sits is bordered to the front and sides by a line of trees, shrubs, and other landscaping which extend along both sides of a driveway that extends to the road. This landscaping partially screens views from the home to beyond the immediate yardscape. A thickly wooded area that borders the east side of the house provides complete screening in that direction. Views from the open field to the front of the house and along Scotchtown Road are less obstructed and provide some distant visibility to the southeast across an open agricultural field; however, a thickly wooded area is located beyond the field and screens views further beyond. The existing transmission line structures in the vicinity of the property range from 75-feet to 141-feet tall and the proposed replacement structures will range from 119-feet to 164-feet tall. As such, there will be an increase in structure height, however structures will be replaced on a one-to-one basis in generally the same location. Despite the increase in height, it is anticipated that the intervening distance, topography, and vegetation will continue to screen distant views in the direction of the project, and there will continue to be no visibility of the project following the rebuild. This was confirmed with photo simulation that shows the structures will remain completely screened behind intervening vegetation. As such, the project will not introduce any change of viewshed or setting for the property and it is therefore D+A's opinion that the project will have ***no impact*** on Scotchtown.

Figure 5-1 depicts the location of Scotchtown in relation to the project alignment and viewshed buffers, and Figure 5-2 depicts the location and direction of all representative photographs and photo simulations. Figures 5-3 through 5-10 are representative photographs of the property, as well as those taken from locations within the property towards the project alignment. Figures 5-11 through 5-16 provide photo simulation, including maps with the location, direction, and structures included in each photo simulation from the property, the existing view from each simulation location, and simulated views of the proposed structures.

RESULTS OF FIELD RECONNAISSANCE

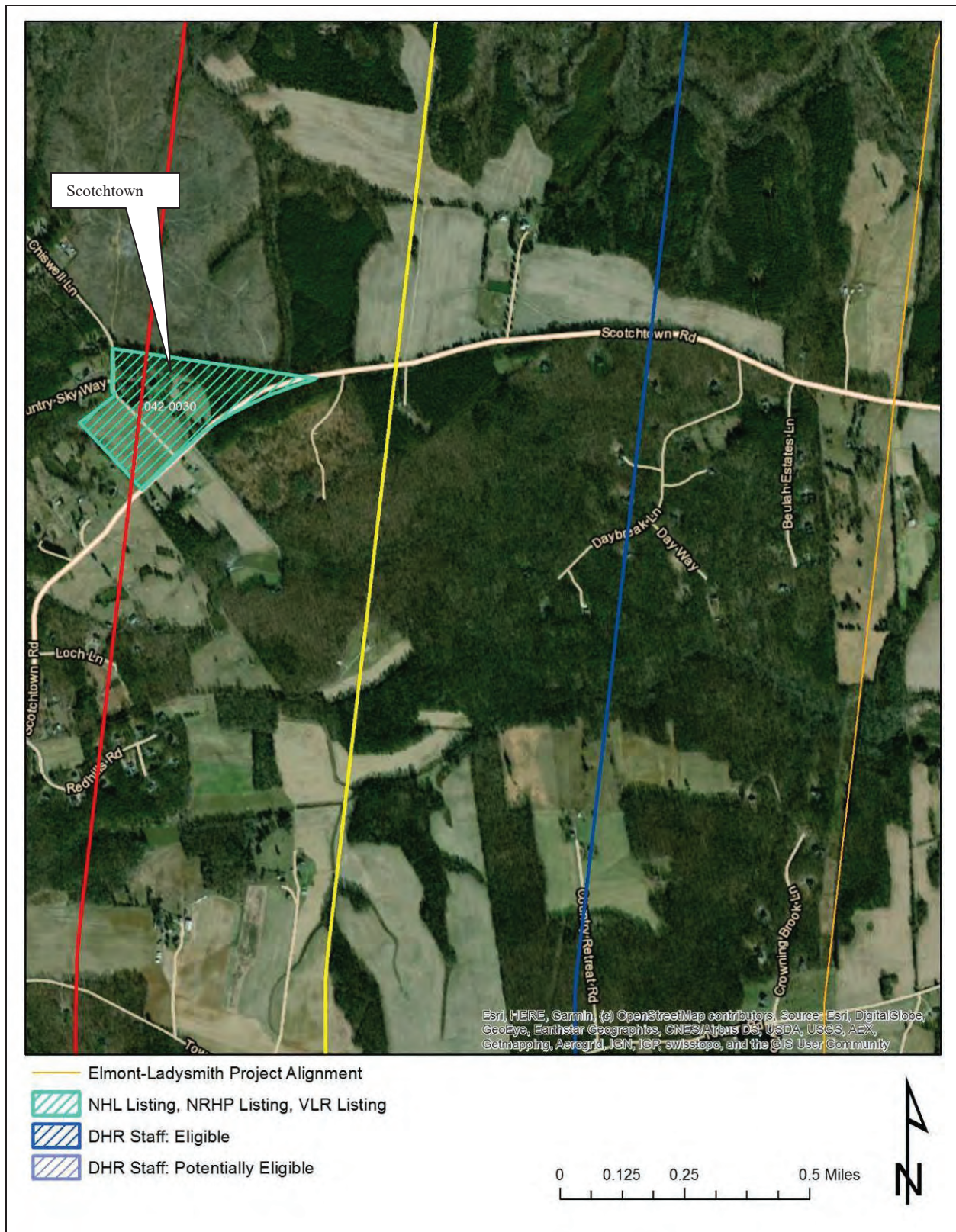


Figure 5-1: Scotchtown in relation to the project area and tiered buffers.

RESULTS OF FIELD RECONNAISSANCE

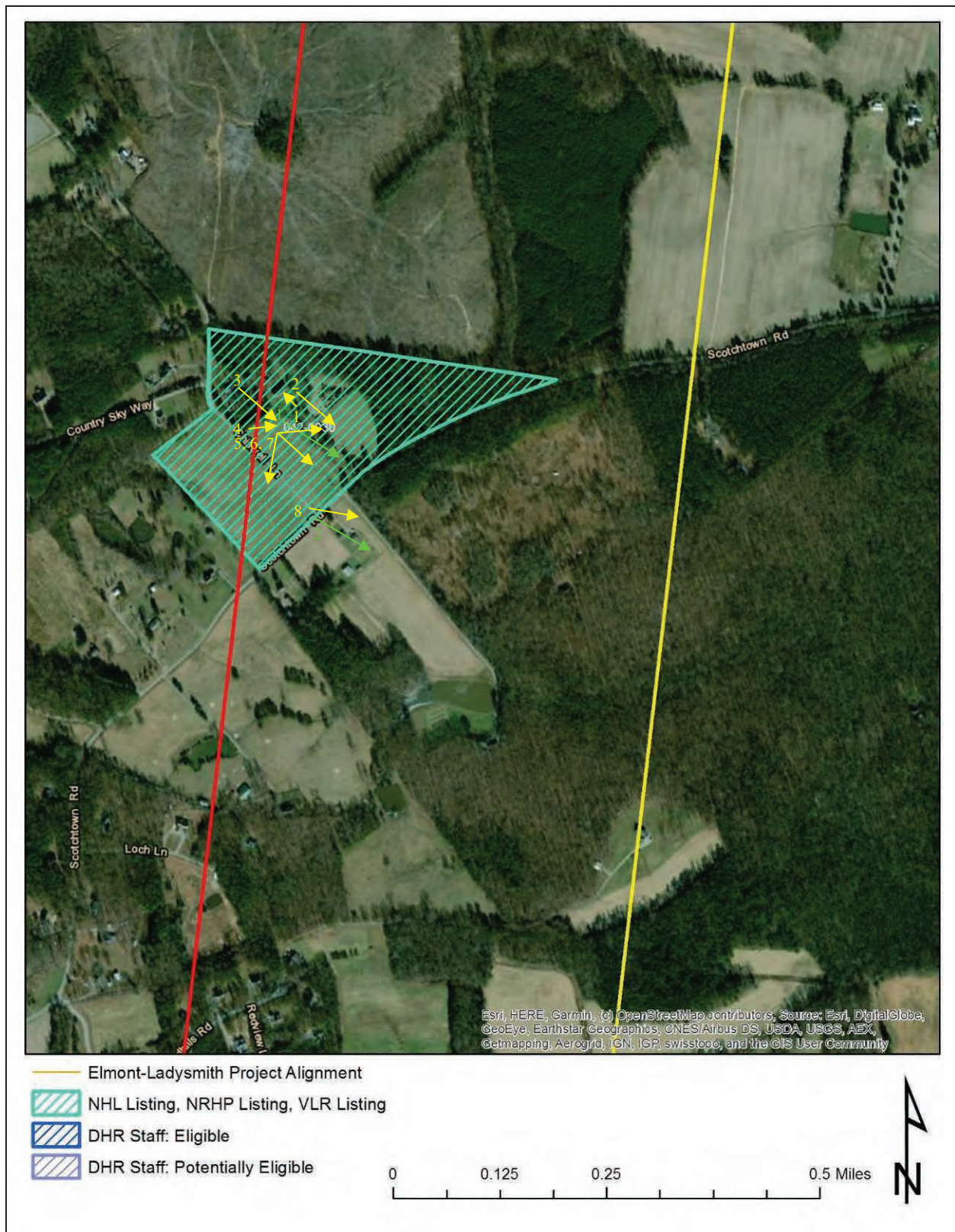


Figure 5-2: Scotchtown in relation to the project study tiers with location and direction of representative photography (shown in yellow) and photo simulations (shown in green).



Figure 5-3: Photo location 1- View of Scotchtown front facade, facing northwest.



Figure 5-4: Photo location 2- View from Scotchtown front towards the project alignment (not visible), facing southeast.



Figure 5-5: Photo location 3- View from Scotchtown visitor center towards the project alignment (not visible), facing southeast.



Figure 5-6: Photo location 4- View from Scotchtown parking lot towards the project alignment (not visible), facing north.



Figure 5-7: Photo location 5- View from Scotchtown parking lot towards the project alignment (not visible), facing northeast.



Figure 5-8: Photo location 6- View from Scotchtown parking lot towards the project alignment (not visible), facing east.



Figure 5-9: Photo location 7- View from Scotchtown parking lot towards the project alignment (not visible), facing southeast.



Figure 5-10: Photo location 8- View from Chiswell Lane towards the project alignment (not visible), facing

THIS PAGE INTENTIONALLY LEFT BLANK

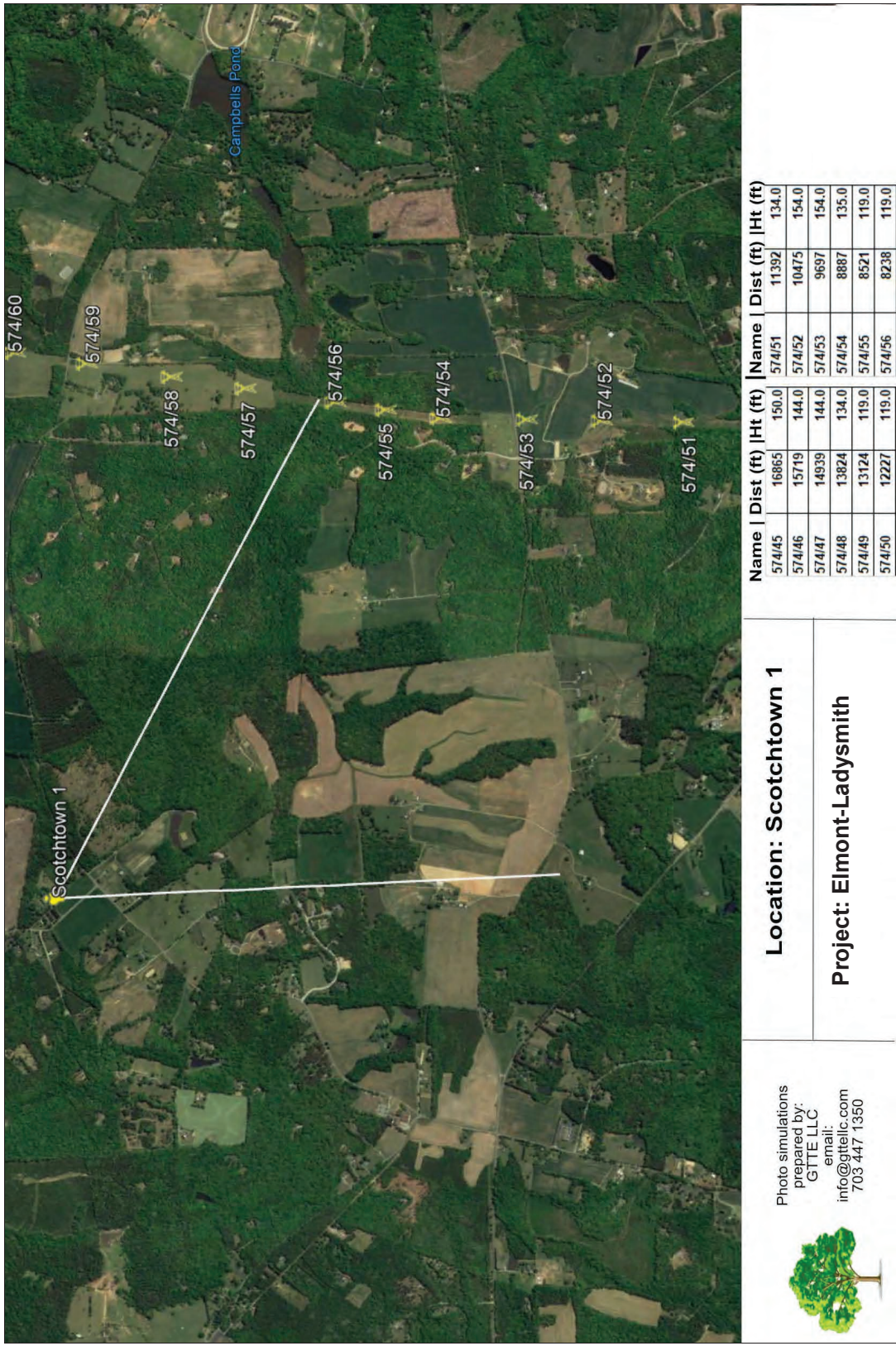


Figure 5-11: Scotchtown Photo Simulation 1 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC



Figure 5-12: Scotchtown Photo Simulation 1 – Existing view from front lawn. Source: GITE, LLC



Figure 5-13: Scotchtown Photo Simulation 1 – Proposed view from front lawn (visible structures shown as they would appear, structures not visible shown in yellow). Source: GTTE, LLC

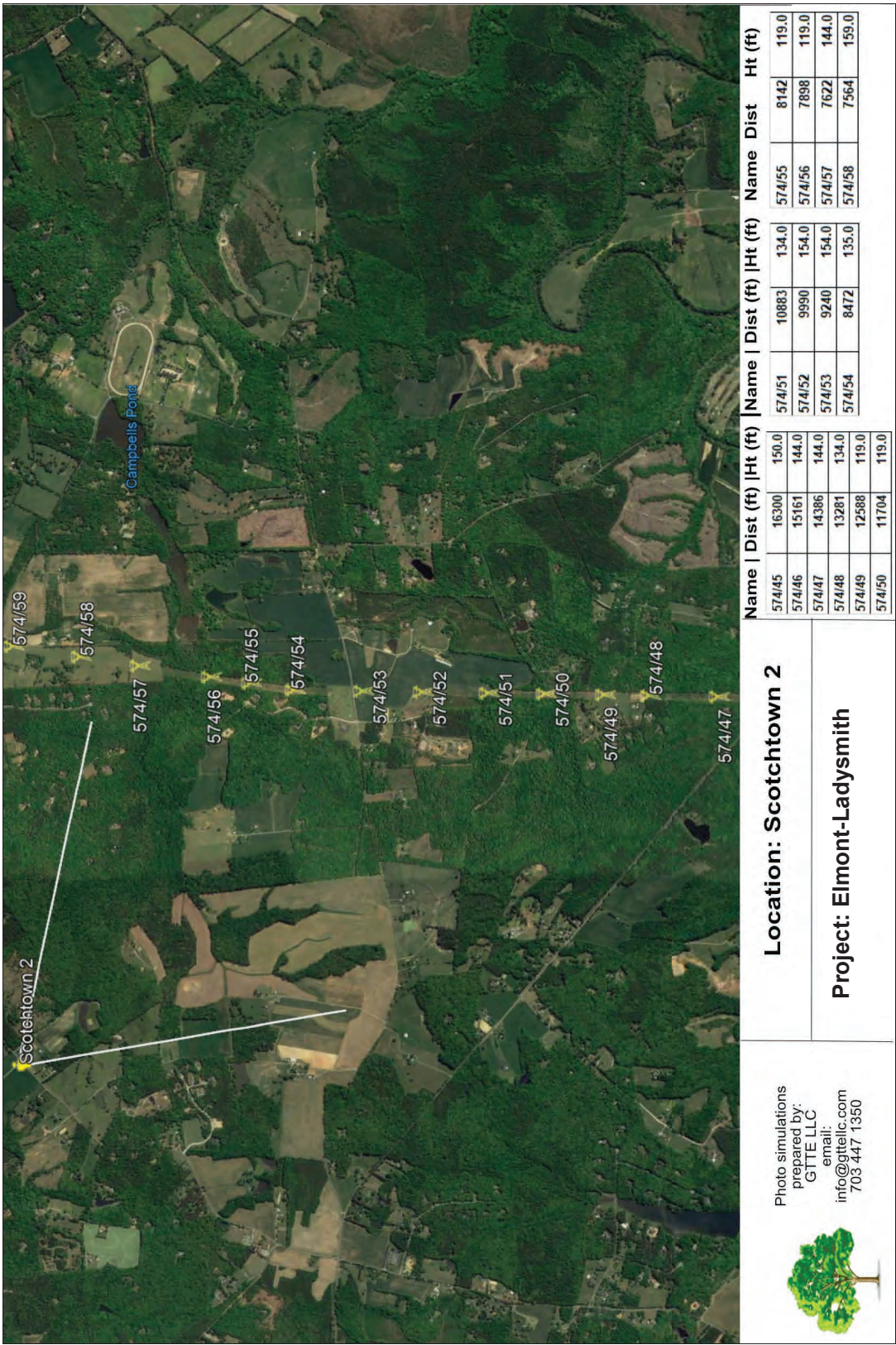


Figure 5-14: Scotchtown Photo Simulation 2 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC

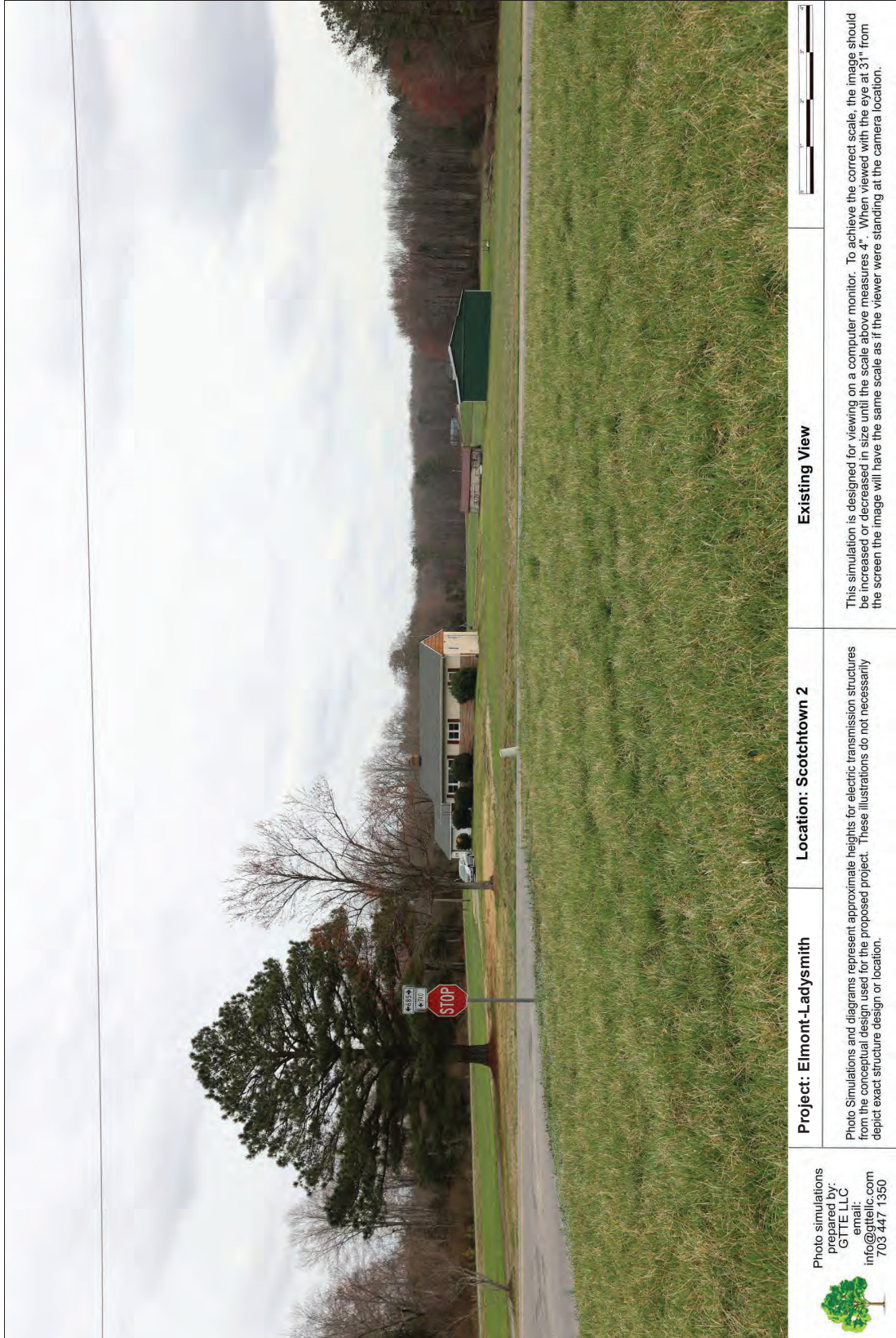


Figure 5-15: Scotchtown Photo Simulation 2 – Existing view from Chiswell Lane. Source: GTTE, LLC





 <p>Photo simulations prepared by: GITE LLC email: info@gitelc.com 703 447 1350</p>	<p>Project: Elmont-Ladysmith</p>	<p>Location: Scotchtown 2</p>	<p>Proposed View (Location of towers not visible are overlaid with yellow tower icon)</p>	
<p>This simulation is designed for viewing on a computer monitor. To achieve the correct scale, the image should be increased or decreased in size until the scale above measures 4". When viewed with the eye at 31" from the screen the image will have the same scale as if the viewer were standing at the camera location.</p>				

Figure 5-16: Scotchtown Photo Simulation 2 – Proposed view from Chiswell Lane (visible structures shown as they would appear, structures not visible shown in yellow). Source: GITE, LLC

NATIONAL REGISTER OF HISTORIC PLACES – LISTED PROPERTIES
BATTLEFIELDS, AND LANDSCAPES
Located within 1.0 Mile of the Project

THIS PAGE INTENTIONALLY LEFT BLANK

North Anna Battlefield (VDHR ID# 042-0123)

The North Anna River Campaign is one of the most important Civil War battles that occurred in Virginia. It was the culminating point of the 1864 overland campaign, which began with the battle of the Wilderness, and later the battles around Spotsylvania Courthouse. The army of Northern Virginia, commanded by General Robert E. Lee, had fought essentially a defensive struggle in both battles. Lee knew that his opponent, General Ulysses S. Grant and the Army of the Potomac, had an overwhelming superiority in numbers. Such a force could not be defeated in open battle, so Lee determined that he would fight Grant behind earthworks until an opportunity arose to crush the Union army. At some point during the campaign of May 1864, Grant would make an error, and leave himself open to attack. Until that time, Lee would conserve his army and wait. The battlefield was found to be potentially eligible for listing in the NRHP by the VDHR in 2007. Portions of the battlefield were acquired by the NPS in 2016.

In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around the portions of the battlefield boundary in the vicinity of the project, with emphasis on views towards the project area to document existing setting, sitelines, and viewshed. This assessment found that the battlefield is directly crossed by the project alignment where it abuts the south bank of the North Anna River. A total of approximately two miles of the project alignment extends directly through this portion of the battlefield between North Anna River and Little River. The landscape of the battlefield in this area is mostly wooded, with a patchwork of open field, recently timbered land, and farmscape. Verndon Road and the CSX Railroad corridor also extend through the battlefield, perpendicularly crossing the project alignment. The northern portion of the battlefield crossed by the project alignment, nearest the North Anna River, is owned by the NPS and will soon be opened to public interpretation.

Inspection from a variety of vantage points throughout the battlefield revealed that the existing transmission line may be seen within and across many of the portions of battlefield with open landscape, while the existing vegetation generally screens visibility of the line in more wooded areas. The existing line is most visible from points along Verndon Road where the roadway corridor itself, as well as open fields that abut much of the road in the vicinity allow wider and most distant views. Inspection from along Noel Road and the Fontaine House which are along the southern edge of the area owned by the NPS revealed more interrupted visibility of the existing line. The line itself may be seen as it is suspended over open field and a vineyard, however, the existing structures remain screened behind treelines. Inspection from a field located centrally within the NPS property revealed the existing line and structures are screened by vegetation. The existing transmission line structures in the vicinity of the property range from 95-feet to 130-feet tall and the proposed replacement structures will range from 134-feet to 164-feet tall. As such, there will be an increase in structure height, however structures will be replaced on a one-to-one basis in generally the same location. With the increase in height, it is anticipated that the structures that are currently visible will have increased visibility, and some structures that are currently screened by vegetation may slightly rise above the treelines, however, the intervening topography and vegetation will likely continue to screen wide and/or uninterrupted views of multiple structures. This was confirmed with photo simulation that shows the line will continue to be mostly screened from within the NPS property, although the replacement structures may rise to near or just above the treeline allowing minimal seasonal

visibility. Photo simulation also reveals that one structure currently visible from along Noel Road near the Fontaine House along the lower edge of the NPS property will be increasingly visible, while another structure currently screened from this vantage will rise above the treeline and become visible, however, visibility will be limited to these two structures as all others will remain beneath the treeline. From a vantage point along Verndon Road, east of the line, photo simulation reveals that one structure currently screened by vegetation may rise just above the treeline, but would be seen in isolation from other structures that will remain screened. From along Verndon Road, west of the project, all structures will continue to be screened by vegetation. As such, the project will introduce a slight change of viewshed from discrete vantage points within the battlefield, however, the transmission line will largely remain screened from most locations, where it is not currently visible, including those within the NPS-owned area to be publicly interpreted. Where increased visibility of existing structures or new visibility of currently screened structures is anticipated, visibility will be limited to one or two structures, and vegetation will continue to screen wide and/or uninterrupted views of multiple structures. It is therefore D+A's opinion that the Project will have no more than a *minimal impact* on the North Anna Battlefield.

Figure 5-17 depicts the location of North Anna Battlefield in relation to the project alignment and viewshed buffers with the location and direction of all representative photographs and photo simulations. Figures 5-18 through 5-25 are representative photographs of the battlefield, as well as those taken from locations within the battlefield towards the project alignment. Figures 5-26 through 5-37 provide photo simulation, including maps with the location, direction, and structures included in each photo simulation from the property, the existing view from each simulation location, and simulated views of the proposed structures.

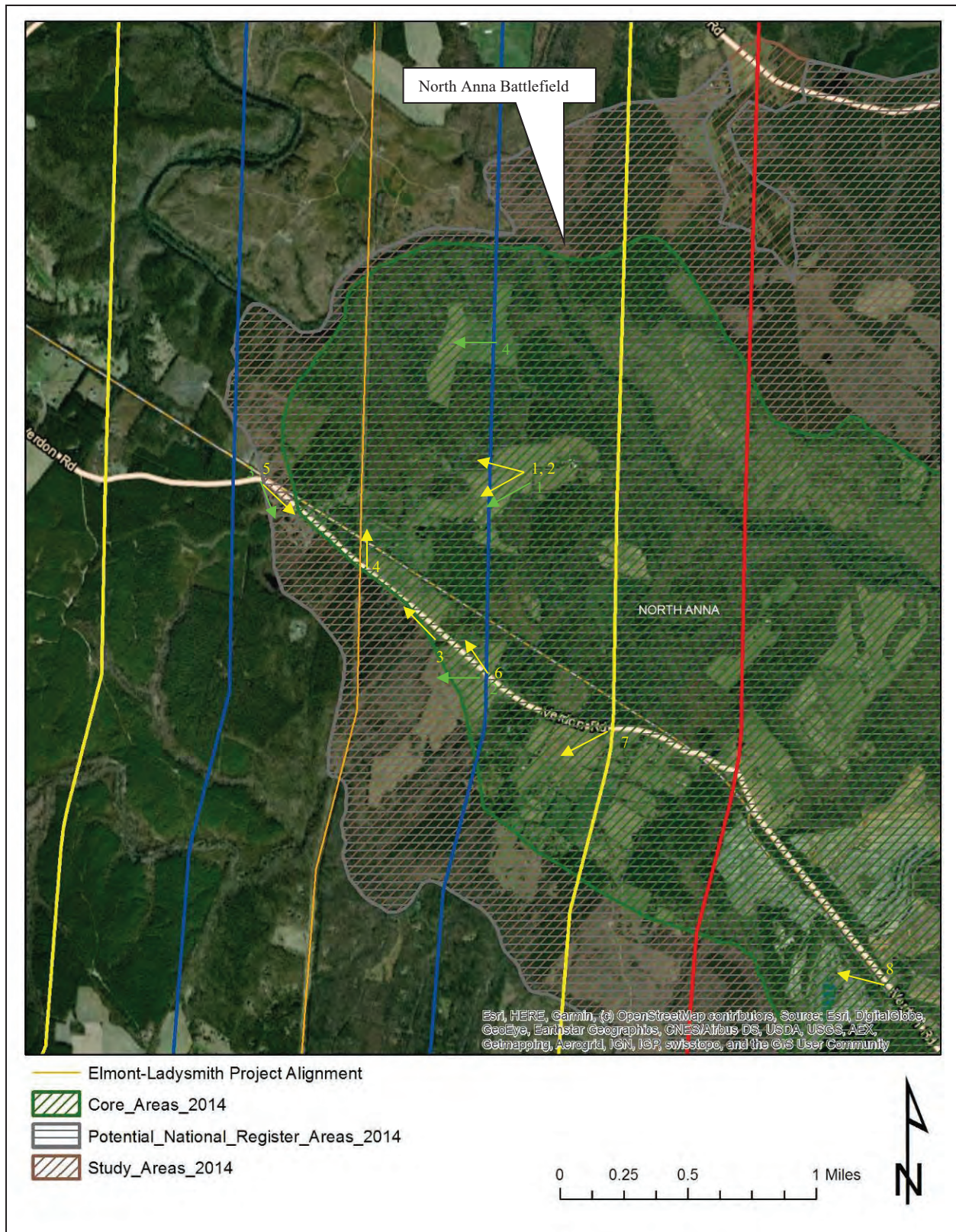


Figure 5-17: North Anna Battlefield, with ABPP tiers, in relation to the project area and tiered study buffers with location and direction of representative photography (shown in yellow) and photo simulations (shown in green).



Figure 5-18: Photo location 1- Representative view of battlefield terrain in the vicinity of the project area (Noel Road), facing northwest.



Figure 5-19: Photo location 2- View from NPS-owned battlefield property along Noel Road towards the project alignment (one structure visible through trees), facing west.



Figure 5-20: Photo location 3- View from Mount Carmel Baptist Church along Verndon Road towards the project alignment (two structures visible), facing northwest.

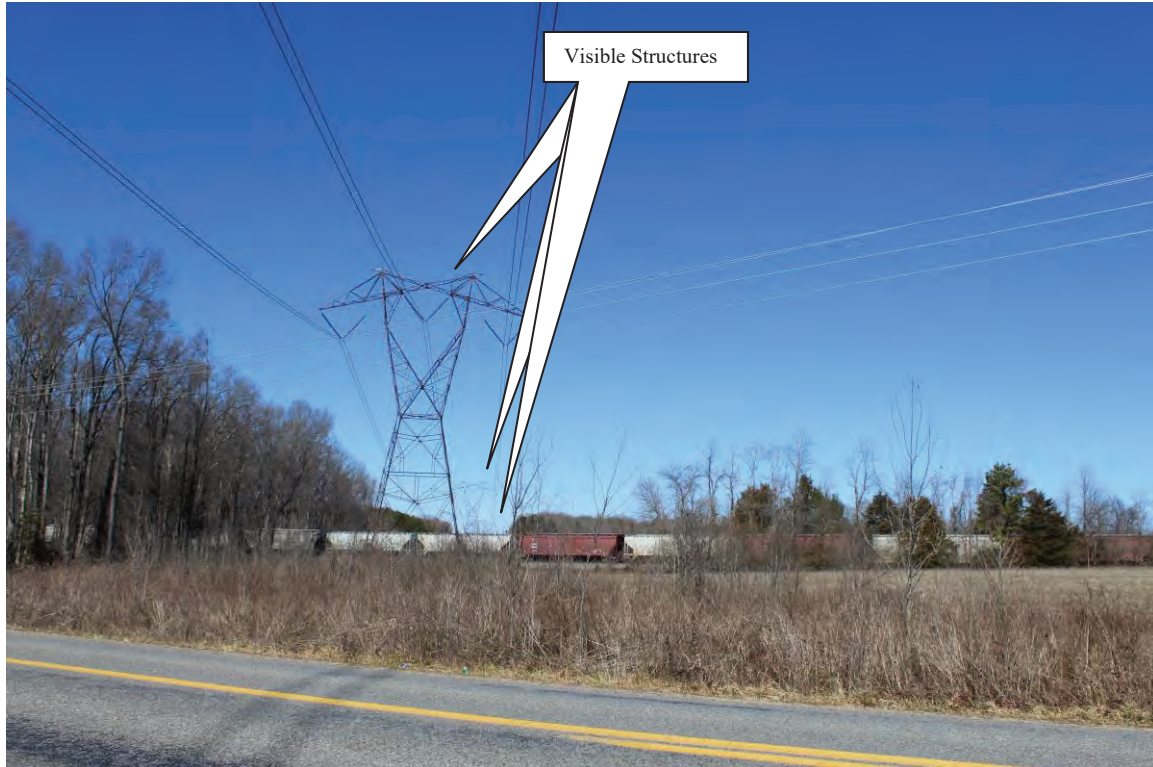


Figure 5-21: Photo location 4- View from Verndon Road at the project alignment crossing (multiple structures visible), facing north.



Figure 5-22: Photo location 5- View from Verndon Road at edge of Battlefield towards the project alignment (not visible), facing east.



Figure 5-23: Photo location 6- View from Verndon Road at 0.5 mile buffer towards the project alignment (one structure visible), facing northwest.



Figure 5-24: Photo location 7- View from Verndon Road at 1.0 mile buffer towards the project alignment (not visible), facing west.



Figure 5-25: Photo location 8- View from Verndon Road near entrance to North Anna Battlefield Park towards the project alignment (not visible), facing west.

THIS PAGE INTENTIONALLY LEFT BLANK

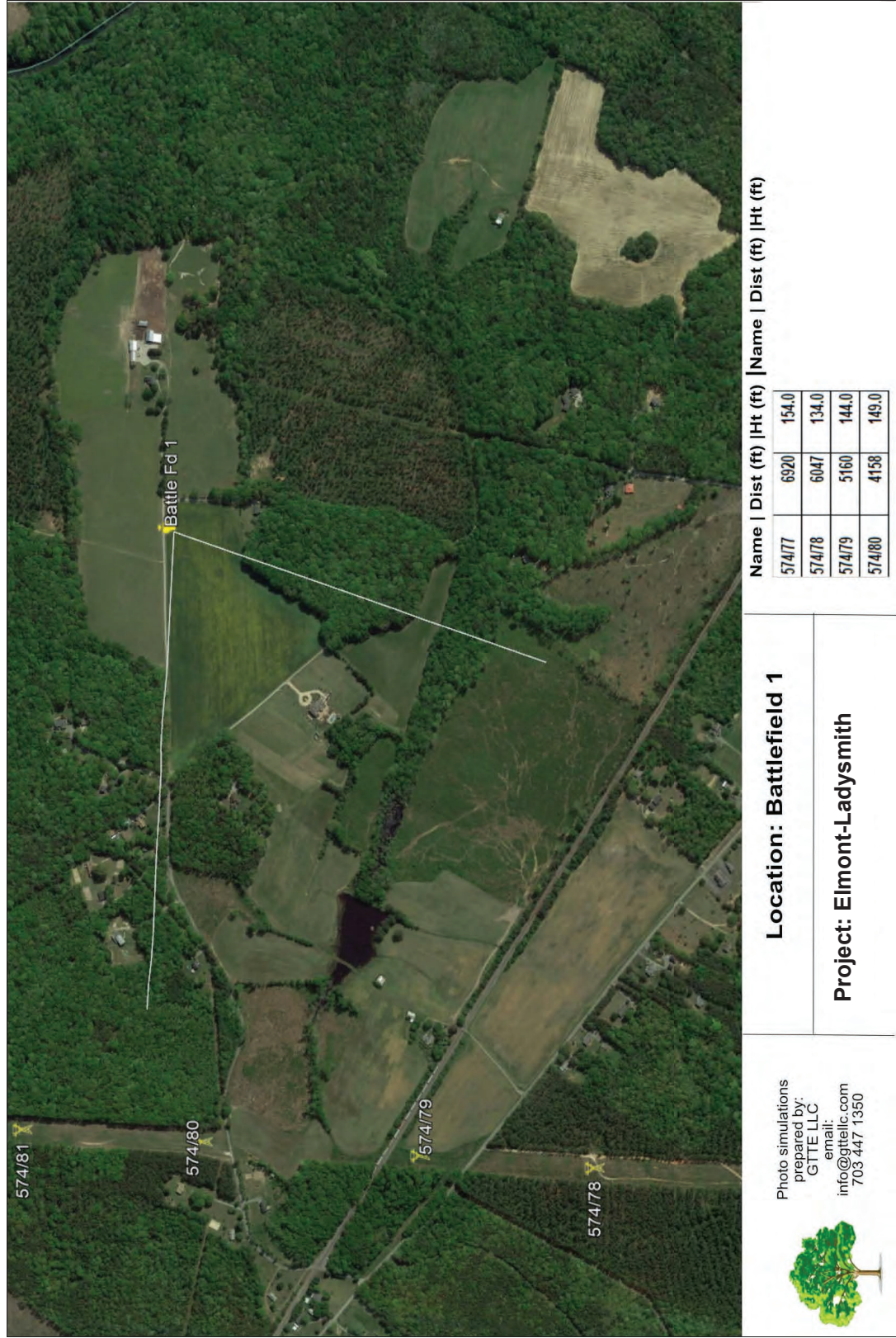


Figure 5-26: North Anna Battlefield Photo Simulation 1 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC

	<div>  <div> Photo simulations prepared by: GTE LLC email: info@gtelc.com 703 447 1350 </div> </div>	<div> <div>Project: Elmont-Ladysmith</div> <div>Location: Battleground 1</div> <div> Photo Simulations and diagrams represent approximate heights for electric transmission structures from the conceptual design used for the proposed project. These illustrations do not necessarily depict exact structure design or location. </div> </div>	<div> <div>Existing View</div> <div> This simulation is designed for viewing on a computer monitor. To achieve the correct scale, the image should be increased or decreased in size until the scale above measures 4". When viewed with the eye at 31" from the screen the image will have the same scale as if the viewer were standing at the camera location. </div> </div>
---	--	--	---

Figure 5-27: North Anna Battleground Photo Simulation 1 – Existing view from Noel Road. Source: GTTE, LLC

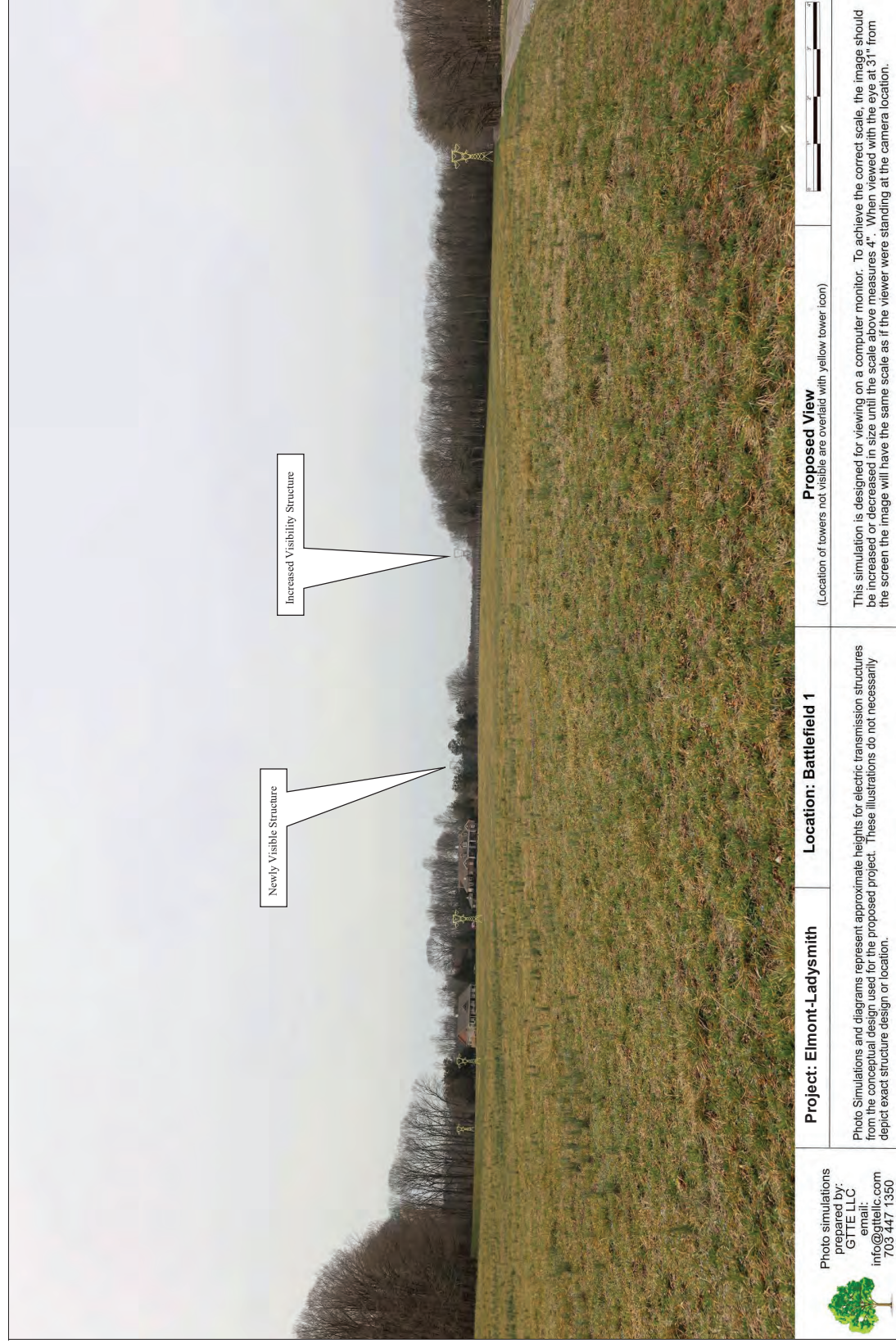


Figure 5-28: North Anna Battleground Photo Simulation 1 – Proposed view from Noel Road (visible structures shown as they would appear, structures not visible shown in yellow). Source: GTTE, LLC

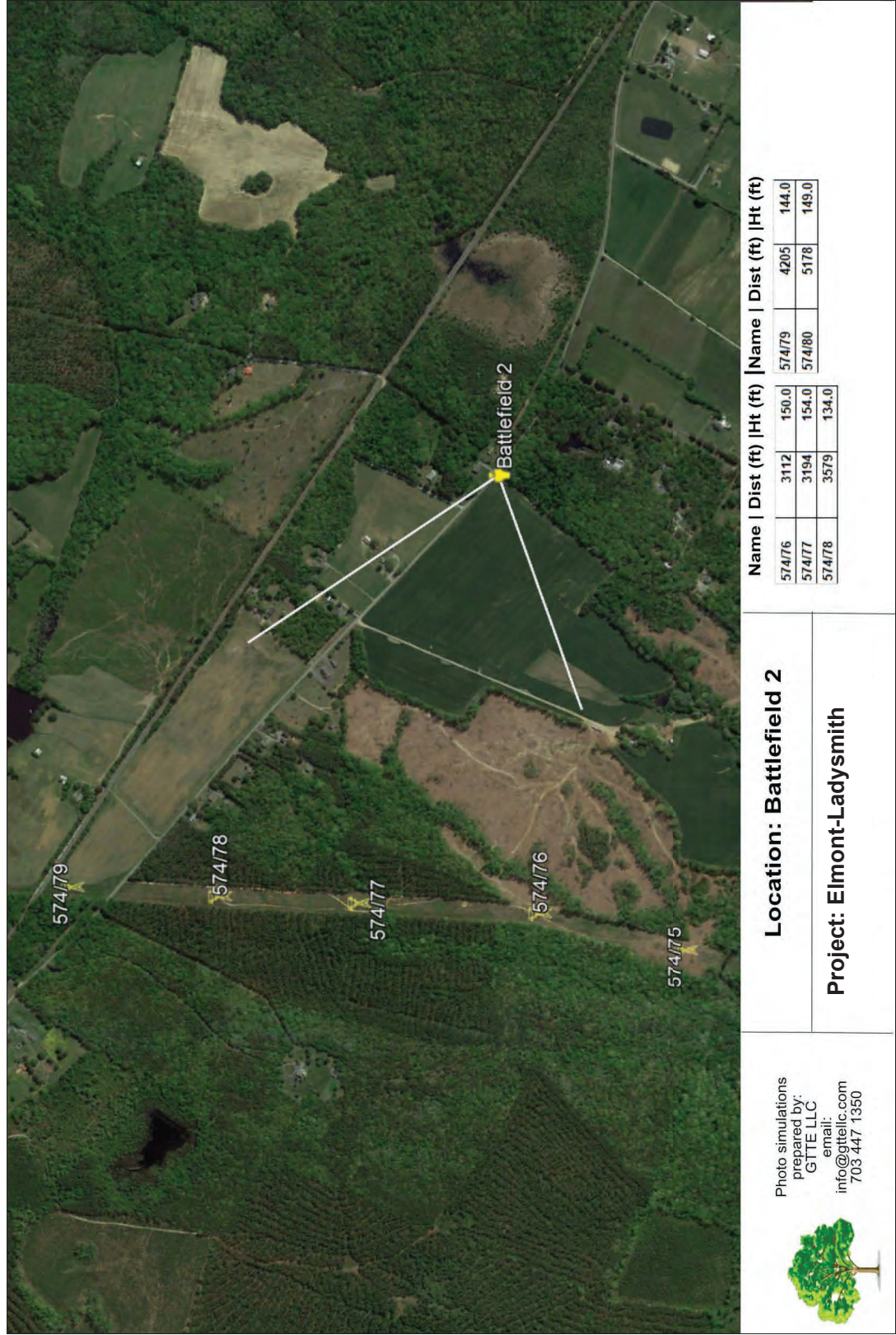


Figure 5-29: North Anna Battlefield Photo Simulation 2 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC

	<p>Photo simulations prepared by: GTTE LLC email: info@gttelc.com 703 447 1350</p> 	<p>Project: Elmont-Ladysmith</p> <p>Photo Simulations and diagrams represent approximate heights for electric transmission structures from the conceptual design used for the proposed project. These illustrations do not necessarily depict exact structure design or location.</p>	<p>Location: Battleground 2</p> <p>This simulation is designed for viewing on a computer monitor. To achieve the correct scale, the image should be increased or decreased in size until the scale above measures 4". When viewed with the eye at 31" from the screen the image will have the same scale as if the viewer were standing at the camera location.</p> 	<p>Existing View</p>
---	--	--	--	-----------------------------

Figure 5-30: North Anna Battleground Photo Simulation 2 – Existing view from Verndon Road (east of project). Source: GTTE, LLC



Figure 5-31: North Anna Battleground Photo Simulation 2 – Proposed view from Verndon Road (east of project) (visible structures shown as they would appear, structures not visible shown in yellow). Source: GTTE, LLC

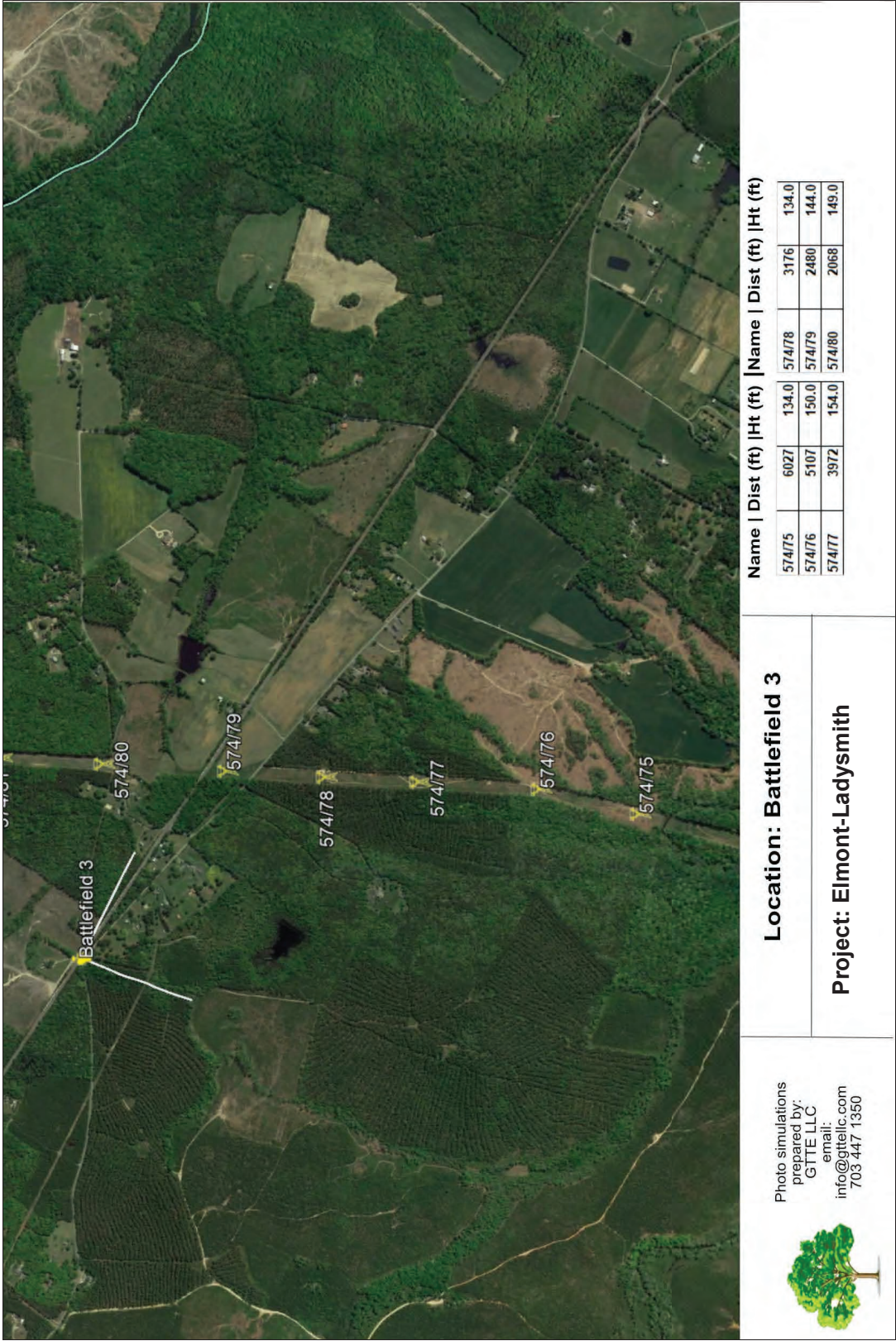


Figure 5-32: North Anna Battlefield Photo Simulation 3 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC



Figure 5-33: North Anna Battlefield Photo Simulation 3 – Existing view from Verndon Road (west of project). Source: GITE, LLC



Figure 5-34: North Anna Battlefield Photo Simulation 3 – Proposed view from Verndon Road (west of project) (visible structures shown as they would appear, structures not visible shown in yellow). Source: GTTE, LLC

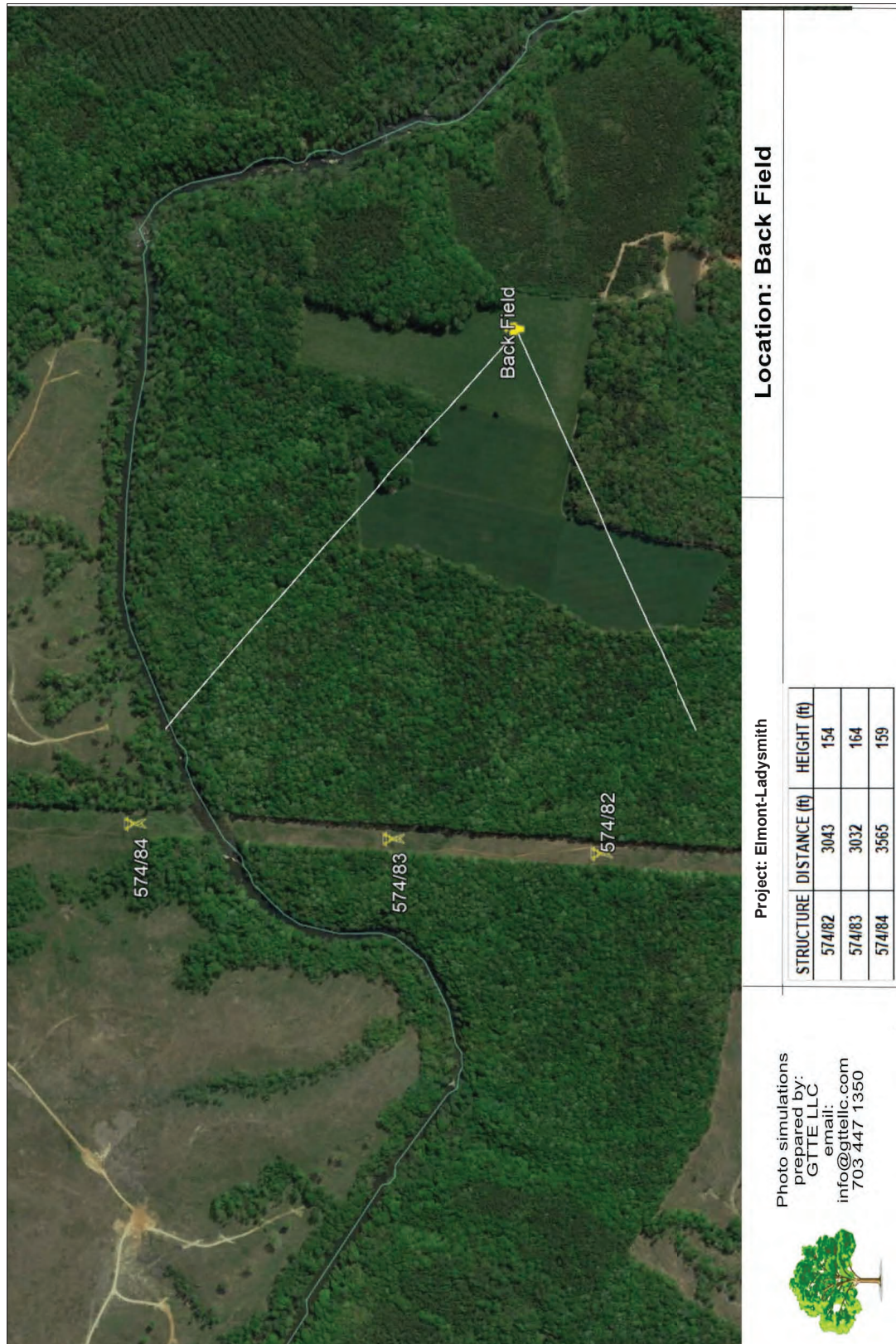


Figure 5-35: North Anna Battlefield Photo Simulation 4 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC



Figure 5-36: North Anna Battlefield Photo Simulation 4 – Existing view from NPS Property. Source: GITE, LLC



Figure 5-37: North Anna Battlefield Photo Simulation 4 – Proposed view from NPS Property (visible structures shown as they would appear, structures not visible shown in yellow). Source: GTTE, LLC

NATIONAL REGISTER OF HISTORIC PLACES – ELIGIBLE PROPERTIES
Located within 0.5 Mile of the Project

THIS PAGE INTENTIONALLY LEFT BLANK

Cool Water (VDHR ID# 042-0075)

Cool Water is a two-story brick Georgian home believed to have been built circa 1735. Captain Thomas Price was born at Cool Water in 1754. He was an officer in the American Revolution and served under Patrick Henry in the march to Williamsburg in the gunpowder expedition. The property was determined eligible for listing in the NRHP by the VDHR in 1994 for its distinctive architecture.

In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around the resource property with emphasis on views towards the project area to document existing setting, sitelines, and viewshed. This assessment found that the Cool Water property immediately abuts the project area as the ROW extends along and slightly within the western edge of the property. The home itself is set centrally within the property, roughly 0.15 mile from the project alignment. It is oriented to the south with the project extending along the edge of the property to its west side. Set between the house and the project area is a complex of associated outbuildings and secondary resources. The landscape around the home is gently rolling, with shade trees and other vegetation scattered throughout the building complex. The property between the building complex and the project ROW is split, with an open field to the north and a wooded area to the south.

Inspection from the Cool Water property revealed that the existing transmission line is visible from some vantage points and screened by vegetation from others. Inspection from the front of the house revealed visibility of the transmission line as it is suspended across the field to the west, although neither of the adjacent structures are visible due to vegetation. One structure bordering the property is visible from other points throughout the homesite and building complex, although is seen behind or through vegetation from some points and unobstructed from others. A second existing structure that is in closer proximity to homesite is not visible due its location behind the thicker wooded area that provides complete screening in that direction. This structure is visible, however, from the driveway leading to the building complex that traverses a slightly more elevated portion of the property within open field. From this location, the existing structure is visible just above the treeline.

The existing transmission line structures in the vicinity of the property currently stand at 95-115- and 145-feet tall and the proposed replacement structures will be 124-, 134- and 169-feet tall respectively. As such, there will be an increase in structure height, however structures will be replaced on a one-to-one basis in generally the same location. As such, it is anticipated that there will be increased visibility of the structures that are currently visible above the treeline, and that there may be new visibility of structures currently screened by vegetation from discrete vantage points throughout the property. This was confirmed with photo simulation that shows the one structure currently visible from many vantages throughout the property will become increasingly more visible from these locations. One structure currently visible above the treeline only from the most elevated vantage on the property along the driveway will also become more visible, but will generally remain screened from most other locations. The third structure which is currently screened from all vantages on the property will also become visible, but only from the elevated driveway and will remain completely screened behind intervening vegetation from the home and building complex. As such, the project is anticipated to introduce a change of viewshed from the

property, however, that will be limited to increased visibility of structures that may already be seen with limited visibility of additional structures. It is therefore D+A's opinion that the project will have no more than a *moderate impact* on Cool Water.

Figure 5-38 depicts the location of Cool Water in relation to the project alignment and viewshed buffers, and Figure 5-39 depicts the location and direction of all representative photographs and photo simulations. Figures 5-40 through 5-49 are representative photographs of the property, as well as those taken from locations within the property towards the project alignment. Figures 5-50 through 5-55 provide photo simulation, including maps with the location, direction, and structures included in each photo simulation from the property, the existing view from each simulation location, and simulated views of the proposed structures.

RESULTS OF FIELD RECONNAISSANCE

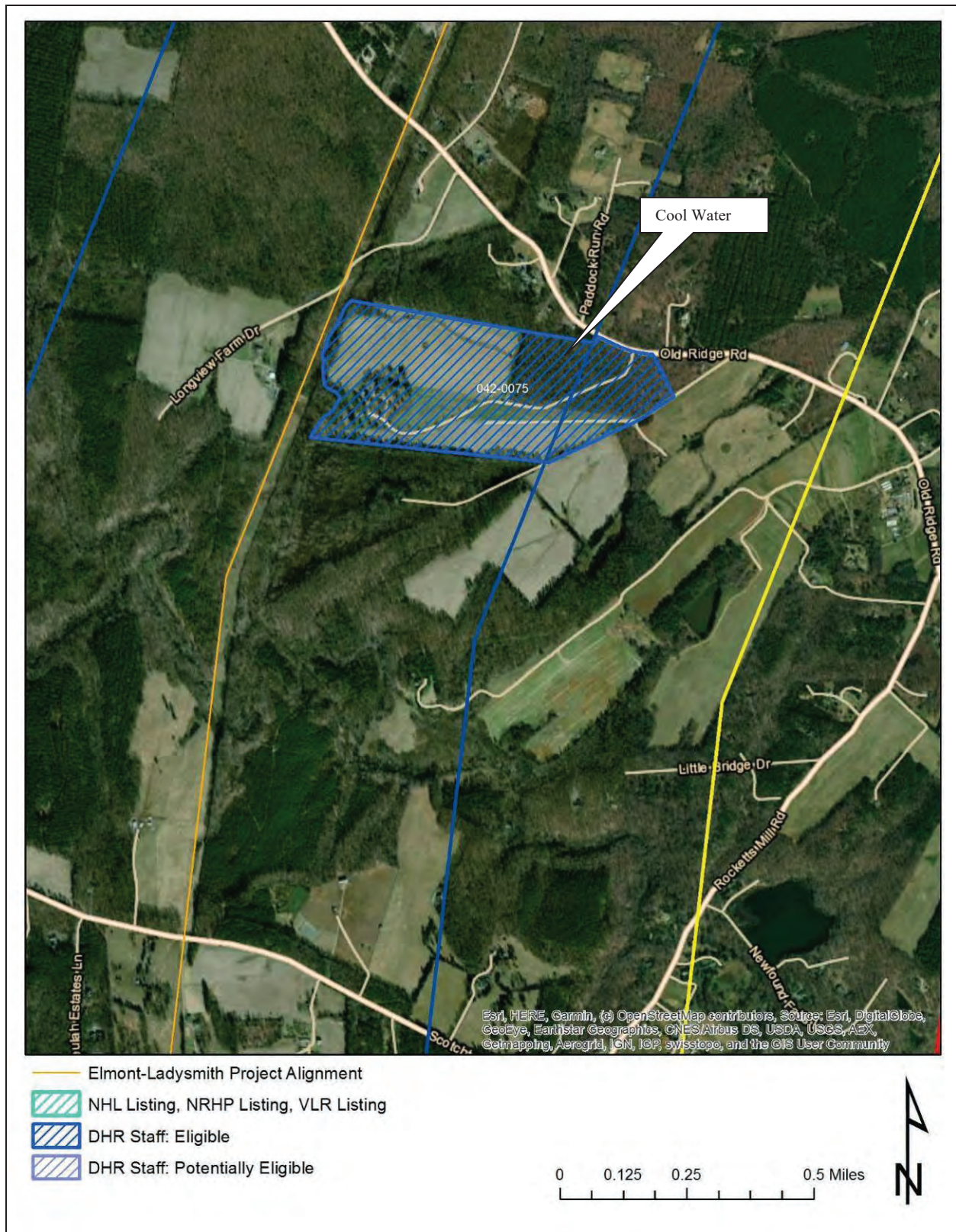


Figure 5-38: Cool Water in relation to the project area and tiered buffers.

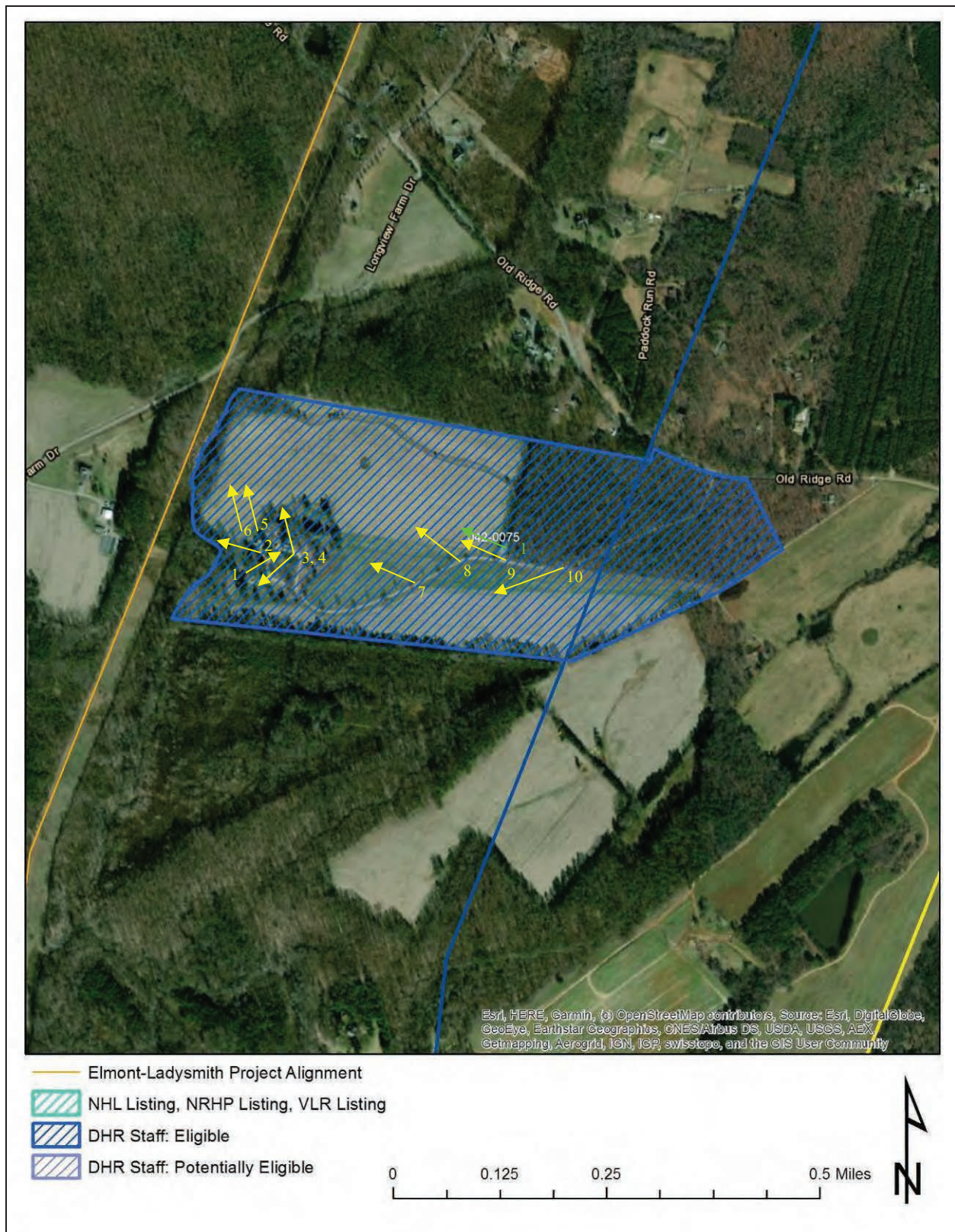


Figure 5-39: Cool Water in relation to the project area with location and direction of representative photography (shown in yellow) and photo simulations (shown in green).



Figure 5-40: Photo location 1- View of Cool Water front facade, facing northeast.



Figure 5-41: Photo location 2- View from Cool Water front towards the project alignment (line visible, no structures), facing west.



Figure 5-42: Photo location 3- View from Cool Water front towards the project alignment (one structure visible), facing northwest.



Figure 5-43: Photo location 4- View from Cool Water front towards the project alignment (not visible), facing southwest.

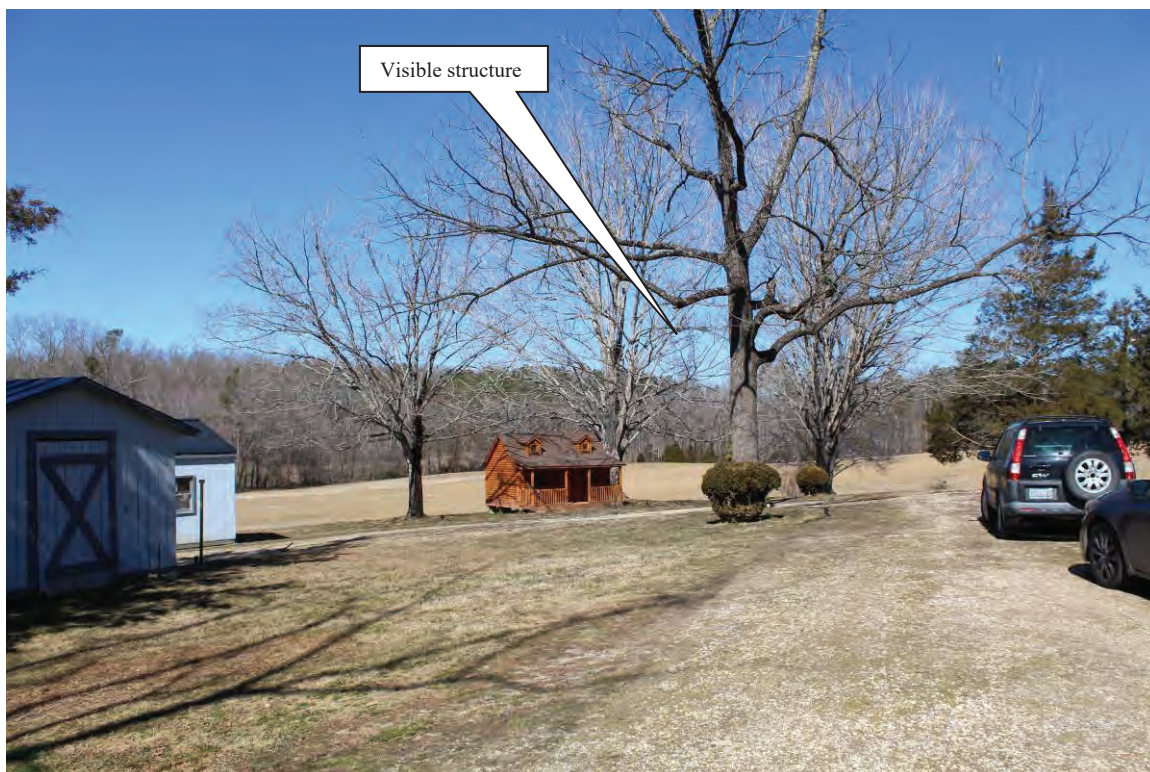


Figure 5-44: Photo location 5- View from Cool Water outbuilding complex towards the project alignment (one structure visible through vegetation), facing northwest.



Figure 5-45: Photo location 6- View from Cool Water outbuilding complex towards the project alignment (one structure visible), facing northwest.



Figure 5-46: Photo location 7- View from approach to Cool Water towards the project alignment (not visible), facing west.



Figure 5-47: Photo location 8- View from approach to Cool Water towards the project alignment (one structure visible), facing northwest



Figure 5-48: Photo location 9- View from Cool Water driveway towards the project alignment (one structure visible), facing west



Figure 5-49: Photo location 10- View from Cool Water driveway towards the project alignment (one structure visible through treeline), facing southwest

THIS PAGE INTENTIONALLY LEFT BLANK

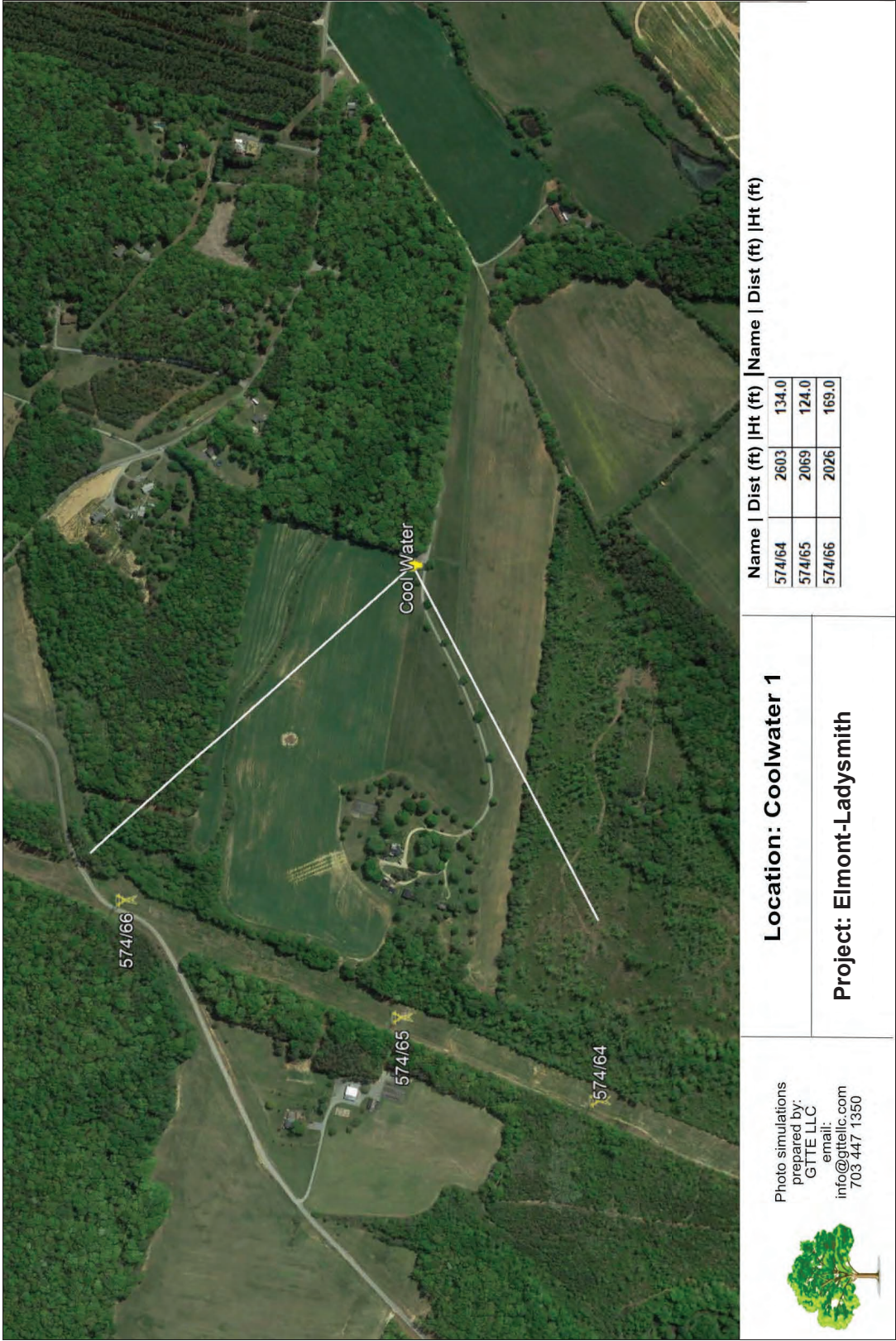


Figure 5-50: Cool Water Photo Simulation 1 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC



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

Project: Elmont-Ladysmith

Location: Coolwater 1

Existing View

This simulation is designed for viewing on a computer monitor. To achieve the correct scale, the image should be increased or decreased in size until the scale above measures 4". When viewed with the eye at 31" from the screen the image will have the same scale as if the viewer were standing at the camera location.

Figure 5-51: Cool Water Photo Simulation 1 – Existing view from driveway. Source: GTTE, LLC

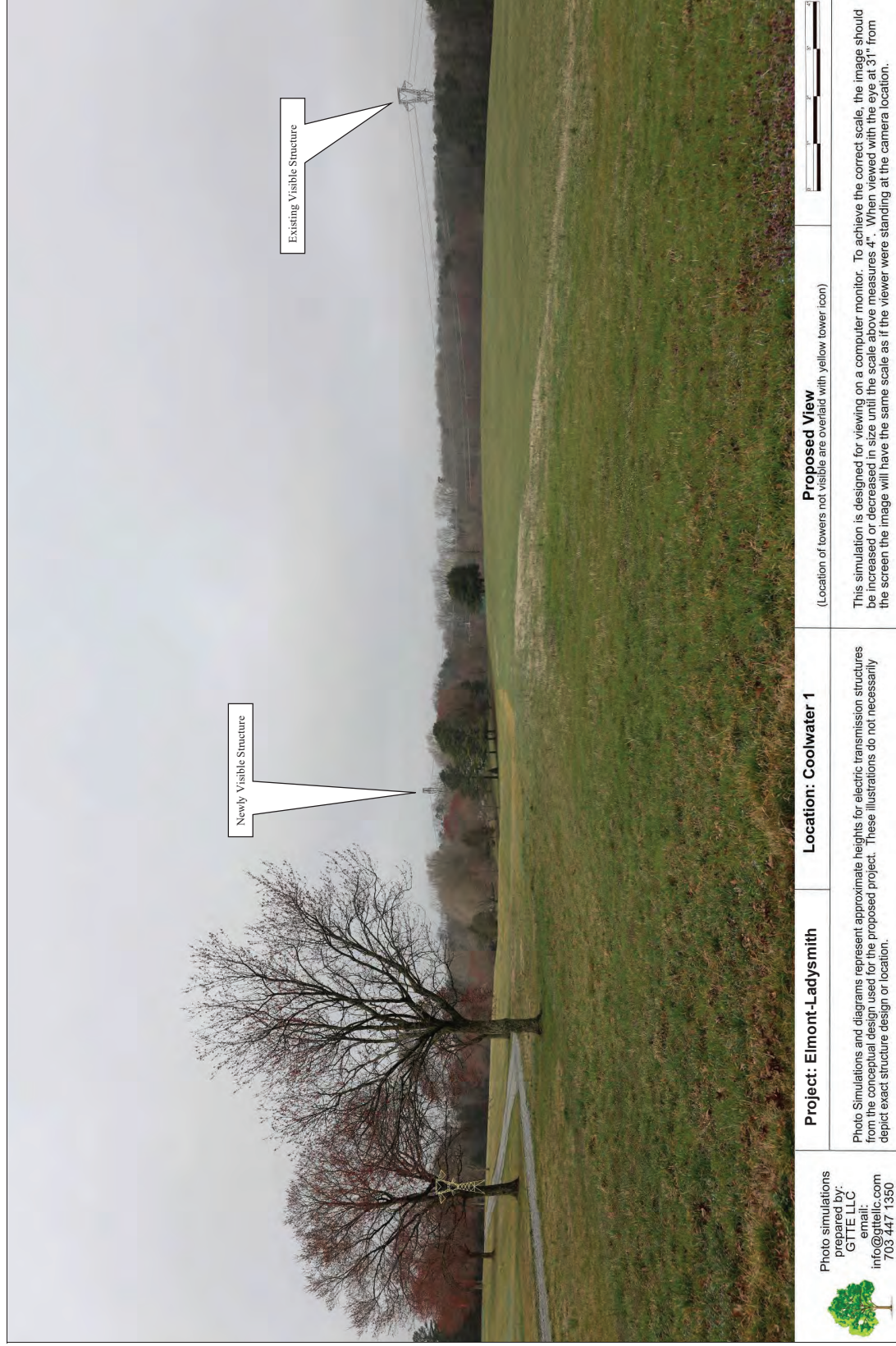


Photo simulations
prepared by:
GTTE LLC
email:
info@gttelc.com
703 447 1350

Project: Elmont-Ladysmith

Location: Coolwater 1

Proposed View

(Location of towers not visible are overlaid with yellow tower icon)

This simulation is designed for viewing on a computer monitor. To achieve the correct scale, the image should be increased or decreased in size until the scale above measures 4". When viewed with the eye at 31" from the screen the image will have the same scale as if the viewer were standing at the camera location.

Figure 5-52: Cool Water Photo Simulation 1 – Proposed view from driveway (visible structures shown as they would appear, structures not visible shown in yellow). Source: GTTE, LLC

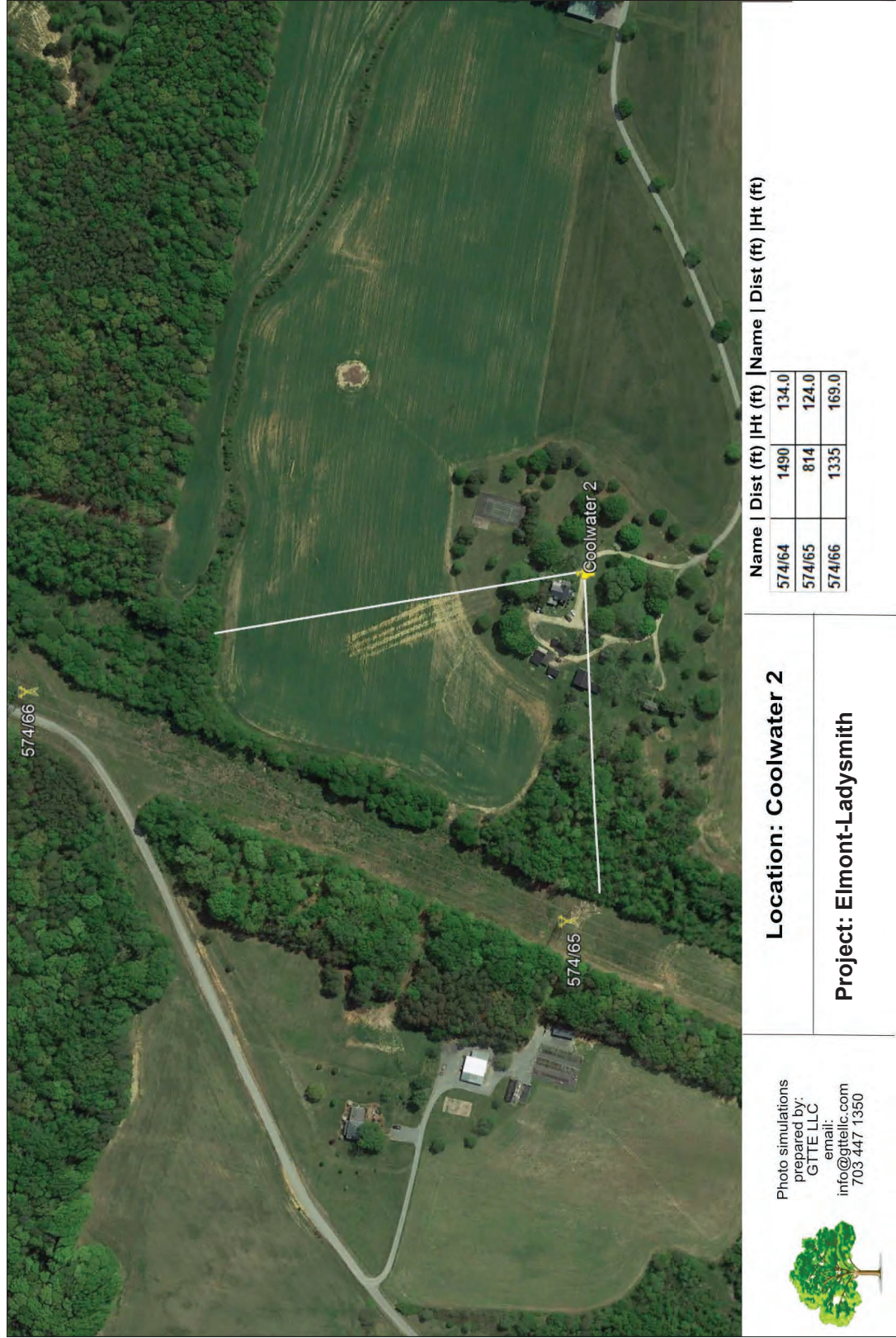


Figure 5-53: Cool Water Photo Simulation 2 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC



Figure 5-54: Cool Water Photo Simulation 2 – Existing view from homesite. Source: GTTE, LLC



Figure 5-55: Cool Water Photo Simulation 2 – Proposed view from homesite (visible structures shown as they would appear, structures not visible shown in yellow). Source: GTTE, LLC

Richmond-Ashland Trolley Line (VDHR ID# 043-5347)

The Richmond-Ashland Trolley Line is an electric car system that dates to the late-nineteenth or early twentieth century. Richmond is known to have “the first commercial electric streetcar line in America,” which started around 1887 (Lutz 1949). The line ran in a north-south direction from Richmond to Ashland. The line remained in use until 1938 (Lutz 1949). Today, the line is no longer continuous; rather it is broken into several sections as a result of development. The resource was determined potentially eligible for listing in the NRHP Criterion A (Transportation) by the VDHR in 2014 for its association to Richmond’s early electric streetcar system and its subsequent suburbs.

In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around the resource property with emphasis on views towards the project area to document existing setting, sitelines, and viewshed. This assessment found that a portion of the former Richmond-Ashland Trolley Line corridor coincides with the existing project ROW just north of the Elmont substation. The substation itself is built within the former trolley line corridor and the existing transmission line extends within the former trolley line corridor for approximately 1.3 mile before the two corridors split. The landscape of the former trolley line corridor shared with the project ROW is generally cleared and grassy. It is crossed by several roads as well as private driveways and is bordered by residential development, including a larger modern subdivision. Where the two corridors split, the project area continues to the northwest within a cleared ROW similar to where it is shared with the trolley corridor, while the former trolley corridor turns to the northeast and is now utilized as a private lane before it transitions to a public hiking trail north of Gwathmey Church Road.

Inspection from the former Richmond-Ashland Trolley corridor revealed that the existing transmission line is highly visible as it shares the same ROW for over one mile. Within that length, the corridor/ROW is crossed by two public road corridors which permit public vantage and inspection. After the former trolley corridor and transmission line ROW split, the trolley corridor extends through thickly wooded private property for 1.25 mile before it crosses another public road corridor. At that point, the former trolley corridor has been repurposed as a public hiking trail with an interpretive sign on the history of the Richmond-Ashland Trolley. Assessment was conducted from each of the public road crossings in the vicinity. Inspection from Cedar Lane just north of the Elmont substation revealed unobstructed visibility of multiple structures in both directions up the ROW as it extends in a generally straight alignment. Inspection from Cobb Lane revealed similarly unobstructed views of multiple structures to the south, and just two structures to the north before the former trolley corridor veers off to the right and the transmission line corridor turns to the left. Inspection from Gwathmey Church Road revealed the former corridor remains to the south as a narrow cleared grassy strip bordered by thick woods. To the north side of the road the corridor has been repurposed as a public hiking trail with a small gravel parking lot and an interpretive sign at the head. Inspection from this point towards the project area revealed the intervening distance and thick wood screen all distant views and block views of the existing transmission line.

The existing transmission line structures in the vicinity of the property currently range from 82- to 117-feet tall and the proposed replacement structures will range from 120- to 160-feet tall

respectively. As such, there will be an increase in structure height, however structures will be replaced on a one-to-one basis in generally the same location. As such, it is anticipated that there will be increased visibility of the structures that are currently visible up and down the ROW shared with the former Richmond-Ashland Trolley Line, the line will still be screened from the head of the public hiking trail after the former corridor and the transmission line ROW split. This was confirmed with photo simulation that shows the replacement structures will have increased visibility, however, there will be no additional visibility of any structures that are currently screened, and the project will remain completely screened behind intervening vegetation from the public hiking trail and interpretive sign. As such, the project may introduce a slight change of viewshed from the property, however, that will be limited to where the corridor has already been compromised by collocation of the existing transmission line ROW. That segment of the corridor that remains more intact and is interpreted will continue to have no visibility of the project. It is therefore D+A's opinion that the project will have no more than a *minimal impact* on the Richmond-Ashland Trolley Line.

Figure 5-56 depicts the location of Richmond-Ashland Trolley Line in relation to the project alignment and viewshed buffers with the location and direction of all representative photographs and photo simulations. Figures 5-57 through 5-62 are representative photographs of the property, as well as those taken from locations within the property towards the project alignment. Figures 5-63 through 5-70 provide photo simulation, including maps with the location, direction, and structures included in each photo simulation from the property, the existing view from each simulation location, and simulated views of the proposed structures.

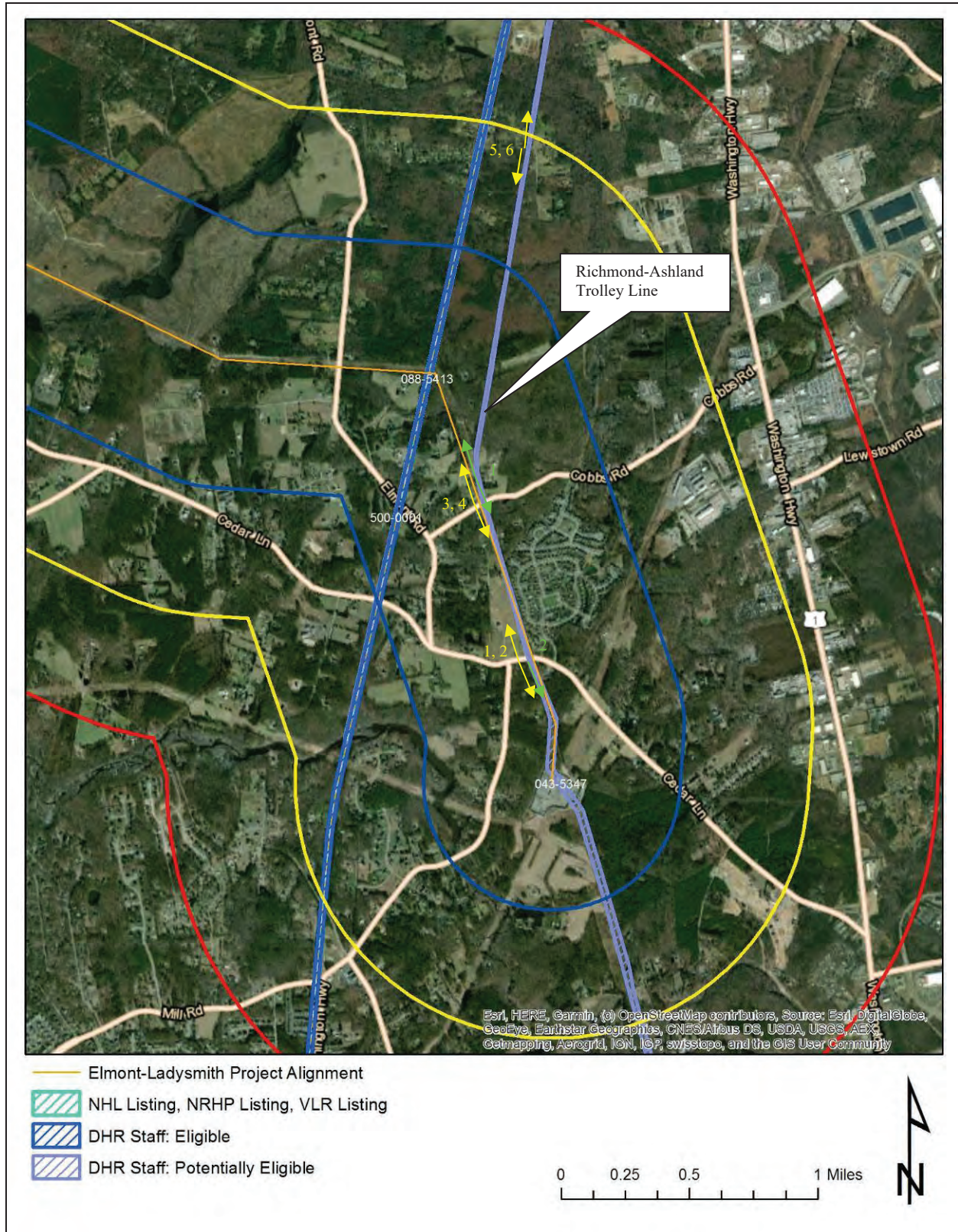


Figure 5-56: Richmond-Ashland Trolley Line in relation to the project area and tiered buffers with location and direction of representative photography (shown in yellow) and photo simulations (shown in green).

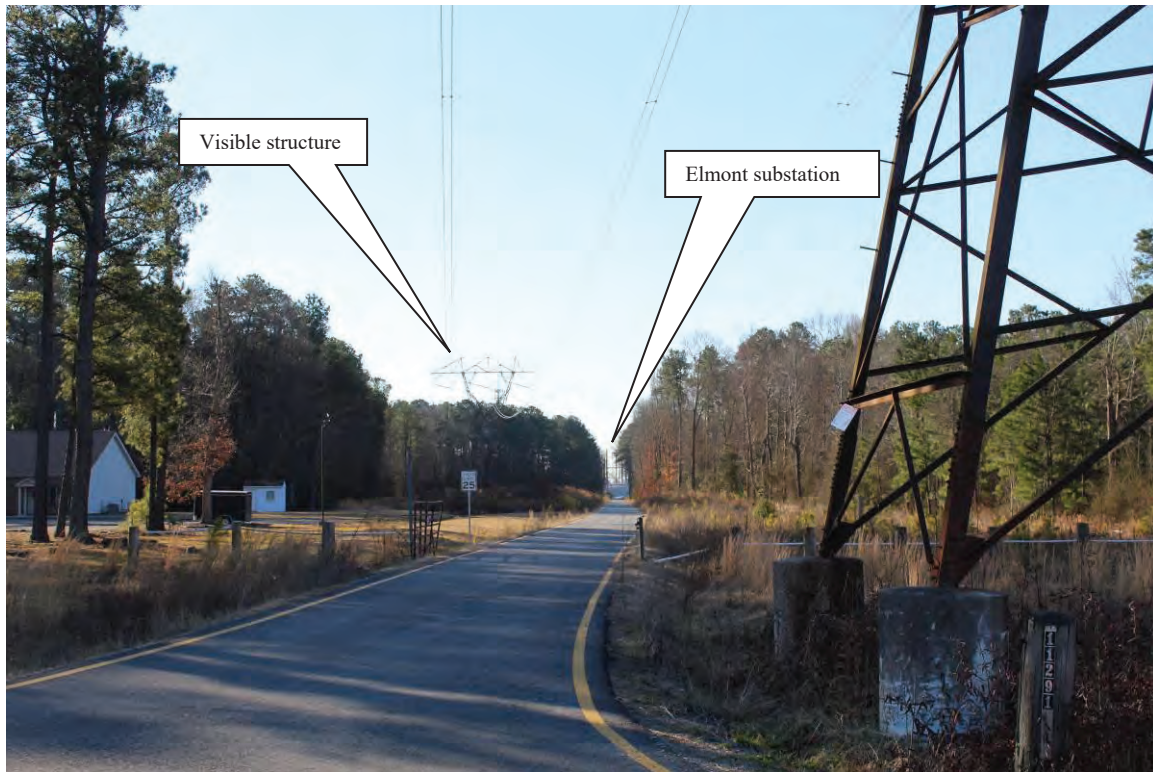


Figure 5-57: Photo location 1- View of Richmond-Ashland Trolley corridor with shared project area ROW from Cedar Lane, facing south.

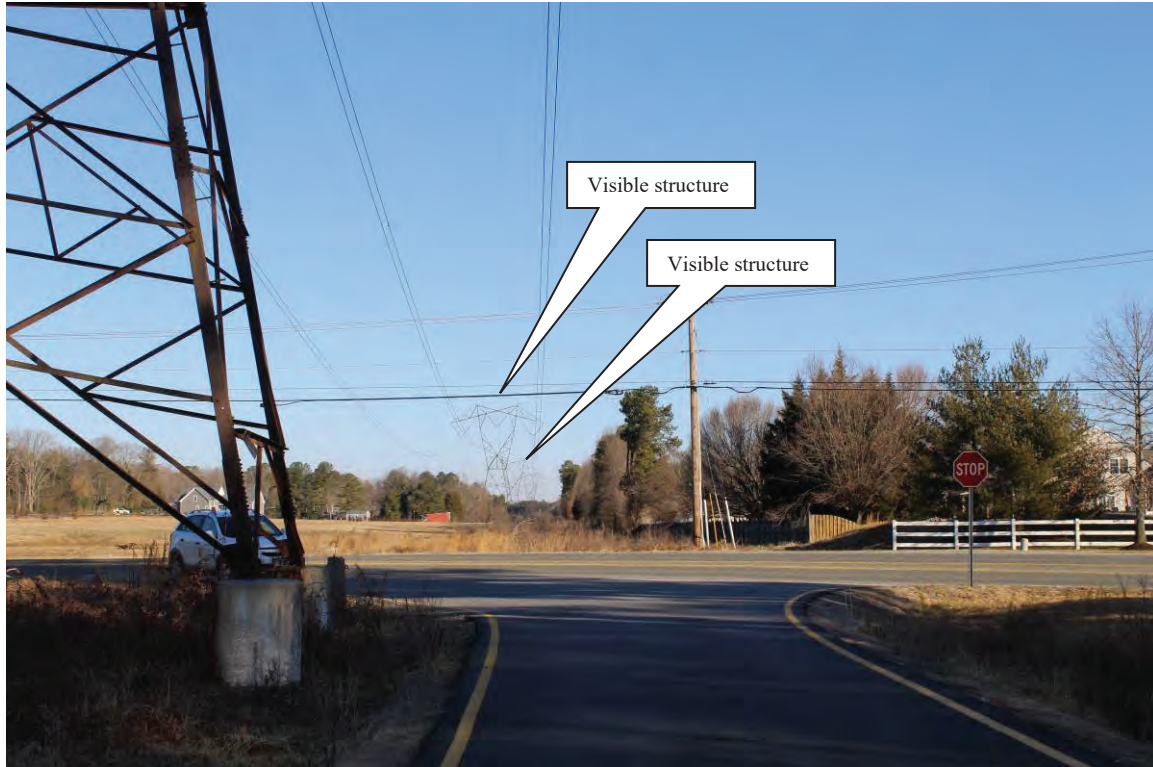


Figure 5-58: Photo location 2- View of Richmond-Ashland Trolley corridor with shared project area ROW from Cedar Lane, facing north.



Figure 5-59: Photo location 3- View of Richmond-Ashland Trolley corridor with shared project area ROW from Cobb Lane, facing south.

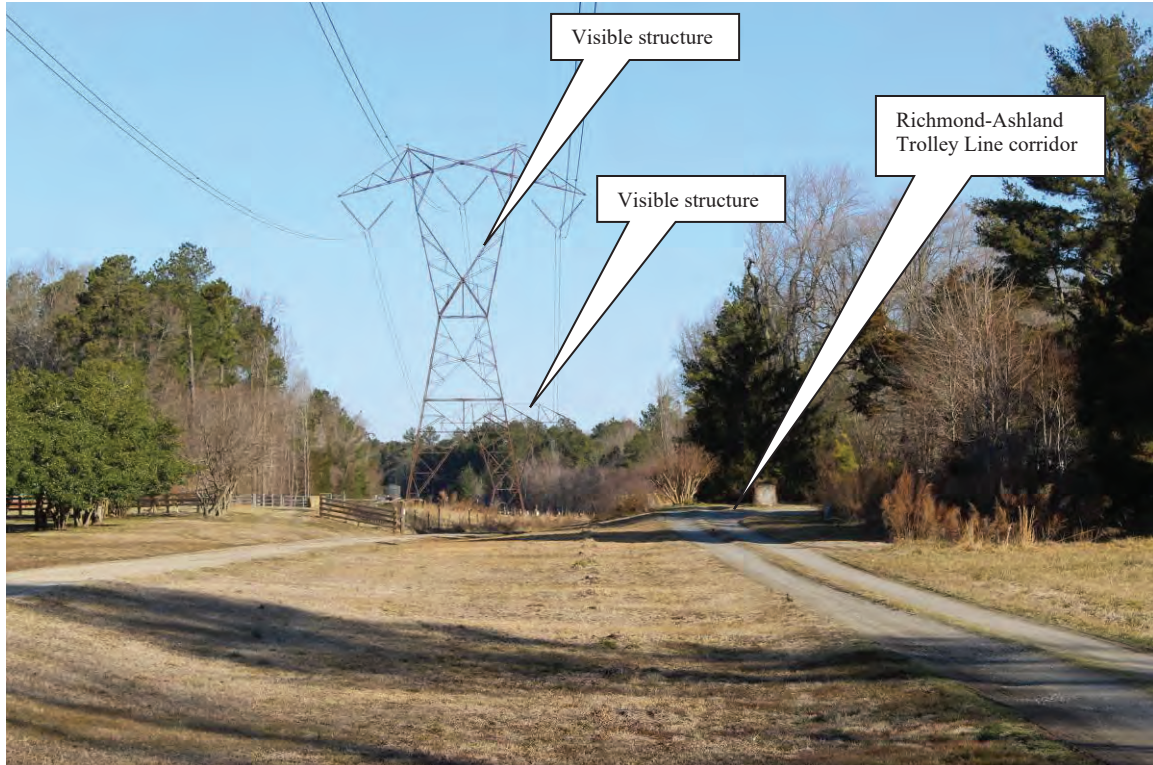


Figure 5-60: Photo location 4- View of Richmond-Ashland Trolley corridor where it splits from project area ROW from Cobb Lane, facing north.



Figure 5-61: Photo location 5- View of Richmond-Ashland Trolley corridor from Gwathmey Church Lane, facing north.



Figure 5-62: Photo location 6- View from Richmond-Ashland Trolley corridor towards the project area from Gwathmey Church Lane (not visible), facing south



Figure 5-63: Richmond-Ashland Trolley Photo Simulation 1 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC



Figure 5-64: Richmond-Ashland Trolley Photo Simulation 1 – Existing view from corridor split looking north. Source: GTTE, LLC



<p>Photo simulations prepared by: GTTE LLC email: info@gttelc.com 703 447 1350</p>	<p>Project: Elmont-Ladysmith</p>	<p>Location: Ashland Trolley Line 1 North</p>	<p>Photo Simulations and diagrams represent approximate heights for electric transmission structures from the conceptual design used for the proposed project. These illustrations do not necessarily depict exact structure design or location.</p>	<p>Proposed View (Location of towers not visible are overlaid with yellow tower icon)</p>	<p>This simulation is designed for viewing on a computer monitor. To achieve the correct scale, the image should be increased or decreased in size until the scale above measures 4". When viewed with the eye at 31" from the screen the image will have the same scale as if the viewer were standing at the camera location.</p>	
--	---	--	--	--	---	--

Figure 5-65: Richmond-Ashland Trolley Photo Simulation 1 – Proposed view from corridor split north (visible structures shown as they would appear on the landscape, structures not visible shown in yellow). Source: GTTE, LLC

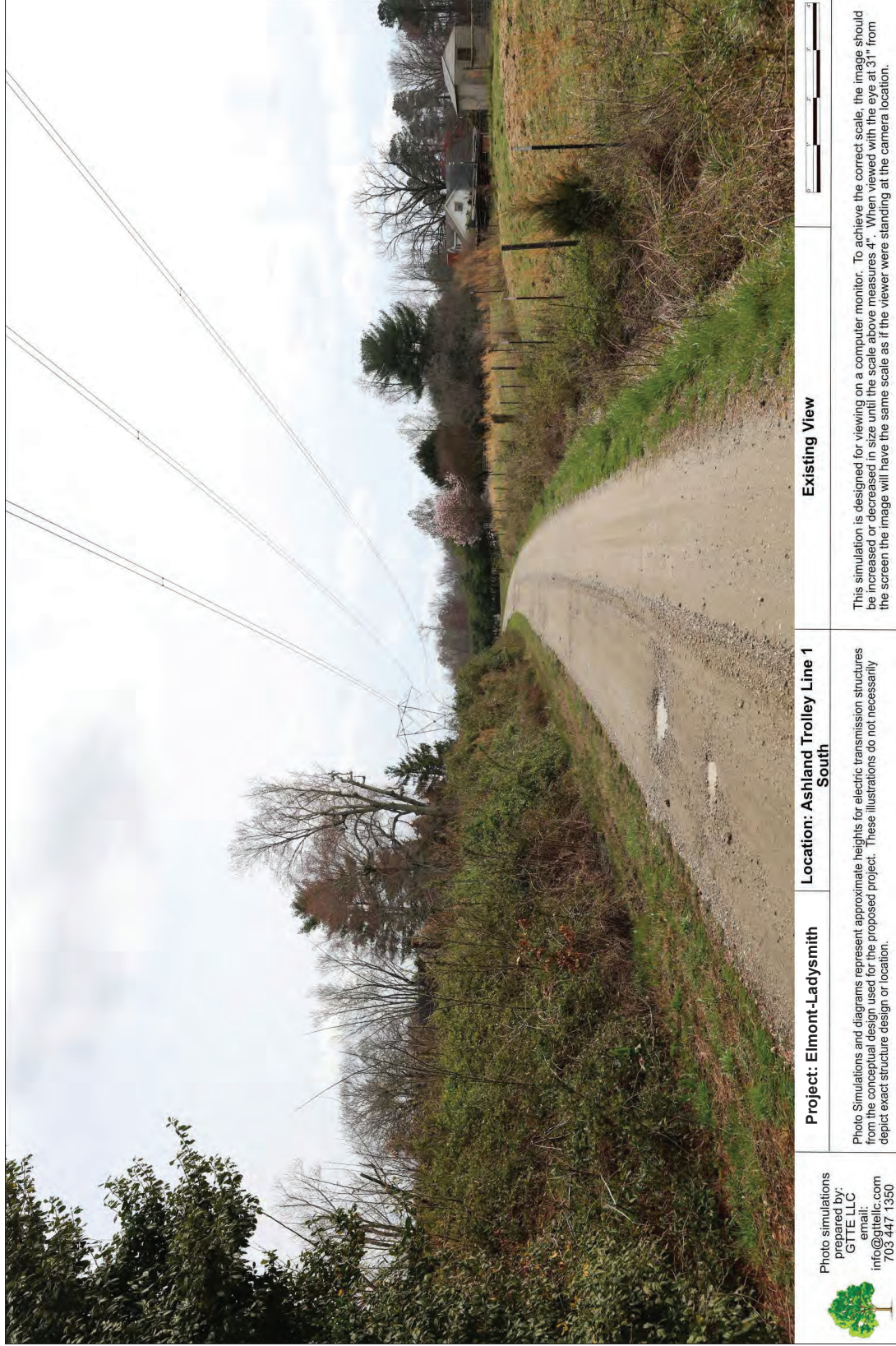


Figure 5-66: Richmond-Ashland Trolley Photo Simulation 1 – Existing view from corridor split looking south. Source: GTTE, LLC



Figure 5-67: Richmond-Ashland Trolley Photo Simulation 1 – Proposed view from corridor split south (visible structures shown as they would appear on the landscape, structures not visible shown in yellow). Source: GITE, LLC

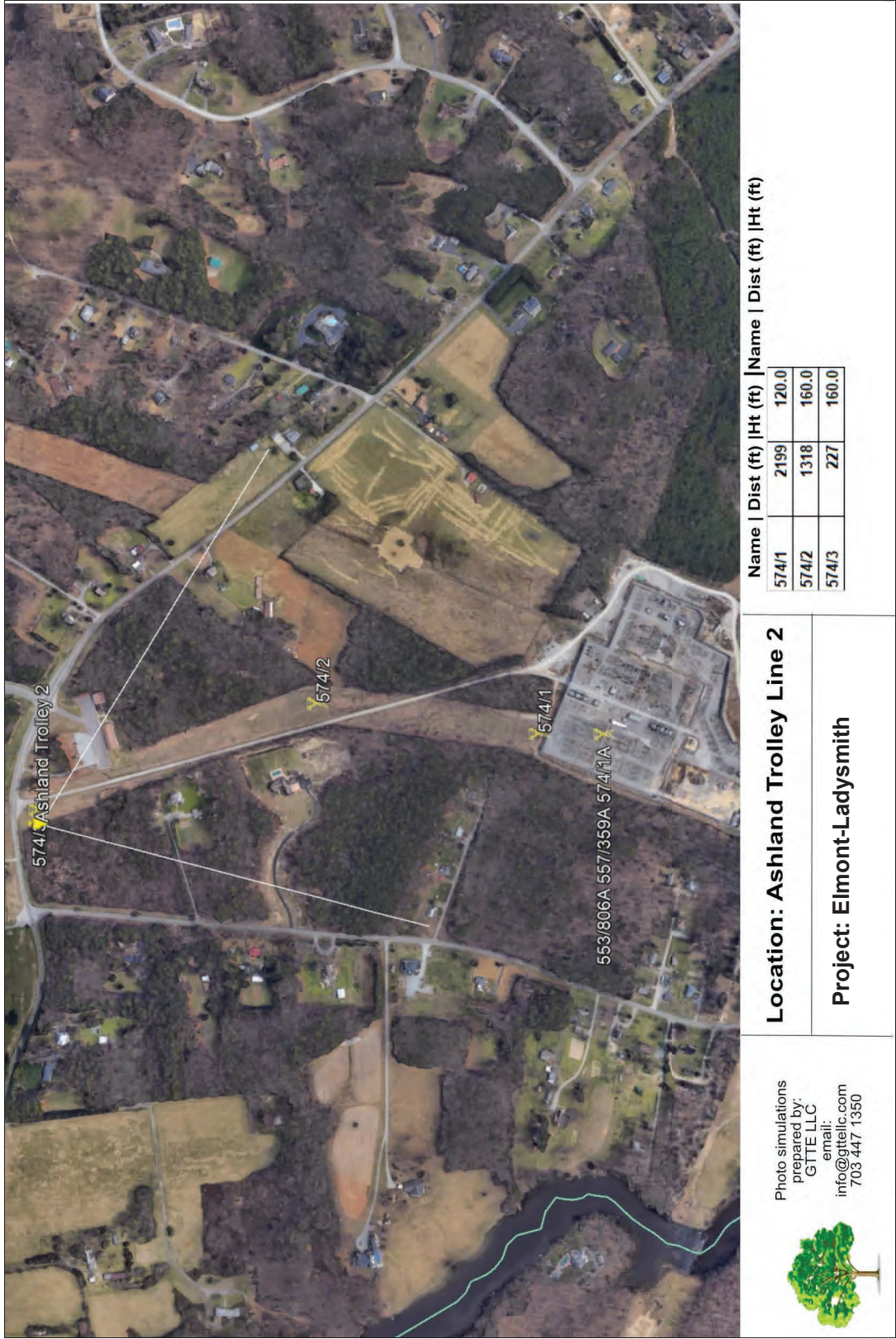


Figure 5-68: Richmond-Ashland Trolley Photo Simulation 2 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC

	<p>Photo simulations prepared by: GTTE LLC email: info@gttelc.com 703 447 1350</p> 	<p>Project: Elmont-Ladysmith</p> <p>Location: Ashland Trolley Line 2</p> <p>Existing View</p> <p>This simulation is designed for viewing on a computer monitor. To achieve the correct scale, the image should be increased or decreased in size until the scale above measures 4". When viewed with the eye at 31" from the screen the image will have the same scale as if the viewer were standing at the camera location.</p> 
---	--	--

Figure 5-69: Richmond-Ashland Trolley Photo Simulation 2 – Existing view from Cedar Lane. Source: GTTE, LLC



Figure 5-70: Richmond-Ashland Trolley Photo Simulation 2 – Proposed view from Cedar Lane (visible structures shown as they would appear on the landscape, structures not visible shown in yellow). Source: GTTE, LLC

Richmond, Fredericksburg & Potomac Railroad/ (VDHR ID# 088-5413)
RF&P Railroad Historic District (VDHR ID# 500-0001)

The RF&P Railroad Historic District (500-0001) is an historic rail corridor that stretches from the Potomac River to Main Street Station in the City of Richmond. From 1837 to 1943, the railroad played a critical role in the development and evolution of the region and was a prominent local railroad within the mid-Atlantic region. Previously, the RF&P Railroad was documented into two segments: a segment in Prince William and Stafford Counties (076-0301) and a segment in Spotsylvania, Caroline, Hanover, and Henrico Counties (088-5413). These were previously determined to be potentially eligible for the NRHP under Criterion A for their association with Transportation in Virginia (2016 and 2012, respectively). Since that time, the rail line from the Potomac River to Broad Street Station has been surveyed, encompassing these two segments into one rail corridor. The trains under CSXT, Amtrak, and VRE continue to run along the former RF&P rail line. Given the long and significant history of this line and the important economic role it has played in the development of cities along its path, both separate portions of the RF&P corridor, including the Hanover and Henrico County length (088-5413), and the overall RF&P Railroad Historic District, from Washington, D.C., to Richmond, Virginia (500-0001) has been determined eligible for listing in the NRHP under Criterion A for Transportation.

In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around the resource property with emphasis on views towards the project area to document existing setting, sitelines, and viewshed. This assessment found that RF&P Railroad corridor is directly crossed by the project alignment at one location, roughly 1.5 mile north of the Elmont substation. Both the railroad and the project area corridors cross through a developed suburban area in this vicinity, and are lined by residential neighborhoods with a scattering of more rural residential development spread throughout. The landscape is gently rolling with a patchwork of cleared property and undeveloped woodland. Both corridors are crossed by a number of public roads in the area, however, the project alignment crosses the railroad corridor within an otherwise undeveloped setting with no public access nearby. As such, inspection was conducted from public road crossings of the RF&P corridor, as well as select other publicly-accessible vantage points in the vicinity.

Inspection from public crossings of the RF&P Railroad corridor revealed the existing transmission line is generally screened by vegetation and development bordering the corridor. Select views towards the project area up and down the railroad corridor or down public road corridors allow limited visibility of the existing line as it is suspended overhead, however, the existing structures are screened and not visible. Other locations do not allow visibility of the project area, even as it crosses the open rail corridor, due to intervening distance.

The existing transmission line structures in the vicinity of the railroad corridor currently range from 82- to 117-feet tall and the proposed replacement structures will range from 120- to 160-feet tall respectively. As such, there will be an increase in structure height, however structures will be replaced on a one-to-one basis in generally the same location. Despite the increase in height, it is anticipated that the vegetation and development lining the narrow vistas towards the project area from the railroad corridor or down public road corridors will continue to screen all

transmission structures. The location where the project area crosses a public road and structures are visible, the railroad corridor is not visible due to vegetation and topography. As such, there are no public vantage points that allow views of both the railroad corridor and any transmission structures. The only location where such views would be expected is where the project directly crosses the railroad corridor which is not publicly accessible. This was confirmed with photo simulation that shows all structures will continue to be screened behind and beneath vegetation bordering the railroad and project area corridors from public vantage points. As such, the project is not anticipated to introduce any palpable change of viewshed from the railroad, and it is therefore D+A's opinion that the project will have no more than a *minimal impact* on the RF&P Railroad Corridor and Historic District.

Figure 5-71 depicts the location of RF&P Railroad in relation to the project alignment and viewshed buffers with the location and direction of all representative photographs and photo simulations. Figures 5-72 through 5-78 are representative photographs of the property, as well as those taken from locations within the property towards the project alignment. Figures 5-79 through 5-84 provide photo simulation, including maps with the location, direction, and structures included in each photo simulation from the property, the existing view from each simulation location, and simulated views of the proposed structures.

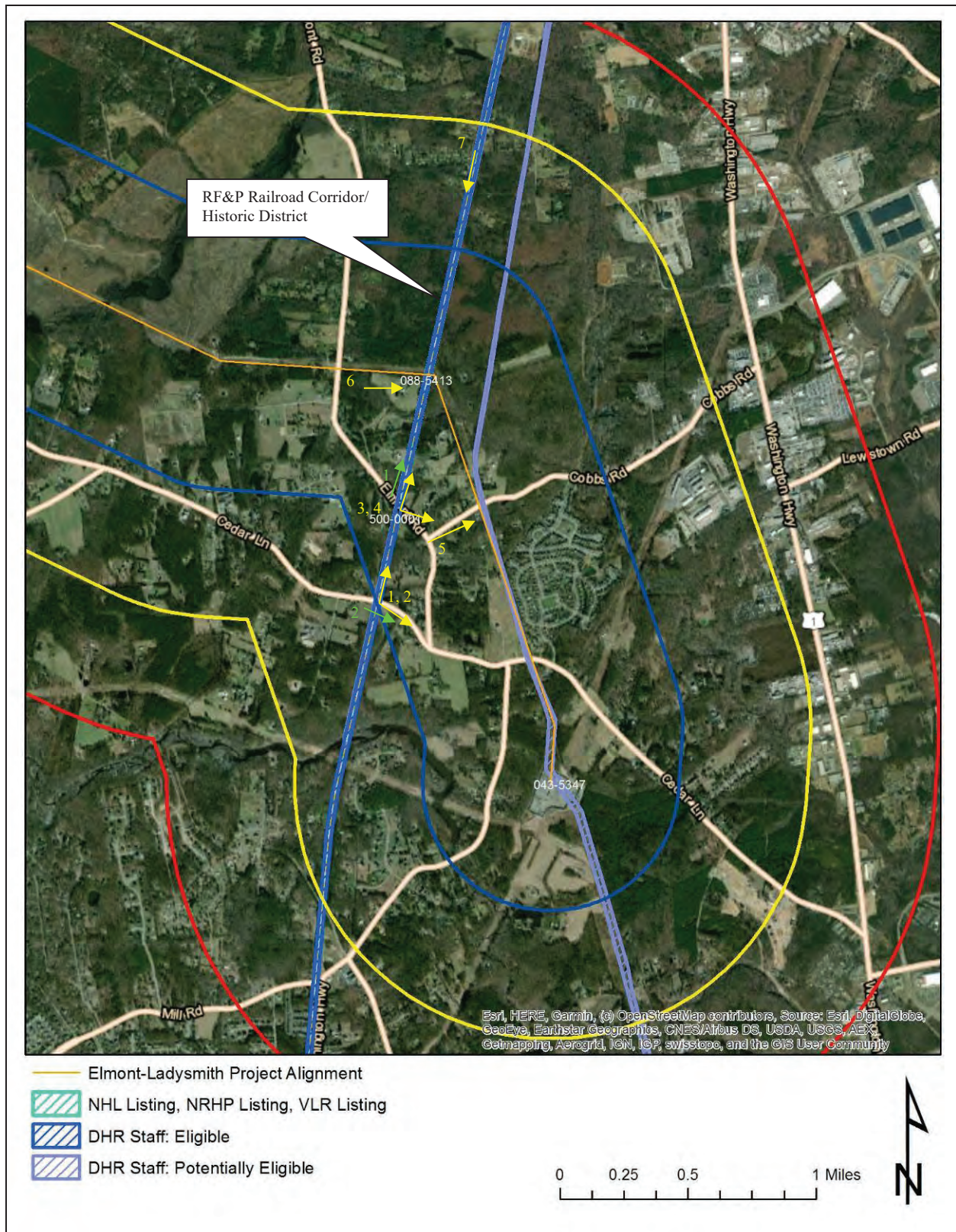


Figure 5-71: RF&P Railroad Corridor and Historic District in relation to the project area and tiered buffers with location and direction of representative photography (shown in yellow) and photo simulations (shown in green).



Figure 5-72: Photo location 1- View from RF&P railroad corridor at Cedar Lane towards the project area (not visible), facing southeast.



Figure 5-73: Photo location 2- View up RF&P railroad corridor at Cedar Lane towards the project area (not visible), facing north.



Figure 5-74: Photo location 3- View from RF&P railroad corridor at Elmont Road towards the project area (not visible), facing southeast.

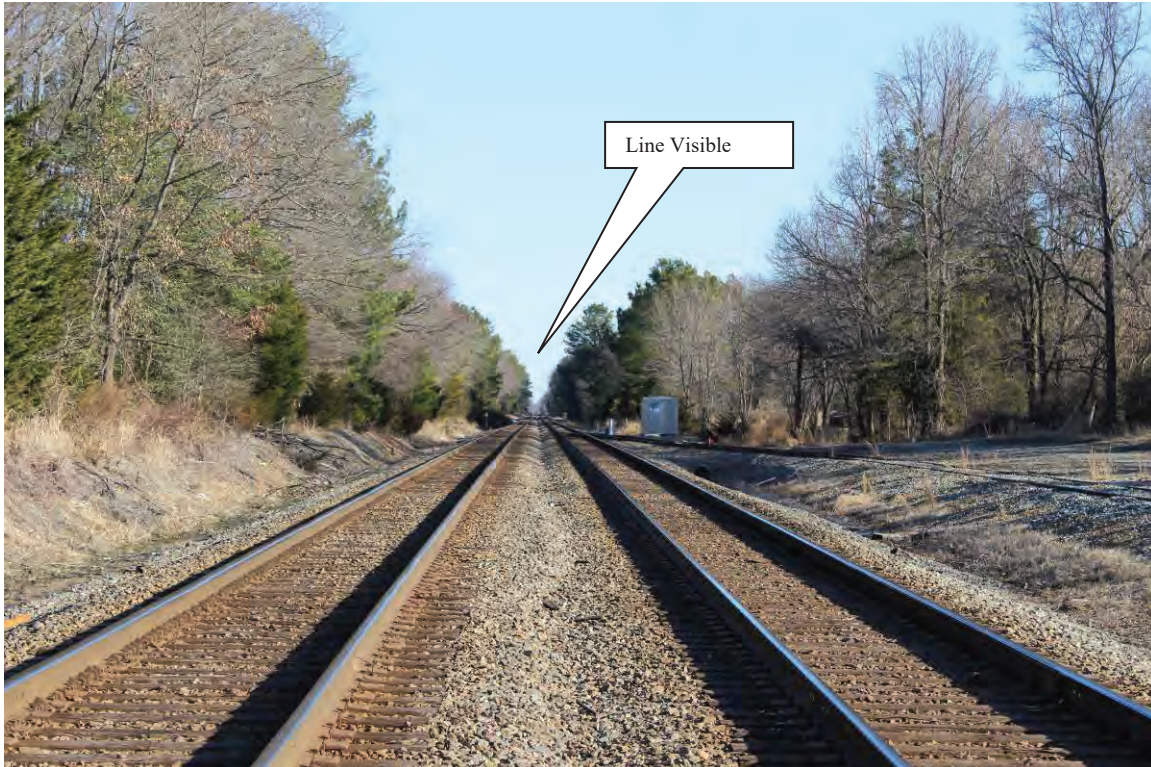


Figure 5-75: Photo location 4- View up RF&P railroad corridor at Elmont Road towards the project area (line is visible suspended over corridor, no structures visible), facing north.



Figure 5-76: Photo location 5- View from Elmont Road near RF&P Railroad towards the project area (line is visible as it is suspended over road, no structures visible), facing east.



Figure 5-77: Photo location 6- View from project area at crossing of Elmont Road towards the RF&P Railroad (not visible), facing east



Figure 5-78: Photo location 7- View down RF&P railroad corridor at Gwathmey Church Road towards the project area (not visible), facing south.

THIS PAGE INTENTIONALLY LEFT BLANK

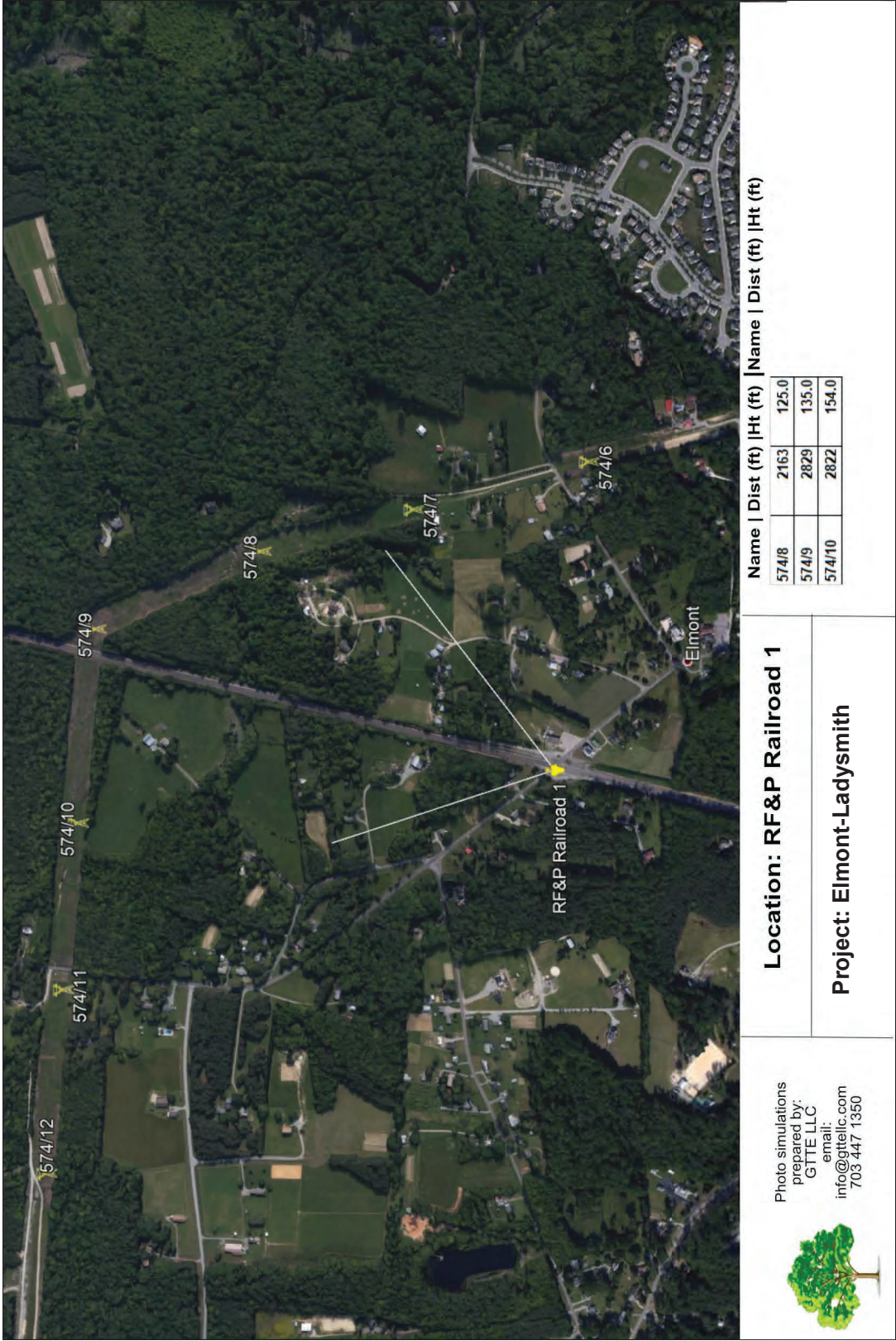


Figure 5-79: RF&P Railroad Photo Simulation 1 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC



<p>Photo simulations prepared by: GTTE LLC email: info@gttelc.com 703 447 1350</p>	<p>Project: Elmont-Ladysmith</p>	<p>Location: RF&P Railroad 1</p>	<p>Existing View</p>
<p>Photo Simulations and diagrams represent approximate heights for electric transmission structures from the conceptual design used for the proposed project. These illustrations do not necessarily depict exact structure design or location.</p>			<p>This simulation is designed for viewing on a computer monitor. To achieve the correct scale, the image should be increased or decreased in size until the scale above measures 4". When viewed with the eye at 31" from the screen the image will have the same scale as if the viewer were standing at the camera location.</p>

Figure 5-80: RF&P Railroad Photo Simulation 1 – Existing view from Elmont Road. Source: GTTE, LLC



Figure 5-81: RF&P Railroad Photo Simulation 1 – Proposed view from Elmont Road (visible structures shown as they would appear on the landscape, structures not visible shown in yellow). Source: GTTE, LLC

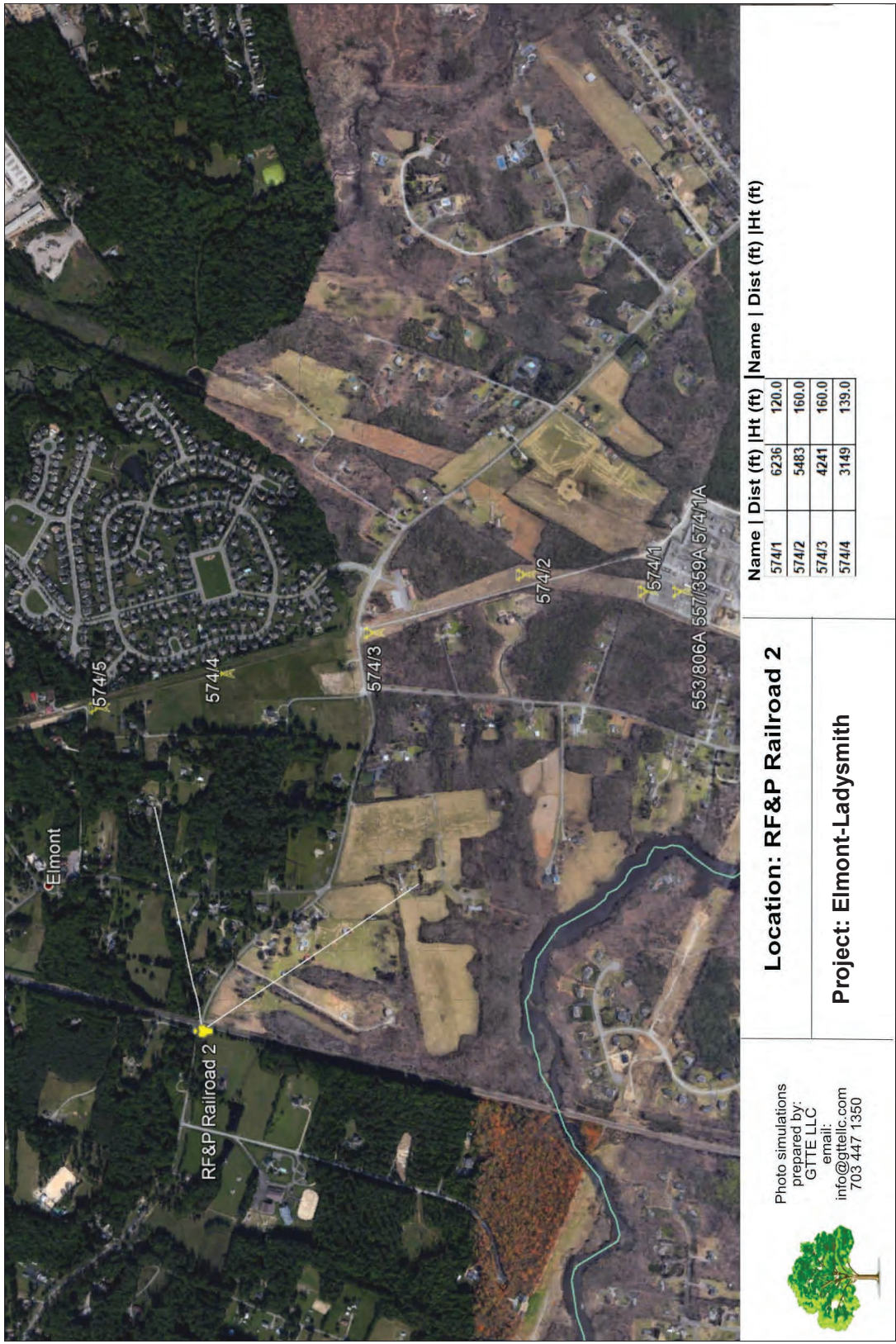


Figure 5-82: RF&P Railroad Photo Simulation 2 – Simulation location, direction of view, and structures modeled. Source: GTTE, LLC



Figure 5-83: RF&P Railroad Photo Simulation 2 – Existing view from Cedar Lane. Source: GTTE, LLC



Figure 5-84: RF&P Railroad Photo Simulation 2 – Proposed view from Cedar Lane (visible structures shown as they would appear on the landscape, structures not visible shown in yellow). Source: GITE, LLC

6. SUMMARY OF POTENTIAL IMPACTS

As part of this pre-application analysis of cultural resources for the proposed Elmont-Ladysmith Line #574 500kV Rebuild and Related Projects, potential impacts to previously recorded historic properties designated a NHL, NRHP-listed, or considered eligible for listing in the NRHP within the VDHR-defined buffered tiers were assessed in accordance with the VDHR guidelines. For the purposes of this analysis, an impact is one that alters, either directly or indirectly, those qualities or characteristics that qualify a particular property for listing in the NRHP and does so in a manner that diminishes the integrity of a property's materials, workmanship, design, location, setting, feeling, and/or association. With respect to transmission lines, direct impacts typically are associated with ground disturbance resulting from ROW clearing and structure construction. Indirect impacts typically are associated with the introduction of new visual elements or changes to the physical features of a property's setting or viewshed. According to VDHR guidance, project impacts are characterized as such:

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

With regards to architectural resources, six historic properties that are either designated and NHL, listed in, or determined eligible for listing in the NRHP is located within defined study tiers. This includes one (1) NHL located within 1.5 mile of the proposed project (Scotchtown/ VDHR# 042-0030), one (1) battlefield directly crossed by the project (North Anna Battlefield/ VDHR# 042-0123), and four (4) properties that have been determined eligible for listing in the NRHP that are also crossed or immediately adjacent to the project (Cool Water/ VDHR# 042-0075; Richmond-Ashland Trolley Line/ VDHR# 043-5347; CSX Railroad/Richmond-Fredericksburg-Potomac Railroad Corridor/ VDHR# 088-5143; and the RF&P Railroad Historic District VDHR# 500-0001.

Field inspection, representative photographs, and photo simulation reveal that the project extends through a mostly wooded landscape for much of its length, and therefore will be partly to completely screened from many vantage points within and near the historic properties. The exception is from Cool Water, where the existing line and structures are only visible from discrete vantage points within the property, but the project will introduce increased visibility of the structures already visible, and additional visibility of structures that are currently not visible. *It is therefore D+A's opinion that the proposed Elmont-Ladysmith Line# 574 500kV Rebuild and Related Projects may have as much as a moderate impact on*

SUMMARY OF POTENTIAL IMPACTS

Cool Water. Assessment shows there will be less visibility from the other historic resources, and generally limited to increased visibility of structures that are already visible with no additional visibility of more structures. Where structures can be seen, visibility will be limited to one or two structures, with no wide or uninterrupted views of multiple structures. ***It is therefore D+A's opinion that the proposed Elmont-Ladysmith Line# 574 500kV Rebuild and Related Projects will have no more than a minimal impact on Scotchtown, North Anna Battlefield, Richmond-Ashland Trolley Line, or the RF&P Railroad Corridor and Historic District.***

Table 6-1: Potential impacts summary for architectural resources.

VDHR #	Resource Name, Address	NRHP-Status	Distance from Project	Recommended Impact
042-0030	Patrick Henry Home (Scotchtown), 16120 Chiswell Lane	NHL	1.25 Mile	No Impact
042-0075	Cool Water, Ridge Road	NRHP-Eligible	Crossed by ROW	Moderate
042-0123	North Anna Battlefield	NRHP-Eligible	Within 1 Mile and Crossed by ROW	Minimal
043-5347	Richmond-Ashland Trolley Line	NRHP-Eligible	Crossed by ROW	Minimal
088-5413	CSX Railroad Corridor, Richmond, Fredericksburg & Potomac Railroad	NRHP-Eligible	Crossed by ROW	Minimal
500-0001	Richmond, Fredericksburg and Potomac Railroad, Richmond, Fredericksburg and Potomac Railroad Historic District	NRHP-Eligible	Crossed by ROW	Minimal

With regards to archaeology, there are no previously recorded sites within or immediately adjacent (within 100-feet of the centerline) to the project area. ***It is therefore D+A's opinion that the proposed Elmont-Ladysmith Line# 574 500kV Rebuild and Related Projects will have no impact on any previously identified archaeological sites.***

SUMMARY OF POTENTIAL IMPACTS

7. REFERENCES

National Park Service

2009 “Civil War Sites Advisory Commission Report Update and Resurvey,” American Battlefield Protection Program

Virginia Department of Historic Resources

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

Virginia Department of Historic Resources

2021 Virginia Cultural Resource Information System (VCRIS) database and GIS server.

THIS PAGE LEFT INTENTIONALLY BLANK

Matthew J. Strickler
Secretary of Natural Resources

Clyde E. Cristman
Director



COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

Rochelle Altholz
*Deputy Director of
Administration and Finance*

Russell W. Baxter
*Deputy Director of
Dam Safety & Floodplain
Management and Soil & Water
Conservation*

Nathan Burrell
*Deputy Director of
Government and Community Relations*

Thomas L. Smith
*Deputy Director of
Operations*

MEMORANDUM

DATE: March 22, 2021
TO: Rachael Studebaker
FROM: Roberta Rhur, Environmental Impact Review Coordinator
SUBJECT: DCR 21-008, TRANSMISSION REBUILD Elmont to Ladysmith

Division of Planning and Recreation Resources

The Department of Conservation and Recreation (DCR), Division of Planning and Recreational Resources (PRR), develops the *Virginia Outdoors Plan* and coordinates a broad range of recreational and environmental programs throughout Virginia. These include the Virginia Scenic Rivers program; Trails, Greenways, and Blueways; Virginia State Park Master Planning and State Park Design and Construction.

This project crosses the North Anna River, this river qualifies for scenic designation. For this reason, we request that any disturbance along the river edge be minimized to reduce impacts to its scenic nature.

Floodplain Management Program:

The National Flood Insurance Program (NFIP) is administered by the Federal Emergency Management Agency (FEMA), and communities who elect to participate in this voluntary program manage and enforce the program on the local level through that community's local floodplain ordinance. Each local floodplain ordinance must comply with the minimum standards of the NFIP, outlined in 44 CFR 60.3; however, local communities may adopt more restrictive requirements in their local floodplain ordinance, such as regulating the 0.2% annual chance flood zone (Shaded X Zone).

All development within a Special Flood Hazard Area (SFHA), as shown on the locality's Flood Insurance Rate Map (FIRM), must be permitted and comply with the requirements of the local floodplain ordinance.

State Agency Projects Only

Executive Order 45, signed by Governor Northam and effective on November 15, 2019, establishes mandatory standards for development of state-owned properties in Flood-Prone Areas, which include Special Flood Hazard Areas, Shaded X Zones, and the Sea Level Rise Inundation Area. These standards shall apply to all state agencies.

1. Development in Special Flood Hazard Areas and Shaded X Zones
 - A. All development, including buildings, on state-owned property shall comply with the locally-adopted floodplain management ordinance of the community in which the state-owned property is located and any flood-related standards identified in the Virginia Uniform Statewide Building Code.

- B. If any state-owned property is located in a community that does not participate in the NFIP, all development, including buildings, on such state-owned property shall comply with the NFIP requirements as defined in 44 CFR §§ 60.3, 60.4, and 60.5 and any flood-related standards identified in the Virginia Uniform Statewide Building Code.
- (1) These projects shall be submitted to the Department of General Services (DGS), for review and approval.
 - (2) DGS shall not approve any project until the State NFIP Coordinator has reviewed and approved the application for NFIP compliance.
 - (3) DGS shall provide a written determination on project requests to the applicant and the State NFIP Coordinator. The State NFIP Coordinator shall maintain all documentation associated with the project in perpetuity.
- C. No new state-owned buildings, or buildings constructed on state-owned property, shall be constructed, reconstructed, purchased, or acquired by the Commonwealth within a Special Flood Hazard Area or Shaded X Zone in any community unless a variance is granted by the Director of DGS, as outlined in this Order.

The following definitions are from Executive Order 45:

Development for NFIP purposes is defined in 44 CFR § 59.1 as “Any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.”

The Special Flood Hazard Area may also be referred to as the 1% annual chance floodplain or the 100-year floodplain, as identified on the effective Flood Insurance Rate Map and Flood Insurance Study. This includes the following flood zones: A, AO, AH, AE, A99, AR, AR/AE, AR/AO, AR/AH, AR/A, VO, VE, or V.

The Shaded X Zone may also be referred to as the 0.2% annual chance floodplain or the 500- year floodplain, as identified on the effective Flood Insurance Rate Map and Flood Insurance Study.

The Sea Level Rise Inundation Area referenced in this Order shall be mapped based on the National Oceanic and Atmospheric Administration Intermediate-High scenario curve for 2100, last updated in 2017, and is intended to denote the maximum inland boundary of anticipated sea level rise.

“State agency” shall mean all entities in the executive branch, including agencies, offices, authorities, commissions, departments, and all institutions of higher education.

“Reconstructed” means a building that has been substantially damaged or substantially improved, as defined by the NFIP and the Virginia Uniform Statewide Building Code.

Federal Agency Projects Only

Projects conducted by federal agencies within the SFHA must comply with federal Executive Order 11988: Floodplain Management.

DCR’s Floodplain Management Program does not have regulatory authority for projects in the SFHA. The applicant/developer must reach out to the local floodplain administrator for an official floodplain determination and comply with the community’s local floodplain ordinance, including receiving a local permit. Failure to comply with the local floodplain ordinance could result in enforcement action from the locality. For state projects, DCR recommends that compliance documentation be provided prior to the project being funded. For federal projects, the applicant/developer is encouraged reach out to the local floodplain administrator and comply with the community’s local floodplain ordinance.

To find flood zone information, use the Virginia Flood Risk Information System (VFRIS):

www.dcr.virginia.gov/vfris

To find community NFIP participation and local floodplain administrator contact information, use DCR's Local Floodplain Management Directory: www.dcr.virginia.gov/dam-safety-and-floodplains/floodplain-directory

Division of Soil & Water Conservation

The Department of Conservation and Recreation (DCR) Division of Soil and Water Conservation coordinates and directs programs and services to prevent degradation of the commonwealth's water quality caused by nonpoint source pollution. Statewide nonpoint source pollution control programs and services support both individual natural resource stewardship and assist local governments with resource management. These programs include nutrient management, agricultural best management practices, resource management planning, shoreline erosion advice, and assistance for Virginia's water conservation districts.

Office of Land Conservation

The remaining DCR divisions have no comments regarding the scope of this project. Thank you for the opportunity to comment.



April 15, 2021

VIA Email

Dominion Energy Virginia
Greg Baka
10900 Nuckols Rd., 4th Floor
Glen Allen, VA 23060

**RE: Dominion Energy Proposed Elmont-Ladysmith 500 kV Transmission Line #574
Rebuild, Hanover and Caroline Counties, VA**

Dear Mr. Baka:

The Virginia Outdoors Foundation (VOF) thanks you for the advance notice of the above referenced project and the opportunity to provide direct comments regarding upgrades to this electric transmission corridor running through Hanover County and Caroline County, Virginia.

Based on the correspondence VOF received, dated March 18, 2021, Dominion is proposing to rebuild the existing 26.2-mile Elmont – Ladysmith 500 kV Transmission Line (#574), due to aging infrastructure, between the Elmont (Hanover Co.) and Ladysmith (Caroline Co.) substations. This letter further confirmed that the Dominion “Rebuild Project” is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary. In response to your letter of notice and request, VOF submits the following comments in response to the Rebuild Project.

VOF, an agency of the Commonwealth, was established by the General Assembly in 1966 to promote the preservation of Virginia’s natural and cultural resources by encouraging private philanthropy in fulfillment of state policy. As a result of Virginia’s commitment to ensure a vibrant natural environment for today and future generations, VOF owns thousands of acres managed for public access and holds more than 4,000 open-space easements across the Commonwealth, which protect over 860,000 acres.

An open-space easement is a legal interest in real property that creates a relationship between the holders of the easement and the property owner. By means of the easement, VOF has an interest in specific conservation values of the property and a legal obligation to protect these values. VOF easements provide important public benefits by protecting in perpetuity significant tracts of mostly undeveloped land which may contribute to the protection of water quality, productive soils, natural heritage resources, historic resources, and scenic viewsheds. VOF easements represent over \$1 billion of public investment and fulfillment of Title XI of the Virginia Constitution and other public policies to ensure the conservation of natural and cultural resources.

The Rebuild Project is directly adjacent to (and crosses a small portion) of an existing open-space easement held by VOF since 2004, known as “Cool Water” (HAN-02872). This easement, located in northwestern Hanover County, is approximately 106.65 acres and lies along a portion of Cool Water Branch, a tributary to the Newfound River, ultimately draining to the Pamunkey River within the Chesapeake Bay watershed. Dominion’s transmission line currently runs along the property’s western boundary which is located along the Branch. In addition to enhancing and protecting the water quality of Cool Water Branch, the other primary conservation values of this easement property include serving as a scenic view for the traveling public along Old Ridge Road, a designated US Bicentennial Bicycle Route (and considered an important historical route in the Civil War by Hanover County); protection of important agricultural soils, wetlands, and hardwood forest; preservation of a historic dwelling known as “Cool Water” which was constructed in 1735; and preservation of the rural landscape and protection from nearby development encroachment.

In total, VOF holds open-space easements on five properties within 1.5 miles of the transmission line Rebuild Project. These easements, directly and indirectly, protect numerous conservation values for the benefit of the public and contribute to the overall high quality of life in the Commonwealth. As such, VOF is concerned about the potential characteristics of the proposed replacement structures and associated project components.

While recognizing engineering constraints, we strongly advocate for the replacement structures and the associated project components to be minimized in their presence on the landscape, or at the least, mimic the characteristics of the existing towers in height, size, and reflectivity to the greatest extent possible.

Thank you for the notice, and we look forward to working with you and Dominion Energy Virginia in the continued planning and development of this project. If you have any further questions or comments, please feel free to contact me at (804) 577-3337 or mlittle@vofonline.org.

Sincerely,



Martha Little
Deputy Director

CC: Brett Glymph, VOF Executive Director

From: Greg.R.Baka@dominionenergy.com
To: [Jennifer Johnson](#)
Cc: [Christine Conrad](#)
Subject: FW: RE: Elmont - Ladysmith 500Kv Trans. Line #574 Rebuild: Request of GIS file
Date: Tuesday, March 30, 2021 12:53:12 PM
Attachments: [image.png](#)

From: Lupo, Shane <shane.lupo@vdot.virginia.gov>
Sent: Tuesday, March 30, 2021 12:43 PM
To: Greg R Baka (DEV Trans Distribution - 1) <Greg.R.Baka@dominionenergy.com>
Cc: Kyle Bates <kyle.bates@vdot.virginia.gov>
Subject: [EXTERNAL] RE: Elmont - Ladysmith 500Kv Trans. Line #574 Rebuild: Request of GIS file

This is an EXTERNAL email that was NOT sent from Dominion Energy. Are you expecting this message? Are you expecting a link or attachment? DO NOT click links or open attachments until you verify them

Greg,

I was forward over the letter you had sent to Kyle Bates at the Fredericksburg Residency about the Elmont - Ladysmith rebuild project. I do know we have a few bridge locations within Caroline county that the transmission line crosses and we are currently looking at replacing a bunch of bridges in Caroline Co. I am not sure if any of the bridges we have on our radar in the next few years would be along your corridor, but if you wouldn't mind sending me a GIS file for our records that would be greatly appreciated.

Thank you,



Shane Lupo
*Utility Relocation Coordinator /
Right of Way & Utility Division*
Virginia Department of Transportation
540-899-4613 (o) / 703-975-2403 (c)
shane.lupo@VDOT.Virginia.gov

CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the

intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.

Rachel M Studebaker (Services - 6)

From: Greg R Baka (DEV Trans Distribution - 1)
Sent: Friday, April 2, 2021 4:12 PM
To: Christine Conrad; Rachel M Studebaker (Services - 6)
Subject: FW: [EXTERNAL] Line # 574 Rebuild Courtesy Review Comments

FYI- See Response from VDoAV below.

From: Scott Denny <scott.denny@doav.virginia.gov>
Sent: Friday, April 2, 2021 3:40 PM
To: Greg R Baka (DEV Trans Distribution - 1) <Greg.R.Baka@dominionenergy.com>
Subject: [EXTERNAL] Line # 574 Rebuild Courtesy Review Comments

This is an EXTERNAL email that was NOT sent from Dominion Energy. Are you expecting this message? Are you expecting a link or attachment? DO NOT click links or open attachments until you verify them

Dear Mr. Baka:

The Virginia Department of Aviation has reviewed your informational letter dated March 18, 2021 requesting courtesy review of the proposed rebuild of Dominion Line # 574 between the Elmont and Ladysmith Substations.

Following our review, staff has the following comments.

1. A 7460 Airspace Study should be done for any portion of the project within 20,000 linear feet of the Hanover County Airport.
2. A 7460 Airspace Study must be done for any structure that will reach a finished grade elevation of 200' or taller. This requirement is applicable for any permanent or temporary structures.

If you have any questions regarding this matter or these comments, please feel free to contact me at (804) 236-3638.

Sincerely,

S. Scott Denny
Senior Aviation Planner
Virginia Department of Aviation

--

S. Scott Denny
Senior Aviation Planner
Virginia Department of Aviation
804-236-3638
scott.denny@doav.virginia.gov