

**HUNTON  
ANDREWS KURTH**

HUNTON ANDREWS KURTH LLP  
RIVERFRONT PLAZA, EAST TOWER  
951 EAST BYRD STREET  
RICHMOND, VIRGINIA 23219-4074

TEL 804 • 788 • 8200  
FAX 804 • 788 • 8218

ANDREA D. GARDNER  
DIRECT DIAL: 804 • 788 • 8237  
EMAIL: AGardner@HuntonAK.com

February 3, 2021

**By Hand**

Hon. Bernard J. Logan, Clerk  
State Corporation Commission  
Document Control Center  
Tyler Building - First Floor  
1300 East Main Street  
Richmond, Virginia 23219-4074

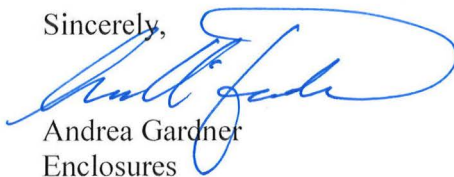
**Re: Application of Central Virginia Electric Cooperative  
For Approval and Certification of Electric Facilities  
Gladstone to Tower Hill 138kV Transmission Line Rebuild Project  
Case No. PUR-2021-00016**

Dear Mr. Logan

Enclosed for filing in the above-captioned proceeding please find an unbound original and fifteen (15) bound copies of the application for approval of electric facilities on behalf of Central Virginia Electric Cooperative (the "Cooperative"). This filing contains the Application, Direct Testimony, Appendix, and DEQ Supplement, including attachments.

As indicated in Section II.A.12.b of the Appendix, three (3) color copies of the map of the Virginia Department of Transportation "General Highway Map" for Appomattox County and Nelson County were hand delivered to the Commission's Division of Energy Regulation today. The Cooperative also will provide the Division of Energy Regulation electronic access to the digital geographic information system map required by § 56-46.1 of the Code of Virginia, which is Exhibit II.A.2 to the Appendix.

Sincerely,



Andrea Gardner  
Enclosures

cc: William H. Chambliss, Esq.  
C. Meade Browder, Jr., Esq.







COMMONWEALTH OF VIRGINIA  
BEFORE THE  
STATE CORPORATION COMMISSION

APPLICATION OF  
CENTRAL VIRGINIA ELECTRIC COOPERATIVE

FOR APPROVAL AND CERTIFICATION  
OF ELECTRIC FACILITIES

Gladstone to Tower Hill 138kV Transmission Line Rebuild Project

Case No. PUR-2021-00016

Filed: February 3, 2021

Volume 1 of 2  
Application, Testimony, Appendix & Appendix Attachments



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# Application



COMMONWEALTH OF VIRGINIA

STATE CORPORATION COMMISSION

APPLICATION OF	)	
	)	
CENTRAL VIRGINIA	)	
ELECTRIC COOPERATIVE	)	
	)	
	)	CASE NO. PUR-2021-00016
	)	
For approval and certification of electric	)	
Transmission and Associated Facilities:	)	
Gladstone to Tower Hill 138kV	)	
Transmission Line Rebuild	)	

**APPLICATION FOR APPROVAL AND CERTIFICATION OF ELECTRIC  
TRANSMISSION AND ASSOCIATED FACILITIES**

Pursuant to § 56-46.1 of the Code of Virginia (“Code”) and the Utility Facilities Act, Code § 56-265.1 *et seq.*, Central Virginia Electric Cooperative (“CVEC” or the “Cooperative”), by counsel, files with the State Corporation Commission of Virginia (the “Commission”), this application for approval and certification of electric transmission and associated facilities (the “Application”). In support of this Application, CVEC states as follows:

1. CVEC is a member-owned, electric distribution cooperative that provides retail electric service to over 36,000 accounts in its certificated service territory in portions of 14 Virginia counties: Albemarle, Amherst, Appomattox, Augusta, Buckingham, Campbell, Cumberland, Fluvanna, Goochland, Greene, Louisa, Nelson, Orange, and Prince Edward. CVEC’s principle offices are located at 800 Cooperative Way, Arrington, Virginia 22922.

2. CVEC’s existing transmission system in the project area receives service by a 46kV transmission line from Appalachian Power Company (“APCo”), an affiliate of American



Electric Power (“AEP”). As part of PJM’s ongoing Regional Transmission Expansion Plan study process, AEP identified thermal and voltage violations of the AEP transmission reliability criteria on several 46kV sub-transmission facilities. To address the thermal and voltage violations, AEP proposed transmission improvement projects, which include the retiring of the existing 46kV transmission line currently serving CVEC, and construction of a new 138kV transmission line to the Cooperative’s Gladstone substation delivery point. APCo has filed an application for Commission approval of these improvement projects in Case No. PUR-2021-00001. It is necessary, therefore, for CVEC to make certain upgrades to its transmission system to take delivery from AEP’s upgraded 138kV line. In addition, the existing Gladstone to Tower Hill 46kV line is a 55-year-old wood pole transmission line that must be rebuilt as it is at the end of its service life. Accordingly, CVEC will rebuild the Gladstone to Tower Hill transmission line and upgrade it from 46kV to 138kV as well as perform minor upgrades to its Gladstone and Tower Hill substations that are required to take delivery from AEP’s upgraded 138kV line (the “Gladstone Rebuild Project”).

3. CVEC’s in-service date must coincide with AEP’s schedule in order to accept the 138kV delivery when the proposed AEP transmission line upgrade is complete and energized. The proposed in-service date of the Gladstone Rebuild Project is therefore currently anticipated to be no later than December 2025. CVEC anticipates, however, that it could have the Gladstone Rebuild Project constructed and ready to be energized by December 2023. The estimated conceptual cost of the Gladstone Rebuild Project is approximately \$8,790,000, which includes \$5,170,000 for transmission-related work and \$3,620,000 for substation-related work (2021 dollars). The Gladstone Rebuild Project is described in detail in Sections I and II of the Appendix attached to this Application.



4. The existing right-of-way for the Gladstone to Tower Hill transmission line is adequate to construct the Gladstone Rebuild Project. Accordingly, CVEC intends to rebuild the line entirely within that existing right-of-way and did not consider alternative routes. The Gladstone Rebuild Project is located entirely within CVEC's certified service territory with approximately 3.1 miles of the 6.3 Gladstone to Tower Hill transmission line located in Nelson County and approximately 3.2 miles in Appomattox County. Utilizing existing right-of-way will minimize impact to historic places, landmarks, wildlife and recreational lands, and prime or scenic timbered areas. The impact of the Gladstone Rebuild Project on scenic, environmental, and historical features is described in detail in Section III of the Appendix.

5. CVEC's consultant, Booth and Associates LLC ("Booth") has developed a supplement ("DEQ Supplement") to facilitate the review and analysis of the Virginia Department of Environmental Quality ("DEQ") and other relevant agencies of the Gladstone Rebuild Project. The DEQ Supplement is attached to this Application.

6. Section V of the Appendix provides a proposed route description for public notice purposes and a list of federal, state, and local agencies and offices that the Cooperative has or will notify about the Application.

7. In addition to the information provided in the Appendix and the DEQ Supplement, this Application is supported by the pre-filed direct testimony of Cooperative witnesses Bruce Maurhoff, Briana D. Eddy, and Gracyn S. Bancroft.

WHEREFORE, Central Virginia Electric Cooperative respectfully requests that the Commission: (i) direct that notice of this Application be given as required by § 56-46.1 of the Code of Virginia; (ii) approve pursuant to § 56-46.1 of the Code of Virginia the construction of the Gladstone Rebuild Project; and (iii) grant a certificate of public convenience and necessity



for the Gladstone Rebuild Project under the Utility Facilities Act, § 56-265.1 *et seq.* of the Code of Virginia.

Respectfully submitted,

CENTRAL VIRGINIA  
ELECTRIC COOPERATIVE

By: \_\_\_\_\_

Counsel

February 3, 2021

Timothy E. Biller  
Andrea D. Gardner  
HUNTON ANDREWS KURTH LLP  
951 East Byrd Street  
Richmond, Virginia 23219-4074  
(804) 788-8756  
(804) 788-8237  
tbiller@huntonak.com  
agardner@huntonak.com



**CERTIFICATE OF SERVICE**

I hereby certify that on this 3rd day of February 2021, a true copy of the foregoing Application of Central Virginia Electric Cooperative was delivered by electronic mail to the following:

William H. Chambliss, Esq.  
Office of General Counsel  
State Corporation Commission  
Tyler Building, 10<sup>th</sup> Floor  
1300 E. Main Street  
Richmond, Virginia 23219

C. Meade Browder, Jr., Esq.  
Division of Consumer Counsel  
Office of Attorney General  
202 N. 9<sup>th</sup> Street  
Richmond, Virginia 23219

  
By Counsel



# Direct Testimony



## **WITNESS DIRECT TESTIMONY SUMMARY**

Witness: Bruce Maurhoff

Title: Senior Vice-President and Chief Officer

Summary:

Cooperative witness Bruce Maurhoff is sponsoring Section I and Section V of the Appendix, which provides justification for and detailed descriptions of the Gladstone Rebuild Project. He also sponsors Section V of the Appendix which addresses notice requirements for the Gladstone Rebuild Project.

- Section I.A: this section addresses the primary justification for the Gladstone Rebuild Project.
- Section I.B: this section details the engineering justifications for the Gladstone Rebuild Project.
- Section I.C: this section discusses electrical load demand requirements.
- Section I.D: this section addresses contingency situations.
- Section I.E: this section describes feasible project alternatives.
- Section I.F: this section addresses facilities to be removed or replaced.
- Section I.G: this section includes system maps.
- Section I.H: this section addresses the desired in-service date and estimated construction timeline.
- Section I.I: this section provides estimated costs.
- Section I.J: this section details approvals by the RTO.
- Section I.K: this section addresses outage history.
- Section I.L: this section addresses structure and equipment deterioration.
- Section I.M: this section addresses transmission lines interconnecting a non-utility generator.
- Section I.N: this section addresses generating sources to be served by new ground facilities.
- Section V.A: this section describes the proposed route to be used for public notice purposes.
- Section V.B: this section details where members of the public may inspect the Application.
- Section V.C: this section lists the agencies that may have an interest in the Gladstone Rebuild Project.







**DIRECT TESTIMONY  
OF  
BRUCE MAURHOFF  
ON BEHALF OF CENTRAL VIRGINIA ELECTRIC COOPERATIVE  
BEFORE THE  
STATE CORPORATION COMMISSION OF VIRGINIA  
CASE NO. PUR-2021-00016**

1   **Q.    Please state your name, business address and position with Central Virginia Electric**  
2       **Cooperative.**

3    A.   My name is Bruce Maurhoff. I am Senior Vice-President and Chief Operating Officer for  
4       Central Virginia Electric Cooperative (“CVEC” or the “Cooperative”). My business  
5       address is Post Office Box 247, Lovingson, VA 22949

6   **Q.    Please describe your areas of responsibility with CVEC.**

7    A.   I am responsible for the oversight of the engineering, operations, and information  
8       technology departments as well as activities associated with the planning of wholesale  
9       power supply resources. I direct the departments in the planning, installation, operation  
10      and maintenance of the transmission, distribution, communication, network and control  
11      systems. I plan the research, evaluation, and consideration of wholesale power supply  
12      resources and the development of practices, procedures, policies, and resources for CEO  
13      and board approval to enable the efficient operation of the departments and the  
14      procurement of economical power supply resources.

15   **Q.    Please describe your professional experience and educational background.**

16   A.   I received a Bachelor of Science Degree in Electrical Engineering from Grove City  
17      College in 1986. I hold certification as a registered professional engineer in the state of  
18      Georgia and the Commonwealth of Virginia. I have more than 30 years of experience in  
19      the engineering, planning, and operation functions of a distribution electric cooperative. I



1 have more than 20 years of management experience. From 1987 to 1997, I worked for  
2 Mitchell Electric Membership Corporation in Camilla, Georgia where I was responsible  
3 for the implementation of communication, load management and control systems, and the  
4 supervision of system planning, metering, field engineering, contracting, and apparatus  
5 maintenance.

6 In 1997, I was hired as an electrical engineer for CVEC. I performed system  
7 planning studies, addressed power quality concerns, and managed projects for the  
8 implementation of communications and control systems. In 1999, I was promoted to  
9 Planning Engineering Manager. In 2001, I became Engineering Manager of a combined  
10 planning engineering and field engineering department, during which time I was  
11 responsible for the business functions of metering, mapping, system control, system  
12 planning, field engineering, apparatus maintenance, and load management. In 2008, I  
13 was promoted to Vice President of Engineering and Operations, and was responsible for  
14 providing direction to the Engineering and Operations departments. I became involved in  
15 power supply planning and retail rate design. In 2011, my job functions changed as the  
16 Vice President of Power Supply and Engineering. In addition to providing direction to  
17 the Engineering departments, I have a lead role in the planning of wholesale power  
18 supply procurement and providing information and options for CEO and Board  
19 consideration. In 2014, I was promoted to Senior Vice President and Chief Operating  
20 Officer leading the information technology, engineering, and operation departments in  
21 addition to managing power supply.



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

2 A. The purpose of my testimony is to describe the CVEC's transmission system in the area  
3 of the proposed project and the need for, and benefits of, the proposed Gladstone Rebuild  
4 Project. I also address the notice requirements for the Gladstone Rebuild Project. I am  
5 sponsoring Section I and Section V of the Appendix.

6 **Q. Please explain the Cooperative's proposed project.**

7 A. The Gladstone Rebuild Project is necessary to rebuild and upgrade the Cooperative's  
8 Gladstone to Tower Hill transmission line from 46kV to 138kV and to make necessary  
9 upgrades at the Gladstone and Tower Hill Substations to take delivery from Appalachian  
10 Power Company ("APCo"), an affiliate of American Electric Power ("AEP"). This  
11 transmission line currently receives transmission service by an AEP 46kV transmission  
12 line. AEP is a member of the regional transmission organization PJM Interconnection  
13 L.L.C. ("PJM"). As part of PJM's ongoing Regional Transmission Expansion Plan study  
14 process, AEP identified thermal and voltage violations of the AEP transmission reliability  
15 criteria on several 46 kV sub-transmission facilities. To address the thermal and voltage  
16 violations, AEP proposed transmission improvement projects, which include the retiring  
17 of the existing 46kV line serving CVEC, and construction of a new 138kV transmission  
18 line to the Gladstone substation delivery point. As a result, CVEC must make  
19 appropriate upgrades to its system to take delivery from AEP at 138 kV. Further, the  
20 existing Gladstone to Tower Hill 46kV line providing service to the Gladstone and Tower  
21 Hill substations is a 55-year-old wood pole transmission line in need of update as the  
22 assets are at the end of their service life. CVEC will rebuild the line at 138kV and make



1           necessary upgrades at its Gladstone and Tower Hill Substations to take delivery from  
2           AEP at 138kV.

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

4   A.     Yes. The Cooperative delivered letters to the County Administrators for Appomattox  
5           County and Nelson County on January 8, 2021. These letters are included as Attachment  
6           V.D to the Appendix.

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

8   A.     Yes.



## WITNESS DIRECT TESTIMONY SUMMARY

Witness: Briana D. Eddy

Title: General Manager Support Services

Summary:

Cooperative witness Briana D. Eddy is sponsoring Section III and Section IV of the Appendix, which details the impact of the Gladstone Rebuild Project on scenic, environmental, and historic features and the health aspects of electromagnetic fields (“EMF”). Ms. Eddy is also sponsoring the DEQ Supplement provided as part of the Cooperative’s Application.

- Section III.A: this section describes the character of the area that will be traversed.
- Section III.B: this section describes any public meetings or outreach efforts with neighborhood associations and/or officials of local, state or federal governments in which the Company has engaged.
- Section III.C: this section details whether any buildings will be demolished or relocated if the Gladstone Rebuild Project is built as proposed.
- Section III.D: this section identifies existing physical facilities that the line will parallel, if any, and describes the characteristics and length of the right-of-way (“ROW”).
- Section III.E: this sections details investigation into land use plans in the areas of the proposed route.
- Section III.F: this section addresses the Gladstone Rebuild Project’s impact on important farmlands, if any.
- Section III.G: this section identifies the historic features that lie within or adjacent to the proposed ROW.
- Section III.H: this section identifies any registered aeronautical facilities that might be affected by the Gladstone Rebuild Project.
- Section III.I: this section identifies any scenic byways that are in proximity to or that will be crossed by the proposed transmission line.
- Section III.J: this section identifies coordination with appropriate municipal, state, and federal agencies.
- Section III.K: this section identifies coordination with any non-governmental organizations or private citizen groups.
- Section III.L: this section identifies any environmental permits or special permissions anticipated to be needed.
- Section IV: this section details the health aspects of electromagnetic fields.







**DIRECT TESTIMONY OF  
BRIANA D. EDDY  
ON BEHALF OF  
CENTRAL VIRGINIA ELECTRIC COOPERATIVE  
BEFORE THE  
STATE CORPORATION COMMISSION OF VIRGINIA  
CASE NO. PUR-2021-00016**

1    **Q.     Please state your name, business address and position of employment.**

2    A.     My name is Briana D. Eddy, General Manager, Support Services for Booth & Associates,  
3            LLC (“Booth”). My business address is 5811 Glenwood Avenue, Suite 109, Raleigh,  
4            North Carolina, 27612.

5    **Q.     Please describe your areas of responsibility with Booth.**

6    A.     As General Manager, I provide direct supervision of the Permitting, Survey and GIS Group  
7            at Booth. This includes management of the design group in preparation of various utility  
8            encroachments and environmental permits, management of Erosion and Sedimentation  
9            Control and Storm Water Plans, and management of the required Army Corps of Engineer  
10           documents for all applicable transmission/distribution, renewables and substation projects. I  
11           also am responsible for project coordination with regulatory agency personnel and engineering  
12           project managers.

13   **Q.     Please describe your professional experience and educational background.**

14   A.     My professional experience begins after obtaining my Bachelor’s of Science degree in  
15            Geoenvironmental Studies at Shippensburg University of Pennsylvania in 1997. I  
16            worked as an office manager for a general practice attorney in Harrisburg, Pennsylvania  
17            for several years, including while I attended school at Thompson Institute to obtain an  
18            Associates in Specialized Technology in Computer-Aided Drafting. While working with



1 the attorney I had the opportunity to work with deeds and legal descriptions while  
2 assisting with property closings. In 2003 I obtained the design degree from Thompson  
3 Institute and transitioned from working from the attorney to being a designer at Brinjac  
4 Engineering in Harrisburg, Pennsylvania.

5 While working for Brinjac Engineering, I handled the drawings and documents needed to  
6 permit land-disturbing projects with the PADEQ, PennDOT and Army Corp. I also  
7 handled the GIS mapping and drafting for planning and engineering projects. In August  
8 of 2008 I transferred to North Carolina and began my work with Booth and Associates  
9 LLC. Just before this I had obtained my Penn State University master's degree First Year  
10 Certificate in Geographical Information Systems (GIS).

11 During my initial years at Booth I handled the permitting reports, documentation and  
12 drafting for all the land-disturbing projects, including for DEQ and DOT projects in  
13 Virginia and other states. In 2014, I added staff to the permitting group and began to act  
14 as project manager for permitting and civil/site design and now head up a larger group of  
15 engineers and technicians. I am familiar with the permitting requirements for this project  
16 and have been involved in coordination from the beginning of project planning.

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

18 A. The purpose of my testimony is to provide an overview of the environmental impacts of,  
19 and associated permitting and agency outreach for, the Cooperative's proposed Gladstone  
20 Rebuild Project. I am sponsoring Section III and Section IV of the Appendix. I am also  
21 sponsoring the DEQ Supplement provided as part of the Cooperative's Application.



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

2    **A.**     **Yes.**







## **WITNESS DIRECT TESTIMONY SUMMARY**

Witness: Gracyn S. Bancroft, P.E. PMP

Title: Transmission Engineering Project Engineer

Summary:

Cooperative witness Gracyn S. Bancroft is sponsoring Section II.A, Section II.B, and Section II.C of the Appendix, which provides an overview of the design and engineering of the Gladstone Rebuild Project.

- Section II.A.1: this section details the length of the proposed corridor and viable alternatives.
- Section II.A.2: this section includes maps that show the route of the Gladstone Rebuild Project and its relation to other public utilities, transportation features and other facilities.
- Section II.A.3: this section includes a map of the ROW of the Gladstone Rebuild Project.
- Section II.A.4: this section addresses routes outside the existing ROW.
- Section II.A.5: this section details the ROW cross section.
- Section II.A.6: this section addresses portions of the ROW subject to existing easements.
- Section II.A.7: this section details the proposed ROW clearing methods to be used and the ROW restoration and maintenance practices planned.
- Section II.A.8: this section addresses the permitted uses of the proposed ROW.
- Section II.A.9: this section describes the Company's route selection procedures.
- Section II.A.10: this section describes the Company's construction plans for the Gladstone Rebuild Project.
- Section II.A.11: this section details how construction of the Gladstone Rebuild Project follows the provisions discussed in Attachment 1 of the SCC Guidelines.
- Section II.A.12: this section details the counties and localities through which the Gladstone Rebuild Project will pass and includes general highway maps.
- Section II.B.1: this section details the proposed circuits.
- Section II.B.2: this section details the configuration of the proposed conductors.
- Section II.B.3: this section details the proposed supporting structures over each portion of the ROW.
- Section II.B.4: this section addresses the supporting structures for all feasible alternate routes.
- Section II.B.5: this section provides mapping that shows existing and proposed structure heights for each individual structure within the ROW, as proposed.
- Section II.B.6: this section provides photographs for typical existing and proposed facilities.
- Section II.C: this section describes any substations, switching stations, and other ground facilities associated with the Gladstone Rebuild Project.







**DIRECT TESTIMONY OF  
GRACYN S. BANCROFT, P.E., PMP  
ON BEHALF OF  
CENTRAL VIRGINIA ELECTRIC COOPERATIVE  
BEFORE THE  
STATE CORPORATION COMMISSION OF VIRGINIA  
CASE NO. PUR-2021-XXXXX**

1    **Q.     Please state your name, business address and position of employment.**

2    A.     My name is Gracyn S. Bancroft, P.E., PMP. I am a Transmission Engineering Project  
3           Engineer for Booth & Associates, LLC (“Booth”). My business address is 5811 Glenwood  
4           Avenue, Suite 109, Raleigh, North Carolina, 27612.

5    **Q.     Please describe your areas of responsibility with Booth.**

6    A.     Sure. As a transmission project engineer specializing in civil engineering activities  
7           associated with transmission and distribution line design, I am responsible for the design  
8           of new lines, line replacements, and transmission with distribution underbuild for various  
9           projects ranging from 34.5kV to 345kV throughout the United States. I also provide  
10          overall project management and coordinate scheduling of permitting, design, material  
11          deliveries, and construction.

12   **Q.     Please describe your professional experience and educational background.**

13   A.     I received a Bachelor of Engineering degree from Vanderbilt University in Nashville, TN.  
14          I have my Professional Engineer’s license and maintain licensure in the Commonwealth of  
15          Virginia, among other states. I have also earned a Project Management Professional license  
16          from the Project Management Institute. I have practiced in the transmission line and utility  
17          industry for over 8 years, which includes the wide variety of voltages noted, in locations  
18          across the United States.



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

2    A.     The purpose of my testimony is to provide an overview of the design and engineering of  
3           the Cooperative's proposed Gladstone Rebuild Project. Specifically, I am sponsoring  
4           Sections II of the Appendix.

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

6    A.     Yes.



# Appendix



## **I. NECESSITY FOR THE PROPOSED PROJECT**

- A. State the primary justification for the proposed project (for example, the most critical contingency violation including the first year and season in which the violation occurs). In addition, identify each transmission planning standard(s) (of the Applicant, regional transmission organization ("RTO"), or North American Electric Reliability Corporation) projected to be violated absent construction of the facility.**

Response: The Gladstone Rebuild Project is necessary to rebuild and upgrade the Cooperative's Gladstone to Tower Hill transmission line from 46kV to 138kV and to make necessary upgrades at the Gladstone and Tower Hill Substations to take delivery from Appalachian Power Company ("APCo"), an affiliate of American Electric Power ("AEP"). This transmission line currently receives transmission service by an AEP 46kV transmission line. AEP is a member of the regional transmission organization PJM Interconnection L.L.C. ("PJM"). As part of PJM's ongoing Regional Transmission Expansion Plan study process, AEP identified thermal and voltage violations of the AEP transmission reliability criteria on several 46 kV sub-transmission facilities. To address the thermal and voltage violations, AEP proposed transmission improvement projects, which include the retiring of the existing 46kV line serving CVEC, and construction of a new 138kV transmission line to the Gladstone substation delivery point. As a result, CVEC must make appropriate upgrades to its system to take delivery from AEP at 138 kV. Further, the existing Gladstone to Tower Hill 46kV line providing service to the Gladstone and Tower Hill substations is a 55-year-old wood pole transmission line in need of update as the assets are at the end of their service life. CVEC will rebuild the line at 138kV and make necessary upgrades at its Gladstone and Tower Hill Substations to take delivery from AEP at 138kV.

- B. Detail the engineering justifications for the proposed project (for example, provide narrative to support whether the proposed project is necessary to upgrade or replace an existing facility, to significantly increase system reliability, to connect a new generating station to the Applicant's system, etc.). Describe any known future project(s), including but not limited to generation, transmission, delivery point or retail customer projects, that require the proposed project to be constructed. Verify that the planning studies used to justify the need for the proposed project considered all other generation and transmission facilities impacting the affected load area, including generation and transmission facilities that have not yet been placed into service. Provide a list of those facilities that are not yet in service.**

Response: The Gladstone Rebuild Project is necessary to rebuild and upgrade the Cooperative's transmission line from 46kV to 138kV and associated substation upgrades to take delivery from AEP. AEP has proposed transmission improvement projects, which include the retirement of the existing 46kV line service CVEC, and construction of a new 138kV transmission line to the Gladstone substation delivery point. The existing Gladstone to Tower Hill transmission line providing service to the Gladstone and Tower Hill substations is a 55-year-old wood pole transmission line and is due to be rebuilt. CVEC will rebuild its 46kV transmission line at 138kV to take delivery from AEP at 138kV. The Gladstone and Tower Hill substations will be rebuilt at 138kV and new 138kV to 12.47/7.2 –



24.9/14.4kV transformers will be installed. The Gladstone and Tower Hill substations will be rebuilt on property owned by CVEC at the existing substation sites. Beyond the need to replace the stations due to the upgrade of the high-side voltage, this upgrade will increase CVEC's system reliability. Once the new 138kV substations are in service the existing 46kV substations will be removed.

- C. Describe the present system and detail how the proposed project will effectively satisfy present and projected future electrical load demand requirements. Provide pertinent load growth data (at least five years of historical summer and winter peak demands and ten years of projected summer and winter peak loads where applicable). Provide all assumptions inherent within the projected data and describe why the existing system cannot adequately serve the needs of the Applicant (if that is the case). Indicate the date by which the existing system is projected to be inadequate.**

**Response:** Electric demand on the existing transmission line is not a factor initiating the need for the Gladstone Rebuild Project. As explained in the Cooperative's response to Section I.A above, CVEC presently takes transmission service from AEP near its Gladstone substation at 46kV, and needs to upgrade the transmission system to 138kV to receive service from AEP's upgraded 138kV transmission line. CVEC owns the 46kV transmission line beyond the AEP service point. The CVEC 46kV transmission line serves the Gladstone and Tower Hill substations. The wood pole 46kV transmission facilities extend 6.3 miles from the AEP delivery point in southeast Nelson County, along route 60, east across the James River into northwest Appomattox County. The existing 46kV transmission facilities were built in 1965 with many of the original structures still in use. Most of the existing structures are single wood pole structures that would be replaced with steel or ductile iron poles and would remain single pole structures. Only the structures on either end of long spans, such as the James River crossing, would be two pole, H-frame structures. New structures would be placed within the same right-of-way of the existing line and spaced at intervals necessary to maintain required clearances at maximum conductor sag.

The winter and summer peak load information for this transmission line is provided in the table below. The area served by this transmission line is rural and is not forecasted to have significant growth.

**Gladstone-Tower Hill Historical Transmission Load**

	<b>Winter Peak kW</b>	<b>Summer Peak kW</b>
<b>2016</b>	4,910	3,429
<b>2017</b>	5,106	3,430
<b>2018</b>	5,968	3,278
<b>2019</b>	4,640	3,437
<b>2020</b>	4,136	3,630



**Gladstone-Tower Hill Transmission  
Forecasted Load**

	<b>Winter Peak</b>	<b>Summer Peak</b>
<b>2021</b>	6,010	3,655
<b>2022</b>	6,034	3,670
<b>2023</b>	6,058	3,685
<b>2024</b>	6,107	3,714
<b>2025</b>	6,149	3,740
<b>2026</b>	6,192	3,766
<b>2027</b>	6,230	3,789
<b>2028</b>	6,267	3,812
<b>2029</b>	6,305	3,835
<b>2030</b>	6,336	3,854

- D. If power flow modeling indicates that the existing system is, or will at some future time be, inadequate under certain contingency situations, provide a list of all these contingencies and the associated violations. Describe the critical contingencies including the affected elements and the year and season when the violation(s) is first noted in the planning studies. Provide the applicable computer screenshots of single-line diagrams from power flow simulations depicting the circuits and substations experiencing thermal overloads and voltage violations during the critical contingencies described above.**

Response: Power flow modeling done by AEP initiated the need for transmission system changes resulting in 138kV delivery to CVEC's Gladstone delivery point, triggering the need for the Gladstone Rebuild Project.

- E. Describe the feasible project alternatives, if any, considered for meeting the identified need including any associated studies conducted by the Applicant or analysis provided to the RTO. Explain why each alternative was rejected.**

Response: CVEC considered two options for taking delivery at 138 kV from AEP. Option 1 was to build a new transmission substation at the Gladstone delivery point, install two (2) 15 MVA 138kV to 46kV transformers and continue operating at 46 kV on the CVEC Gladstone to Tower Hill transmission line and taking 46 kV delivery at the Gladstone and Tower Hill substations. The total estimated cost of this option is \$9,512,000.

Option 2 was to take delivery at 138kV from AEP through a new 138kV breaker station constructed at the Gladstone delivery point. The CVEC transmission line would be rebuilt at 138 kV and the Gladstone and Tower Hill substations would be upgraded with 138kV to 12.47/7.2 kV - 24.9/14.4 kV transformers. The estimated cost of this option is \$8,790,000.

The Cooperative determined Option 2 is the preferred option because the existing 46 kV transmission line is a 55-year-old wood pole line with many of the initial



structures still in use. CVEC anticipates that this line is at the end of its service life and would need to be rebuilt regardless of any other required upgrades. In addition, this option proved more advantageous because the transformers with voltage ratings of 138kV to 12.47/7.2kV – 24.9/14.4kV are used in other substations on CVEC's system and spare transformers will be available. The estimated service life of these assets will be 30 – 35 years.

**F. Describe any lines or facilities that will be removed, replaced, or taken out of service upon completion of the proposed project, including the number of circuits and normal and emergency ratings of the facilities.**

Response: The Cooperative's Gladstone to Tower Hill transmission line is the only line that will be replaced with the Gladstone Rebuild Project. The Gladstone and Tower Hill substations will be replaced with facilities capable of 138kV service. The existing substation structures, transformers and associated equipment will be retired after the new 138kV substation facilities are in service.

**G. Provide a system map, in color and of suitable scale, showing the location and voltage of the Applicant's transmission lines, substations, generating facilities, etc., that would affect or be affected by the new transmission line and are relevant to the necessity for the proposed line. Clearly label on this map all points referenced in the necessity statement.**

Response: See Attachment I.G for the system map.

**H. Provide the desired in-service date of the proposed project and the estimated construction time.**

Response: CVEC's in-service date must coincide with AEP's schedule in order to accept the 138kV delivery when the proposed AEP transmission line upgrade is complete and energized. The proposed in-service date of the Gladstone Rebuild Project is therefore currently anticipated to be no later than December 2025. CVEC anticipates, however, that it could have the Gladstone Rebuild Project constructed and ready to be energized by December 2023.

**I. Provide the estimated total cost of the project as well as total transmission-related costs and total substation-related costs. Provide the total estimated cost for each feasible alternative considered. Identify and describe the cost classification (e.g. "conceptual cost," "detailed cost," etc.) for each cost provided.**

Response: See the Cooperative's response to Section I.E for information regarding cost of feasible alternatives considered. The proposed project total estimated cost is \$8,790,000. The estimated transmission-related costs are \$5,170,000 and the estimated substation improvement costs are \$3,620,000. These cost estimates are conceptual costs as actual design and materials have not been specified or bid.



- J. If the proposed project has been approved by the RTO, provide the line number, regional transmission expansion plan number, cost responsibility assignments, and cost allocation methodology. State whether the proposed project is considered to be a baseline or supplemental project.**

Response: RTO approval is not required for the Gladstone Rebuild Project because it is not part of the bulk electric system.

- K. If the need for the proposed project is due in part to reliability issues and the proposed project is a rebuild of an existing transmission line(s), provide five years of outage history for the line(s), including for each outage the cause, duration and number of customers affected. Include a summary of the average annual number and duration of outages. Provide the average annual number and duration of outages on all Applicant circuits of the same voltage, as well as the total number of such circuits. In addition to outage history, provide five years of maintenance history on the line(s) to be rebuilt including a description of the work performed as well as the cost to complete the maintenance. Describe any system work already undertaken to address this outage history.**

Response: Reliability has been a concern on the 46kV transmission. Most of the outages can be attributed to the AEP transmission line providing service to CVEC. The 378 customers on Tower Hill substation have experienced 34.42 hours of outage time and the 679 customers on the Gladstone substation have experienced 32.21 hours of outage time. One eight-hour outage was requested by AEP in 2016 to allow AEP to change deteriorated poles on their existing line when the work could not be done while the line was energized. The condition of the structures did not allow the AEP maintenance to be delayed. The longest duration outage in the last 5 years was over 10 hours. Five years of transmission outage history is provided in the table below.

CVEC has performed regular inspection and maintenance on the Gladstone to Tower Hill transmission line. Pole inspection prior to 2018 resulted in 6 of the 90 poles being identified to be replaced. In 2018, a total of 11 poles, including the 6 previously identified, were replaced with the 46kV line remaining energized. The total cost of this maintenance work was \$265,026. Inspection of this line in 2020 identified an additional 9 poles (10%) to be replaced due to deterioration.

#### **Tower Hill Substation**

Date	Duration Minutes	Customers Affected	Customer Minutes	Cause	
10/1/2016	478	371	177,338	Planned	02 A- Power Supply - AEP
5/31/2017	82	375	30,750	Wind	02 A- Power Supply - AEP
3/2/2018	620	379	234,980	Wind	02 A- Power Supply - AEP
8/13/2018	197	377	74,269	Rain	02 A- Power Supply - AEP
11/1/2019	527	380	200,260	Lightning	02 A- Power Supply - AEP
8/29/2020	7	386	2,702	Lightning	02 A- Power Supply - AEP



11/17/2020	69	386	26,634	Wind Equipment	02 A- Power Supply - AEP
11/4/2017	85	378	32,130	Failure	30 D- Material/ Equip Failure
Tower Hill Total	2,065		779,063		
Hours	34.42		12,984	Customer-Hours	

**Gladstone  
Substation**

Date	Duration Minutes	Customers Affected	Customer Minutes	Cause	
10/1/2016	478	674	322,172	Planned	02 A- Power Supply - AEP
5/31/2017	85	676	57,460	Wind	02 A- Power Supply - AEP
3/2/2018	620	669	414,780	Wind	02 A- Power Supply - AEP
8/13/2018	199	673	133,927	Rain	02 A- Power Supply - AEP
11/1/2019	725	673	488,138	Lightning	02 A- Power Supply - AEP
8/29/2020	7	680	4,760	Lightning	02 A- Power Supply - AEP
11/17/2020	68	679	46,172	Wind	02 A- Power Supply - AEP
					03 A- Power Supply - CVEC
10/31/2019	142	673	95,566	Lightning	Substation
11/10/2020	86	679	58,439	Planned	10 C- Planned, Maintenance
Gladstone Total	1,932		1,621,414		
Hours	32.21		27,024	Customer-Hours	
Total Hours	66.62		40,008	Customer-Hours	

**L. If the need for the proposed project is due in part to deterioration of structures and associated equipment, provide representative photographs and inspection records detailing their condition.**

Response: CVEC's inspection in 2020 of the Gladstone to Tower Hill transmission line indicated that nine (9) structures (approximately 10%) need to be replaced. Another eight (8) poles (approximately 9%) needed to be treated for woodpecker damage, ground rot or insects. Photographs of some structures requiring repair or replacement are provided in Attachments I.L1-I.L.4.

<b>Reject Transmission Poles on the line from Gladstone to Tower Hill Substations</b>						
LocationID	StructNum	MultDescrip	StructType	YearManufa	Length	Class
71394	T5-21	Single Pole	Wood Pole	1965	50	1
71405	T5-2B	Single Pole	Wood Pole	1965	35	2
71417	T5-37	Single Pole	Wood Pole	1965	55	2
71419	T5-39A	Single Pole	Wood Pole	1965	50	1



71432	T5-49	Single Pole	Wood Pole	1965	50	1
71435	T5-51	Single Pole	Wood Pole	1965	50	1
71452	T5-67	Single Pole	Wood Pole	1965	55	1
71456	T5-70	Single Pole	Wood Pole	1965	55	1
71467	T5-80	Single Pole	Wood Pole	1963	60	2

**Transmission Poles on the circuit from Gladstone to Tower Hill Substations that required maintenance (Wood Treatment)**

LocationID	StructNum	MultDescrip	StructType	YearManufa	Length	Class
71385	T5-14	Single Pole	Wood Pole	1965	50	1
71386	T5-15	Single Pole	Wood Pole	1965	50	1
71426	T5-44	Single Pole	Wood Pole	1965	50	2
71433	T5-5	Single Pole	Wood Pole	1965	50	1
71440	T5-56	Single Pole	Wood Pole	1986	65	3
71444	T5-6	Single Pole	Wood Pole	1965	55	1
71447	T5-62 / EC25-3-1	Single Pole	Wood Pole	1986	55	3
71466	T5-8	Single Pole	Wood Pole	1965	50	1

**M. In addition to the other information required by these guidelines, applications for approval to construct facilities and transmission lines interconnecting a Non- Utility Generator ("NUG") and a utility shall include the following information:**

1. The full name of the NUG as it appears in its contract with the utility and the dates of initial contract and any amendments;
2. A description of the arrangements for financing the facilities, including information on the allocation of costs between the utility and the NUG;
- 3.a. For Qualifying Facilities ("QFs") certificated by Federal Energy Regulatory Commission ("FERC") order, provide the QF or docket number, the dates of all certification or recertification orders, and the citation to FERC Reports, if available;
- 3.b. For self-certificated QFs, provide a copy of the notice filed with FERC;
4. Provide the project number and project name used by FERC in licensing hydroelectric projects; also provide the dates of all orders and citations to FERC Reports, if available; and
5. If the name provided in 1 above differs from the name provided in 3 above, give a full explanation.

Response: Not applicable.



**N. Describe 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.**

Response: The Cooperative is not proposing construction of any new facilities with the Gladstone Rebuild Project, only the rebuild of existing facilities.



## **II. DESCRIPTION OF THE PROPOSED PROJECT**

### **A. Right-of-way ("ROW")**

#### **1. Provide the length of the proposed corridor and viable alternatives.**

Response: The length of the existing right-of-way is 6.33 miles. Because the Gladstone Rebuild Project will utilize the existing ROW, no alternative routes are proposed for the Gladstone Rebuild Project.

#### **2. Provide color maps of suitable scale (including both general location mapping and more detailed GIS-based constraints mapping) showing the route of the proposed line and its relation to: the facilities of other public utilities that could influence the route selection, highways, streets, parks and recreational areas, scenic and historic areas, open space and conservation easements, schools, convalescent centers, churches, hospitals, burial grounds/cemeteries, airports and other notable structures close to the proposed project. Indicate the existing linear utility facilities that the line is proposed to parallel, such as electric transmission lines, natural gas transmission lines, pipelines, highways, and railroads. Indicate any existing transmission ROW sections that are to be quitclaimed or otherwise relinquished. Additionally, identify the manner in which the Applicant will make available to interested persons, including state and local governmental entities, the digital GIS shape file for the route of the proposed line.**

Response: See Attachments II.A.2(a)-(c). All GIS files showing the route are available for issuance to agencies as needed.

#### **3. Provide a separate color map of a suitable scale showing all the Applicant's transmission line ROWs, either existing or proposed, in the vicinity of the proposed project.**

Response: See Attachment II.A.3.

#### **4. To the extent the proposed route is not entirely within existing ROW, explain why existing ROW cannot adequately service the needs of the Applicant.**

Response: The proposed route lies entirely within the existing ROW.

#### **5. Provide drawings of the ROW cross section showing typical transmission line structure placements referenced to the edge of the ROW. These drawings should include:**

- a. ROW width for each cross section drawing;**
- b. Lateral distance between the conductors and edge of ROW;**
- c. Existing utility facilities on the ROW; and**



- d. For lines being rebuilt in existing ROW, provide all of the above as it currently exists, and (ii) as it will exist at the conclusion of the proposed project**

Response: See Attachments II.A.5.

- 6. Detail what portions of the ROW are subject to existing easements and over what portions new easements will be needed.**

Response: The ROW is existing; no new easements are needed for the Gladstone Rebuild Project.

- 7. Detail the proposed ROW clearing methods to be used and the ROW restoration and maintenance practices planned for the proposed project.**

Response: No new ROW will be cleared for the Gladstone Rebuild Project. The Gladstone to Tower Hill transmission line will be rebuilt in the existing ROW. The ROW vegetation is managed on a five-year cycle using utility standard mechanical and chemical vegetation management practices.

- 8. Indicate the permitted uses of the proposed ROW by the easement landowner and the Applicant.**

Response: The easements for the existing ROW permit the Cooperative to place, construct, repair, maintain, reconstruct, relocate and replace an electric transmission and/or distribution line or system; and to maintain the ROW and keep it clear of all buildings or structures. The landowner is permitted to place fences of a reasonable height. The easement is not specific to other uses permitted by the landowner.

- 9. Describe the Applicant's route selection procedures. Detail the feasible alternative routes considered. For each such route, provide the estimated cost and identify and describe the cost classification (e.g. "conceptual cost," "detailed cost," etc.). Describe the Applicant's efforts in considering these feasible alternatives. Detail why the proposed route was selected and other feasible alternatives were rejected. In the event that the proposed route crosses, or one of the feasible routes was rejected in part due to the need to cross, land managed by federal, state, or local agencies or conservation easements or open space easements qualifying under §§ 10.1-1009 – 1016 or §§ 10.1-1700 – 1705 of the Code (or a comparable prior or subsequent provision of the Code), describe the Applicant's efforts to secure the necessary ROW.**

Response: The Cooperative did not consider alternative routes because the existing ROW is adequate to construct the Gladstone Rebuild Project.

- 10. Describe the Applicant's construction plans for the project, including how the Applicant will minimize service disruption to the affected load area.**



**Include requested and approved line outage schedules for affected lines as appropriate.**

Response: The Cooperative intends to rebuild the Gladstone to Tower Hill transmission line with the existing facilities remaining energized. The Gladstone to Tower Hill transmission line is a radial tap line with no other transmission feed available to serve the Gladstone and Tower Hill substations. CVEC will utilize distribution line tie points between Gladstone and Tower Hill and between Tower Hill and Mt. Rush substation to transfer load off of Tower Hill substation. Distribution system analysis will be performed to determine the extent of load transfer possible, allowing part or all of the transmission line to be rebuilt with the existing line de-energized. If analysis indicates that distribution tie points between substation do not have sufficient capacity to transfer the required load during the construction period, the transmission line will be rebuilt with the existing line remaining energized. CVEC will limit outages to durations of six (6) or less hours when required to connect or reconfigure the electric system. The substation construction at Gladstone and Tower Hill will take place at the existing substation sites, adjacent to the existing substations, on property owned by CVEC. Before energizing the new line, it will be connected to the newly constructed substations. The stations will then be tested and commissioned prior to energization. Once the new stations are online and energized the existing stations will then be decommissioned with care to incur minimal outages.

**11. Indicate how the construction of this transmission line follows the provisions discussed in Attachment 1 of these Guidelines.**

Response: The construction of the Gladstone Rebuild Project follows the provisions discussed in Attachment 1 of these Guidelines by utilizing existing ROW, which minimizes impact to historic places, landmarks, wildlife and recreational lands, and prime or scenic timbered areas and avoids steep slopes and proximately to main highways. It also does not cross any land managed by government agencies and requires no additional clearing beyond the typical maintenance and upkeep already underway. No access roads are required and the existing river crossing will be placed against the slope to minimize scenic value impact.

**12.**

- a. Detail counties and localities through which the line will pass. If any portion of the line will be located outside of the Applicant's certificated service area: (1) identify each electric utility affected; (2) state whether any affected electric utility objects to such construction; and (3) identify the length of line(s) proposed to be located in the service area of an electric utility other than the Applicant; and**

Response: The Gladstone Rebuild Project is entirely within CVEC's certified service area. Approximately 3.1 miles of the 6.3 transmission line is in Nelson County and approximately 3.2 miles in Appomattox County.



- b. Provide three (3) color copies of the Virginia Department of Transportation "General Highway Map" for each county and city through which the line will pass. On the maps show the proposed line and all previously approved and certificated facilities of the Applicant. Also, where the line will be located outside of the Applicant's certificated service area, show the boundaries between the Applicant and each affected electric utility. On each map where the proposed line would be outside of the Applicant's certificated service area, the map must include a signature of an appropriate representative of the affected electric utility indicating that the affected utility is not opposed to the proposed construction within its service area.**

Response: Three General Highway Maps for Appomattox County and Nelson County are marked as required and filed with the Application. Reduced copies of the maps are provided as Attachment II.A.12.b.



## **II. DESCRIPTION OF THE PROPOSED PROJECT**

### **B. Line Design and Operational Features**

- 1. Detail the number of circuits and their design voltage, initial operational voltage, any anticipated voltage upgrade, and transfer capabilities.**

Response: The Gladstone Rebuild Project affects one 46kV circuit that will be upgraded to 138kV. The transmission line is a radial feed with no transfer capabilities.

- 2. Detail the number, size(s), type(s), coating and typical configurations of conductors. Provide the rationale for the type(s) of conductor(s) to be used.**

Response: Approximately 6.33 miles of the Gladstone to Tower Hill transmission line will be rebuilt using 3/8" high strength steel shield wire. Approximately 6.33 miles of 3/0 aluminum conductor steel ("ACSR") "Pigeon" conductors will be upgraded to 336 ACSR "Linnet." This is a standard conductor utilized by CVEC for transmission tap construction; it is not coated and has the strength and capacity characteristics conducive for rural transmission construction in well-maintained ROW where contact with trees is not expected. ACSR is Aluminum 1350-H19 wires, concentrically stranded around a steel core. Standard core wire for ACSR is class A galvanized.

- 3. With regard to the proposed supporting structures over each portion of the ROW for the preferred route, provide diagrams (including foundation reveal) and descriptions of all the structure types, to include:**

- a. mapping that identifies each portion of the preferred route;
- b. the rationale for the selection of the structure type;
- c. the number of each type of structure and the length of each portion of the ROW;
- d. the structure material and rationale for the selection of such material;
- e. the foundation material;
- f. the average width at cross arms;
- g. the average width at the base;
- h. the maximum, minimum and average structure heights;
- i. the average span length; and
- j. the minimum conductor-to-ground clearances under maximum operating conditions.

Response: See Attachment II.B.3(a), Attachment II.B.3(b), and Attachments II.B.5(a)-(d).

- 4. With regard to the proposed supporting structures for all feasible**



**alternate routes, provide the maximum, minimum and average structure heights with respect to the whole route.**

Response: Not applicable.

- 5. For lines being rebuilt, provide mapping showing existing and proposed structure heights for each individual structure within the ROW, as proposed in the application.**

Response: See Attachment II.B.3(b) and Attachments II.B.5(a) – (d). The structures are planned to be within ten feet of the original structure locations.

- 6. Provide photographs for typical existing facilities to be removed, comparable photographs or representations for proposed structures, and visual simulations showing the appearance of all planned transmission structures at identified historic locations within one mile of the proposed centerline and in key locations identified by the Applicant.**

Response: See Attachments II.B.6(a) – II.B.6(e). Attachment II.A.5 provides diagrams and descriptions of proposed structure types.



## II. DESCRIPTION OF THE PROPOSED PROJECT

### C. Describe and furnish plan drawings of all new substations, switching stations, and other ground facilities associated with the proposed project. Include size, acreage, and bus configurations. Describe substation expansion capability and plans. Provide one-line diagrams for each.

Response: CVEC anticipates that the Gladstone Rebuild Project will require construction of two (2) two-bank 138 x 15 kV substations: the Gladstone 138 x 15 kV Substation and the Tower Hill 138 x 15 kV Substation. Certain distribution system improvements, however, may provide redundancy and eliminate the need for two banks per substation. CVEC will continue to explore this possibility and may revise the substation design accordingly. The Cooperative intends to decommission and remove the existing substations upon completion of the Gladstone and Tower Hill Substations.

The Gladstone Substation will be fed by a 138 kV line from APCo and will have a utility metering structure for APCo. The transmission line will go through the high voltage bus work and leave Gladstone Substation via the proposed Gladstone 138kV transmission line. Each bank in the Gladstone Substation will have one 15/20/25 MVA transformer and a high side circuit breaker. These banks will be connected on the 138 kV side through high voltage bus work and connected with a feeder box structure on the 15 kV side. This feeder box structure will consist of four circuit exits. These circuit exits will be protected by a 15 kV circuit breaker and the feeder structure will have a transfer bus to allow for feeding multiple circuit exits through a single breaker. Additionally, the feeder structure will have a tie breaker in the middle of the four circuit exits to allow for many operational scenarios. The Gladstone Substation will consist of approximately 200' x 200' of newly graded land in addition to new drives and access. No future expansion of the Gladstone Substation is intended other than the two (2) circuit exits to be installed at a later date.

The Tower Hill Substation will be fed by the proposed Gladstone 138kV transmission line. Each bank in the Tower Hill Substation will have one 15/20/25 MVA Transformer and a high side circuit breaker. These banks will be connected on the 138 kV side through high voltage bus work and connected with a feeder box structure on the 15 kV side. This feeder box structure will consist of four circuit exits: two (2) will be installed during construction of the Gladstone Project Rebuild and two (2) will be installed at a later date. These circuit exits will be protected by a 15 kV circuit breaker and the feeder structure will have a transfer bus to allow for feeding multiple circuit exits through a single breaker. Additionally, the feeder structure will have a tie breaker in the middle of the four circuit exits to allow for many operational scenarios. The Tower Hill Substation will consist of approximately 200' x 200' of newly graded land in addition to new drives and access. No future expansion of the Tower Hill Substation is intended other than the two (2) circuit exits to be installed at a later date.

See Attachments II.C.1 – II.C.4 for drawings and one-line diagrams.



### III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL, AND HISTORIC FEATURES

- A. Describe the character of the area that will be traversed by this line, including land use, wetlands, etc. Provide the number of dwellings within 500 feet, 250 feet and 100 feet of the centerline, and within the ROW for each route considered. Provide the estimated amount of farmland and forestland within the ROW that the proposed project would impact.

Response: The corridor of the Gladstone Rebuild Project is comprised of approximately 2.3 acres of wetlands, 1,565 feet of perennial rivers and streams, 76.5 acres of prime or important farmland, 74 parcels, and includes twelve road crossings. Along the route there are 128 buildings within a visibility range of 500 feet, 68 buildings within a sight distance of 250 feet, and 22 buildings within 100 feet of the transmission centerline, with 11 structures within the existing ROW. There are no archeological sites reported in this area within one (1) mile at this time and a table of endangered species in the area accompanies this report.

The existing route has been in place for many years, so there are no new impacts expected by the Gladstone Rebuild Project. There are a total of 74 parcels along the ROW and dwellings/structures near the route are shown in Table 1 below and Land Use in Table 2.

Table 1 Number of Structures Along Route

ROUTE OPTIONS	STRUCTURES WITHIN 500-FOOT VISIBILITY	STRUCTURES WITHIN 250-FOOT VISIBILITY	STRUCTURES WITHIN 100-FOOT VISIBILITY	EXISTING STRUCTURES IN RIGHT-OF-WAY
Existing Route	128	68	22	11

Table 2 Zoning Classifications/Land Use

ROUTE OPTIONS	RESIDENTIAL	AGRICULTURAL	COMMERCIAL	UNKNOWN
Proposed Route	0.62 ac.	72.98 ac.	1.60 ac.	0.59 ac.

Table 3 Prime Farmland

ROUTE OPTIONS	PRIME FARMLAND	IMPORTANT FARMLAND	NOT PRIME FARMLAND
Proposed Route	44.96 ac.	31.52 ac.	38.51 c.



**B. Describe any public meetings the Applicant has had with neighborhood associations and/or officials of local, state or federal governments that would have an interest or responsibility with respect to the affected area or areas.**

Response: In accordance with Va. Code §15.2-2202 E, letters were delivered to Ms. Susan M. Adams, Appomattox County Administrator, and Steve Carter, Nelson County Administrator, advising of the Cooperative's intent to file this Application and inviting the counties to contact the Cooperative about the Gladstone Rebuild Project. See Attachment V.D. Due to the COVID-19 pandemic and restrictions limiting public gatherings in Virginia, the Cooperative has not been able to host public meetings with neighborhood or community associations that might have an interest in the Gladstone Rebuild Project. Gladstone Project information can be found at [www.mycvec.com](http://www.mycvec.com).

All appropriate agencies were notified about the Gladstone Rebuild Project through the RUS Environmental Report outreach process. Agency responses are included as Attachment III.B.

**C. Detail the nature, location, and ownership of each building that would have to be demolished or relocated if the project is built as proposed.**

Response: The following properties have structures within the easement, or need field verification:

- Structure within easement in Appomattox County, GIS Account #12 A 6.
- Structure within easement on GPIN #3782-71-8451, Nelson County
- Structure within easement on GPIN #3782-71-3894, Nelson County
- Field verify structure outside easement on GPIN #3783-11-8360, Nelson County
- Field verify structure outside easement on GPIN #3783-01-1737, Nelson County
- Structure within easement on GPIN #3773-92-8028, Nelson County
- Structure within easement on GPIN #3773-92-5077, Nelson County

The Cooperative has not yet assessed the listed properties to determine if removal is necessary for the Gladstone Rebuild Project. If the identified structures impair travel along the ROW route, the maneuvering of material or equipment for the purpose of inspection, maintenance or construction, or prohibit installation of structures, conductors, guys, anchors or other transmission or distribution facilities, they will need to be removed.



**D. Identify existing physical facilities that the line will parallel, if any, such as existing transmission lines, railroad tracks, highways, pipelines, etc. Describe the current use and physical appearance and characteristics of the existing ROW that would be paralleled, as well as the length of time the transmission ROW has been in use.**

**Response:** There are no physical facilities that directly parallel the transmission line. However, CVEC will need to acquire a Right-of-Entry permit from CSX Railroad before proceeding with their on-site work in the railyard. The transmission line crosses the railyard perpendicularly South of Tye Yard Road in Caskie, just north of the James River crossing. This permit application will include a plan and profile drawing of the new design structures and conductors to illustrate their position on the earth and heights of attachments to prove clearance from the railroad cars is being maintained.

**E. Indicate whether the Applicant has investigated land use plans in the areas of the proposed route and indicate how the building of the proposed line would affect any proposed land use.**

**Response:** The Gladstone Rebuild Project is entirely within existing ROW and would not affect land use.

**F. Government Bodies**

- 1. Indicate if the Applicant determined from the governing bodies of each county, city and town in which the proposed facilities will be located whether those bodies have designated the important farmlands within their jurisdictions, as required by § 3.2-205 B of the Code.**
- 2. If so, and if any portion of the proposed facilities will be located on any such important farmland:**
  - a. Include maps and other evidence showing the nature and extent of the impact on such farmlands;**
  - b. Describe what alternatives exist to locating the proposed facilities on the affected farmlands, and why those alternatives are not suitable; and**
  - c. Describe the Applicant's proposals to minimize the impact of the facilities on the affected farmland.**

**Response:** 1. There are small pockets of farmland of statewide importance. See Attachments III.F.1(a)-(c).

2. Not applicable.



**G. Identify the following that lie within or adjacent to the proposed ROW:**

- 1. Any district, site, building, structure, or other object included in the National Register of Historic Places maintained by the U.S. Secretary of the Interior;**
- 2. Any historic architectural, archeological, and cultural resources, such as historic landmarks, battlefields, sites, buildings, structures, districts or objects listed or determined eligible by the Virginia Department of Historic Resources ("DHR");**
- 3. Any historic district designated by the governing body of any city or county;**
- 4. Any state archaeological site or zone designated by the Director of the DHR, or its predecessor, and any site designated by a local archaeological commission, or similar body;**
- 5. Any underwater historic assets designated by the DHR, or predecessor agency or board;**
- 6. Any National Natural Landmark designated by the U.S. Secretary of the Interior;**
- 7. Any area or feature included in the Virginia Registry of Natural Areas maintained by the Virginia Department of Conservation and Recreation ("DCR");**
- 8. Any area accepted by the Director of the DCR for the Virginia Natural Area Preserves System;**
- 9. Any conservation easement or open space easement qualifying under §§ 10.1-1009 – 1016, or §§ 10.1-1700 – 1705, of the Code (or a comparable prior or subsequent provision of the Code);**
- 10. Any state scenic river;**
- 11. Any lands owned by a municipality or school district; and**
- 12. Any federal, state or local battlefield, park, forest, game or wildlife preserve, recreational area, or similar facility. Features, sites, and the like listed in 1 through 11 above need not be identified again.**

Response:

1. None.
2. None.
3. None.
4. None.
5. None.
6. None.
7. None.



8. None.
9. None.
10. The Gladstone Rebuild Project crosses the James River for a length of approximately 1,565 feet and requires a Section 10 permit from the US Army Corp of Engineers.
11. None.
12. None.

**H. List any registered aeronautical facilities (airports, helipads) where the proposed route would place a structure or conductor within the federally-defined airspace of the facilities. Advise of contacts, and results of contacts, made with appropriate officials regarding the effect on the facilities' operations.**

Response: The Federal Aviation Administration's "Notice Criteria Tool" was used to submit the location and heights of four (4) sample poles along the alignment of the proposed transmission line. None of the filings exceeded Notice Criteria.

**I. Advise of any scenic byways that are in proximity to or that will be crossed by the proposed transmission line and describe what steps will be taken to mitigate any visual impacts on such byways. Describe typical mitigation techniques for other highways' crossings.**

Response: The Gladstone Rebuild Project crosses the James River and can be viewed from Riverside Drive. There will be no change in landscape buffers or visual differences.

**J. Identify coordination with appropriate municipal, state, and federal agencies.**

Response: As described in Section III.B, the Cooperative solicited feedback from Appomattox and Nelson County regarding the proposed Gladstone Rebuild Project. In addition, the Cooperative notified all appropriate agencies about the Gladstone Rebuild Project through the RUS Environmental Report outreach process. Agency responses are included as Attachment III.B.

**K. Identify coordination with any non-governmental organizations or private citizen groups.**

Response: The Cooperative will coordinate non-governmental organizations and community outreach for work expected along the corridor.

**L. Identify any environmental permits or special permissions anticipated to be needed.**

Response: The Cooperative expects that the following permits will be required for the Gladstone Rebuild Project:



- United State Army Corp of Engineers, Section 10 River Crossing Permit and/or any disturbance to wetlands over 1/10 of an acre (Applied through Joint Permit Application (JPA).
- DEQ Virginia Water Protection (VWP) general permit may or may not be necessary due to the CVEC Annual Standards. However, a Joint Permit Application will be filed to determine final requirements by DEQ.
- Time of Year Restriction letters needed from Department of Game and Inland Fisheries, Department of Conservation and Recreation, or Virginia Marine Resources Commission.
- DEQ Erosion and Sedimentation Control and Stormwater Management (VPDES) permit needed for disturbance over one (1) acre. Erosion and Stormwater plans will be generated for use by contractors.
- Air Quality – fugitive dust generated during construction will need to be controlled, but not to the extent that it runs off into sensitive wetlands or surface waters. Generators, wood chippers/grinders maybe subject to registration and air permitting requirements. Any open burning will be coordinated according to the Virginia Waste Management Regulations and will be coordinated with the local fire official.
- A no permit letter will be required from the Virginia Marine Resources Commission. This agency will offer a determination after review of the Joint Permit application process.

#### **IV. HEALTH ASPECTS OF ELECTROMAGNETIC FIELDS ("EMF")**

- A. Provide the calculated maximum electric and magnetic field levels that are expected to occur at the edge of the ROW. If the new transmission line is to be constructed on an existing electric transmission line ROW, provide the present levels as well as the maximum levels calculated at the edge of ROW after the new line is operational.**

Response: See table below.



Location for Calculation, Between Structures ___ & ___	Existing 44kV Line, ~20 Amps Max Load based on 1500 kVA		Proposed 138 kV Line, ~7 Amps Max Load based on 1500 kVA		Proposed 138kV Line, ~30 Amps 10-Year Projected Load		Existing 44kV Line, ~93 Amps 10-Year Projected Load		Proposed 138 kV Line, ~420 Amps See Note 2	
	Magnetic Field at ROW Edge (mG)	Electric Field at ROW Edge (V/m)	Magnetic Field at ROW Edge (mG)	Electric Field at ROW Edge (V/m)	Magnetic Field at ROW Edge (mG)	Electric Field at ROW Edge (V/m)	Magnetic Field at ROW Edge (mG)	Electric Field at ROW Edge (V/m)	Magnetic Field at ROW Edge (mG)	Electric Field at ROW Edge (V/m)
3, 4	0.336	57.000	0.135	171.000	0.579	167.000	1.562	57.000	8.108	171.000
13, 14	0.285	59.000	0.100	182.000	0.429	182.000	1.324	59.000	6.008	182.000
23, 24	0.509	56.000	0.206	254.000	0.884	254.000	2.369	56.000	12.375	254.000
33, 34	0.485	95.000	0.182	350.000	0.782	350.000	2.257	95.000	10.950	350.000
43, 44	0.518	96.000	0.325	523.000	1.392	523.000	2.410	96.000	19.482	523.000
53, 54	0.485	59.000	0.192	258.000	0.822	258.000	2.257	59.000	11.513	258.000
63, 64	0.344	64.000	0.123	210.000	0.525	210.000	1.598	64.000	7.357	210.000
73, 74	0.410	39.000	0.139	126.000	0.598	126.000	1.907	39.000	8.366	126.000
83, 84	0.528	59.000	0.190	257.000	0.816	257.000	2.456	59.000	11.428	257.000
Note 1	Maximum value listed, whether right or left side of ROW.									
Note 2	Amperage used in calculation is maximum for selected conductor type for 167 °F in Summer (per RUS Bulletin 1724E-200, Table D-1).									

The calculated values of Electric Field (“EF” and units V/m) and Magnetic Field (“MF” and units mG) at the edge of the ROW actually decrease (with one exception) due to the voltage increase from 46kV to 138kV. This occurs at the current line load.

The table also provides the EMF information at the expected line load in ten (10) years’ time. A comparison of the results for 46kV and 138kV is given. Again, the higher voltage actually reduces the EF’s magnitude.

Finally, the values for EF and MF are given for the maximum current (Amps) possible, at the existing voltage/conductor and the proposed voltage/conductor. This load is far beyond the Cooperative’s expected load and is therefore provided for comparison only.

**B. If the Applicant is of the opinion that no significant health effects will result from the construction and operation of the line, describe in detail the reasons for that opinion and provide references or citations to supporting documentation.**

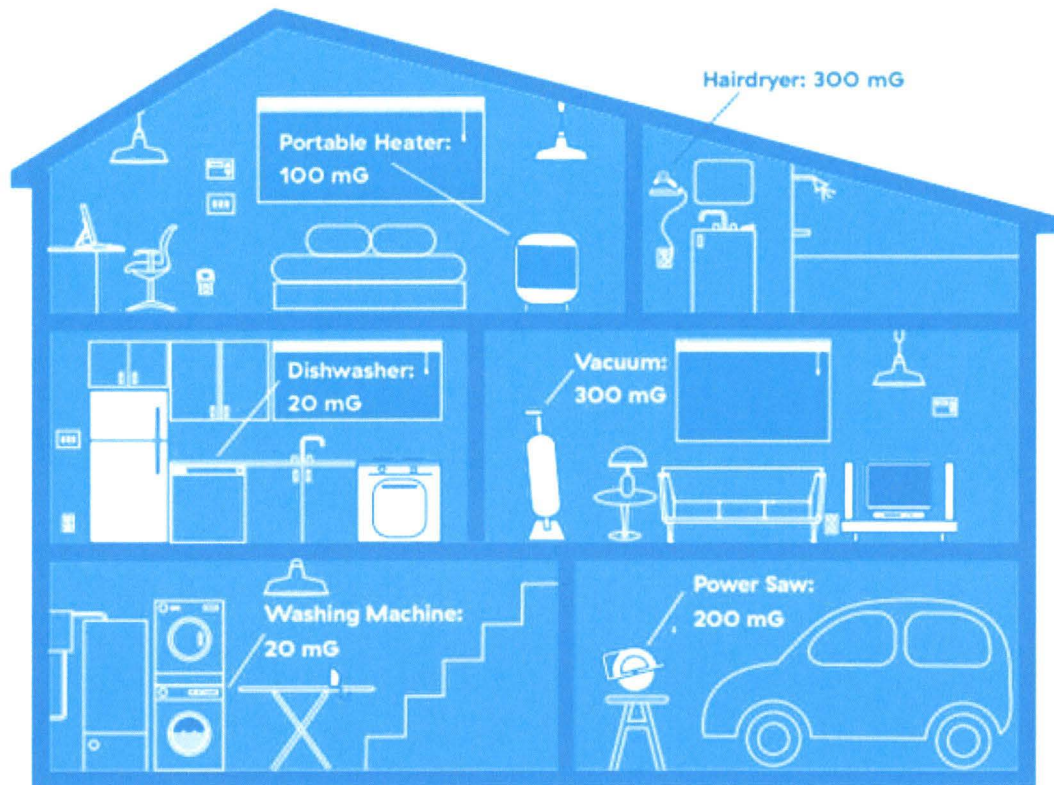
Response: The calculated levels of Electric Field and Magnetic Field at the ROW edge are similar to or below the levels generated by household electronics and are therefore considered safe. Figures 1 and 2 below, excerpts from the booklet “Understanding Electric and Magnetic Fields” by BC Hydro, provide illustration.<sup>1</sup> The distance from the source for the measurement is noted below each figure.

**Figure 1: Typical Magnetic Field Levels in the Home**

<sup>1</sup><https://www.bchydro.com/content/dam/BCHydro/customerportal/documents/corporate/safety/understanding-emf-booklet.pdf>.



## TYPICAL MAGNETIC FIELD LEVELS IN THE HOME

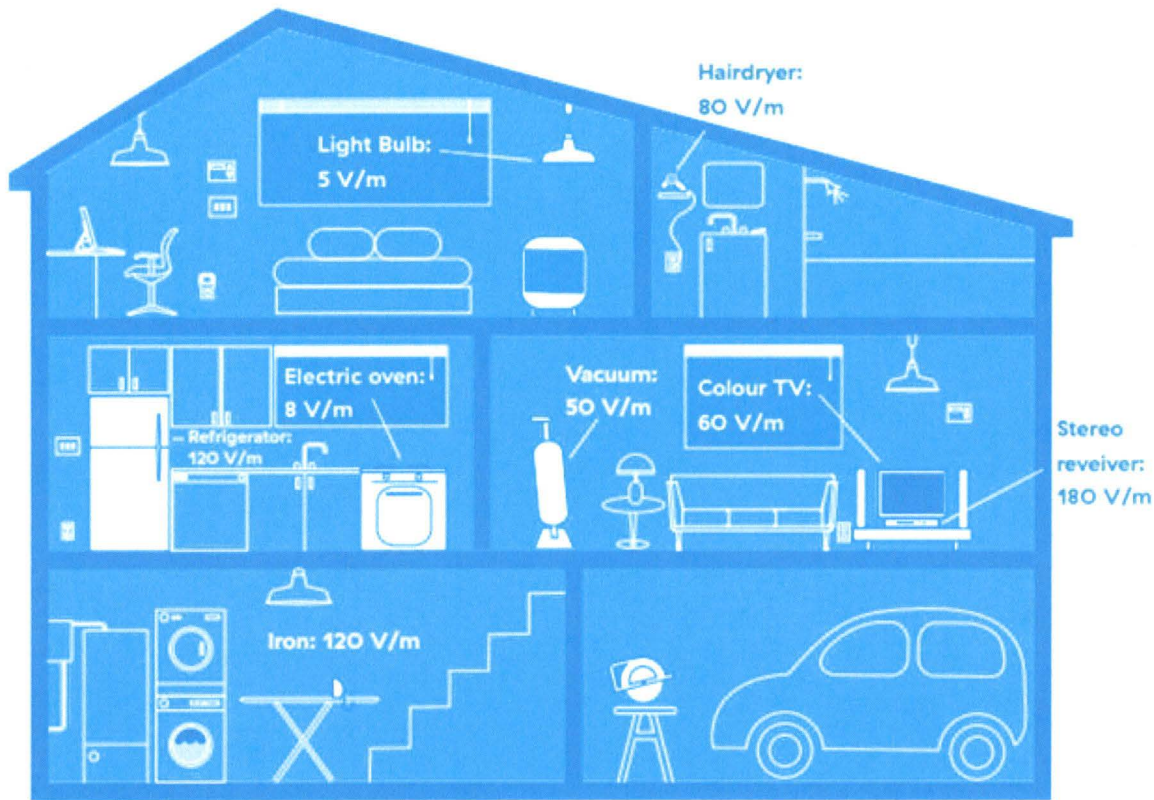


Source: EMF in your Environment, U.S. Protection Agency, 1992.  
All measurements were taken 15cm from the sources.

**Figure 2: Typical Electric Field Levels in the Home**



## TYPICAL ELECTRIC FIELD LEVELS IN THE HOME



Source: World Health Organization, accessed 2016  
All measurements were taken at 30 cm from source.

### C. Describe and cite any research studies on EMF the Applicant is aware of that meet the following criteria:

1. Became available for consideration since the completion of the Virginia Department of Health's most recent review of studies on EMF and its subsequent report to the Virginia General Assembly in compliance with 1985 Senate Joint Resolution No. 126;
2. Include findings regarding EMF that have not been reported previously and/or provide substantial additional insight into findings; and
3. Have been subjected to peer review.

Response: CVEC is not aware of EMF studies regarding EMF that have not been reported previously and/or provide substantial additional insight into findings.

For additional information on EMF exposure, *see*  
<https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/community/emf-booklet-web.pdf>.



## V. NOTICE

- A. Furnish a proposed route description to be used for public notice purposes. Provide a map of suitable scale showing the route of the proposed project. For all routes that the Applicant proposes to be noticed, provide minimum, maximum and average structure heights.**

Response: A map showing the existing route to be used for the Gladstone Rebuild Project is provided as Attachment V.A. The proposed work on the transmission line begins at Gladstone substation, near the intersection of Spring Lane (Hwy 622) and Hwy 60. The line runs generally southeast, crossing the James River, to Tower Hill substation, near the intersection of Hwy 60 and Watt Abbitt Road (Hwy 654), approximately 6.33 miles. Maximum pole heights will be 88'-0", minimum pole heights will be 83'-6" and average pole heights will be 85'-0".

- B. List Applicant offices where members of the public may inspect the application. If applicable, provide a link to website(s) where the application may be found.**

Response: Due to the on-going COVID-19 pandemic, CVEC offices remain closed to the public. The application may be viewed on the Cooperative's website at [www.mycvec.com](http://www.mycvec.com).

- C. List all federal, state, and local agencies and/or officials that may reasonably be expected to have an interest in the proposed construction and to whom the Applicant has furnished or will furnish a copy of the application.**

Response: The following agency representatives may reasonably be expected to have an interest in the Gladstone Rebuild Project:

Flood Plains

Ms. Kate McManus, Regional Environmental Officer  
FEMA – Region III  
615 Chestnut Street  
One Independence Mall, Sixth Floor  
Philadelphia, Pennsylvania 19106-4404  
(215) 931-5510

Wetlands

Ms. Bettina Rayfield  
Commonwealth of Virginia, Department of Environmental Quality  
Office of Environmental Impact Review  
P.O. Box 1105  
Richmond, Virginia 23218  
(804) 698-4204  
[Bettina.Rayfield@deq.virginia.gov](mailto:Bettina.Rayfield@deq.virginia.gov)



Prime and Unique Farmland

Mr. Kory Kirkland, District Conservationist  
USDA  
Natural Resources Conservation Service  
Louisa Service Center  
39 Industrial Drive, Suite 2  
Louisa, Virginia 23093  
(540) 603-3204  
kory.kirkland@va.usda.gov

Prime and Unique Farmland

Mr. Don Yancey, District Conservationist  
USDA  
Natural Resources Conservation Service  
Rustburg Service Center  
163 Kabler Lane  
Rustburg, Virginia 24588  
(434) 266-3083  
don.yancey@va.usda.gov

Waterways

Mr. Mark Eversole, Environmental Engineer  
Virginia Marine Resources  
Habitat Management Division  
2600 Washington Avenue, 3<sup>rd</sup> Floor  
Newport News, Virginia 23607  
(757) 247-8028  
jpa.permits@mrc.virginia.gov

Fish & Wildlife – Endangered Species

Mr. Troy Andersen, Supervisory Fish & Wildlife Biologist  
U.S. Fish and Wildlife Service  
Division of Ecological Services - Law Enforcement Division  
6669 Short Lane  
Gloucester, Virginia 23061  
(804) 824-2428  
troy\_andersen@fws.gov

Threatened & Endangered Species

Virginia Department of Game and Inland Fisheries  
Permit Department  
Environmental Services Section  
Post Office Box 90778  
Henrico, Virginia 23228  
(804) 367-1000; Fax (804) 367-2427  
ESSProjects@dgif.virginia.gov



Environmental Resources

Ms. Rene' Hypes, Project Review Manager  
Virginia Department of Conservation and Recreation  
Natural Heritage Program  
Central Office – Aluminum Building  
217 Governor Street  
Richmond, Virginia 23219  
(804) 371-2708

Historical Resources

Mr. Roger Kirchen, Archaeologist  
Virginia Department of Historic Resources  
2801 Kensington Avenue  
Richmond, Virginia 23221  
(804) 367-2323

Historical Resources / Federally-Recognized Tribes

Ms. Nekole Alligood, Director of Cultural Resources and Section 106 Review  
Delaware Nation, Oklahoma  
Post Office Box 825  
Anadarko, Oklahoma 73005  
(405) 247-8903  
Appomattox & Nelson Counties, Virginia  
Nalligood@delawarenation.com

Historical Resources / Federally-Recognized Tribes

The Honorable Kenneth Branham, Chief, Monacan Indian Nation  
Monacan Indian Nation  
Post Office Box 960  
Amherst, Virginia 24521  
(434) 946-0389  
Appomattox & Nelson Counties, Virginia  
mnation538@aol.com

- D. If the application is for a transmission line with a voltage of 138 kV or greater, provide a statement and any associated correspondence indicating that prior to the filing of the application with the SCC the Applicant has notified the chief administrative officer of every locality in which it plans to undertake construction of the proposed line of its intention to file such an application, and that the Applicant gave the locality a reasonable opportunity for consultation about the proposed line (similar to the requirements of § 15.2-2202 of the Code for electric transmission lines of 150 kV or more).**

Response: In accordance with §14.2-2202 E of the Virginia Code, the Cooperative sent letters to the Appomattox and Nelson County Administrators. These letters are included as Attachment V.D.

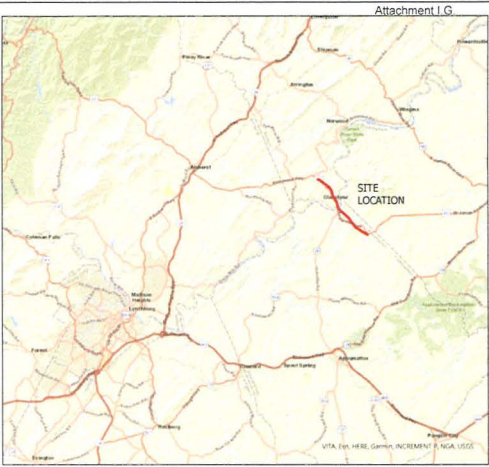
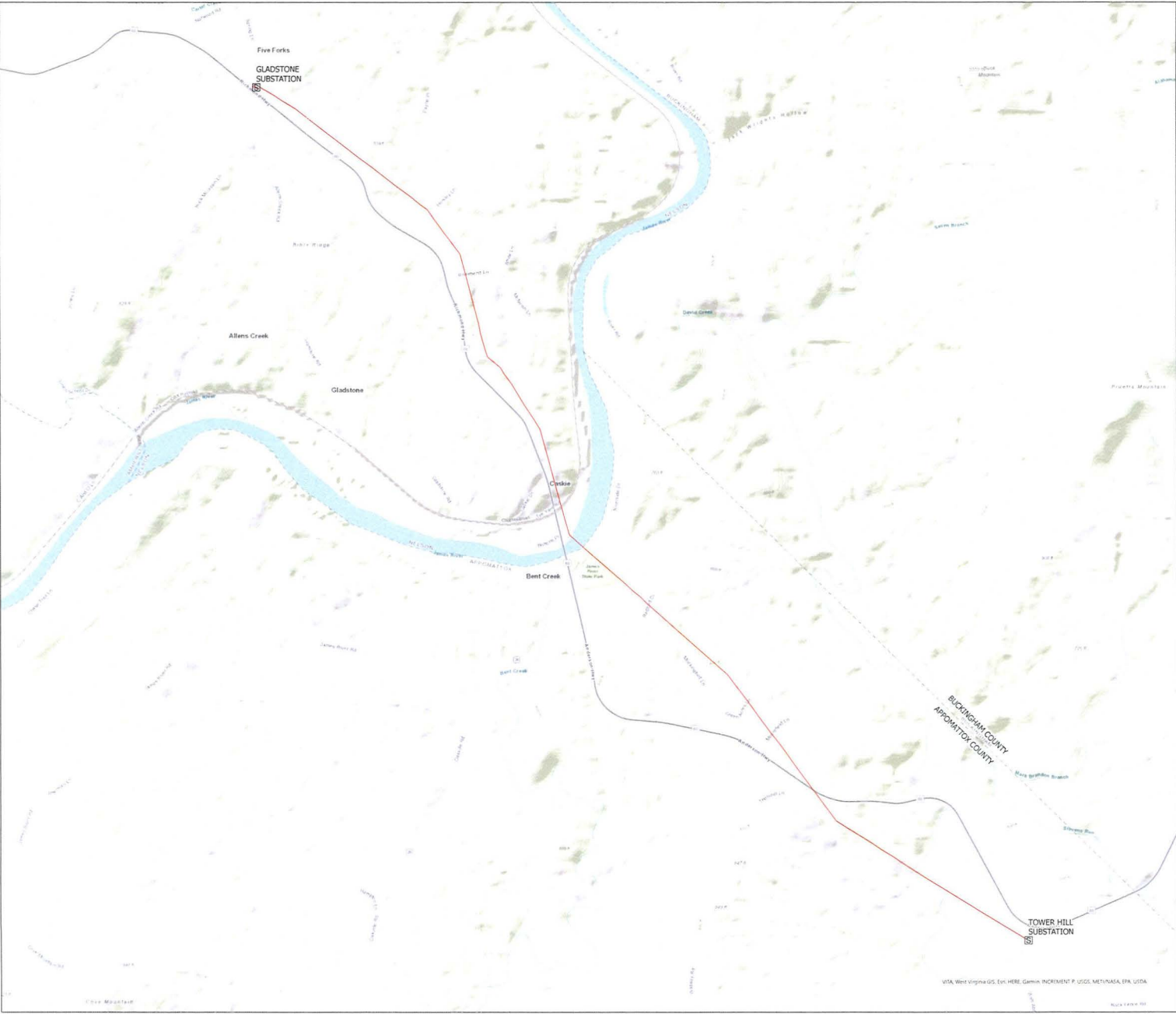








## Attachments to Appendix



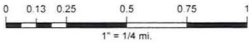


VICINITY MAP  
1" = 5 mi.

 Substations

 Tower Hill Transmission Centerline

TRANSMISSION STRUCTURES  
MAXIMUM POLE HEIGHT: 88'-0"  
MINIMUM POLE HEIGHT: 83'-6"  
AVERAGE POLE HEIGHT: 85'-0"



PRELIMINARY  
NOT FOR  
CONSTRUCTION

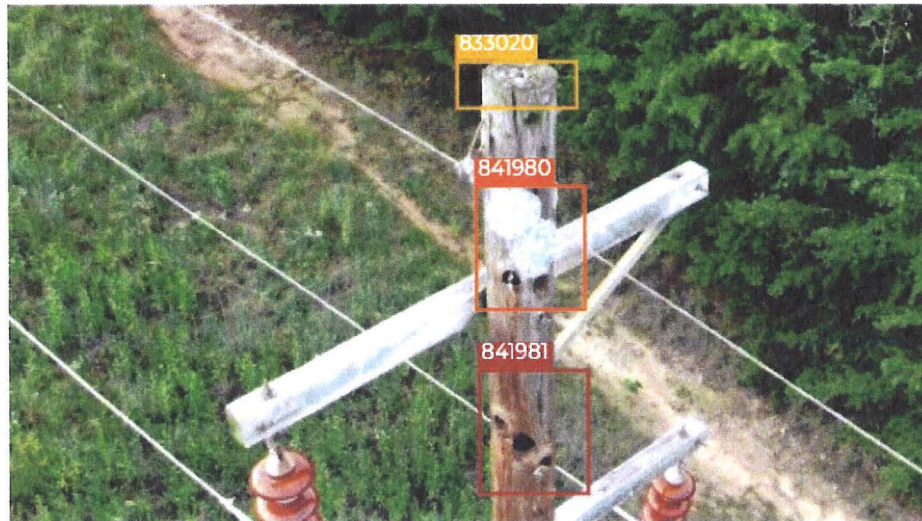
CENTRAL VIRGINIA ELECTRIC COOPERATIVE ARRINGTON, VIRGINIA			
GLADSTONE SUBSTATION TO TOWERHILL SUBSTATION 46KV TO 138KV TRANSMISSION LINE UPGRADE SYSTEM MAP - SECTION: I.G			
Heath & Associates, LLC			
DWN: JEN	DATE: 12/22/2019	DWG NO:	
CHK: BDC	APPD: DSH	1 OF 1	
SCALE: 1" = 25 mi		FILE: GLADSTONE_TO_TOWERHILL.aprx	

VITA, West original GIS, Esri HERE, Garmin, INCREMENT P, USGS, METANADA, EPA, USDA

PLANS 1/10/19/19



File name: T5-54\_10.JPG Altitude: -0.4m  
Date taken: Aug 15, 2019 10:41:18 PM Heading: North (359.4°)  
Position:  37.5315846, -78.8177049 User tags: T5-54 T5



For a more detailed overview go to [app.scopito.com/#/inspection/10102?image=3041934](https://app.scopito.com/#/inspection/10102?image=3041934)



841980 Severity: 3 Woodpecker damage

**Remedy action:**

The damage needs to be repaired or protected against further damage.

**Curtis Marshall:**

The inspection detected pronounced woodpecker or other boring bird damage on the pole or other wood structure components.



841981 Severity: 5 Woodpecker damage


**Curtis Marshall:**

The inspection detected pronounced woodpecker or other boring bird damage on the pole or other wood structure components.



## CVEC-70 Mile Inspection

Attachment I.L.2

File name: T5-71\_4.JPG Altitude: 37.8m  
Date taken: Aug 16, 2019 12:21:42 AM Heading: Northwest (304.8°)  
Position:  37.5181546, -78.8030373 User tags: T5-71 T5



For a more detailed overview go to [app.scopito.com/#/inspection/10102?image=3042097](https://app.scopito.com/#/inspection/10102?image=3042097)



833028 Severity: 3 Woodpecker damage

### Remedy action:

The damage needs to be repaired or protected against further damage.

### Dennis Delk:

The inspection detected pronounced woodpecker or other boring bird damage on the pole or other wood structure components.



## CVEC-70 Mile Inspection

Attachment I.L.3

File name: T5-78\_5.JPG Altitude: -28.2m  
Date taken: Aug 16, 2019 1:41:49 AM Heading: Southeast (154.09998°)  
Position:  37.5140883, -78.7969982 User tags: T5-78 T5



For a more detailed overview go to [app.scopito.com/#/inspection/10102?image=3042089](https://app.scopito.com/#/inspection/10102?image=3042089)



833026 Severity: 3 Woodpecker damage

### Remedy action:

The damage needs to be repaired or protected against further damage.


### Dennis Delk:

The inspection detected pronounced woodpecker or other boring bird damage on the pole or other wood structure components.



## CVEC-70 Mile Inspection

Attachment I.L.4

File name: T5-6\_6.JPG Altitude: 10.3m  
Date taken: Aug 15, 2019 4:46:22 PM Heading: East (103°)  
Position:  37.5709428, -78.8536179 User tags: T5-6 T5



For a more detailed overview go to [app.scopito.com/#/inspection/10102?image=3042003](https://app.scopito.com/#/inspection/10102?image=3042003)



833062 Severity: 3 Woodpecker damage

### Remedy action:

The damage needs to be repaired or protected against further damage.

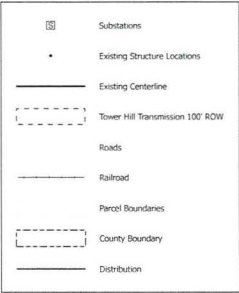
### Dennis Delk:

The inspection detected pronounced woodpecker or other boring bird damage on the pole or other wood structure components.

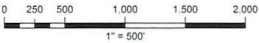




VICINITY MAP  
1" = 5 mi.



CENTRAL VIRGINIA ELECTRIC COOPERATIVE  
TO MAKE A DIGITAL SHAPE FILE OF THE  
PROPOSED ROUTE AVAILABLE UPON  
REQUEST TO INTERESTED PARTIES, INCLUDING  
STATE AND GOVERNMENTAL ENTITIES.



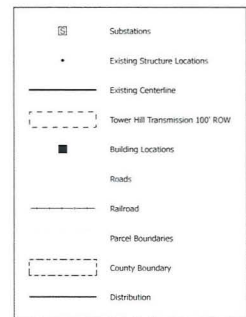
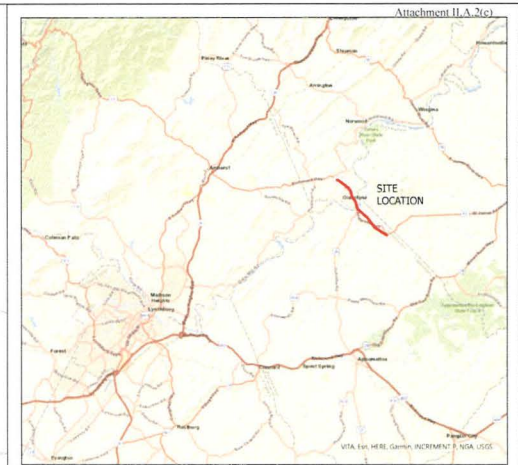
**PRELIMINARY  
NOT FOR  
CONSTRUCTION**

CENTRAL VIRGINIA ELECTRIC COOPERATIVE				
ARRINGTON, VIRGINIA				
GLADSTONE SUBSTATION TO TOWERHILL SUBSTATION				
46KV TO 138KV TRANSMISSION LINE UPGRADE				
FEATURE MAP - SECTION: II.A.2				
Booth & Associates, LLC				
DWN	JEH	DATE	01/27/2021	DWG. NO.
CHD	RCE	APPD	DSH	
SCALE	SEE SCALE BAR	FILE	GLADSTONE_TO_TOWERHILL.aprx	1 OF 3

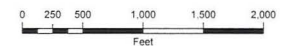








CENTRAL VIRGINIA ELECTRIC COOPERATIVE  
TO MAKE A DIGITAL SHAPE FILE OF THE  
PROPOSED ROUTE AVAILABLE UPON  
REQUEST TO INTERESTED PARTIES, INCLUDING  
STATE AND GOVERNMENTAL ENTITIES.



**PRELIMINARY  
NOT FOR  
CONSTRUCTION**

CENTRAL VIRGINIA ELECTRIC COOPERATIVE			
ARRINGTON, VIRGINIA			
GLADSTONE SUBSTATION TO TOWERHILL SUBSTATION 48KV TO 138KV TRANSMISSION LINE UPGRADE FEATURE MAP - SECTION II.A.2			
Booth & Associates, LLC			
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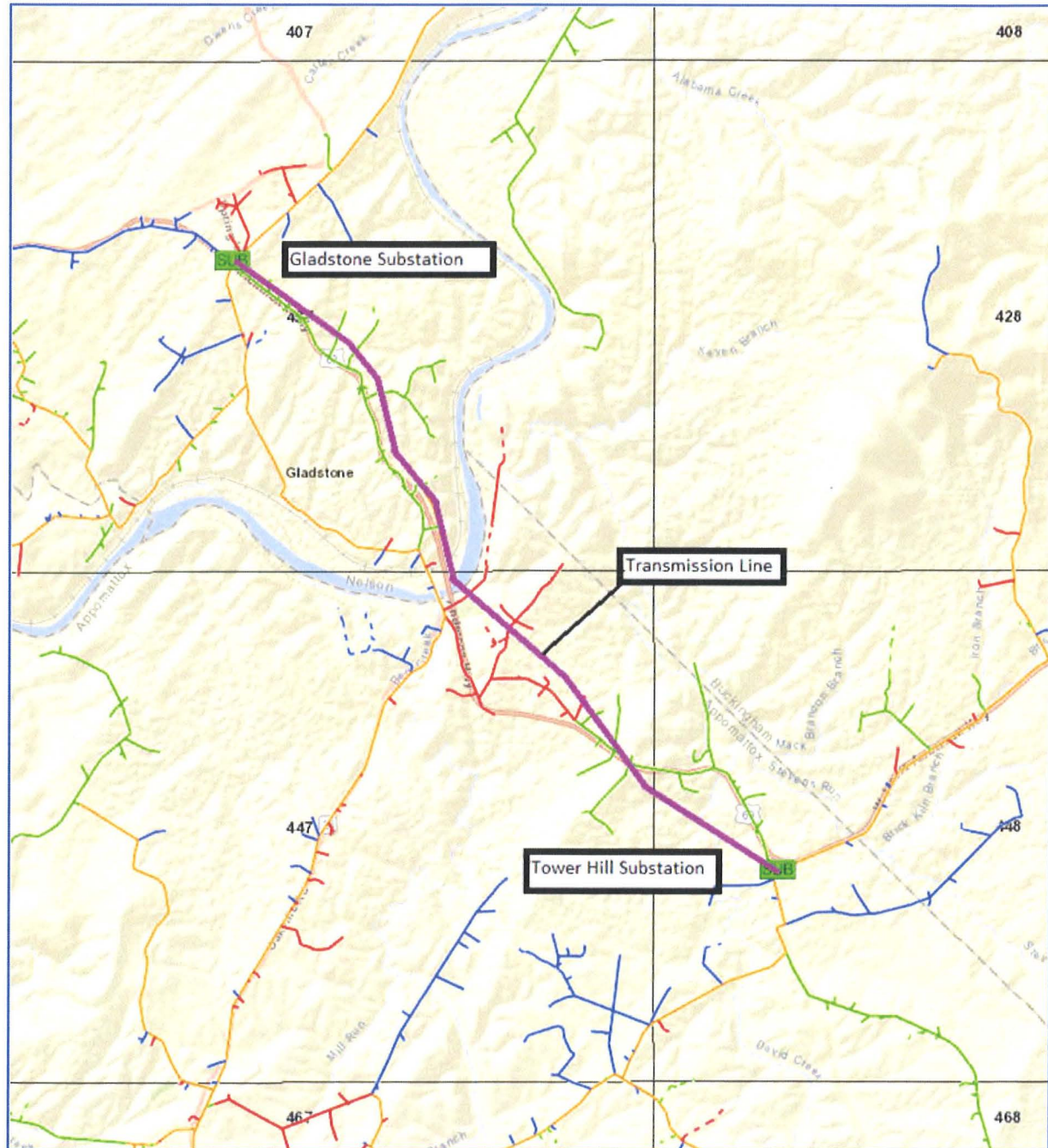


## CVEC Transmission line ROW

### Gladstone to Tower Hill

Purple – Transmission

All Other Colors – CVEC Distribution Facilities





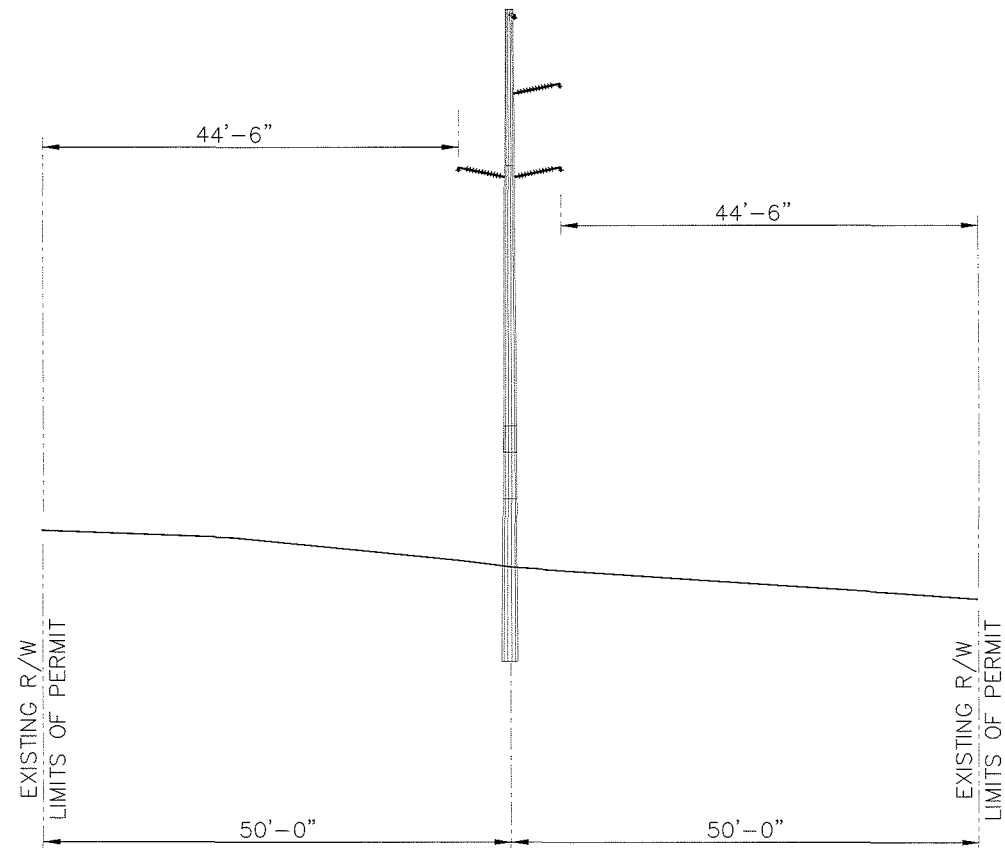
GLADSTONE SUBSTATION TO TOWER HILL SUBSTATION  
(STRUCTURE 5)  
EXISTING CONFIGURATION



TYPICAL RIGHT OF WAY LOOKING SOUTHEAST



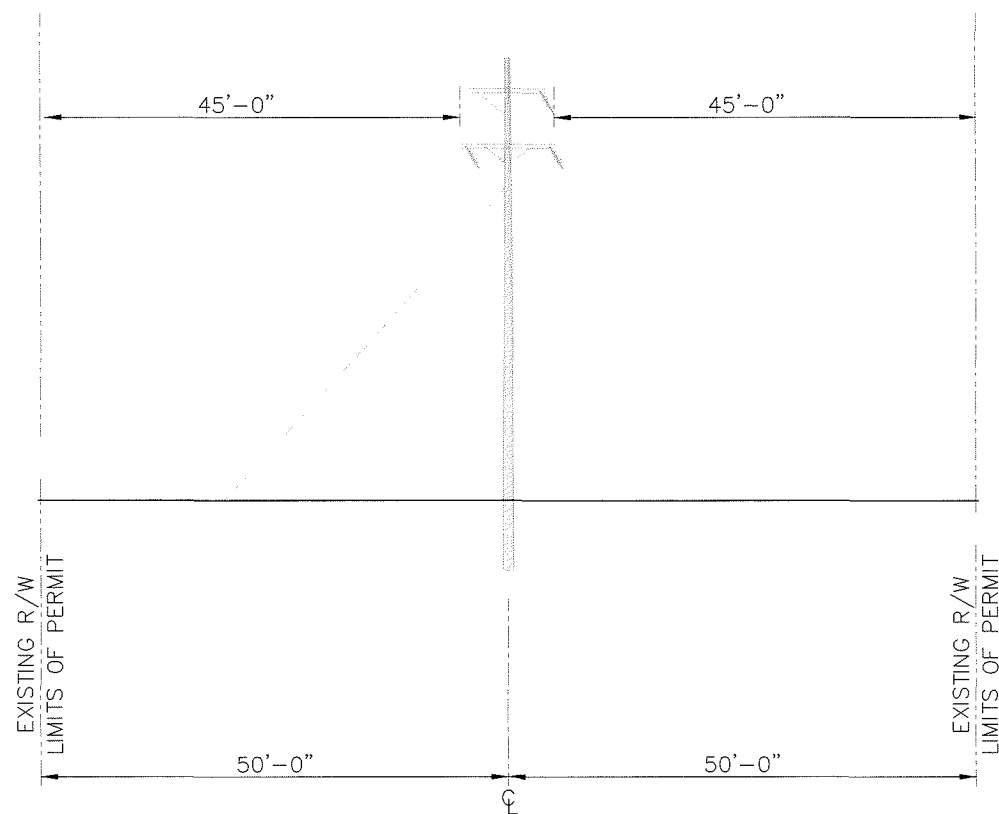
GLADSTONE SUBSTATION TO TOWER HILL SUBSTATION  
(STRUCTURE 5)  
PROPOSED CONFIGURATION



TYPICAL RIGHT OF WAY LOOKING SOUTHEAST



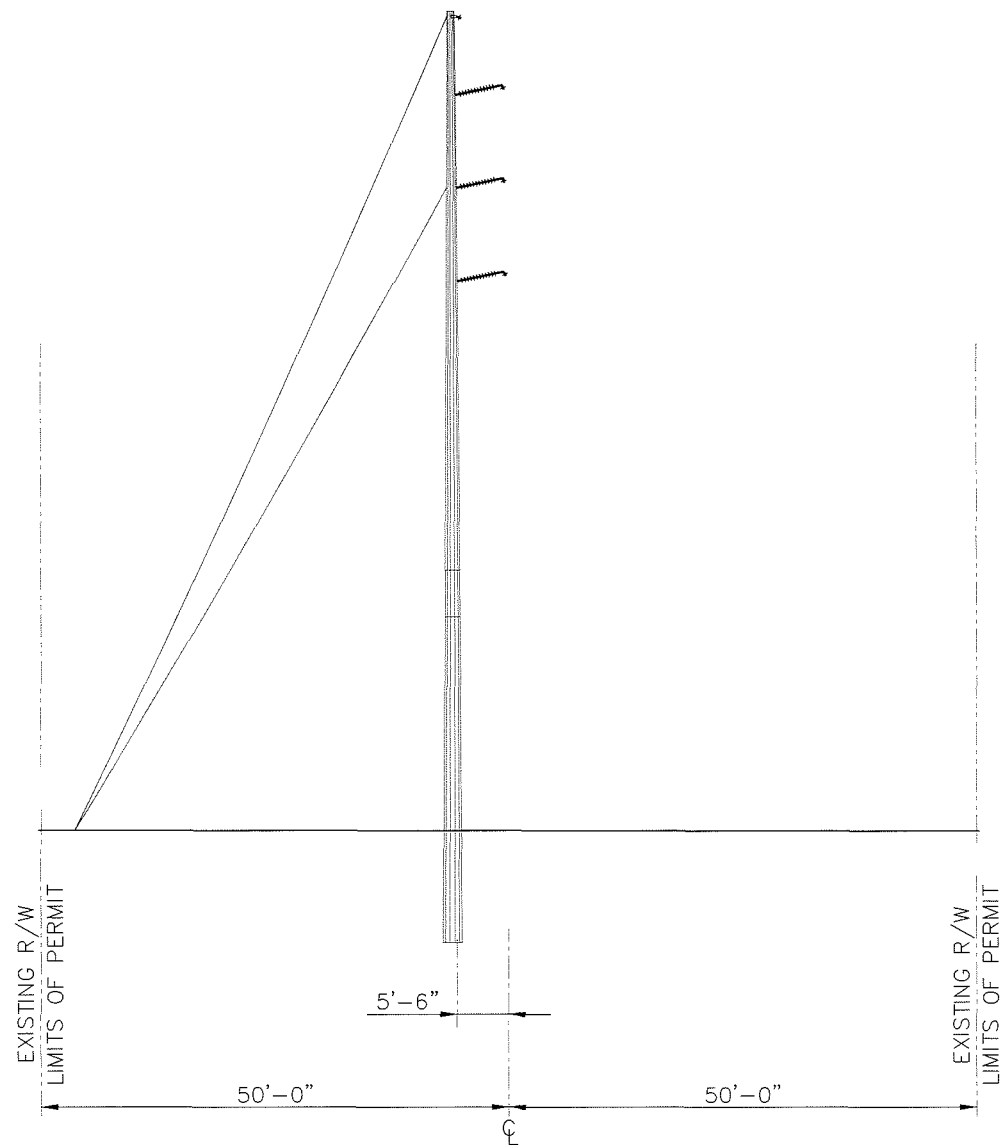
GLADSTONE SUBSTATION TO TOWER HILL SUBSTATION  
(STRUCTURE 6)  
EXISTING CONFIGURATION



TYPICAL RIGHT OF WAY LOOKING SOUTHEAST



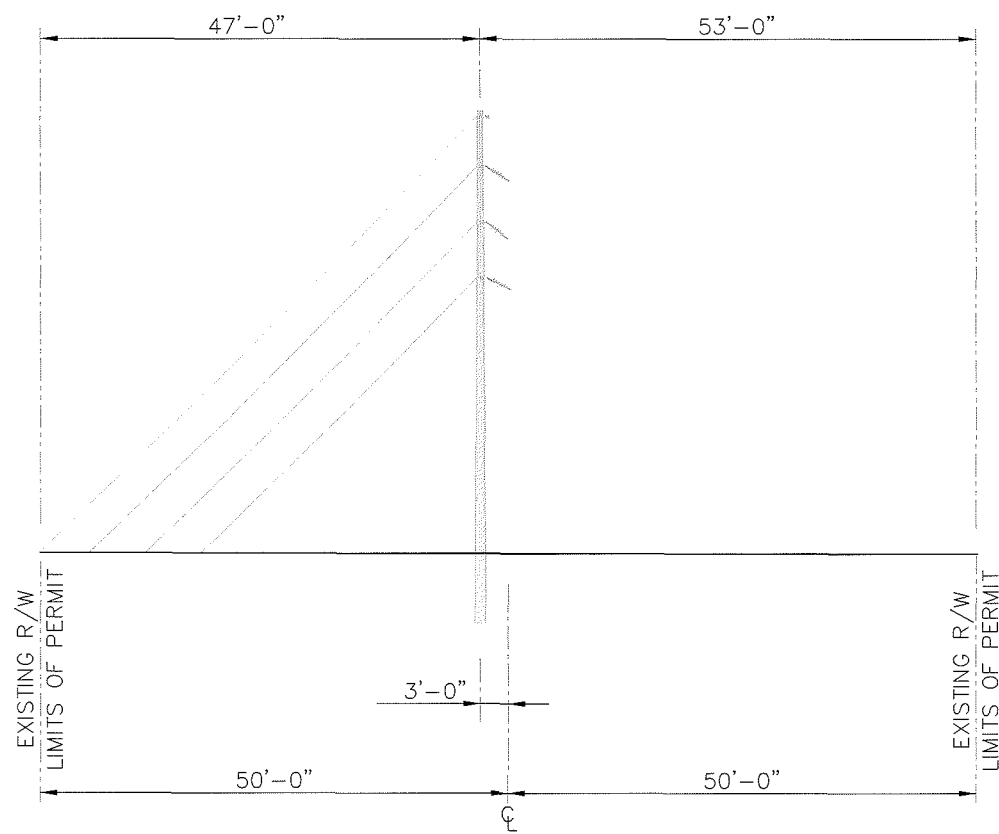
GLADSTONE SUBSTATION TO TOWER HILL SUBSTATION  
(STRUCTURE 6)  
PROPOSED CONFIGURATION



TYPICAL RIGHT OF WAY LOOKING SOUTHEAST



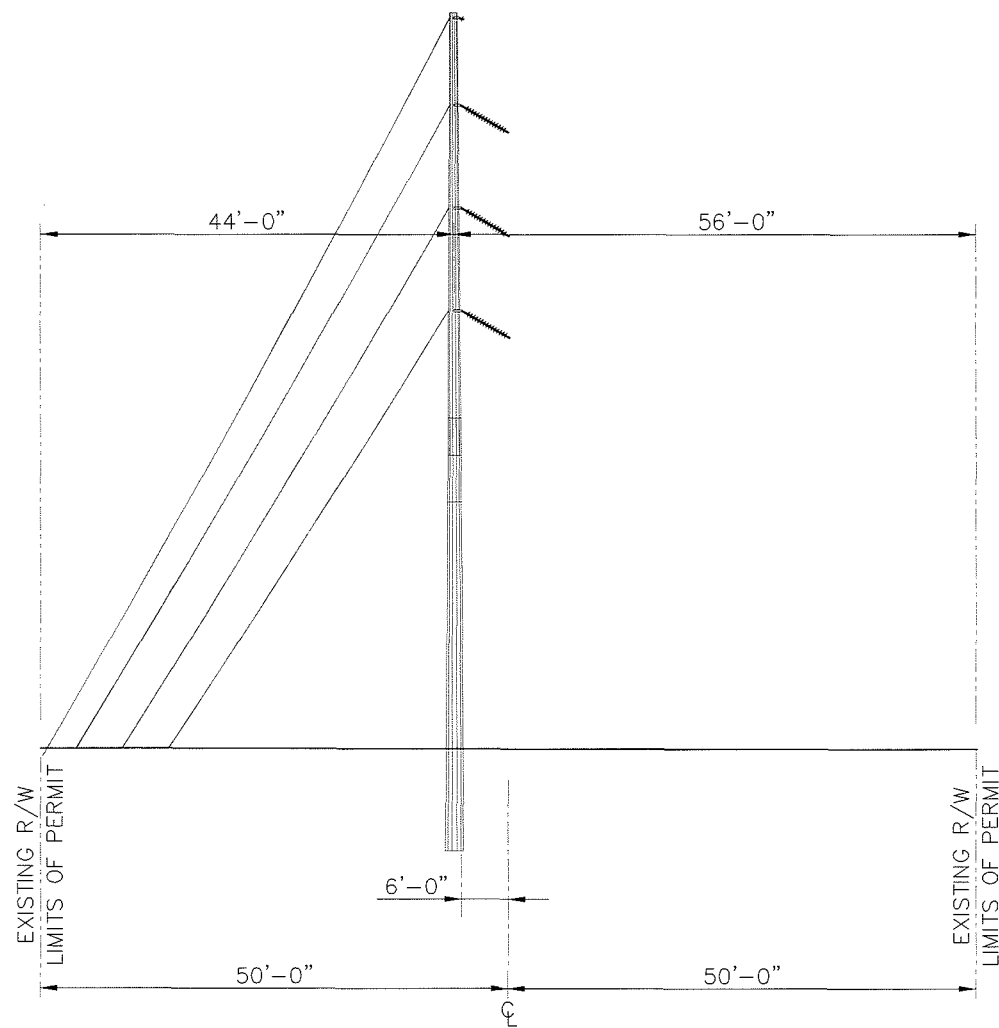
GLADSTONE SUBSTATION TO TOWER HILL SUBSTATION  
(STRUCTURE 18)  
EXISTING CONFIGURATION



TYPICAL RIGHT OF WAY LOOKING SOUTHEAST



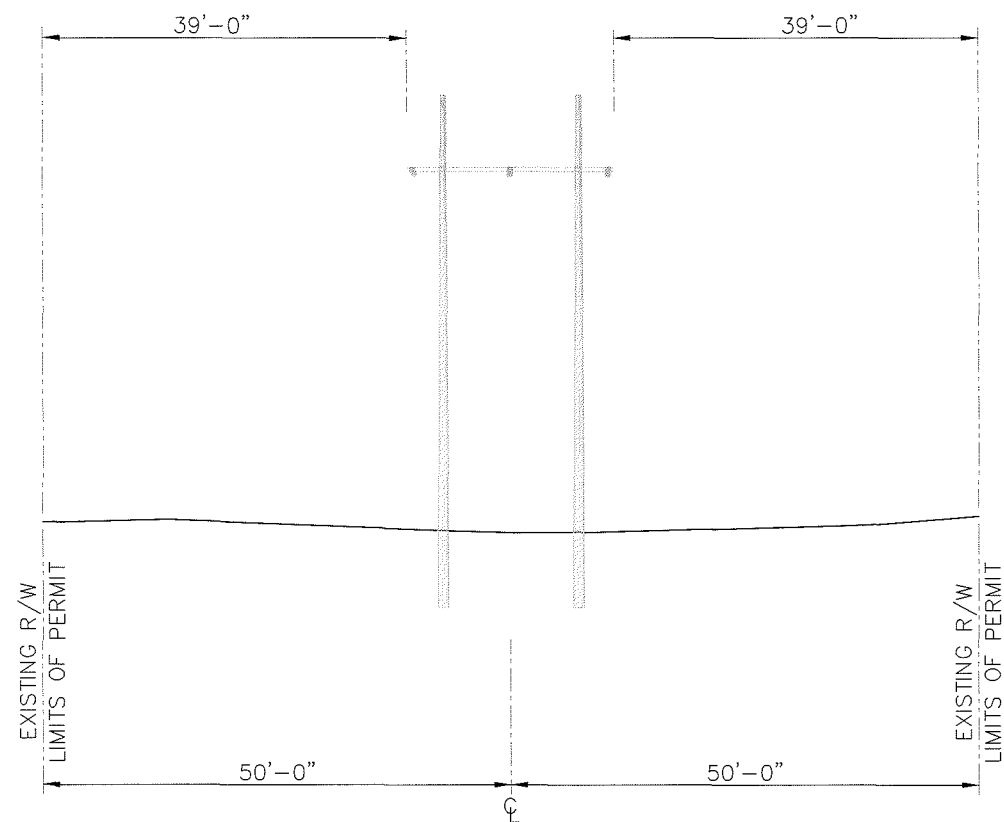
GLADSTONE SUBSTATION TO TOWER HILL SUBSTATION  
(STRUCTURE 18)  
PROPOSED CONFIGURATION



TYPICAL RIGHT OF WAY LOOKING SOUTHEAST



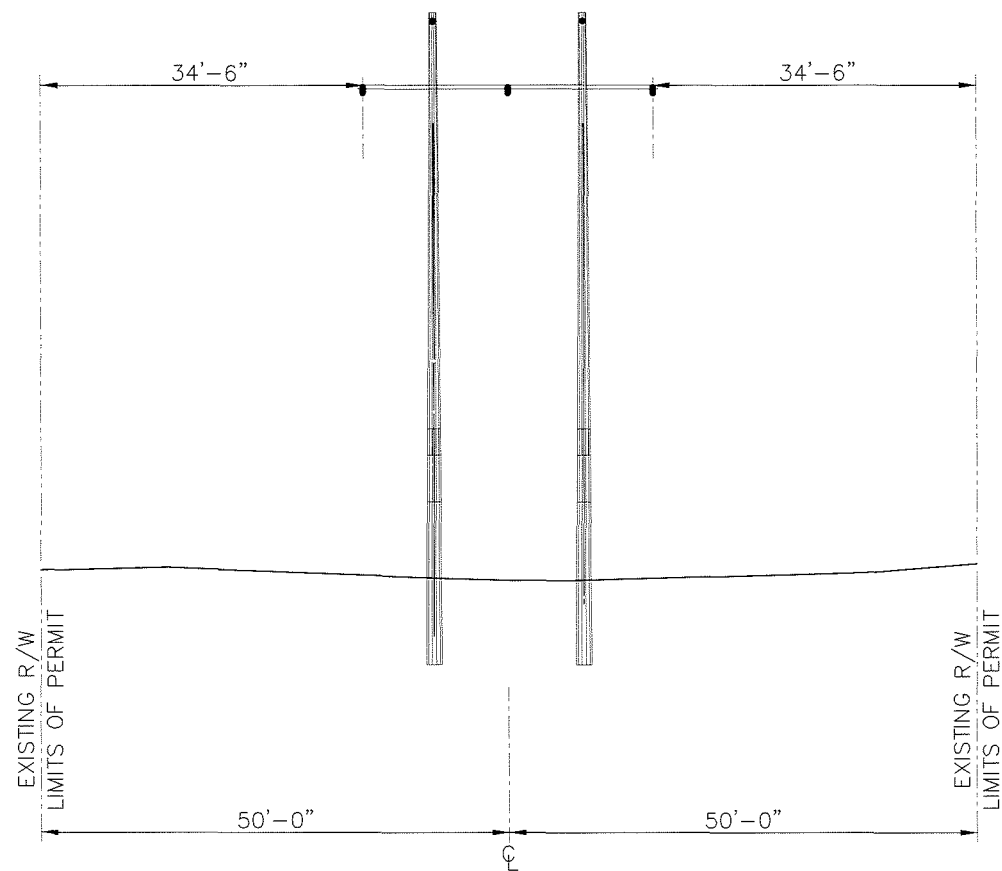
GLADSTONE SUBSTATION TO TOWER HILL SUBSTATION  
(STRUCTURE 43)  
EXISTING CONFIGURATION



TYPICAL RIGHT OF WAY LOOKING SOUTH

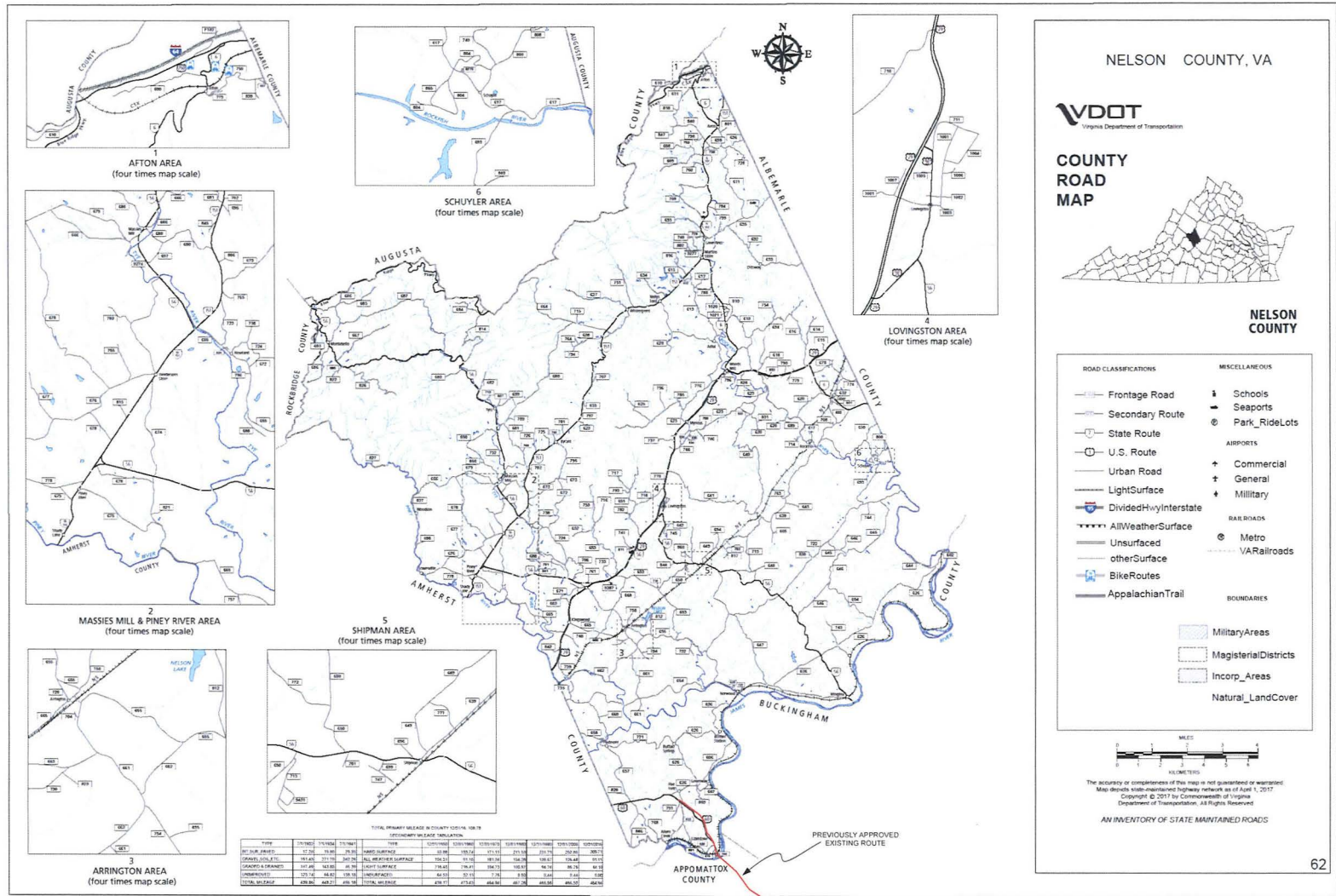


GLADSTONE SUBSTATION TO TOWER HILL SUBSTATION  
(STRUCTURE 43)  
PROPOSED CONFIGURATION



TYPICAL RIGHT OF WAY LOOKING SOUTH



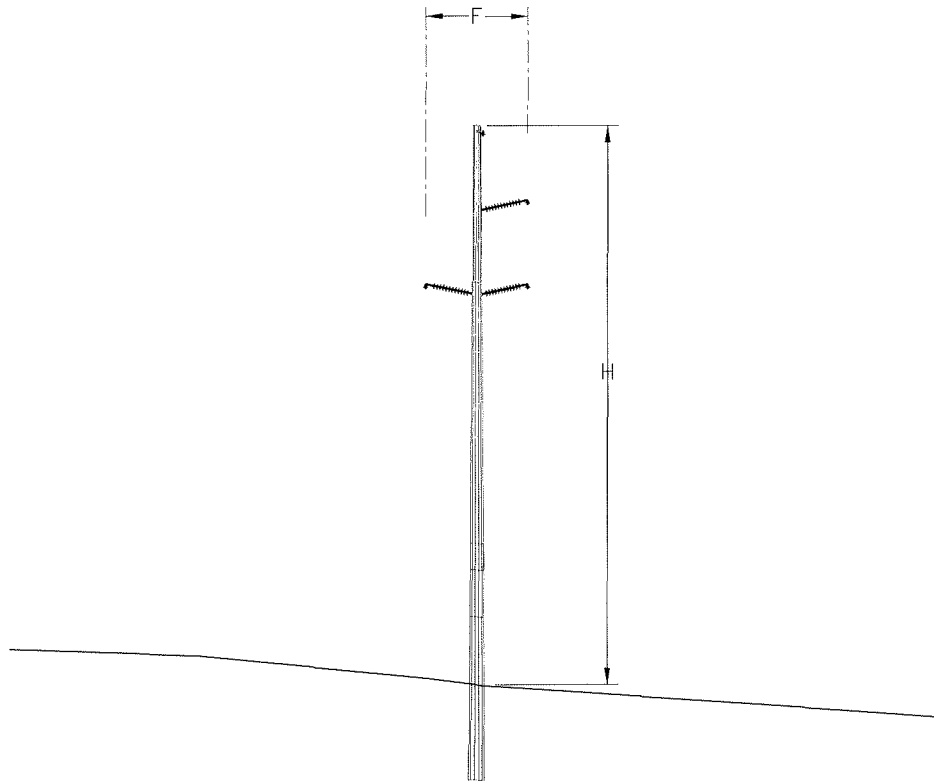








GLADSTONE SUBSTATION TO TOWER HILL SUBSTATION  
(STRUCTURE 5)



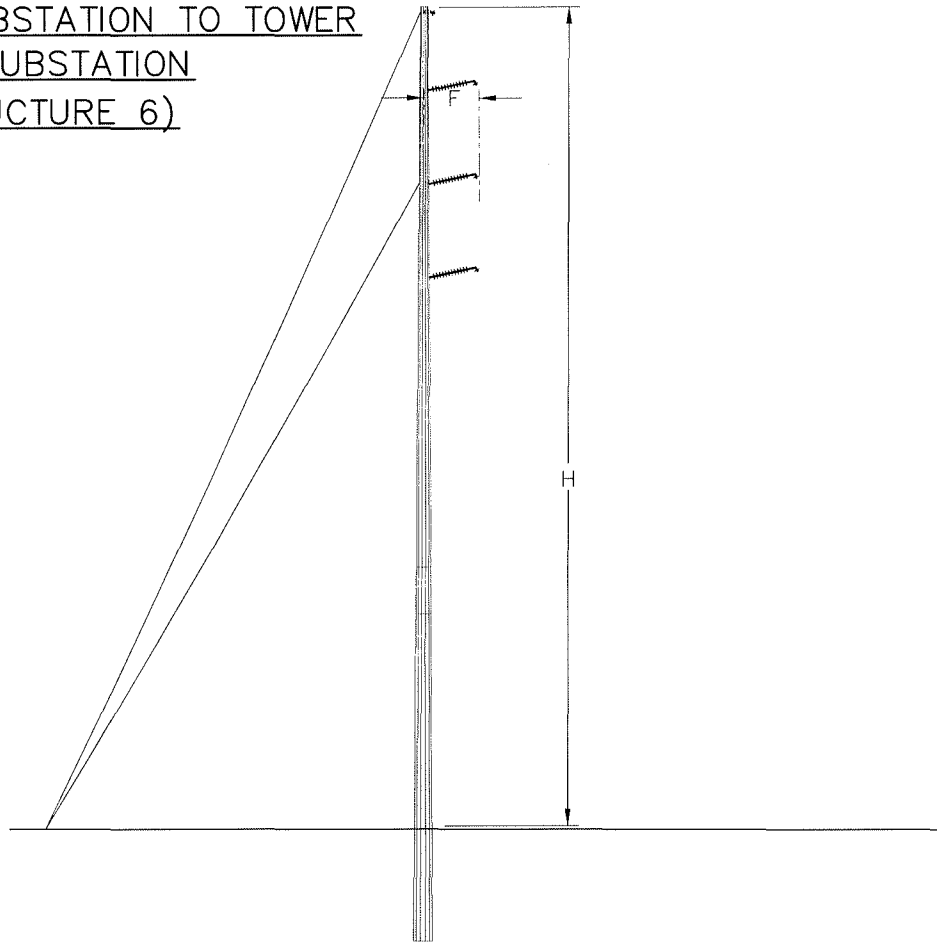
SINGLE CIRCUIT SINGLE POLE MODIFIED DELTA CONFIGURATION TANGENT

- A. MAPPING OF THE ROUTE: SEE ATTACHMENT I.G "SYSTEM MAP"
- B. RATIONALE FOR STRUCTURE TYPE: TANGENT DELTA CONFIGURATION, WITH RAISED LOWEST PHASE IN ORDER TO FACILITATE HOT-LINE REBUILD (TP-138(M))
- C. LENGTH OF R/W (STRUCTURE QTY.): 4.77 MILES (QTY: 68)
- D. STRUCTURE MATERIAL: WEATHERING STEEL OR DUCTILE IRON  
 RATIONALE FOR MATERIAL: BROWN METAL POLE, BEST PRICE OR LEAD TIME WILL BE SELECTED
- E. FOUNDATION MATERIAL: DIRECT EMBEDMENT WITH NATIVE SOIL OR ROCK BACKFILL  
 AVERAGE FOUNDATION REVEAL: N/A
- F. AVERAGE WIDTH AT CROSSARM (INSULATOR POSTS): 11'-0"
- G. AVERAGE WIDTH AT BASE: 48" DIAMETER NATIVE SOIL OR ROCK BACKFILL
- H. MINIMUM STRUCTURE HEIGHT: 61'-0"  
 MAXIMUM STRUCTURE HEIGHT: 101'-6"  
 AVERAGE STRUCTURE HEIGHT: 70'-6"
- I. AVERAGE SPAN LENGTH (RANGE): 370'-0" (216'-600')
- J. MINIMUM CONDUCTOR-TO-GROUND: 25'-0"

NOTE: 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL DESIGN.  
 2. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.  
 3. ALTERNATE CONSTRUCTION MEANS ARE BEING INVESTIGATED IN ORDER TO REDUCE POLE HEIGHTS.



GLADSTONE SUBSTATION TO TOWER  
HILL SUBSTATION  
(STRUCTURE 6)



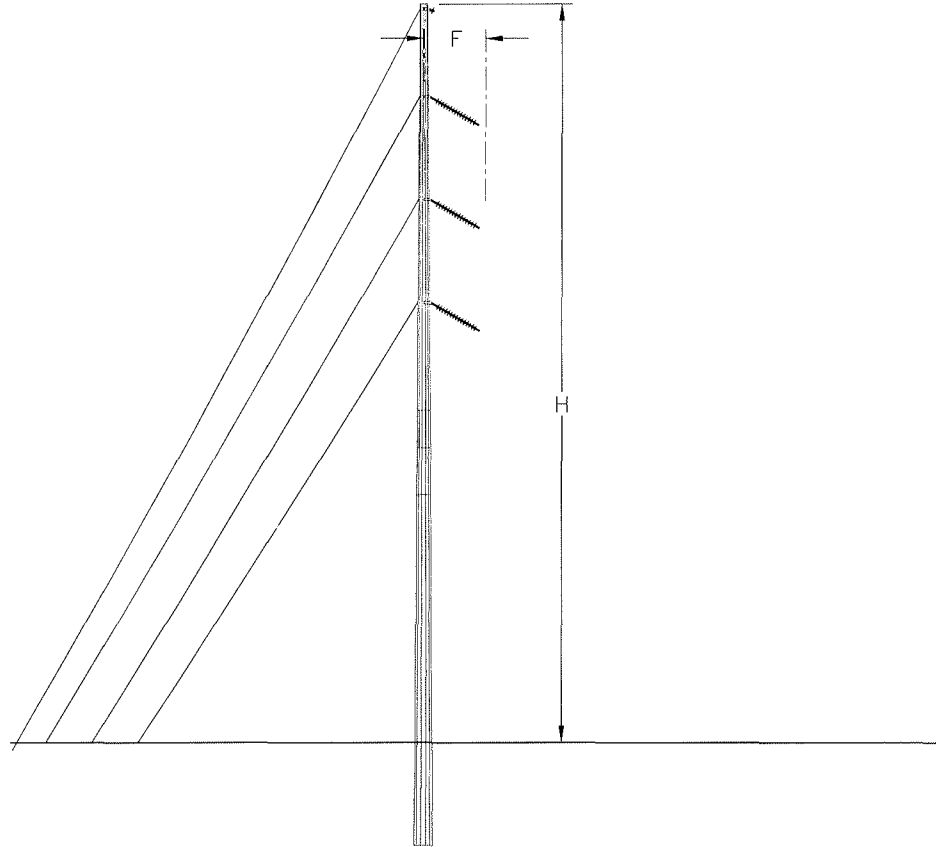
SINGLE CIRCUIT SINGLE POLE VERTICAL CONFIGURATION STACKED POST ANGLE

- A. MAPPING OF THE ROUTE: SEE ATTACHMENT I.G "SYSTEM MAP"
- B. RATIONALE FOR STRUCTURE TYPE: STACKED POST ANGLE CONFIGURATION, USED FOR LINE ANGLES UP TO 15 DEGREES (TP-138-B2)
- C. LENGTH OF R/W (STRUCTURE): 0.25 MILES (QTY: 3)
- D. STRUCTURE MATERIAL: WEATHERING STEEL OR DUCTILE IRON  
 RATIONALE FOR MATERIAL: BROWN METAL POLE, BEST PRICE OR LEAD TIME WILL BE SELECTED
- E. FOUNDATION MATERIAL: DIRECT EMBEDMENT WITH NATIVE SOIL OR ROCK BACKFILL  
 AVERAGE FOUNDATION REVEAL: N/A
- F. AVERAGE WIDTH AT CROSSARM (INSULATOR POSTS): 6'-0"
- G. AVERAGE WIDTH AT BASE: 48" DIAMETER NATIVE SOIL OR ROCK BACKFILL
- H. MINIMUM STRUCTURE HEIGHT: 83'-6"  
 MAXIMUM STRUCTURE HEIGHT: 88'-0"  
 AVERAGE STRUCTURE HEIGHT: 85'-0"
- I. AVERAGE SPAN LENGTH (RANGE): 446' (307'-521')
- J. MINIMUM CONDUCTOR-TO-GROUND: 25'-0"

NOTE: 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL DESIGN.  
 2. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.  
 3. ALTERNATE CONSTRUCTION MEANS ARE BEING INVESTIGATED IN ORDER TO REDUCE POLE HEIGHTS.



GLADSTONE TO TOWER HILL  
(STRUCTURE 18)



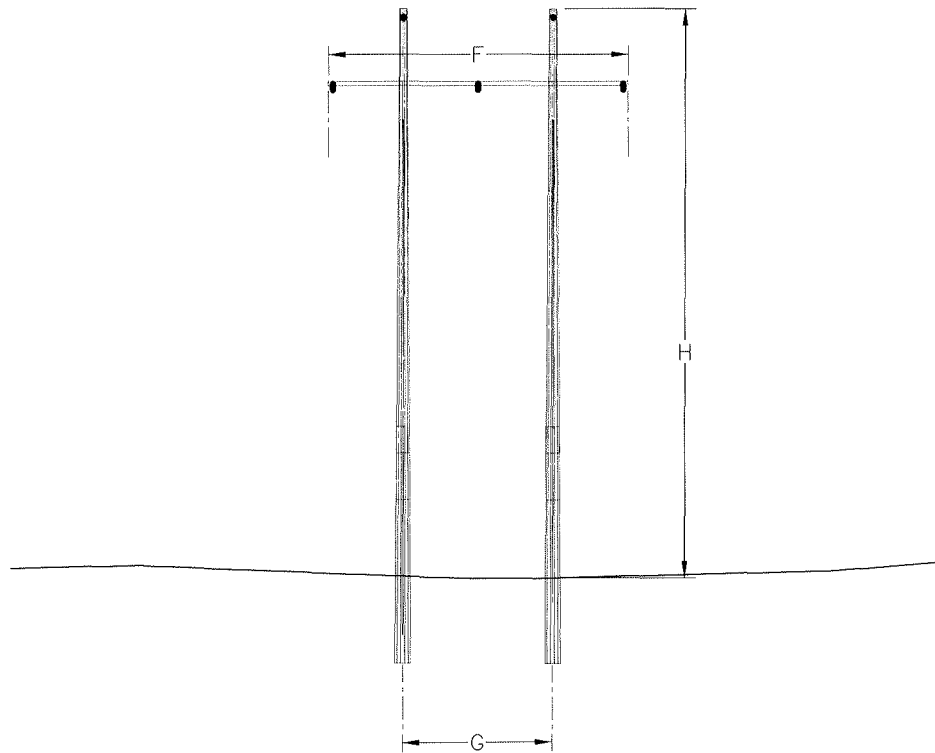
SINGLE CIRCUIT SINGLE POLE VERTICAL RUNNING ANGLE STRUCTURE

- A. MAPPING OF THE ROUTE: SEE ATTACHMENT I.G "SYSTEM MAP"
- B. RATIONALE FOR STRUCTURE TYPE: SUSPENSION INSULATOR RUNNING ANGLE, FOR LINE ANGLES UP TO 50 DEGREES (TS-4G)
- C. LENGTH OF R/W STRUCTURE: 0.31 MILES (QTY: 5)
- D. STRUCTURE MATERIAL: WEATHERING STEEL OR DUCTILE IRON  
RATIONALE FOR MATERIAL: BROWN METAL POLE, BEST PRICE OR LEAD TIME WILL BE SELECTED
- E. FOUNDATION MATERIAL: DIRECT EMBEDMENT WITH NATIVE SOIL OR ROCK BACKFILL  
AVERAGE FOUNDATION REVEAL: N/A
- F. AVERAGE WIDTH AT CROSSARM (INSULATOR SWING): 5'-0"
- G. AVERAGE WIDTH AT BASE: 48" DIAMETER NATIVE SOIL OR ROCK BACKFILL
- H. MINIMUM STRUCTURE HEIGHT: 79'-0"  
MAXIMUM STRUCTURE HEIGHT: 97'-0"  
AVERAGE STRUCTURE HEIGHT: 87'-2"
- I. AVERAGE SPAN LENGTH (RANGE): 327' (199'-562')
- J. MINIMUM CONDUCTOR-TO-GROUND: 25'-0"

NOTE: 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL DESIGN.  
2. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.  
3. ALTERNATE CONSTRUCTION MEANS ARE BEING INVESTIGATED IN ORDER TO REDUCE POLE HEIGHTS.



GLADSTONE SUBSTATION TO TOWER HILL SUBSTATION  
(STRUCTURE 43)



SINGLE-CIRCUIT TWO-POLE DEADEND STRUCTURE, TANGENT

- A. MAPPING OF THE ROUTE: SEE ATTACHMENT I.G "SYSTEM MAP"
- B. RATIONALE FOR STRUCTURE TYPE: TWO-POLE HORIZONTAL DEADEND, TANGENT, USED AT THE LOCATION OF EXISTING TWO-POLE HORIZONTAL DEADENDS (TH-138)
- C. LENGTH OF R/W STRUCTURE: 0.97 MILES (QTY: 10)
- D. STRUCTURE MATERIAL: WEATHERING STEEL OR DUCTILE IRON  
 RATIONALE FOR MATERIAL: BROWN METAL POLE, BEST PRICE OR LEAD TIME WILL BE SELECTED
- E. FOUNDATION MATERIAL: DIRECT EMBEDMENT WITH NATIVE SOIL OR ROCK BACKFILL  
 AVERAGE FOUNDATION REVEAL: N/A
- F. AVERAGE WIDTH AT CROSSARM: 32'-0"
- G. AVERAGE WIDTH AT BASE: 48" DIAMETER NATIVE SOIL OR ROCK BACKFILL
- H. MINIMUM STRUCTURE HEIGHT: 52'-0"  
 MAXIMUM STRUCTURE HEIGHT: 72'-0"  
 AVERAGE STRUCTURE HEIGHT: 61'-6"
- I. AVERAGE SPAN LENGTH (RANGE): 510' (297'-972')
- J. MINIMUM CONDUCTOR-TO-GROUND: 25'-0"

NOTE: 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL DESIGN.  
 2. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.  
 3. ALTERNATE CONSTRUCTION MEANS ARE BEING INVESTIGATED IN ORDER TO REDUCE POLE HEIGHTS.



Str. No.	Existing	Proposed	Str. No.	Existing	Proposed	Str. No.	Existing	Proposed
	Approximate	Structure		Approximate	Structure		Approximate	Structure
	Height (ft)			Height (ft)			Height (ft)	
1	25	N/A	41	43	57	81	43	67
2	43	N/A	42	43	72	82	47.5	65.5
3	52	79	43	47.5	62	83	43	65.5
4	43	70	44	43	57	84	43	70
5	43	61	45	43	52	85	43	70
6	47.5	88	46	47.5	74.5	86	43	65.5
7	43	70	47	43	74.5	87	43	65.5
8	43	74.5	48	43	61	88	43	65.5
9	43	74.5	49	43	61	89	56.5	79
10	43	88	50	43	65.5	90	47.5	74.5
11	43	61	51	43	61			
12	43	61	52	47.5	65.5			
13	43	65.5	53	43	61			
14	43	65.5	54	43	61			
15	43	79	55	43	70			
16	52	101.5	56	56.5	79			
17	43	83.5	57	43	65.5			
18	47.5	79	58	52	74.5			
19	43	70	59	43	65.5			
20	43	70	60	47.5	83.5			
21	43	61	61	43	83.5			
22	47.5	92.5	62	47.5	65.5			
23	43	65.5	63	47.5	74.5			
24	43	61	64	52	74.5			
25	43	61	65	43	65.5			
26	43	79	66	43	61			
27	43	97	67	43	65.5			
28	43	92.5	68	47.5	70			
29	47.5	101.5	69	47.5	70			
30	47.5	83.5	70	43	61			
31	47.5	97	71	47.5	65.5			
32	43	74.5	72	43	61			
33	43	62	73	43	79			
34	43	65.5	74	47.5	83.5			
35	43	61	75	43	70			
36	43	79	76	43	61			
37	47.5	83.5	77	43	62			
38	43	67	78	47.5	83.5			
39	43	n/a	79	43	61			
40	43	57	80	43	61			

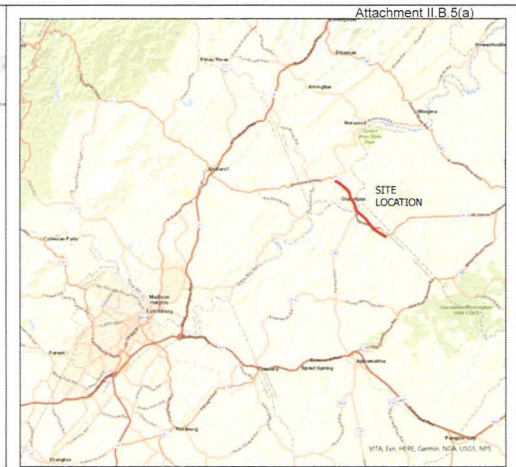
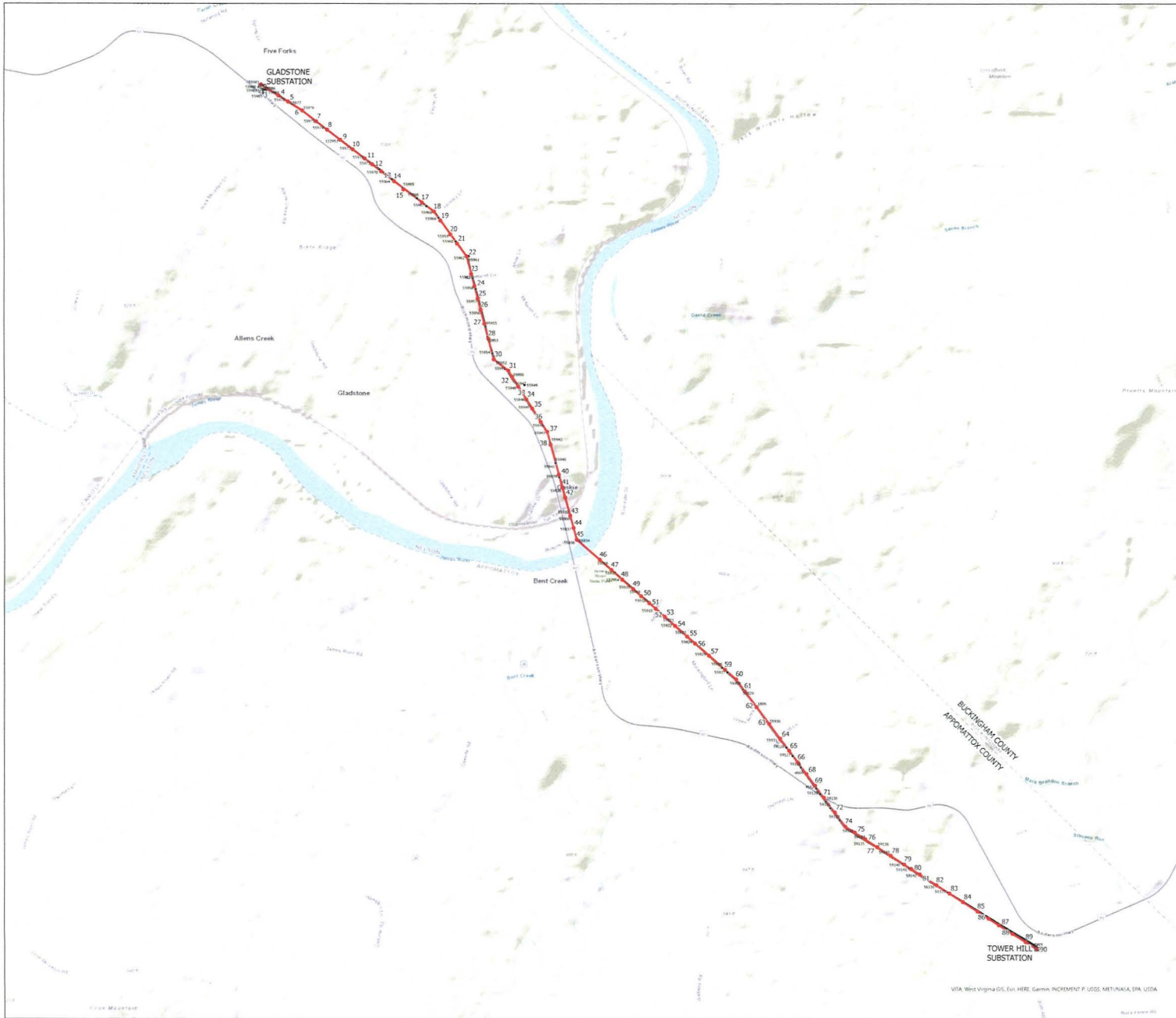
Note 1 Structures are intended to be directly embedded.

Note 2 Structures shall be replaced on existing centerline, 15' ahead or back of existing poles.

Note 3 Conceptual design utilizes publicly available ground contours.

Note 4 Alternate construction means are being investigated in order to reduce pole heights.

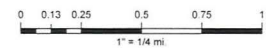




VICINITY MAP  
1" = 5 mi.

- [S] Substations
- New Structure Locations
- Existing Structure Locations
- Proposed Centerline
- Existing Centerline

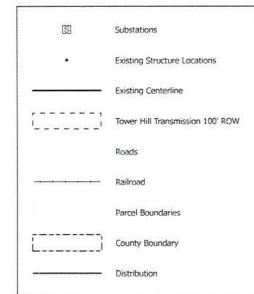
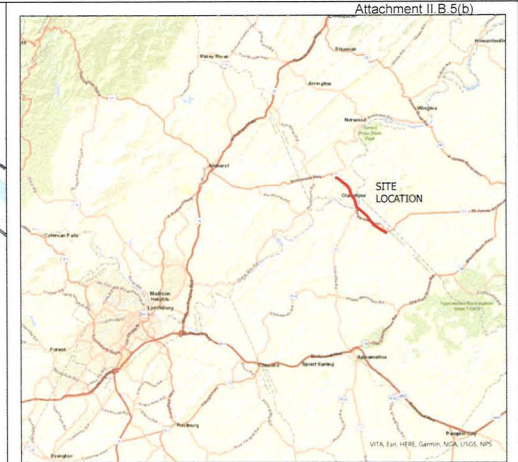
TRANSMISSION STRUCTURES  
MAXIMUM POLE HEIGHT: 88'-0"  
MINIMUM POLE HEIGHT: 82'-6"  
AVERAGE POLE HEIGHT: 85'-0"



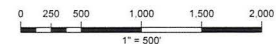
PRELIMINARY  
NOT FOR  
CONSTRUCTION

CENTRAL VIRGINIA ELECTRIC COOPERATIVE				
ARRINGTON, VIRGINIA				
GLADSTONE SUBSTATION TO TOWERHILL SUBSTATION 46kV TO 138kV TRANSMISSION LINE UPGRADE SYSTEM MAP - SECTION: II.B.5				
Booth & Associates, LLC				
DWY	JEH	DATE	01/19/2021	DWG. NO.  1 OF 1
CHD	RDE	APPD	DSH	
SCALE	1" = 25 mi	FILE	GLADSTONE_TO_TOWERHILL.dwg	





CENTRAL VIRGINIA ELECTRIC COOPERATIVE  
TO MAKE A DIGITAL SHAPE FILE OF THE  
PROPOSED ROUTE AVAILABLE UPON  
REQUEST TO INTERESTED PARTIES, INCLUDING  
STATE AND GOVERNMENTAL ENTITIES.



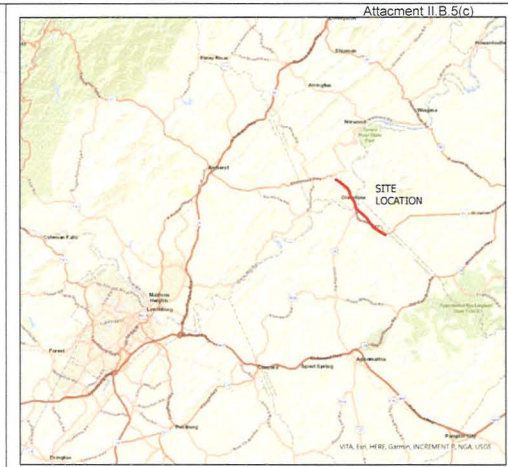
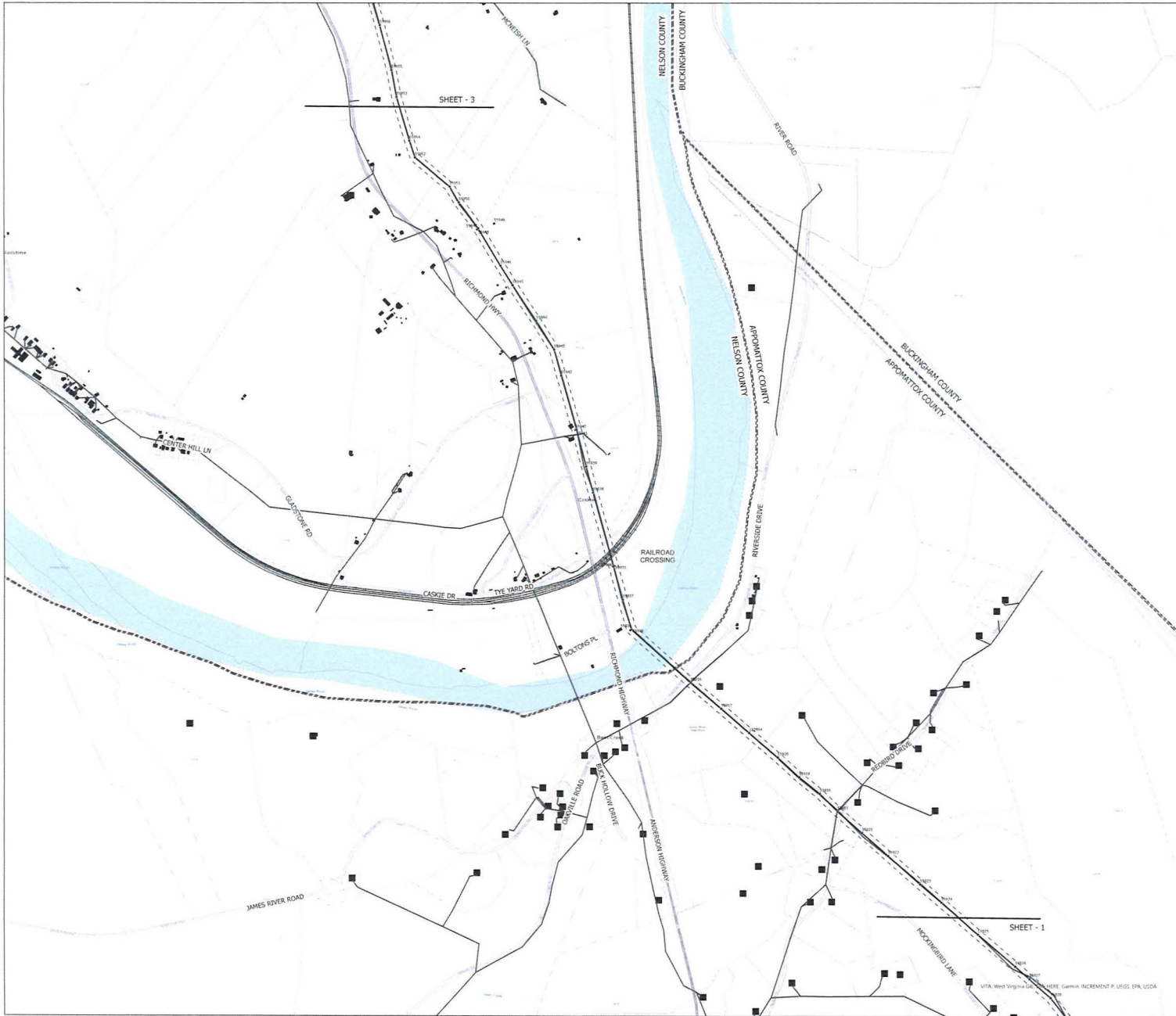
**PRELIMINARY  
NOT FOR  
CONSTRUCTION**

CENTRAL VIRGINIA ELECTRIC COOPERATIVE			
ANNETTOWN, VIRGINIA			
GLADSTONE SUBSTATION TO TOWERHILL SUBSTATION 46KV TO 138KV TRANSMISSION LINE UPGRADE EXISTING STRUCTURES - SECTION II.B.5			
Booth & Associates, I.L.C.			
DWG NO.	JEH	DATE	01-07-2021
CHD	BDE	APPD	DSH
SCALE	SEE SCALE BAR	FILE	GLADSTONE_TO_TOWERHILL.dwg

© 11/2020

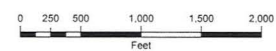
1 OF 3





- Substations
- Existing Structure Locations
- Existing Centerline
- Tower Hill Transmission 100' ROW
- Building Locations
- Roads
- Railroad
- Parcel Boundaries
- County Boundary
- Distribution

CENTRAL VIRGINIA ELECTRIC COOPERATIVE  
TO MAKE A DIGITAL SHAPE FILE OF THE  
PROPOSED ROUTE AVAILABLE UPON  
REQUEST TO INTERESTED PARTIES, INCLUDING  
STATE AND GOVERNMENTAL ENTITIES.

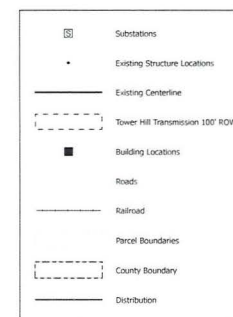


<b>PRELIMINARY NOT FOR CONSTRUCTION</b>	CENTRAL VIRGINIA ELECTRIC COOPERATIVE ARRINGTON, VIRGINIA				
	GLADSTONE SUBSTATION TO TOWERHILL SUBSTATION 46KV TO 138KV TRANSMISSION LINE UPGRADE EXISTING STRUCTURES - SECTION: II.B.5				
Booth & Associates, LLC 11111 FARM ROAD, SUITE 100 ARLINGTON, VA 22204					
DWN	JEN	DATE	01/27/2021	DWG NO	
CHD	ROE	APPD	DSH		
SCALE	SEE SCALE BAR	FILE	GLADSTONE_TO_TOWERHILL.dwg		2 OF 3

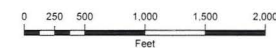




VICINITY MAP  
1" = 5 mi.



CENTRAL VIRGINIA ELECTRIC COOPERATIVE  
TO MAKE A DIGITAL SHAPE FILE OF THE  
PROPOSED ROUTE AVAILABLE UPON  
REQUEST TO INTERESTED PARTIES, INCLUDING  
STATE AND GOVERNMENTAL ENTITIES.



PRELIMINARY  
NOT FOR  
CONSTRUCTION

CENTRAL VIRGINIA ELECTRIC COOPERATIVE			
ARRINGTON, VIRGINIA			
GLADSTONE SUBSTATION TO TOWERHILL SUBSTATION 46KV TO 138KV TRANSMISSION LINE UPGRADE EXISTING STRUCTURES - SECTION: II.B.5			
Booth & Associates, LLC			
DWN: JCH	DATE: 01/27/2021	DWG NO:	
CHD: RDE	APPD: DSH		
SCALE: SEE SCALE BAR	FILE: GLADSTONE_TO_TOWERHILL.dwg		3 OF 3



Intersection of 616 Wildway Rd and Hwy 60





Over Horsley Ln





Hwy 722 by Hwy 682





Conceptual image of Proposed Str. 70 with existing structure shown in background. Intersection of Hwy 60 and Rt 616 Wildway Road.

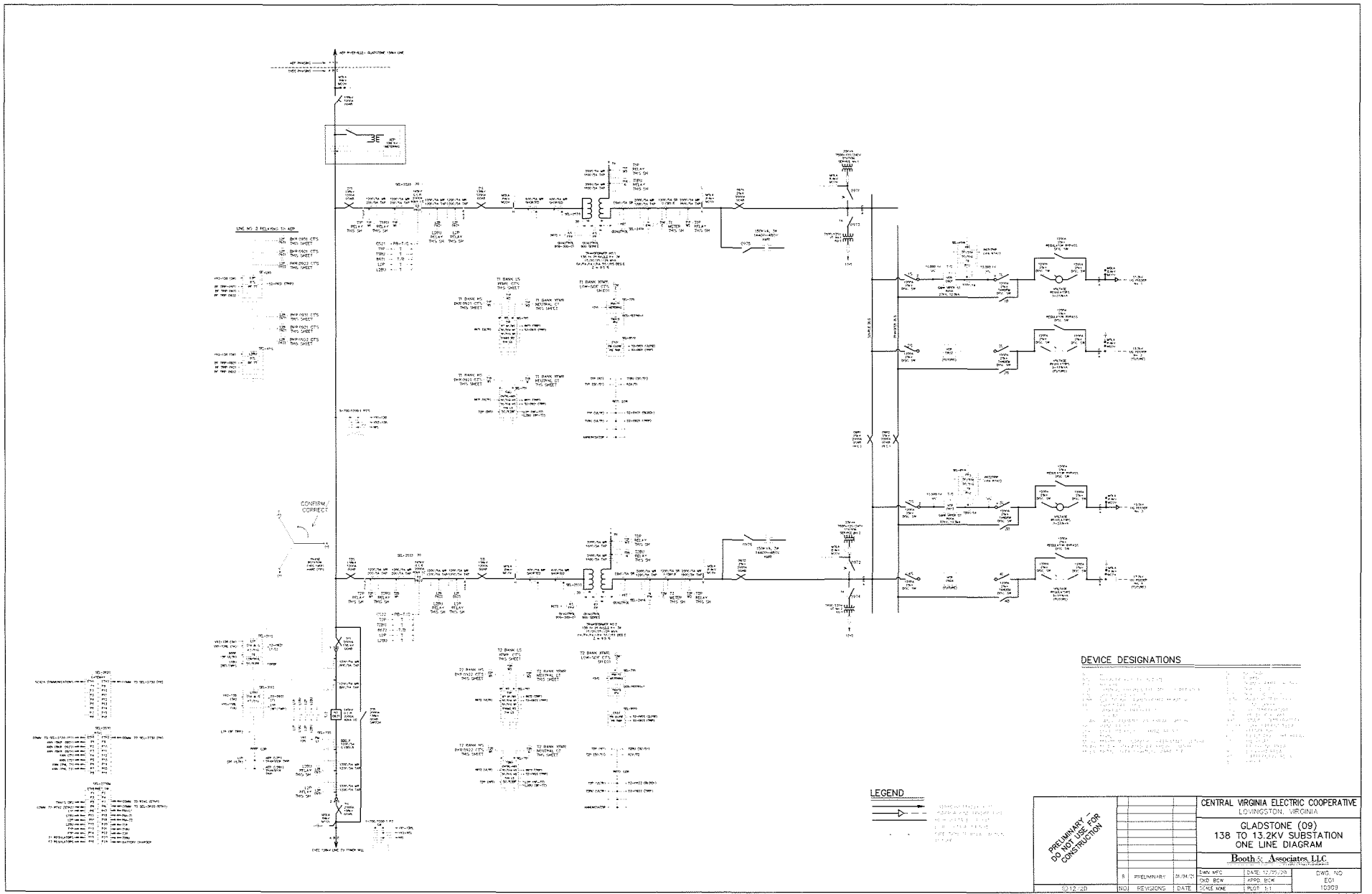




Conceptual image of Proposed Str. 71 with existing structure shown in background. This is on Rt 616 Wildway Road looking towards Hwy 60.



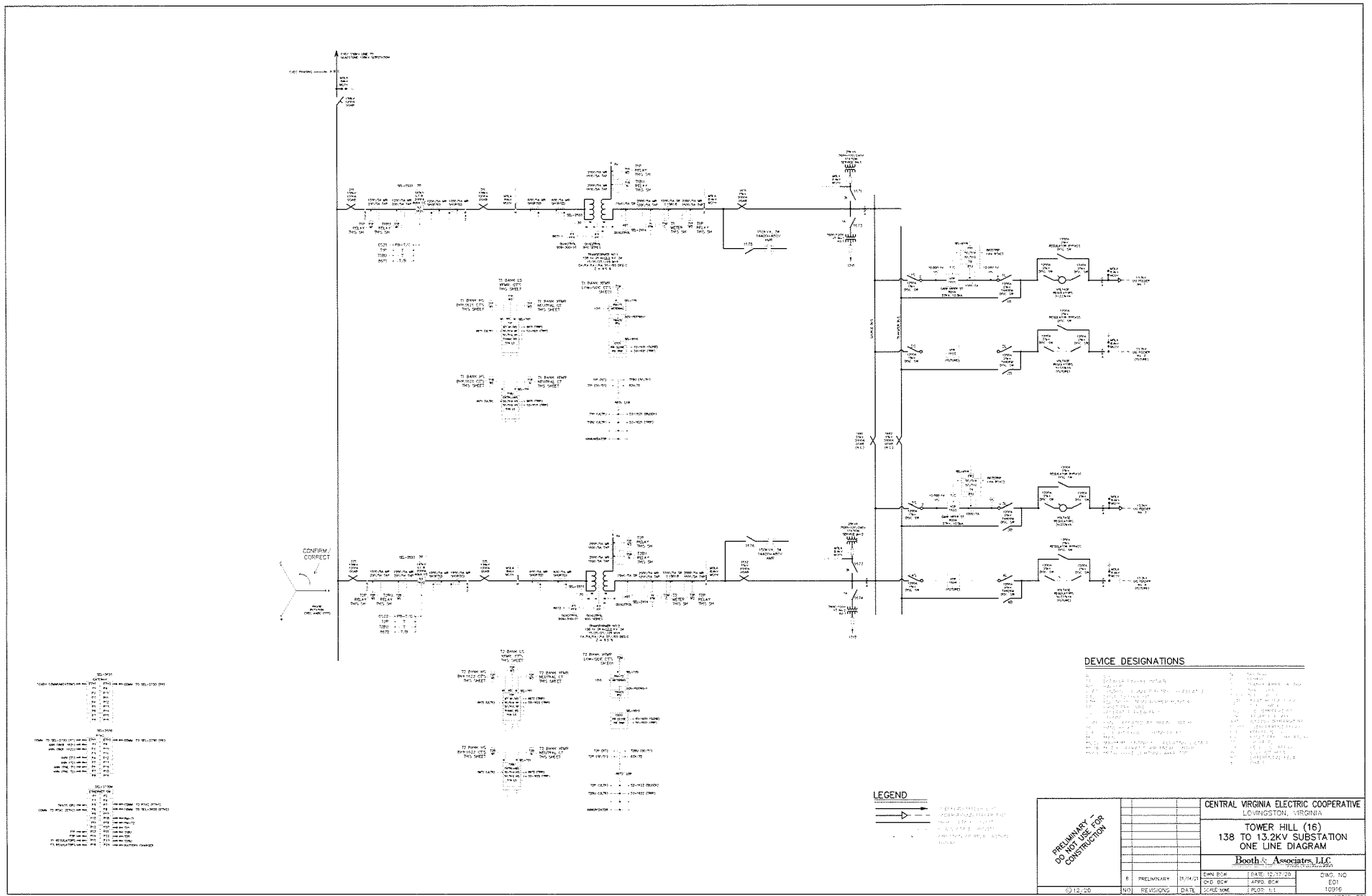














Attachment II.C.4


**CENTRAL  
VIRGINIA  
ELECTRIC  
COOPERATIVE**

**Booth  
& Associates, LLC**  
5811 Glenwood Avenue  
Raleigh, NC 27612  
VA 0407002507

PRELIMINARY  
DO NOT USE FOR  
CONSTRUCTION

702/105

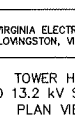
[illegible]

NO.
DATE
TIME
PLACE
REMARKS
BY
FOR
RECEIVED

NO.
DATE
TIME
PLACE
REMARKS
BY
FOR
RECEIVED

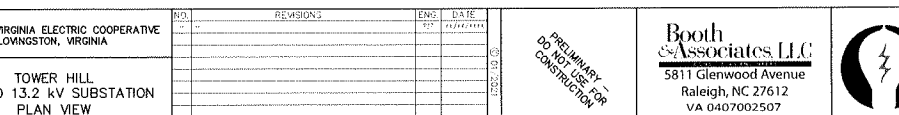
## ON

- ERIC COOPER  
VIRGINIA
- WILL  
SUBSTANTI  
NEW



## 38

CLIENT	CEN
DRAWN BY:	ART
CHECKED BY:	MFC
APPROVED BY:	DMJ





# **FEMA**



# National Flood Hazard Layer FIRMette

78°51'45"W 37°34'36"N



USGS The National Map: Orthoimagery. Data refreshed October, 2020.

0 250 500 1,000 1,500 2,000 Feet 1:6,000

78°51'8"W 37°34'7"N

Attachment III.B

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes, Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
OTHER FEATURES		Profile Baseline
		Hydrographic Feature
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 12/8/2020 at 10:37 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.





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Historic Preservation Program  
(/office-environmental-planning-  
and-historic-preservation)

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Amended (/clean-air-act-caa-  
1990-amended)

Clean Water Act, 1948 as  
Amended 1966, 1972,  
Section 10 Rivers & Harbors  
Act, 1899 (/clean-water-act-  
1948-amended-1966-1972-  
section-10-rivers-harbors-act-  
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Defining the Full Scope of the  
Federal "Action" (/defining-  
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Draft Guidance for Federal  
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> Environmental & Historic  
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(/environmental-assessment-  
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assessments-archive)

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Executive Order 11988:  
Floodplain Management  
(/executive-order-11988-  
floodplain-management)

# Eight Step Planning Process for Floodplain/Wetland Management

This page details the Eight Step Planning Process for Floodplain/Wetland Management.

1. Project Location in Floodplain/Wetland
2. Encourage Public Involvement
3. Evaluate Alternatives
4. Assess Impacts
5. Minimize Impacts
6. Determine Practicability
7. Provide Public Explanation
8. Comply with Executive Orders



EO 11988: Floodplain Management

EO 11990: Wetland Protection

(Note: See 44 CFR 9.6 for more detailed information.)

> Expand All Sections

## ✓ STEP #1 Project Location In Floodplain/Wetland

Will the action be located in a wetland and/or the 100-year floodplain or will it have the potential to affect a wetland or floodplain?

- If no, you are finished
- If yes, continue to step #2

> STEP #2 Encourage Public Involvement

> STEP #3 Evaluate Alternatives

> STEP #4 Assess Impacts

> STEP #5 Minimize Impacts



## Definitions of FEMA Flood Zone Designations

Flood zones are geographic areas that the FEMA has defined according to varying levels of flood risk. These zones are depicted on a community's Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map. Each zone reflects the severity or type of flooding in the area.

### Moderate to Low Risk Areas

In communities that participate in the NFIP, flood insurance is available to all property owners and renters in these zones:

ZONE	DESCRIPTION
<b>B and X (shaded)</b>	Area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods. B Zones are also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
<b>C and X (unshaded)</b>	Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level. Zone C may have ponding and local drainage problems that don't warrant a detailed study or designation as base floodplain. Zone X is the area determined to be outside the 500-year flood and protected by levee from 100-year flood.

### High Risk Areas

In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones:

ZONE	DESCRIPTION
<b>A</b>	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
<b>AE</b>	The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
<b>A1-30</b>	These are known as numbered A Zones (e.g., A7 or A14). This is the base floodplain where the FIRM shows a BFE (old format).
<b>AH</b>	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
<b>AO</b>	River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
<b>AR</b>	Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations.
<b>A99</b>	Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.



## High Risk - Coastal Areas

In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones.

ZONE	DESCRIPTION
<b>V</b>	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. No base flood elevations are shown within these zones.
<b>VE, V1 - 30</b>	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.

## Undetermined Risk Areas

ZONE	DESCRIPTION
<b>D</b>	Areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted. Flood insurance rates are commensurate with the uncertainty of the flood risk.

From FEMA Map Service Center:

<http://msc.fema.gov/webapp/wcs/stores/servlet/info?storeId=10001&catalogId=10001&langId=-1&content=floodZones&title=FEMA%20Flood%20Zone%20Designations>



# National Flood Hazard Layer FIRMette



78°47'17"W 37°30'40"N



0 250 500 1,000 1,500 2,000 Feet 1:6,000

78°46'39"W 37°30'11"N

Attachment III.B

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
OTHER AREAS OF FLOOD HAZARD		Regulatory Floodway
		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
OTHER AREAS		Area with Flood Risk due to Levee Zone D
		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
OTHER FEATURES		Levee, Dike, or Floodwall
		Cross Sections with 1% Annual Chance Water Surface Elevation
MAP PANELS		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **12/8/2020 at 10:25 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.





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# Eight Step Planning Process for Floodplain/Wetland Management

This page details the Eight Step Planning Process for Floodplain/Wetland Management.

1. Project Location in Floodplain/Wetland
2. Encourage Public Involvement
3. Evaluate Alternatives
4. Access Impacts
5. Minimize Impacts
6. Determine Practicability
7. Provide Public Explanation
8. Comply with Executive Orders



EO 11988: Floodplain Management

EO 11990: Wetland Protection

(Note: See 44 CFR 9.6 for more detailed information.)

> Expand All Sections

## ✓ STEP #1 Project Location In Floodplain/Wetland

Will the action be located in a wetland and/or the 100-year floodplain or will it have the potential to affect a wetland or floodplain?

- If no, you are finished
- If yes, continue to step #2

## > STEP #2 Encourage Public Involvement

## > STEP #3 Evaluate Alternatives

## > STEP #4 Assess Impacts

## > STEP #5 Minimize Impacts



## Definitions of FEMA Flood Zone Designations

Flood zones are geographic areas that the FEMA has defined according to varying levels of flood risk. These zones are depicted on a community's Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map. Each zone reflects the severity or type of flooding in the area.

### Moderate to Low Risk Areas

In communities that participate in the NFIP, flood insurance is available to all property owners and renters in these zones:

ZONE	DESCRIPTION
<b>B and X (shaded)</b>	Area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods. B Zones are also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
<b>C and X (unshaded)</b>	Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level. Zone C may have ponding and local drainage problems that don't warrant a detailed study or designation as base floodplain. Zone X is the area determined to be outside the 500-year flood and protected by levee from 100-year flood.

### High Risk Areas

In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones:

ZONE	DESCRIPTION
<b>A</b>	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
<b>AE</b>	The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
<b>A1-30</b>	These are known as numbered A Zones (e.g., A7 or A14). This is the base floodplain where the FIRM shows a BFE (old format).
<b>AH</b>	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
<b>AO</b>	River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
<b>AR</b>	Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations.
<b>A99</b>	Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.



## High Risk - Coastal Areas

In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones.

ZONE	DESCRIPTION
<b>V</b>	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. No base flood elevations are shown within these zones.
<b>VE, V1 - 30</b>	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.

## Undetermined Risk Areas

ZONE	DESCRIPTION
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From FEMA Map Service Center:

<http://msc.fema.gov/webapp/wcs/stores/servlet/info?storeId=10001&catalogId=10001&langId=-1&content=floodZones&title=FEMA%20Flood%20Zone%20Designations>



**FWS**





## 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:

December 08, 2020

Consultation Code: 05E2VA00-2021-SLI-1022

Event Code: 05E2VA00-2021-E-02910

Project Name: 521\_Gladstone Sub Rebuild\_CVEC

Subject: List of threatened and endangered species that may occur in your proposed project location, and/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](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

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

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

Attachment(s):

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



## Official Species List

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

This species list is provided by:

**Virginia Ecological Services Field Office**

6669 Short Lane

Gloucester, VA 23061-4410

(804) 693-6694



## Project Summary

Consultation Code: 05E2VA00-2021-SLI-1022

Event Code: 05E2VA00-2021-E-02910

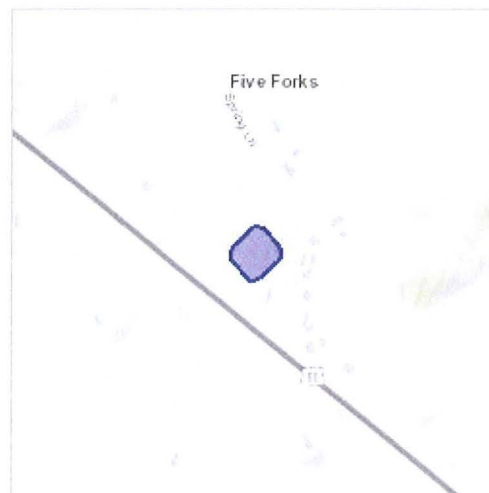
Project Name: 521\_Gladstone Sub Rebuild\_CVEC

Project Type: \*\* OTHER \*\*

Project Description: The rebuild of the Gladstone Substation is necessary to support the incoming 138 kV AEP Transmission. The substation will be rebuilt on an adjacent 1.2 acre location, owned by the Cooperative.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/37.572956049093726N78.8569074882231W>



Counties: Nelson, VA



## Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

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

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

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

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

## Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	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.





## 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:

December 08, 2020

Consultation Code: 05E2VA00-2021-SLI-1027

Event Code: 05E2VA00-2021-E-02923

Project Name: 1006\_Gladstone-TowerHill Trans Line\_CVEC

Subject: List of threatened and endangered species that may occur in your proposed project location, and/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](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

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

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

Attachment(s):

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



## Official Species List

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

This species list is provided by:

**Virginia Ecological Services Field Office**

6669 Short Lane

Gloucester, VA 23061-4410

(804) 693-6694



## Project Summary

Consultation Code: 05E2VA00-2021-SLI-1027

Event Code: 05E2VA00-2021-E-02923

Project Name: 1006\_Gladstone-TowerHill Trans Line\_CVEC

Project Type: TRANSMISSION LINE

Project Description: The existing 6.4 mile Gladstone to Tower Hill 46 kV Transmission line will be rebuilt to 138 kV, in place and within the existing 100 ft right-of-way. The rebuilt line will utilize steel poles with 400 – 450 ft spans.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/37.539699019766374N78.82739059267954W>



Counties: Appomattox, VA | Nelson, VA



## Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, 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
Gray Bat <i>Myotis grisescens</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6329">https://ecos.fws.gov/ecp/species/6329</a>	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Threatened

## Flowering Plants

NAME	STATUS
Small Whorled Pogonia <i>Isotria medeoloides</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/1890">https://ecos.fws.gov/ecp/species/1890</a>	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.





## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

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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:

December 08, 2020

Consultation Code: 05E2VA00-2021-SLI-1025

Event Code: 05E2VA00-2021-E-02919

Project Name: 516\_Tower Hill Sub Rebuild\_CVEC

Subject: List of threatened and endangered species that may occur in your proposed project location, and/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.

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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](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

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

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

Attachment(s):

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



## Official Species List

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

This species list is provided by:

**Virginia Ecological Services Field Office**

6669 Short Lane

Gloucester, VA 23061-4410

(804) 693-6694



## Project Summary

Consultation Code: 05E2VA00-2021-SLI-1025

Event Code: 05E2VA00-2021-E-02919

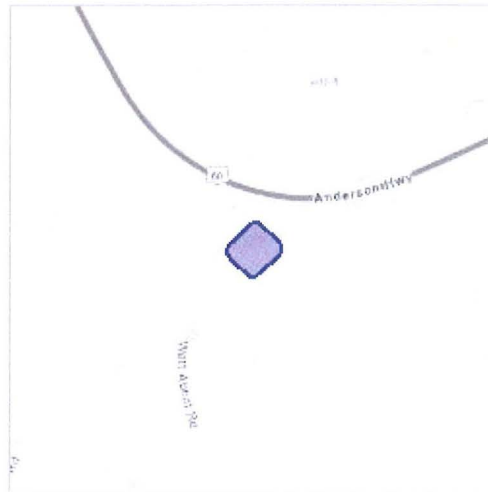
Project Name: 516\_Tower Hill Sub Rebuild\_CVEC

Project Type: \*\* OTHER \*\*

Project Description: The rebuild of the Tower Hill Substation is necessary to support the incoming Cooperative-owned transmission, rebuilt to 138 kV. The Substation will be rebuilt on an adjacent 1.2 acre location, owned by the Cooperative.

### Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/37.50720864779231N78.78216295085207W>



Counties: Appomattox, VA



## Endangered Species Act Species

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

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, 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
Gray Bat <i>Myotis grisescens</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6329">https://ecos.fws.gov/ecp/species/6329</a>	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Threatened

## Critical habitats

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

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## **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.



# **HISTORIC RESOURCES**



**Property Information****Property Names****Name Explanation**  
Historic/Current**Name**  
Walnut Hill**Property Evaluation Status**

DHR Staff: Not Eligible

**Property Addresses**Alternate - Route 615  
Current - Walnut Hill Road**County/Independent City(s):** Appomattox (County)**Incorporated Town(s):** *No Data***Zip Code(s):** *No Data***Magisterial District(s):** *No Data***Tax Parcel(s):** *No Data***USGS Quad(s):** GLADSTONE**Additional Property Information****Architecture Setting:** Rural**Acreage:** *No Data***Site Description:**

Located on north side of Walnut Hill Road (Rt 615), just southwest of it junction with Route 654 and also Route 60. The David Creek runs north and east of the house.

**Surveyor Assessment:**

"On an original land grant made to Thomas Jefferson."

**Surveyor Recommendation:** *No Data***Ownership****Ownership Category**  
Private**Ownership Entity**  
*No Data***Primary Resource Information****Resource Category:** Domestic**Resource Type:** Single Dwelling**NR Resource Type:** Building**Historic District Status:** *No Data***Date of Construction:** Ca 1845**Date Source:** Owner**Historic Time Period:** Antebellum Period (1830 - 1860)**Historic Context(s):** Domestic**Other ID Number:** *No Data***Architectural Style:** *No Data***Form:** *No Data***Number of Stories:** 2.0**Condition:** Good**Interior Plan:** Central Passage, Single Pile**Threats to Resource:** None**Architectural Description:**

Architecture Summary: 3-bay facade

**Exterior Components****Component**  
Windows**Component Type**  
Sash, Double-Hung**Material**  
Wood**Material Treatment**  
6/6



Virginia Department of Historic Resources  
Architectural Survey Form

DHR ID: 006-0018  
Other DHR ID: No Data

Roof Chimneys Structural System and Exterior Treatment Porch	Gable, Side Interior End Masonry 2-story	Asphalt Brick Brick Wood	Shingle Other Other Removed/None
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### Secondary Resource Information

### Historic District Information

Historic District Name: *No Data*  
Local Historic District Name: *No Data*  
Historic District Significance: *No Data*

### CRM Events

#### Event Type: DHR Staff: Not Eligible

DHR ID: 006-0018  
Staff Name: DHR  
Event Date: 3/5/1991  
Staff Comment:  
*No Data*

#### Event Type: PIF

Project Review File Number: *No Data*  
Investigator: Sayre, Robert M.  
Organization/Company: Unknown (DSS)  
Photographic Media: *No Data*  
Survey Date: 2/25/1991  
Dhr Library Report Number: *No Data*  
Project Staff/Notes:  
*No Data*

#### Event Type: Survey:HABS Inventory

Project Review File Number: *No Data*  
Investigator: Newman, W.C.  
Organization/Company: Unknown (DSS)  
Photographic Media: *No Data*  
Survey Date: 9/4/1957  
Dhr Library Report Number: *No Data*  
Project Staff/Notes:  
*No Data*

### Bibliographic Information

#### Bibliography:

*No Data*

#### Property Notes:

*No Data*



**Property Information****Property Names****Name Explanation**  
Function/Location  
Current**Name**  
Bridge #1007, Davis Creek, Route 60  
Bridge #1007**Property Evaluation Status**

DHR Staff: Not Eligible

**Property Addresses**

Current - Route 60

**County/Independent City(s):** Appomattox (County)**Incorporated Town(s):** *No Data***Zip Code(s):** *No Data***Magisterial District(s):** *No Data***Tax Parcel(s):** *No Data***USGS Quad(s):** GLADSTONE**Additional Property Information****Architecture Setting:** Rural**Acreage:** *No Data***Site Description:***No Data***Surveyor Assessment:***No Data***Surveyor Recommendation:** *No Data***Ownership****Ownership Category**  
Public - State**Ownership Entity**  
*No Data***Primary Resource Information****Resource Category:** Transportation**Resource Type:** Bridge**NR Resource Type:** Structure**Historic District Status:** *No Data***Date of Construction:** 1931**Date Source:** Written Data**Historic Time Period:** World War I to World War II (1917 - 1945)**Historic Context(s):** Transportation/Communication**Other ID Number:** *No Data***Architectural Style:** No Discernable Style**Form:** *No Data***Number of Stories:** *No Data***Condition:** Fair**Threats to Resource:** Deterioration**Architectural Description:**

Architecture Summary: This is a three span 113 foot t-beam (104) bridge with cork railings.

**Bridge Information****Structure Number:** 1007**VDOT Bridge ID:** *No Data***Entity Crossed Name:** David Creek



Virginia Department of Historic Resources  
Architectural Survey Form

DHR ID: 006-0054  
Other DHR ID: No Data

Entity Crossed Type: Water  
Bridge Type: Beam  
Current Use: Road  
Number of Spans: 3  
Number of Lanes: 3

### Secondary Resource Information

### Historic District Information

Historic District Name: *No Data*  
Local Historic District Name: *No Data*  
Historic District Significance: *No Data*

### CRM Events

#### Event Type: DHR Staff: Not Eligible

DHR ID: 006-0054  
Staff Name: HSTG  
Event Date: 11/1/1995  
Staff Comment  
Reconfirmed, 2001-0635.

#### Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*  
Investigator: VTRC  
Organization/Company: Unknown (DSS)  
Photographic Media: *No Data*  
Survey Date: 7/14/1994  
Dhr Library Report Number: *No Data*  
Project Staff/Notes:  
*No Data*

### Bibliographic Information

#### Bibliography:

*No Data*

#### Property Notes:

Name: Unknown  
Company 1: Commonwealth of Virginia  
State: Virginia  
Owner Relationship: Owner of property



**Property Information****Property Names****Name Explanation**  
Historic**Name**  
Wells Home House**Property Evaluation Status**

DHR Staff: Not Eligible

**Property Addresses**

- U.S. Route 60

**County/Independent City(s):** Appomattox (County)**Incorporated Town(s):** *No Data***Zip Code(s):** *No Data***Magisterial District(s):** *No Data***Tax Parcel(s):** 6-A-28**USGS Quad(s):** GLADSTONE**Additional Property Information****Architecture Setting:** Rural**Acreage:** 8.5**Site Description:**

The property is a well-tended 8.5-acre rural parcel with a driveway, a prefabricated metal shed, and a tobacco barn.

The garage is immediately west of the main house. The tobacco barn is further west. The cemetery is northeast of the house.

**Surveyor Assessment:**

The house, called "The old Wells home house" in deeds dated 1943 and 1980, was evidently built ca. 1900 for Sarah and Alonza Wells. For many years it was the home of Whitcomb A. Wells and Early J. Wells his wife. The house is still owned by the Wells family. The house is a modest example of an extremely common Virginia house type. The property is marginally associated with the broad historic patterns of settlement and domestic architecture, and it does not convey significant information related to those patterns. The property is no longer part of a working farmstead. The house does not appear to have been associated with persons important in history. The house is a modest and significantly-altered example of an extremely common house type, neither distinctive nor illustrative. The property is unlikely to yield information significant in history or pre-history. No further evaluation of the property is recommended.

**Surveyor Recommendation:** *No Data***Ownership****Ownership Category**  
Private**Ownership Entity**  
*No Data***Primary Resource Information****Resource Category:** Domestic**Resource Type:** Single Dwelling**NR Resource Type:** Building**Historic District Status:** *No Data***Date of Construction:** Ca 1900**Date Source:** Deed**Historic Time Period:** Reconstruction and Growth (1866 - 1916)**Historic Context(s):** Domestic, Funerary, Subsistence/Agriculture**Other ID Number:** *No Data***Architectural Style:** No Discernable Style**Form:** *No Data***Number of Stories:** 2.0**Condition:** Good**Threats to Resource:** None Known**Architectural Description:**



## Virginia Department of Historic Resources

Architectural Survey Form

DHR ID: 006-5003

Other DHR ID: No Data

Architecture Summary: The Wells Home House is a two-story frame residence, with a primary single-pile block and a two-story rear wing. The gable roofs are sheathed in asphalt shingles. The main wing has two exterior end chimneys; the chimneys are clad in stucco, and they appear to be of brick and stone construction. The rear wing has a single interior end chimney. On the front, a big modern enclosed porch or deck with a broad gable roof covers the original facade.

**Exterior Components**

Component	Component Type	Material	Material Treatment
Roof	Gable	Asphalt	Shingle
Windows	Sash, Double-Hung	Wood	6/6
Chimneys	Exterior End	Brick	Other
Chimneys	Interior End	Brick	Other
Structural System and Exterior Treatment	Frame	Wood	Veneer
Structural System and Exterior Treatment	Frame	Wood	Other
Porch	Other	<i>No Data</i>	<i>No Data</i>
Porch	Other	Metal	Cast Metal Supports

**Secondary Resource Information****Secondary Resource #1**

<b>Resource Category:</b>	Domestic
<b>Resource Type:</b>	Garage
<b>Date of Construction:</b>	1980Ca
<b>Date Source:</b>	Map
<b>Historic Time Period:</b>	The New Dominion (1946 - 1991)
<b>Historic Context(s):</b>	Domestic, Funerary, Subsistence/Agriculture
<b>Architectural Style:</b>	No Discernable Style
<b>Form:</b>	<i>No Data</i>
<b>Condition:</b>	Good
<b>Threats to Resource:</b>	None Known
<b>Architectural Description:</b>	

Architecture Summary: One-story prefabricated metal garage.

<b>Number of Stories:</b>	<i>No Data</i>
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**Secondary Resource #2**

<b>Resource Category:</b>	Agriculture/Subsistence
<b>Resource Type:</b>	Tobacco Barn
<b>Date of Construction:</b>	1900Ca
<b>Date Source:</b>	<i>No Data</i>
<b>Historic Time Period:</b>	Reconstruction and Growth (1866 - 1916)
<b>Historic Context(s):</b>	Domestic, Funerary, Subsistence/Agriculture
<b>Architectural Style:</b>	No Discernable Style
<b>Form:</b>	<i>No Data</i>
<b>Condition:</b>	Poor
<b>Threats to Resource:</b>	Neglect
<b>Architectural Description:</b>	

Architecture Summary: This single-pen log barn is described as a tobacco barn in the deeds. The logs are V-notched. Random horizontal boards cover some of the logs. V-crimp metal roofing covers the gable roof.

<b>Number of Stories:</b>	<i>No Data</i>
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**Secondary Resource #3**

<b>Resource Category:</b>	Funerary
<b>Resource Type:</b>	Cemetery
<b>Date of Construction:</b>	Ca
<b>Date Source:</b>	<i>No Data</i>



**Historic Time Period:** Reconstruction and Growth (1866 - 1916)  
**Historic Context(s):** Domestic, Funerary, Subsistence/Agriculture  
**Architectural Style:** *No Data*  
**Form:** *No Data*  
**Condition:** *No Data*  
**Threats to Resource:** *No Data*  
**Architectural Description:**  
*No Data*  
**Current Use:** *No Data*  
**Historic Religious Affiliation:** *No Data*  
**Ethnic Affiliation:** *No Data*  
**Has Marked Graves:** *No Data*  
**Has Unmarked Graves:** *No Data*  
**Enclosure Type:** *No Data*  
**Number Of Gravestones:** *No Data*  
**Earliest Marked Death Year:** *No Data*  
**Latest Marked Death Year:** *No Data*

### Historic District Information

**Historic District Name:** *No Data*  
**Local Historic District Name:** *No Data*  
**Historic District Significance:** *No Data*

### CRM Events

#### Event Type: DHR Staff: Not Eligible

**DHR ID:** 006-5003  
**Staff Name:** Metz, Cara  
**Event Date:** 4/11/2001  
**Staff Comment:**  
*No Data*

#### Event Type: Survey:Phase I/Reconnaissance

**Project Review File Number:** 2001-0635  
**Investigator:** Wells, John  
**Organization/Company:** Unknown (DSS)  
**Photographic Media:** *No Data*  
**Survey Date:** 3/1/2001  
**Dhr Library Report Number:** *No Data*  
**Project Staff/Notes:**  
 VDOT PPMS 16038

#### Project Bibliographic Information:

Record Type: Deed  
 Bibliographic Notes: This land was owned by Jno. R. Phelps in the late 19th century. (Appomattox County does not have land records earlier than 1891.) Deed Book 7, p. 425 (Oct. 3, 1901) describes the sale of the land from the heirs of Jno. R. Phelps (decd.) to S. E. Wells and W. A. Wells, noting that this is the "same land on which the said Wells now resides." The sale appears to have been delayed; in the 1908 county Land Book, the land is under the name of S. P. Coleman, trustee for W. Phelps, and the property (363 acres) has buildings assessed at \$300. (This assessment was in the middle range of county property assessments for the time; few properties had improvement assessments as high as \$1,000.) County Deed Book 11, p. 428 (December 7, 1909): J. W. Phelps et al. convey to W. A. Wells and Early J. Wells 363 acres, land on which Sarah and Alonza Wells have resided for years. Sarah and Alonza Wells retain life tenancy in the house. The 1916 land book shows W.



Virginia Department of Historic Resources  
Architectural Survey Form

DHR ID: 006-5003  
Other DHR ID: No Data

A. and Early J. Wells (white) in possession of the 363-acre parcel on David Creek; the improvements are still assessed at \$300. Further deed citations: DB 42, p. 248, 1943; DB 147, p. 64, 1980; and DB 169, p. 175, 1987, by which 8.5 acres, with a house and tobacco barn, on the north side of U.S. Route 60, are sold by Katie Coleman Wells Williams & Ferris E. Williams to Lloyd Dale Wells, the current property owner.

### Bibliographic Information

**Bibliography:**

No Data

**Property Notes:**

No Data



**Snapshot**

Date Generated: January 14, 2021

**Site Name:** No Data  
**Site Classification:** Terrestrial, open air  
**Year(s):** No Data  
**Site Type(s):** No Data  
**Other DHR ID:** No Data  
**Temporary Designation:** No Data

**Site Evaluation Status**

Not Evaluated

**Locational Information**

**USGS Quad:** GLADSTONE  
**County/Independent City:** Nelson (County)  
**Physiographic Province:** Blue Ridge  
**Elevation:** 713  
**Aspect:** Flat  
**Drainage:** James River  
**Slope:** 0 - 2  
**Acreage:** 0.080  
**Landform:** Urban  
**Ownership Status:** No Data  
**Government Entity Name:** No Data

**Site Components****Component 1**

**Category:** No Data  
**Site Type:** No Data  
**Cultural Affiliation:** No Data  
**DHR Time Period:** No Data  
**Start Year:** No Data  
**End Year:** No Data  
**Comments:** No Data

**Bibliographic Information****Bibliography:**

No Data

**Informant Data:**

No Data



**CRM Events****Event Type: Survey:Phase I/Reconnaissance****Project Staff/Notes:**

No Data

**Project Review File Number:**

No Data

**Sponsoring Organization:**

No Data

**Organization/Company:**

Unknown (DSS)

**Investigator:**

MacCord, Sr, Howard A.

**Survey Date:**

10/19/1963

**Survey Description:**

Surface materials collected. Additional materials excavated fro 24 5' squares.

**Current Land Use**

Agricultural field

**Date of Use**

No Data

**Comments**

Under cultivation through summer of 1963

**Threats to Resource:**

No Data

**Site Conditions:**

Site Condition Unknown

**Survey Strategies:**

Subsurface Testing

**Specimens Collected:**

Yes

**Specimens Observed, Not Collected:**

Yes

**Artifacts Summary and Diagnostics:**

Albermarle Series pottery, triangular points, chips.

All accessioned at VSL as Acc #73 thru 77. Also Acc #135. (VSL Acc # 217) (330)(652)

**Summary of Specimens Observed, Not Collected:**

No Data

**Current Curation Repository:**

VDHR

**Permanent Curation Repository:**

No Data

**Field Notes:**

No

**Field Notes Repository:**

No Data

**Photographic Media:**

No Data

**Survey Reports:**

No Data

**Survey Report Information:**

Site was tested on July 12 and again on Oct 19-20 and a report made which was published in ASV Quarterly Bulletin Vol 19#2 (Dec. '64)

**Survey Report Repository:**

No Data

**DHR Library Reference Number:**

No Data

**Significance Statement:**

No Data

**Surveyor's Eligibility Recommendations:**

No Data

**Surveyor's NR Criteria Recommendations, :**

No Data

**Surveyor's NR Criteria Considerations:**

No Data



**Property Information****Property Names****Name Explanation**  
Historic**Name**  
Rose Hill and Cemetery**Property Evaluation Status**

Not Evaluated

**Property Addresses**Alternate - Route 809  
Current - 1162 Payne Place**County/Independent City(s):** Nelson (County)**Incorporated Town(s):** *No Data***Zip Code(s):** *No Data***Magisterial District(s):** *No Data***Tax Parcel(s):** *No Data***USGS Quad(s):** GLADSTONE**Additional Property Information****Architecture Setting:** Rural**Acreage:** *No Data***Site Description:**

The house is situated on the east side of Payne Place which separates the house from the outbuildings and the cemetery. An immense holly tree in the front yard was planted in the early-nineteenth century by Willis Harris, ancestor of the current owners.

The outbuildings are all non-historic, built in the late-twentieth century. The historic cemetery is located across Route 809 from the dwelling.

**Surveyor Assessment:**

William Horsley, III, purchased the Rose Hill tract in 1811. The property was part of a grant, in excess of 2,600 acres, delivered to William Horsley, II, in 1780 and 1781 by Dr. William Cabell, William's maternal grandfather. William Horsley, III, and his wife Sarah Christian Horsley resided at Rose Hill. Their daughter, Martha married Willis Harris in the house which she later inherited. The property was inherited by their daughter Sallie Ida Harris who married Sterling Claiborne Payne. Their son, Frank, inherited the property and it is now owned by James and Mary Payne Strickland. This property should be surveyed at the Intensive level because of its age, architectural character and historic associations.

**Surveyor Recommendation:** *No Data***Primary Resource Information****Resource Category:** Domestic**Resource Type:** Single Dwelling**NR Resource Type:** Building**Historic District Status:** *No Data***Date of Construction:** Ca 1800**Date Source:** Site Visit/Written Data**Historic Time Period:** Early National Period (1790 - 1829)**Historic Context(s):** Architecture/Community Planning**Other ID Number:** *No Data***Architectural Style:** Georgian**Form:** *No Data***Number of Stories:** 1.5**Condition:** Good**Interior Plan:** Central Passage, Single Pile**Threats to Resource:** None Known**Architectural Description:**

Architecture Summary: Rose Hill is a 1-1/2-story, 3-bay wide by 1-bay deep, single-pile, center -all plan, frame dwelling. The centered entrance has a rectangular, multi-light transom. The flanking 6/6, double-hung, wood sash windows have moulded sills. The chimney located on the



west end is constructed of coursed rubble. The porch is 4-bays wide with a shed roof supported by turned wooden posts.

**Exterior Components**

Component	Component Type	Material	Material Treatment
Chimneys	Exterior End	Concrete	Block
Porch	1-story, 3-bay	Wood	Other
Windows	Sash, Double-Hung	Wood	6/6
Structural System and Exterior Treatment	Frame	Wood	Siding, Aluminum
Foundation	Solid/Continuous	Concrete	Block
Roof	Gable	Metal	Standing Seam
Chimneys	Exterior End	Stone	Coursed Rubble

**Secondary Resource Information****Secondary Resource #1**

<b>Resource Category:</b>	Funerary
<b>Resource Type:</b>	Cemetery
<b>Date of Construction:</b>	Ca
<b>Date Source:</b>	No Data
<b>Historic Time Period:</b>	No Data
<b>Historic Context(s):</b>	Architecture/Community Planning
<b>Architectural Style:</b>	No Data
<b>Form:</b>	No Data
<b>Condition:</b>	No Data
<b>Threats to Resource:</b>	No Data
<b>Architectural Description:</b>	No Data
<b>Current Use:</b>	Private
<b>Historic Religious Affiliation:</b>	No Data
<b>Ethnic Affiliation:</b>	Unknown
<b>Has Marked Graves:</b>	False
<b>Has Unmarked Graves:</b>	False
<b>Enclosure Type:</b>	No Data
<b>Number Of Gravestones:</b>	No Data
<b>Earliest Marked Death Year:</b>	No Data
<b>Latest Marked Death Year:</b>	No Data

**Secondary Resource #2**

<b>Resource Category:</b>	DSS Legacy
<b>Resource Type:</b>	Shed
<b>Date of Construction:</b>	Ca
<b>Date Source:</b>	No Data
<b>Historic Time Period:</b>	No Data
<b>Historic Context(s):</b>	Architecture/Community Planning
<b>Architectural Style:</b>	No Data
<b>Form:</b>	No Data
<b>Condition:</b>	No Data
<b>Threats to Resource:</b>	No Data
<b>Architectural Description:</b>	No Data
<b>Number of Stories:</b>	No Data



**Secondary Resource #3**

**Resource Category:** DSS Legacy  
**Resource Type:** Shed  
**Date of Construction:** Ca  
**Date Source:** *No Data*  
**Historic Time Period:** *No Data*  
**Historic Context(s):** Architecture/Community Planning  
**Architectural Style:** *No Data*  
**Form:** *No Data*  
**Condition:** *No Data*  
**Threats to Resource:** *No Data*  
**Architectural Description:**  
*No Data*  
**Number of Stories:** *No Data*

**Secondary Resource #4**

**Resource Category:** DSS Legacy  
**Resource Type:** Shed  
**Date of Construction:** Ca  
**Date Source:** *No Data*  
**Historic Time Period:** *No Data*  
**Historic Context(s):** Architecture/Community Planning  
**Architectural Style:** *No Data*  
**Form:** *No Data*  
**Condition:** *No Data*  
**Threats to Resource:** *No Data*  
**Architectural Description:**  
*No Data*  
**Number of Stories:** *No Data*

**Secondary Resource #5**

**Resource Category:** Agriculture/Subsistence  
**Resource Type:** Barn  
**Date of Construction:** Ca  
**Date Source:** *No Data*  
**Historic Time Period:** *No Data*  
**Historic Context(s):** Architecture/Community Planning  
**Architectural Style:** *No Data*  
**Form:** *No Data*  
**Condition:** *No Data*  
**Threats to Resource:** *No Data*  
**Architectural Description:**  
*No Data*  
**Number of Stories:** *No Data*

**Secondary Resource #6**

**Resource Category:** Agriculture/Subsistence  
**Resource Type:** Barn  
**Date of Construction:** Ca  
**Date Source:** *No Data*  
**Historic Time Period:** *No Data*  
**Historic Context(s):** Architecture/Community Planning



**Architectural Style:** *No Data*  
**Form:** *No Data*  
**Condition:** *No Data*  
**Threats to Resource:** *No Data*  
**Architectural Description:**  
*No Data*  
**Number of Stories:** *No Data*

**Secondary Resource #7**

**Resource Category:** Agriculture/Subsistence  
**Resource Type:** Corncrib  
**Date of Construction:** Ca  
**Date Source:** *No Data*  
**Historic Time Period:** *No Data*  
**Historic Context(s):** Architecture/Community Planning  
**Architectural Style:** *No Data*  
**Form:** *No Data*  
**Condition:** *No Data*  
**Threats to Resource:** *No Data*  
**Architectural Description:**  
*No Data*

**Secondary Resource #8**

**Resource Category:** Domestic  
**Resource Type:** Garage  
**Date of Construction:** Ca  
**Date Source:** *No Data*  
**Historic Time Period:** *No Data*  
**Historic Context(s):** Architecture/Community Planning  
**Architectural Style:** *No Data*  
**Form:** *No Data*  
**Condition:** *No Data*  
**Threats to Resource:** *No Data*  
**Architectural Description:**  
*No Data*  
**Number of Stories:** *No Data*

**Secondary Resource #9**

**Resource Category:** Domestic  
**Resource Type:** Garage  
**Date of Construction:** Ca  
**Date Source:** *No Data*  
**Historic Time Period:** *No Data*  
**Historic Context(s):** Architecture/Community Planning  
**Architectural Style:** *No Data*  
**Form:** *No Data*  
**Condition:** *No Data*  
**Threats to Resource:** *No Data*  
**Architectural Description:**  
*No Data*  
**Number of Stories:** *No Data*



**Historic District Information**

**Historic District Name:** *No Data*  
**Local Historic District Name:** *No Data*  
**Historic District Significance:** *No Data*

**CRM Events****Event Type: Survey:Phase I/Reconnaissance**

**Project Review File Number:** 062-5057  
**Investigator:** Clifford E. and Louise M. Wood  
**Organization/Company:** Unknown (DSS)  
**Photographic Media:** *No Data*  
**Survey Date:** 3/4/1998  
**Dhr Library Report Number:** The Cabells and Their Kin  
**Project Staff/Notes:**  
*No Data*

**Project Bibliographic Information:**

Name: Brown, Alexander  
DHR CRM Report Number: The Cabells and Their Kin  
Record Type: Book

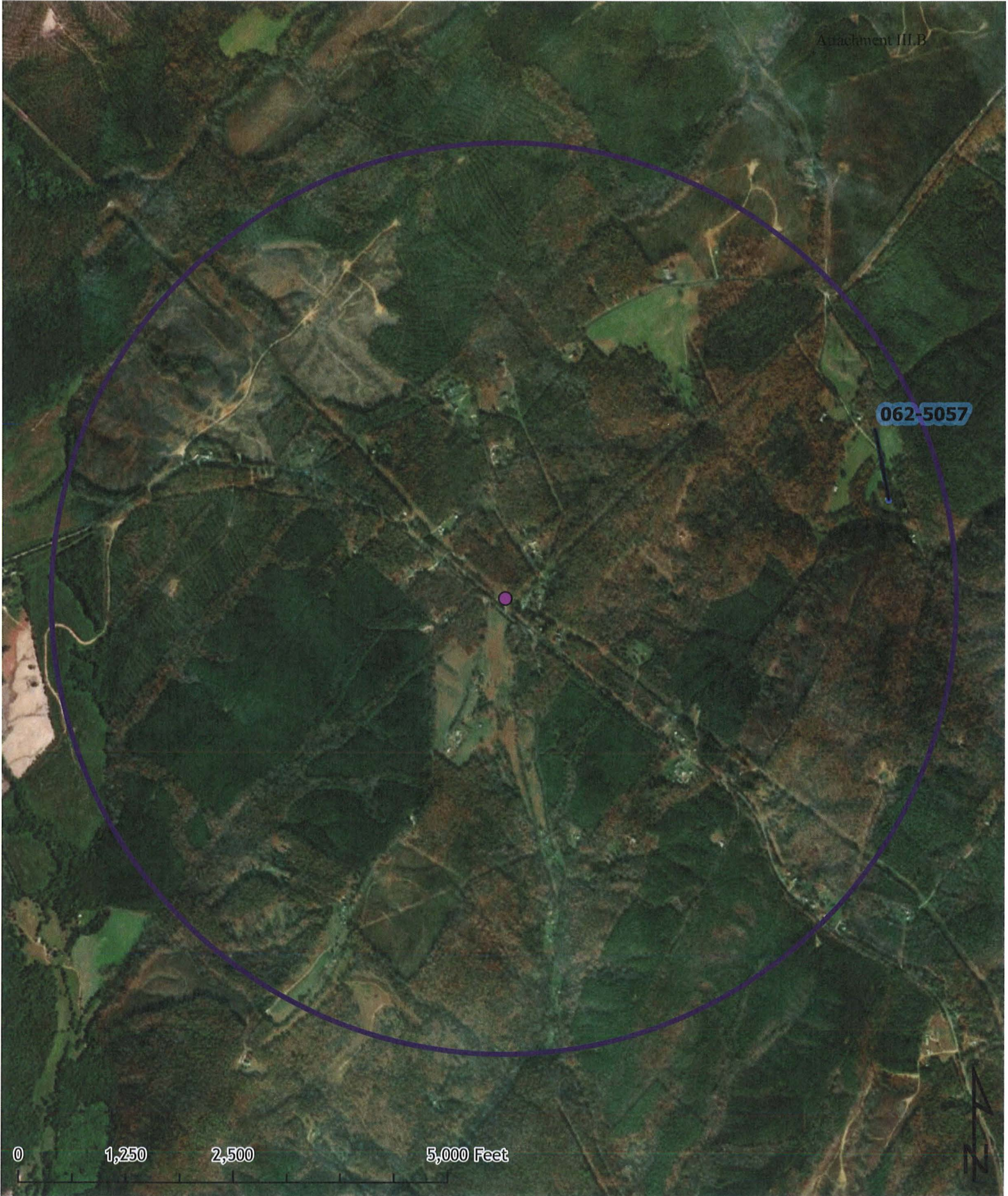
**Bibliographic Information****Bibliography:**

*No Data*

**Property Notes:**

Name: Clifford and Louise Wood  
Address 1: 115 Arrowhead Lane  
Phone 1: 804-263-5654  
Owner Relationship: Informant  
-----  
Name: James and Mary Payne Strickland  
Address 1: 1162 Payne Place  
City: Gladstone  
State: Virginia  
ZIP: 24553  
Phone 1: 804-933-8201  
Owner Relationship: Owner of property





Project: CVEC 2021 ER (Gladstone Substation Rebuild)  
 Location: 37°34'21.39"N, 78°51'26.41"W  
 Gladstone, Virginia 24553  
 Date: 12/9/2020  
 Created by: Kristina Donnally

- GLADSTONE
- 1-mile-buffer
- Architecture Resources
- Archaeological Resources

Sources: VDHHR 2020, ESRI 2020  
 Records of the Virginia Department of Historic Resources (DHR) have been gathered over many years and the representation depicted is based on the field observation date and may not reflect current ground conditions. The map is for general illustration purposes and is not intended for engineering, legal or other site-specific uses. The map may contain errors and is provided "as-is". Contact DHR for the most recent information as data is updated continually.






**DHR**  
 Department of Historic Resources





Project: CVEC 2021 ER (Tower Hill Substation Rebuild)  
 Location: 37°30'25.20"N, 78°46'57.34"W  
 Gladstone, Virginia 24553  
 Date: 12/9/2020  
 Created by: Kristina Donnally

-  TOWERHILL
-  1-mile-buffer
-  Architecture Resources
-  Archaeological Resources

Sources: VDHR 2020, ESRI 2020  
 Records of the Virginia Department of Historic Resources (DHR) have been gathered over many years and the representation depicted is based on the field observation date and may not reflect current ground conditions. The map is for general illustration purposes and is not intended for engineering, legal or other site-specific uses. The map may contain errors and is provided "as-is". Contact DHR for the most recent information as data is updated continually.



**DHR**  
 Department of Historic Resources





Project: Gladstone-Tower Hill Transmission Line Rebuild  
 Location: Spring Lane to Watt Abbitt Rd, Gladstone, VA  
 24553

Date: 1/14/2021

Created by: Kristina Donnally

- Project Area
- ▤ Architecture Resources
- ▤ Archaeological Resources

Sources: VDHR 2021, ESRI 2021

Records of the Virginia Department of Historic Resources (DHR) have been gathered over many years and the representation depicted is based on the field observation date and may not reflect current ground conditions. The map is for general illustration purposes and is not intended for engineering, legal or other site-specific uses. The map may contain errors and is provided "as-is". Contact DHR for the most recent information as data is updated continually.



**DHR**  
 Department of Historic Resources



**Kate P. Massey**

---

**From:** Jennifer Bellville-Marrion <[Jennifer.Bellville-Marrion@dhr.virginia.gov](mailto:Jennifer.Bellville-Marrion@dhr.virginia.gov)>  
**Sent:** Thursday, January 14, 2021 9:54 AM  
**To:** Nathan B. Cooksey <[CookseyNB@booth-assoc.com](mailto:CookseyNB@booth-assoc.com)>  
**Subject:** CVEC 2021 ER (Gladstone Substation Rebuild) (DHR File No. 2020-4982) | e-Mail #03973

Dear Mr. Cooksey,

Thank you for requesting comments from the Department of Historic Resources on the referenced project, CVEC 2021 ER (Gladstone Substation Rebuild) (DHR File No. 2020-4982). Based upon the documentation provided, it is our opinion that no historic properties will be affected by the proposed undertaking.

Implementation of the undertaking in accordance with the finding of **No Historic Properties Affected** as documented fulfills the Federal agency's responsibilities under Section 106 of the National Historic Preservation Act. If for any reason the undertaking is not or cannot be conducted as proposed in the finding, consultation under Section 106 must be reopened.

If you have any questions or if we may provide any further assistance at this time, please do not hesitate to contact me.

Sincerely,

Jenny Bellville-Marrion, Archaeologist  
Office of Review and Compliance  
Division of Resource Services and Review  
Phone: (804) 482-8091  
[Jennifer.Bellville-Marrion@dhr.virginia.gov](mailto:Jennifer.Bellville-Marrion@dhr.virginia.gov)



**Kate P. Massey**

---

**From:** Jennifer Bellville-Marrion <[Jennifer.Bellville-Marrion@dhr.virginia.gov](mailto:Jennifer.Bellville-Marrion@dhr.virginia.gov)>  
**Sent:** Thursday, January 14, 2021 9:57 AM  
**To:** Nathan B. Cooksey <[CookseyNB@booth-assoc.com](mailto:CookseyNB@booth-assoc.com)>  
**Subject:** CVEC 2021 ER (Tower Hill Substation Rebuild) (DHR File No. 2020-4979) | e-Mail #03974

Dear Mr. Cooksey,

Thank you for requesting comments from the Department of Historic Resources on the referenced project, CVEC 2021 ER (Tower Hill Substation Rebuild) (DHR File No. 2020-4979). Based upon the documentation provided, it is our opinion that no historic properties will be affected by the proposed undertaking.

Implementation of the undertaking in accordance with the finding of **No Historic Properties Affected** as documented fulfills the Federal agency's responsibilities under Section 106 of the National Historic Preservation Act. If for any reason the undertaking is not or cannot be conducted as proposed in the finding, consultation under Section 106 must be reopened.

If you have any questions or if we may provide any further assistance at this time, please do not hesitate to contact me.

Sincerely,

Jenny Bellville-Marrion, Archaeologist  
Office of Review and Compliance  
Division of Resource Services and Review  
Phone: (804) 482-8091  
[Jennifer.Bellville-Marrion@dhr.virginia.gov](mailto:Jennifer.Bellville-Marrion@dhr.virginia.gov)



From: Donnally, Kristina <kristina.donnally@dhr.virginia.gov>  
Sent: Wednesday, December 9, 2020 2:06 PM  
To: Nathan B. Cooksey  
Subject: DHR Archives Search Results - Gladstone Substation  
Attachments: 2020-12-8\_NCooksey\_Gladstone\_Substation\_INVOICE.pdf; 062-5057\_Report.pdf; 2020-12-8\_NCooksey\_Gladstone\_Substation\_Results\_Map.pdf

Hello,

Your search request to the Virginia Department of Historic Resources' archives is now complete. The results, along with an invoice for the services requested, are attached here. You may now use these materials to complete your DHR Project Review application, if applicable. For more information on the DHR Project Review process, please see the link below on our public website:

<https://www.dhr.virginia.gov/environmental-review/>

If you have additional questions, please contact DHR's Review and Compliance division manager, Roger Kirchen, for assistance. Roger can be reached at 804-482-6091 or [roger.kirchen@dhr.virginia.gov](mailto:roger.kirchen@dhr.virginia.gov).

Thank you and have a great day!

--

Kristina Donnally  
Archives Assistant  
Division of Survey and Information Management  
Department of Historic Resources  
2801 Kensington Avenue, Richmond, VA 23221-2470  
Phone: 804-4826-440  
<http://www.dhr.virginia.gov/>



From: Donnally, Kristina <kristina.donnally@dhr.virginia.gov>  
Sent: Wednesday, December 9, 2020 2:07 PM  
To: Nathan B. Cooksey  
Subject: DHR Archives Search Results - Tower Hill Substation  
Attachments: 006-0018\_Report.pdf; 006-5003\_Report.pdf; 2020-12-8\_NCooksey\_Tower\_Hill\_Substation\_INVOICE.pdf; 006-0054\_Report.pdf; 2020-12-8\_NCooksey\_Tower\_Hill\_Substation\_Results\_Map.pdf

Hello,

Your search request to the Virginia Department of Historic Resources' archives is now complete. The results, along with an invoice for the services requested, are attached here.

You may now use these materials to complete your DHR Project Review application, if applicable. For more information on the DHR Project Review process, please see the link below on our public website:

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If you have additional questions, please contact DHR's Review and Compliance division manager, Roger Kirchen, for assistance. Roger can be reached at 804-482-6091 or [roger.kirchen@dhr.virginia.gov](mailto:roger.kirchen@dhr.virginia.gov).

Thank you and have a great day!

--

Kristina Donnally  
Archives Assistant  
Division of Survey and Information Management  
Department of Historic Resources  
2801 Kensington Avenue, Richmond, VA 23221-2470  
Phone: 804-4826-440  
<http://www.dhr.virginia.gov/>



**NRCS**



# FARMLAND CONVERSION IMPACT RATING

<b>PART I</b> (To be completed by Federal Agency)		Date Of Land Evaluation Request 12/7/20			
Name Of Project Central VA Electric Cooperative (2021-2024 CWP)		Federal Agency Involved RUS			
Proposed Land Use Appomattox Substation Rebuild		County And State Appomattox County, Virginia			
<b>PART II</b> (To be completed by NRCS)		Date Request Received By NRCS 12/7/20			
Does the site contain prime, unique, statewide or local important farmland? (If no, the FPPA does not apply -- do not complete additional parts of this form).		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Acres Irrigated 0	Average Farm Size 235
Major Crop(s) Corn	Farmable Land In Govt. Jurisdiction Acres: 188,910 % 88	Amount Of Farmland As Defined in FPPA Acres: 113,935 % 87			
Name Of Land Evaluation System Used LESA	Name Of Local Site Assessment System	Date Land Evaluation Returned By NRCS 12/15/20			
<b>PART III</b> (To be completed by Federal Agency)		Alternative Site Rating			
		Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly		0.9			
B. Total Acres To Be Converted Indirectly		0.3			
C. Total Acres In Site		1.2	0.0	0.0	0.0
<b>PART IV</b> (To be completed by NRCS) Land Evaluation Information					
A. Total Acres Prime And Unique Farmland		0.0			
B. Total Acres Statewide And Local Important Farmland		1.2			
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted		0.0			
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value		100.0			
<b>PART V</b> (To be completed by NRCS) Land Evaluation Criterion Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)		36	0	0	0
<b>PART VI</b> (To be completed by Federal Agency) Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b))		Maximum Points			
1. Area In Nonurban Use					
2. Perimeter In Nonurban Use					
3. Percent Of Site Being Farmed					
4. Protection Provided By State And Local Government					
5. Distance From Urban Builtup Area					
6. Distance To Urban Support Services					
7. Size Of Present Farm Unit Compared To Average					
8. Creation Of Nonfarmable Farmland					
9. Availability Of Farm Support Services					
10. On-Farm Investments					
11. Effects Of Conversion On Farm Support Services					
12. Compatibility With Existing Agricultural Use					
TOTAL SITE ASSESSMENT POINTS		160	0	0	0
<b>PART VII</b> (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)		100	36	0	0
Total Site Assessment (From Part VI above or a local site assessment)		160	0	0	0
TOTAL POINTS (Total of above 2 lines)		260	36	0	0
Site Selected:		Date Of Selection		Was A Local Site Assessment Used? Yes <input type="checkbox"/> No <input type="checkbox"/>	

Reason For Selection:



### STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

Step 1 – Federal agencies involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form.

Step 2 – Originator will send copies A, B and C together with maps indicating locations of site(s), to the Natural Resources Conservation Service (NRCS) local field office and retain copy D for their files. (Note: NRCS has a field office in most counties in the U.S. The field office is usually located in the county seat. A list of field office locations are available from the NRCS State Conservationist in each state).

Step 3 – NRCS will, within 45 calendar days after receipt of form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland.

Step 4 – In cases where farmland covered by the FPPA will be converted by the proposed project, NRCS field offices will complete Parts II, IV and V of the form.

Step 5 – NRCS will return copy A and B of the form to the Federal agency involved in the project. (Copy C will be retained for NRCS records).

Step 6 – The Federal agency involved in the proposed project will complete Parts VI and VII of the form.

Step 7 – The Federal agency involved in the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA and the agency's internal policies.

### INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

**Part I:** In completing the "County And State" questions list all the local governments that are responsible for local land controls where site(s) are to be evaluated.

**Part III:** In completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them.
2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities) that will cause a direct conversion.

**Part VI:** Do not complete Part VI if a local site assessment is used.

Assign the maximum points for each site assessment criterion as shown in § 658.5 (b) of CFR. In cases of corridor-type projects such as transportation, powerline and flood control, criteria #5 and #6 will not apply and will, be weighed zero, however, criterion #8 will be weighed a maximum of 25 points, and criterion #11 a maximum of 25 points.

Individual Federal agencies at the national level, may assign relative weights among the 12 site assessment criteria other than those shown in the FPPA rule. In all cases where other weights are assigned relative adjustments must be made to maintain the maximum total weight points at 160.

In rating alternative sites, Federal agencies shall consider each of the criteria and assign points within the limits established in the FPPA rule. Sites most suitable for protection under these criteria will receive the highest total scores, and sites least suitable, the lowest scores.

**Part VII:** In computing the "Total Site Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, adjust the site assessment points to a base of 160. Example: if the Site Assessment maximum is 200 points, and alternative Site "A" is rated 180 points:

$$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \times 160 = 144 \text{ points for Site "A."}$$



# FARMLAND CONVERSION IMPACT RATING

<b>PART I</b> (To be completed by Federal Agency)		Date Of Land Evaluation Request 12/7/20			
Name Of Project Central VA Electric Cooperative (2021-2024 CWP)		Federal Agency Involved RUS			
Proposed Land Use Appomattox Substation Rebuild		County And State Appomattox County, Virginia			
<b>PART II</b> (To be completed by NRCS)		Date Request Received By NRCS 12/7/20			
Does the site contain prime, unique, statewide or local important farmland? (If no, the FPPA does not apply -- do not complete additional parts of this form).		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Acres Irrigated 0	Average Farm Size 235
Major Crop(s) Corn	Farmable Land In Govt. Jurisdiction Acres: 188,910 % 88	Amount Of Farmland As Defined in FPPA Acres: 113,935 % 87			
Name Of Land Evaluation System Used LESA	Name Of Local Site Assessment System	Date Land Evaluation Returned By NRCS 12/15/20			
<b>PART III</b> (To be completed by Federal Agency)		Alternative Site Rating			
		Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly		0.9			
B. Total Acres To Be Converted Indirectly		0.3			
C. Total Acres In Site		1.2	0.0	0.0	0.0
<b>PART IV</b> (To be completed by NRCS) Land Evaluation Information					
A. Total Acres Prime And Unique Farmland		0.0			
B. Total Acres Statewide And Local Important Farmland		1.2			
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted		0.0			
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value		100.0			
<b>PART V</b> (To be completed by NRCS) Land Evaluation Criterion Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)		36	0	0	0
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1. Area In Nonurban Use					
2. Perimeter In Nonurban Use					
3. Percent Of Site Being Farmed					
4. Protection Provided By State And Local Government					
5. Distance From Urban Builtup Area					
6. Distance To Urban Support Services					
7. Size Of Present Farm Unit Compared To Average					
8. Creation Of Nonfarmable Farmland					
9. Availability Of Farm Support Services					
10. On-Farm Investments					
11. Effects Of Conversion On Farm Support Services					
12. Compatibility With Existing Agricultural Use					
TOTAL SITE ASSESSMENT POINTS		160	0	0	0
<b>PART VII</b> (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)		100	36	0	0
Total Site Assessment (From Part VI above or a local site assessment)		160	0	0	0
TOTAL POINTS (Total of above 2 lines)		260	36	0	0
Site Selected:		Date Of Selection		Was A Local Site Assessment Used? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Reason For Selection:					



# VADCR



Matthew J. Strickler  
*Secretary of Natural Resources*

Clyde E. Cristman  
*Director*



**COMMONWEALTH of VIRGINIA**  
**DEPARTMENT OF CONSERVATION AND RECREATION**

Attachment III.B  
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*

January 4, 2021

Nathan Cooksey  
Booth and Associates, Inc.  
5811 Glenwood Avenue, Suite 109  
Raleigh, NC 27612

Re: 516, Tower Hill Substation Rebuild

Dear Mr. Cooksey:

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

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

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 \$90.00 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, 24<sup>th</sup> 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.

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

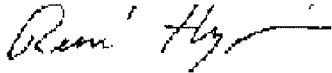
*State Parks • Soil and Water Conservation • Outdoor Recreation Planning  
Natural Heritage • Dam Safety and Floodplain Management • Land Conservation*



The Virginia Department of Wildlife Resources (VDWR) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from <http://vafwis.org/fwis/> or contact Ernie Aschenbach at 804-367-2733 or [Ernie.Aschenbach@dwr.virginia.gov](mailto:Ernie.Aschenbach@dwr.virginia.gov).

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

Sincerely,

A handwritten signature in black ink, appearing to read "René Hypes", with a stylized flourish extending to the right.

S. René Hypes  
Natural Heritage Project Review Coordinator



Matthew J. Strickler  
*Secretary of Natural Resources*

Clyde E. Cristman  
*Director*



Attachment III.B  
Rochelle Altholz  
*Deputy Director of  
Administration and Finance*

Russell W. Baxter  
*Deputy Director of  
Dam Safety & Floodplain  
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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**

January 4, 2021

Nathan Cooksey  
Both and Associates, Inc.  
5811 Glenwood Avenue, Suite 109  
Raleigh, NC 27612

Re: 521, Gladstone Substation Rebuild

Dear Mr. Cooksey:

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

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

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 \$90.00 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, 24<sup>th</sup> 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.

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

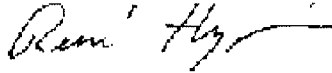
*State Parks • Soil and Water Conservation • Outdoor Recreation Planning  
Natural Heritage • Dam Safety and Floodplain Management • Land Conservation*



The Virginia Department of Wildlife Resources (VDWR) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from <http://vafwis.org/fwis/> or contact Ernie Aschenbach at 804-367-2733 or [Ernie.Aschenbach@dwr.virginia.gov](mailto:Ernie.Aschenbach@dwr.virginia.gov).

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

Sincerely,

A handwritten signature in black ink, appearing to read "René Hypes", with a stylized flourish extending to the right.

S. René Hypes  
Natural Heritage Project Review Coordinator



Matthew J. Strickler  
*Secretary of Natural Resources*

Clyde E. Cristman  
*Director*



**COMMONWEALTH of VIRGINIA**  
**DEPARTMENT OF CONSERVATION AND RECREATION**

Attachment III.B  
Rochelle Altholz  
*Deputy Director of  
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Dam Safety & Floodplain  
Management and Soil & Water  
Conservation*

Nathan Burrell  
*Deputy Director of  
Government and Community Relations*

Thomas L. Smith  
*Deputy Director of  
Operations*

January 7, 2021

Nathan Cooksey  
Booth and Associates, Inc.  
5811 Glenwood Avenue, Suite 109  
Raleigh, NC 27612

Re: 1006, Gladstone – Tower Hill Transmission Rebuild

Dear Mr. Cooksey:

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

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

Furthermore, if tree removal is proposed for the project, it will fragment Ecological Cores (**C3, C4 and C5**) as identified in the Virginia Natural Landscape Assessment (<https://www.dcr.virginia.gov/natural-heritage/vaconvisvnl>), one of a suite of tools in Virginia ConservationVision that identify and prioritize lands for conservation and protection.

Ecological Cores are areas of unfragmented natural cover with at least 100 acres of interior that provide habitat for a wide range of species, from interior-dependent forest species to habitat generalists, as well as species that utilize marsh, dune, and beach habitats. Cores also provide benefits in terms of open space, recreation, water quality (including drinking water protection and erosion prevention), and air quality (including carbon sequestration and oxygen production), along with the many associated economic benefits of these functions. The cores are ranked from C1 to C5 (C5 being the least ecologically relevant) using many prioritization criteria, such as the proportions of sensitive habitats of natural heritage resources they contain.

Fragmentation occurs when a large, contiguous block of natural cover is dissected by development, and other forms of permanent conversion, into one or more smaller patches.. Habitat fragmentation results in biogeographic changes that disrupt species interactions and ecosystem processes, reducing biodiversity and habitat quality due to limited recolonization, increased predation and egg parasitism, and increased invasion by weedy species.

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

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Natural Heritage • Dam Safety and Floodplain Management • Land Conservation*



Therefore minimizing fragmentation is a key mitigation measure that will preserve the natural patterns and connectivity of habitats that are key components of biodiversity. The deleterious effects of fragmentation can be reduced by minimizing edge in remaining fragments; by retaining natural corridors that allow movement between fragments; and by designing the intervening landscape to minimize its hostility to native wildlife (natural cover versus lawns).

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.

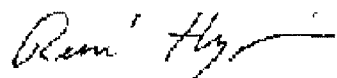
New and updated information is continually added to Biotics. Please re-submit a completed order form and project map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

A fee of \$90.00 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, 24<sup>th</sup> Floor, Richmond, VA 23219. Payment is due within thirty days of the invoice date. Please note late payment may result in the suspension of project review service for future projects.

The Virginia Department of Wildlife Resources (VDWR) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from <http://vafwis.org/fwis/> or contact Ernie Aschenbach at 804-367-2733 or [Ernie.Aschenbach@dwr.virginia.gov](mailto:Ernie.Aschenbach@dwr.virginia.gov). According to the information currently in our files, the James River, which has been designated by the VDWR as a "Threatened and Endangered Species Water" for the Green Floater is within the submitted project boundary including a 100-foot buffer. Therefore, DCR recommends coordination with VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with protected species legislation.

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

Sincerely,



S. René Hypes  
Natural Heritage Project Review Coordinator

Cc: Ernie Aschenbach, VDWR



**VADEQ**





# 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](http://www.deq.virginia.gov)

Matthew J. Strickler  
Secretary of Natural Resources

David K. Paylor  
Director

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

December 28, 2020

Kate Massey  
Booth & Associates, LLC  
5811 Glenwood Avenue Ste. 109  
Raleigh, NC 27612

**RE: Wetland Impact Consultation; Environmental Report (EA) associated with the 20212-2024  
Work Plan Virginia 29**

Dear Ms. Massey:

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 Central Virginia Electric Cooperative (here after, CVEC) regarding potential wetland impacts on the above referenced project. CVEC is in the process of applying to the Rural Utilities Service (RUS) for loan funds to finance upgrades and construction of electric power facilities. These proposed facilities are located in Nelson and Appomattox Counties, Virginia. In order to obtain RUS funds, CVEC must complete an Environmental Report (ER). The project will consists of building new substations and rebuilding of overhead transmission lines. The transmission line is entirely within existing transmission line right-of-way and no additional right-of-way is necessary.

Based on review of the information provided by Booth and Associates on behalf of CVEC, both wetland areas and stream areas were identified within the project areas.

### **Summary of Findings**

DEQ's Office of Wetland and Streams Protection (OWSP) is unable to determine if direct or indirect impacts will occur to wetlands and streams and if compensation is associated with these potential impacts. If direct or indirect impacts occur, then under the Code of Virginia 9VAC25-210, a Virginia Water Protection (VWP) permit may be required. The DEQ Valley Regional Office (VRO) will make the final permitting decisions.

DEQ recommends structures should be sited to avoid wetlands to the extent practicable and should be sited outside of stream channels. Timbering debris should not be placed in wetlands or streams. DEQ further recommends wetland and stream avoidance and minimization efforts, where practical, during project construction by: (1) spanning wetlands and streams, (2) maintaining 100-foot buffers along either



side of streams, (3) placing support structure foundations outside of wetlands and streambeds, and (4) using removable mats in wetland areas to reduce compaction and rutting.

### **Recommendations and Potential Permits**

Based upon review of the information provided, DEQ's OWSP offers the following general recommendations concerning potential surface water impacts:

1. Wetland and stream impacts, including any secondary impacts, should be avoided and minimized to the maximum extent practicable.
2. 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.
3. 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.
4. Any temporary impacts to surface waters associated with this project should be restored to pre-existing conditions.
5. 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.
6. 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.
7. No machinery may enter surface waters, unless authorized by a Virginia Water Protection (VWP) individual permit, general permit, or general permit coverage.
8. 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.
9. 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.
10. 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.

11. 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 received December 11, 2020, DEQ's OWSP is unable to determine if the proposed project may or may not require a Virginia Water Protection (VWP) individual permit or general permit coverage. If a permit is necessary, 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.henicheck@deg.virginia.gov](mailto:michelle.henicheck@deg.virginia.gov).

Sincerely,

*Michelle Henicheck*

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

Cc: Keith Fowler, DEQ - VRO  
Bettina Sullivan, DEQ - Office of Environmental Review



**Kate P. Massey**

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**From:** Keith Fowler <keith.fowler@deq.virginia.gov>

**Sent:** Monday, January 04, 2021 2:34 PM

**To:** Kate P. Massey <MasseyKP@booth-assoc.com>; Michelle Henicheck <michelle.henicheck@deq.virginia.gov>

**Subject:** RE: Environmental Project Review for Central Virginia Electric Cooperative

Below is additional information general information related to DEQ programs which should be considered when initiating a construction project in Virginia. In addition, you may wish to refer to DEQ's Environmental Impact Reviews web site, <http://www.deq.virginia.gov/Programs/EnvironmentalImpactReview.aspx>, and our Pollution Prevention / Environmental Excellence pages, <http://www.deq.virginia.gov/Programs/PollutionPrevention.aspx>, for other general information. We are glad to discuss specifics for any aspect of your project with you as it relates to any DEQ programs.

**1. Water Quality and Wetlands.** Measures must be taken to avoid and minimize impacts to surface waters and wetlands during construction activities. The disturbance of surface waters or wetlands may require prior approval by DEQ and/or the U.S. Army Corps of Engineers. The Army Corps of Engineers is the final authority for an official confirmation of whether there are federal jurisdictional wetlands or other surface waters that may be impacted by the proposed project. DEQ may confirm additional waters as jurisdictional beyond those under federal authority. Review of National Wetland Inventory maps or topographic maps for locating wetlands or streams may not be sufficient; there may need to be a site-specific review of the site by a qualified professional. Even if there will be no intentional placement of fill material in jurisdictional waters, potential water quality impacts resulting from construction site surface runoff must be minimized. This can be achieved by using Best Management Practices (BMPs). If construction activities will occur in or along any streams (perennial, intermittent, or ephemeral), open water or wetlands, the applicant should contact Catherine Wright at DEQ-VRO (540-574-7804, [Catherine.Wright@deq.virginia.gov](mailto:Catherine.Wright@deq.virginia.gov)) to determine the need for any permits prior to commencing work that could impact surface waters or wetlands.

**2. Erosion and Sediment Control and Storm Water Management.** DEQ has regulatory authority for the Virginia Pollutant Discharge Elimination System (VPDES) programs related to municipal separate storm sewer systems (MS4s) and construction activities. Erosion and sediment control measures are addressed in local ordinances and State regulations. Additional information is available at <http://www.deq.virginia.gov/Programs/Water/StormwaterManagement.aspx>. Non-point source pollution resulting from this project should be minimized by using effective erosion and sediment control practices and structures. Consideration should also be given to using permeable paving for parking areas and walkways where appropriate, and denuded areas should be promptly revegetated following construction work. If the total land disturbance exceeds 10,000 square feet, an erosion and sediment control plan will be required. Some localities also require an E&S plan for disturbances less than 10,000 square feet. A stormwater management plan may also be required. For any land disturbing activities equal to one acre or more, you are required to apply for coverage under the VPDES General Permit for Discharges of Storm Water from Construction Activities. The Virginia Stormwater Management Permit Authority may be DEQ or the locality. Specific questions regarding the Stormwater Management Program requirements should be directed to Gary Flory at DEQ-VRO (540-574-7840, [Gary.Flory@deq.virginia.gov](mailto:Gary.Flory@deq.virginia.gov)).

**3. Other Site Development Considerations.** Fugitive dust generated during construction should be controlled by using measures such as the prompt removal of spilled or tracked dirt or other materials from paved streets, limited application of water to suppress dust, and washing of construction vehicles and paved roadways immediately adjacent to construction sites. Do not use water for dust control to the extent that it results in runoff to surface waters or wetlands. Land clearing wastes (vegetative debris) generated during construction should be properly managed in accordance with applicable regulations and local ordinances. Shredding/chipping of vegetative debris and reuse on-site is usually recommended over open burning. Any open burning of vegetative debris must be performed in accordance with the Open Burning Regulation and coordinated with the local fire official to ensure that all local ordinances are met. A copy of DEQ's open burning regulation and related information are accessible from <http://www.deq.virginia.gov/Programs/Air/AirQualityPlans/OpenBurning.aspx>. Also, no open burning should take place in violation of the Virginia Waste Management Regulations, <http://law.lis.virginia.gov/admincode/title9/agency20/>. Contact Keith Fowler at DEQ-VRO (540-574-7812, [Keith.Fowler@deq.virginia.gov](mailto:Keith.Fowler@deq.virginia.gov)) for any questions related to the proper control of fugitive dust, or open burning requirements and prohibitions.

**4. Potable Water.** Installation of potable water lines and appurtenances must comply with the State's Waterworks Regulations. The Virginia Department of Health (VDH), <http://www.vdh.state.va.us/ODW/>, administers both federal and state laws governing waterworks operation. For more information, contact the VDH's Lexington Office of Water Programs at (540) 463-7136.



**5. Wastewaters.** DEQ has approval authority over wastewater discharges per the State Water Control Act and corresponding regulations. This includes discharges or land application of any wastewaters generated from washing of materials, products, or vehicles, or other practices relevant to this project, including water contaminated by chemicals used on-site. DEQ also has approval authority over plans and specifications for sewage collection systems and treatment works (except drainfields and other on-site systems approved by the local health department), per the Sewage Collection and Treatment (SCAT) Regulations, <http://law.lis.virginia.gov/admincode/title9/agency25/chapter790/>. Any wastewaters generated by this project must be properly managed and disposed. For additional information and assistance, contact Brandon Kiracofe at DEQ-VRO (540-574-7892, [Brandon.Kiracofe@deq.virginia.gov](mailto:Brandon.Kiracofe@deq.virginia.gov)).

**6. Air Quality.** Installation / operation / modification / replacement of stationary or portable fuel burning equipment (e.g., generators, wood chippers/grinders, boilers, etc.) or other sources of air pollutants, including dust, may be subject to registration and/or air permitting requirements (<http://www.deq.virginia.gov/Programs/Air/PermittingCompliance/Permitting/TypesofAirPermits.aspx>); for questions regarding this, please contact Janardan Pandey at DEQ-VRO (540-574-7817, [Janardan.Pandey@deq.virginia.gov](mailto:Janardan.Pandey@deq.virginia.gov)).

**7. Petroleum Storage Tanks.** Installation / operation / modification of tanks used for the storage of petroleum and CERCLA substances may be subject to registration and/or other regulatory requirements (<http://www.deq.virginia.gov/Programs/LandProtectionRevitalization/PetroleumProgram/StorageTanks.aspx>). If petroleum-contaminated soils or water are encountered during excavation work, or if old petroleum tanks need to be removed or replaced, contact DEQ. For questions regarding any of this, please contact Todd Pitsenberger at DEQ-VRO (540-574-7847, [Todd.Pitsenberger@deq.virginia.gov](mailto:Todd.Pitsenberger@deq.virginia.gov)).

**8. Solid and Hazardous Wastes, and Hazardous Substances.** DEQ administers the Virginia Waste Management Regulations, <http://law.lis.virginia.gov/admincode/title9/agency20/>. All solid wastes, hazardous wastes, and hazardous materials, including construction and demolition (C&D) wastes and universal wastes (batteries, fluorescent lights, refrigerants, mercury switches, mercury thermostats, etc.), must be managed in accordance with all applicable federal, state, and local environmental regulations. The generation of hazardous wastes should be minimized and solid wastes generated at the site should be reduced at the source, reused, or recycled. DEQ encourages the management of certain organic wastes by on-site composting or reuse as animal feed or soil amendment. Also, if you encounter any improperly disposed solid or hazardous wastes, or petroleum contaminated soils, you should contact DEQ-VRO. You may wish to refer to the web link for "What's in My Back Yard?", <http://www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx>, to help you determine areas where residual contamination may be more likely. Contact Graham Simmerman at DEQ-VRO (540-574-7865, [Graham.Simmerman@deq.virginia.gov](mailto:Graham.Simmerman@deq.virginia.gov)) for any questions related to waste management / disposal, including any questions related to open burning requirements and prohibitions. Manage / dispose of any asbestos-containing materials (ACMs) in accordance with Virginia Department of Labor and Industry (DOLI) regulations. Contact Doug Wiggins at DOLI ([Richard.Wiggins@doli.virginia.gov](mailto:Richard.Wiggins@doli.virginia.gov), 540-562-3580, ext. 131) for any questions related to management / disposal of ACMs.

**9. Pesticides and Herbicides.** DEQ recommends that herbicides or pesticides for construction or landscape maintenance, when necessary, be used in accordance with the principles of integrated pest management, and that the least toxic pesticides that are effective in controlling the target species be used. Please contact the Department of Agriculture and Consumer Services at (804) 786-3501 for more information. If applying aquatic pesticides to surface waters, the applicant must comply with the DEQ's Pesticide General Permit, <http://www.deq.virginia.gov/Programs/Water/PermittingCompliance/PollutionDischargeElimination/PermitsFees.aspx#pest>.

**10. Natural Heritage Resources.** The Virginia Department of Conservation and Recreation (DCR) Division of Natural Heritage (DNH) can search its Biotics Data System for occurrences of natural heritage resources from the area indicated on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered animal and plant species, unique or exemplary natural communities, and significant geologic communities. We recommend that the DNH be contacted at (804) 786-7951 to secure updated information on natural heritage resources before commencing the project.

**11. Wildlife Resources.** The Virginia Department of Game and Inland Fisheries (DGIF) exercises enforcement and regulatory jurisdiction over wildlife and freshwater fish, including state or federally listed endangered or threatened species. DGIF determines likely impacts on fish and wildlife resources and habitat, and recommends appropriate measures to avoid, reduce, or compensate for those impacts. For more information, see the DGIF website at <http://www.dgif.virginia.gov> or contact Ray Fernald at (804) 367-6913.

**12. Historic and Archaeological Resources.** Section 106 of the National Historic and Preservation Act of 1966, as amended, requires that activities that receive federal funding must consider effects to properties that are listed or eligible for listing on the National Register of Historic Places. The Department of Historic Resources (DHR) conducts reviews of projects to determine their effect on historic structures or cultural resources. If applicable, contact DHR. In the event that archaeological resources are encountered during construction, immediately contact Ms. Ethel Eaton, DHR, at (804) 367-2323.



**13. Pollution Prevention.** DEQ recommends that construction projects incorporate the principles of pollution prevention including the following recommendations:

- Consider environmental attributes when purchasing materials. For example, the extent of recycled material content and toxicity level should be considered.
- Consider contractors' commitment to the environment when choosing contractors. Also, specifications regarding raw material selection (alternative fuels and energy sources) and construction practices can be included in contract documents and requests for proposals.
- Choose sustainable practices and materials in infrastructure and construction and design. These could include asphalt and concrete containing recycled materials and integrated pest management in landscaping.
- Integrate pollution prevention techniques into maintenance and operation activities to include source reduction (fixing leaks, energy efficient products).

Pollution prevention measures are likely to reduce potential environmental impacts and reduce costs for material purchasing and waste disposal. DEQ's Office of Pollution of Prevention hosts a number of programs and initiatives that provide non-regulatory assistance to businesses, institutions, and communities including the Virginia Environmental Excellence Program and Virginia Green. For more information, please visit our web site at <http://www.deq.virginia.gov/Programs/PollutionPrevention.aspx>.

**14. Energy Conservation.** Any structures should be planned and designed to comply with state and federal guidelines and industry standards for energy conservation and efficiency. For example, energy efficiency of the structures can be enhanced by maximizing the use of the following:

- thermally-efficient building shell components (roof, wall, floor, and insulation);
- high efficiency heating, ventilation, air conditioning systems; and
- high efficiency lighting systems.

Matt Heller at the Department of Mines, Minerals and Energy, (434) 951-6351, may be contacted for assistance in meeting this challenge.

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B. Keith Fowler | Deputy Regional Director | DEQ-Valley Regional Office | 4411 Early Road | P. O. Box 3000 | Harrisonburg, VA 22801 | 540-574-7812 | [Keith.Fowler@deq.virginia.gov](mailto:Keith.Fowler@deq.virginia.gov)



**VADGIF**



**Kate P. Massey**

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**From:** amy.ewing@dwr.virginia.gov <amy.ewing@dwr.virginia.gov> **On Behalf Of** dgif-ESS Projects, rr

**Sent:** Friday, December 11, 2020 10:56 AM

**Subject:** Re: Environmental Project Review for Central Virginia Electric Cooperative

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](mailto: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](mailto: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.





## 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:

December 08, 2020

Consultation Code: 05E2VA00-2021-SLI-1022

Event Code: 05E2VA00-2021-E-02910

Project Name: 521\_Gladstone Sub Rebuild\_CVEC

Subject: List of threatened and endangered species that may occur in your proposed project location, and/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](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

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

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

Attachment(s):

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



## Official Species List

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

This species list is provided by:

**Virginia Ecological Services Field Office**

6669 Short Lane

Gloucester, VA 23061-4410

(804) 693-6694



## Project Summary

Consultation Code: 05E2VA00-2021-SLI-1022

Event Code: 05E2VA00-2021-E-02910

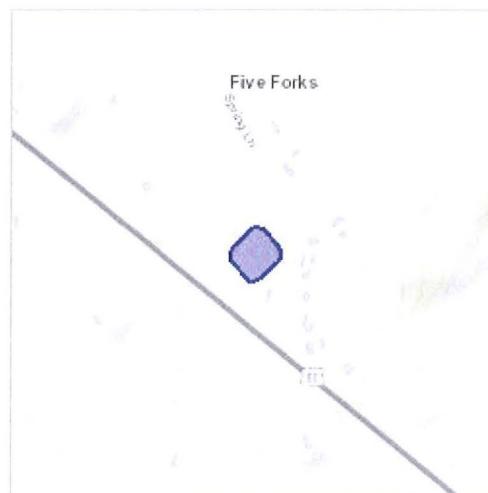
Project Name: 521\_Gladstone Sub Rebuild\_CVEC

Project Type: \*\* OTHER \*\*

Project Description: The rebuild of the Gladstone Substation is necessary to support the incoming 138 kV AEP Transmission. The substation will be rebuilt on an adjacent 1.2 acre location, owned by the Cooperative.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/37.572956049093726N78.8569074882231W>



Counties: Nelson, VA



## Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

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

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

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

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

## Mammals

NAME

STATUS

Northern Long-eared Bat *Myotis septentrionalis*

Threatened

No critical habitat has been designated for this species.

Species profile: <https://ecos.fws.gov/ecp/species/9045>

## 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.





## 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:

December 08, 2020

Consultation Code: 05E2VA00-2021-SLI-1027

Event Code: 05E2VA00-2021-E-02923

Project Name: 1006\_Gladstone-TowerHill Trans Line\_CVEC

Subject: List of threatened and endangered species that may occur in your proposed project location, and/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](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

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

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

Attachment(s):

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



## Official Species List

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

This species list is provided by:

**Virginia Ecological Services Field Office**

6669 Short Lane

Gloucester, VA 23061-4410

(804) 693-6694



## Project Summary

Consultation Code: 05E2VA00-2021-SLI-1027

Event Code: 05E2VA00-2021-E-02923

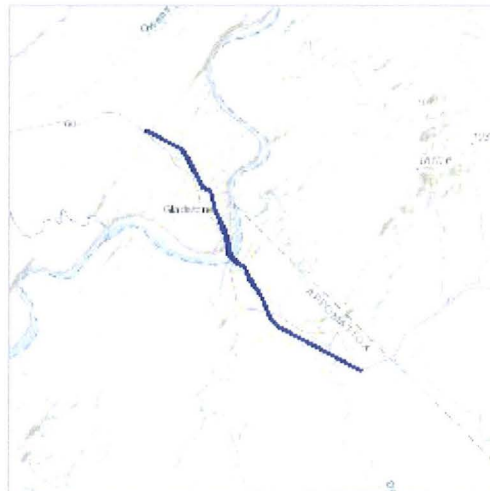
Project Name: 1006\_Gladstone-TowerHill Trans Line\_CVEC

Project Type: TRANSMISSION LINE

Project Description: The existing 6.4 mile Gladstone to Tower Hill 46 kV Transmission line will be rebuilt to 138 kV, in place and within the existing 100 ft right-of-way. The rebuilt line will utilize steel poles with 400 – 450 ft spans.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/37.539699019766374N78.82739059267954W>



Counties: Appomattox, VA | Nelson, VA



## Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, 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
Gray Bat <i>Myotis grisescens</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6329">https://ecos.fws.gov/ecp/species/6329</a>	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Threatened

## Flowering Plants

NAME	STATUS
Small Whorled Pogonia <i>Isotria medeoloides</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/1890">https://ecos.fws.gov/ecp/species/1890</a>	Threatened

## Critical habitats

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

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## **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.





## 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:

December 08, 2020

Consultation Code: 05E2VA00-2021-SLI-1025

Event Code: 05E2VA00-2021-E-02919

Project Name: 516\_Tower Hill Sub Rebuild\_CVEC

Subject: List of threatened and endangered species that may occur in your proposed project location, and/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:

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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](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

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

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

Attachment(s):

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



## Official Species List

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

This species list is provided by:

**Virginia Ecological Services Field Office**

6669 Short Lane

Gloucester, VA 23061-4410

(804) 693-6694



## Project Summary

Consultation Code: 05E2VA00-2021-SLI-1025

Event Code: 05E2VA00-2021-E-02919

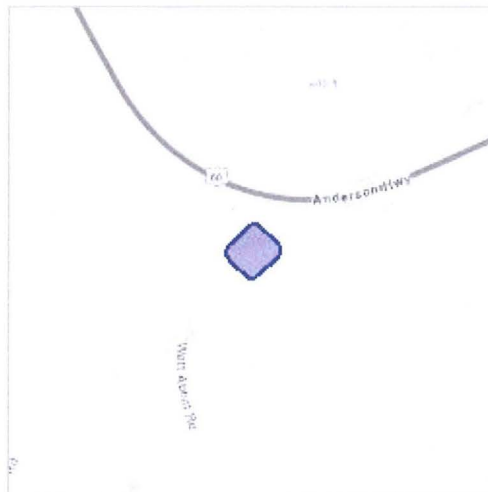
Project Name: 516\_Tower Hill Sub Rebuild\_CVEC

Project Type: \*\* OTHER \*\*

Project Description: The rebuild of the Tower Hill Substation is necessary to support the incoming Cooperative-owned transmission, rebuilt to 138 kV. The Substation will be rebuilt on an adjacent 1.2 acre location, owned by the Cooperative.

### Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/37.50720864779231N78.78216295085207W>



Counties: Appomattox, VA



## Endangered Species Act Species

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

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, 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
Gray Bat <i>Myotis grisescens</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6329">https://ecos.fws.gov/ecp/species/6329</a>	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	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.



# **WATERWAYS**





## 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

December 27, 2020

Booth & Associates, LLC  
Attn: Nathan Cooksey  
5811 Glenwood Avenue Ste. 109  
Raleigh, NC 27612

Re: Environmental Project Review for Central Virginia  
Electric Cooperative

Dear Mr. Cooksey,

This will respond to the request for comments regarding the Environmental Report associated with the Central Virginia Electric Cooperative 2021-2024 Work Plan prepared by Booth & Associates, LLC, on behalf of the Central Virginia Electric Cooperative. Specifically, the applicant is proposing three projects to upgrade and construct electric power facilities, which include two substation rebuilds and one existing transmission line rebuild. The projects are located in Nelson County and Appomattox County, Virginia. We have reviewed the provided documents and found the proposed transmission line rebuild project is within the jurisdictional areas of the Virginia Marine Resources Commission (VMRC) and will require a permit from this agency for the proposed stream bed impacts.

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

If you have any questions please contact me at 757-247-8028 or by email at [mark.eversole@mrc.virginia.gov](mailto:mark.eversole@mrc.virginia.gov). Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Eversole".

Mark Eversole  
Environmental Engineer, Habitat Management

ME/tlb  
HM

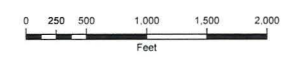
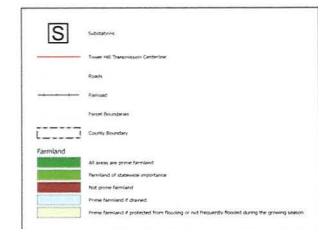
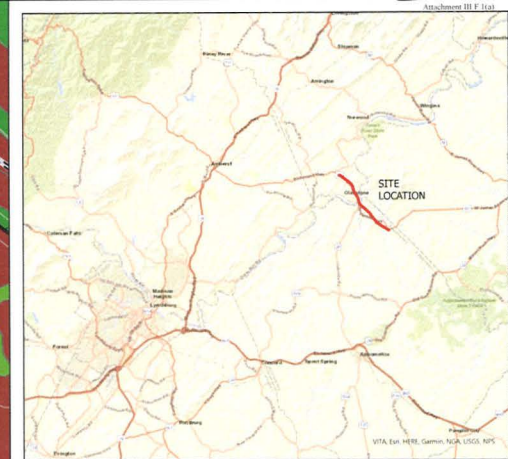
*An Agency of the Natural Resources Secretariat*

[www.mrc.virginia.gov](http://www.mrc.virginia.gov)

Telephone (757) 247-2200 (757) 247-2292 V/TDD Information and Emergency Hotline 1-800-541-4646 V/TDD



ATTACHMENT III.F.1(a)

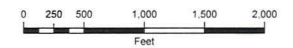
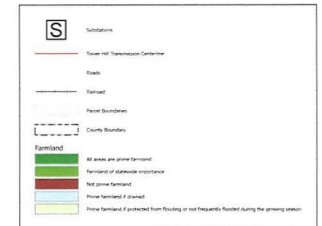
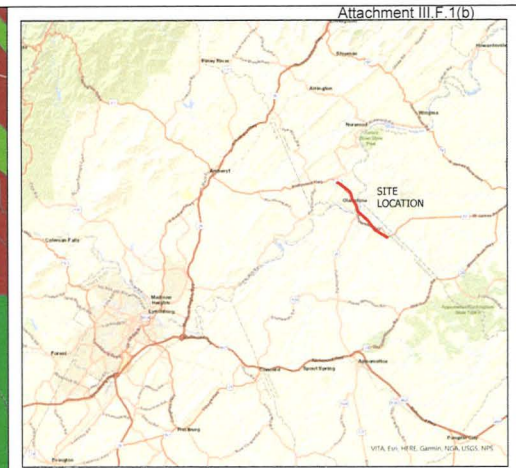


PRELIMINARY  
NOT FOR  
CONSTRUCTION

CENTRAL VIRGINIA ELECTRIC COOPERATIVE			
JARRISTON, VIRGINIA			
GLADSTONE SUBSTATION TO TOWERHILL SUBSTATION			
48KV TO 138KV TRANSMISSION LINE UPGRADE			
FARMLAND MAP - SECTION II.A.2			
Booth Associates, LLC			
DWN: JEH	DATE: 12/22/2020	DWG NO:	
CHK: BOE	APPD: DSH	1 OF 3	
SCALE: SEE SCALE BAR	FILE: GLADSTONE_TO_TOWERHILL.kwp		

© 11/2020





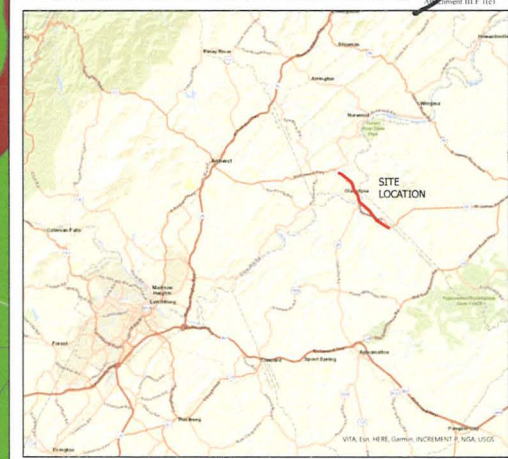
**PRELIMINARY  
NOT FOR  
CONSTRUCTION**

© 11/2020

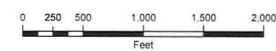
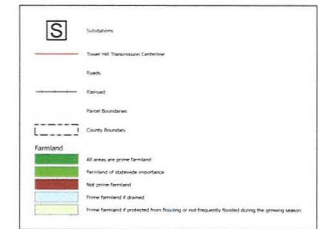
CENTRAL VIRGINIA ELECTRIC COOPERATIVE ARRINGTON, VIRGINIA			
GLADSTONE SUBSTATION TO TOWERHILL SUBSTATION 48KV TO 138KV TRANSMISSION LINE UPGRADE FARMLAND MAP - SECTION II.A.2			
Booth & Associates, LLC			
DWN: JEH	DATE: 12/22/2020	DWG NO:	
CHD: BDE	APPD: DSH	2 OF 3	
SCALE: SEE SCALE BAR	FILE: GLADSTONE_TO_TOWERHILL.mxd		



ATTACHMENT III.F.1 (C)



VICINITY MAP  
1" = 5 mi.

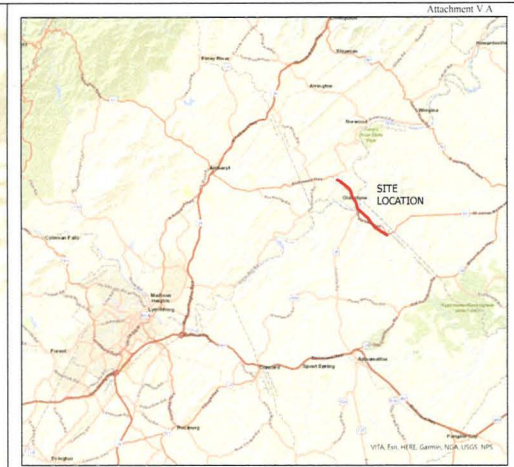
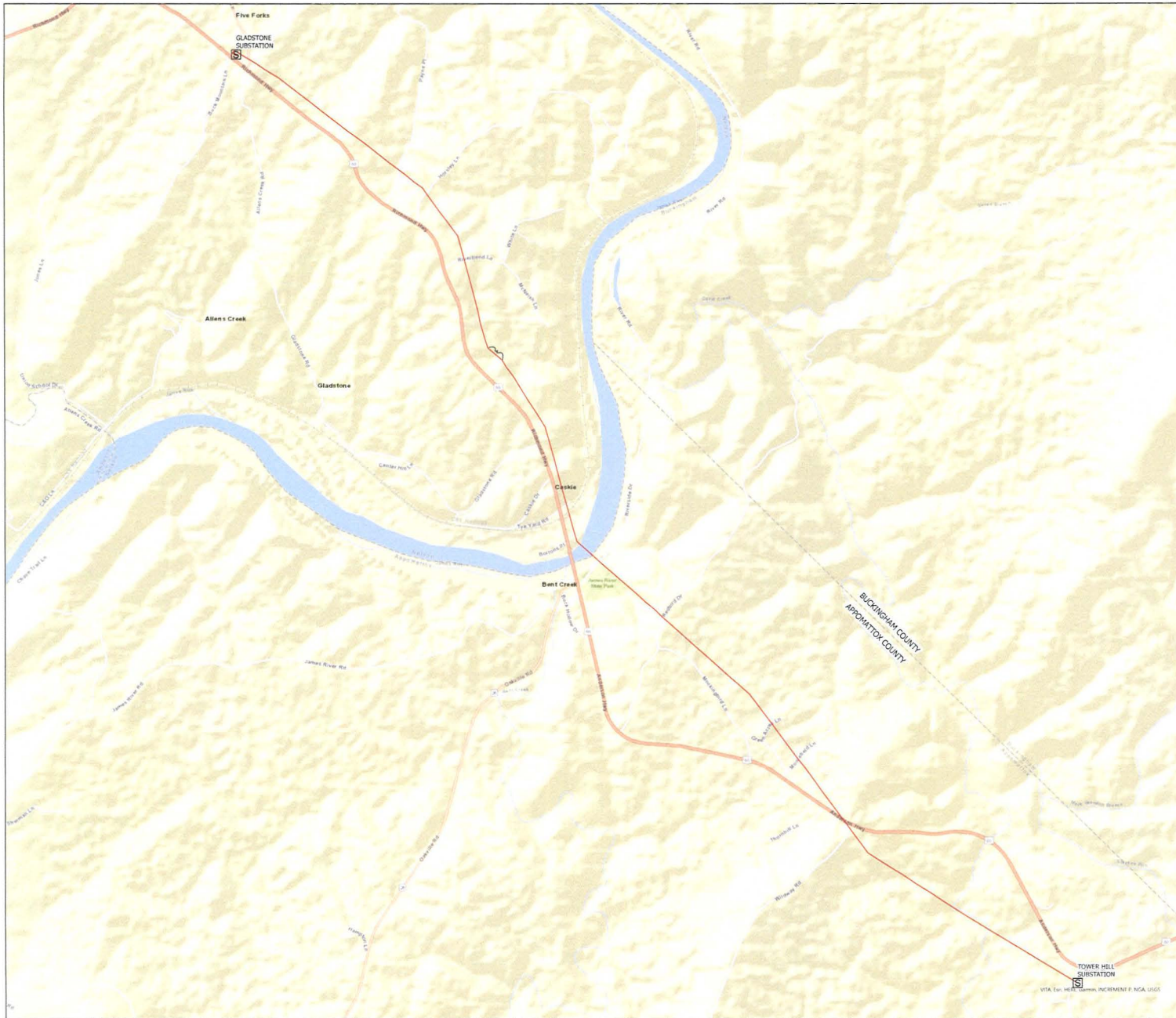


<b>PRELIMINARY NOT FOR CONSTRUCTION</b>	CENTRAL VIRGINIA ELECTRIC COOPERATIVE ARRINGTON, VIRGINIA				DWG NO:  3 OF 3
	GLADSTONE SUBSTATION TO TOWERHILL SUBSTATION 46KV TO 138KV TRANSMISSION LINE UPGRADE FARMLAND MAP - SECTION: II.A.2				
	Booth & Associates, LLC				
	DATE: 10/23/2020				
DWN: JEH	DATE: 10/23/2020				DWG NO:
CHD: BDC	APRD: DGH				
SCALE: SEE SCALE BAR	FILE: GLADSTONE_TO_TOWERHILL.dwg				

11/2/2020

© 11/2020

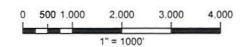




VICINITY MAP  
1" = 5 mi.

**S** Substations  
— Tower Hill Transmission Centerline

TRANSMISSION STRUCTURES  
MAXIMUM POLE HEIGHT:  
MINIMUM POLE HEIGHT:  
AVERAGE POLE HEIGHT:



PRELIMINARY  
NOT FOR  
CONSTRUCTION

CENTRAL VIRGINIA ELECTRIC COOPERATIVE ARRINGTON, VIRGINIA			
GLADSTONE SUBSTATION TO TOWERHILL SUBSTATION 46kV TO 138kV TRANSMISSION LINE UPGRADE ROUTE DESCRIPTION MAP			
Booth & Associates, LLC			
DWG NO.	DATE	12/16/2020	DWG NO.
CKD	BY	APPD	DSH
SCALE	SEE SCALE BAR	FILE	GLADSTONE_TO_TOWERHILL.dwg





January 8, 2021

Susan M. Adams  
Appomattox County Administrator  
153-A Morton Lane  
Post Office Box 863  
Appomattox, VA 24522

Dear Ms. Adams:

Central Virginia Electric Cooperative is providing notice that we will be filing in late January 2021 with the Virginia State Corporation Commission for approval to rebuild an existing 46,000 Volt (46kV) transmission line. The existing 46kV, CVEC owned transmission line extends generally along Route 60 from CVEC's Gladstone substation in Nelson County to CVEC's Tower Hill substation located in Appomattox County. The transmission line will be rebuilt to operate at 138,000 Volts (138kV) within the existing 100-foot right-of-way. Approximately 3.2 miles of the 6.3 mile transmission line is in Appomattox County.

CVEC presently receives service from AEP's 46kV transmission facilities. AEP's transmission improvement plan includes the retirement of the 46kV transmission facilities and the construction of a new 138kV transmission feed to CVEC's service point at the Gladstone substation. AEP's change to 138kV delivery voltage requires CVEC to change operating voltage on our transmission line and make improvements at our Gladstone and Tower Hill substations.

If the application to the State Corporation Commission for a Certificate of Public Convenience and Necessity (CPCN) is granted CVEC will have approval to rebuild the existing transmission facilities and construct the required improvements to the Gladstone and Tower Hill substations.

The attached drawing indicates the transmission line route. CVEC is available to provide additional information and answer any questions the county may have regarding this project. Please contact me with questions at 434-263-7622 or [bmaurhoff@mycvec.com](mailto:bmaurhoff@mycvec.com).

Sincerely,

Bruce Maurhoff  
Sr. VP & Chief Operating Officer





January 8, 2021

Mr. Steve Carter  
Nelson County Administrator  
84 Courthouse Square,  
Lovingston, VA 22949

Dear Mr. Carter:

Central Virginia Electric Cooperative is providing notice that we will be filing in late January 2021 with the Virginia State Corporation Commission for approval to rebuild an existing 46,000 Volt (46kV) transmission line. The existing 46kV, CVEC owned transmission line extends generally along Route 60 from CVEC's Gladstone substation in Nelson County to CVEC's Tower Hill substation located in Appomattox County. The transmission line will be rebuilt to operate at 138,000 Volts (138kV) within the existing 100-foot right-of-way. Approximately 3.1 miles of the 6.3 mile transmission line is in Nelson County.

CVEC presently receives service from AEP's 46kV transmission facilities. AEP's transmission improvement plan includes the retirement of the 46kV transmission facilities and the construction of a new 138kV transmission feed to CVEC's service point at the Gladstone substation. AEP's change to 138kV delivery voltage requires CVEC to change operating voltage on our transmission line and make improvements at our Gladstone and Tower Hill substations.

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The attached drawing indicates the transmission line route. CVEC is available to provide additional information and answer any questions the county may have regarding this project. Please contact me with questions at 434-263-7622 or [bmaurhoff@mycvec.com](mailto:bmaurhoff@mycvec.com).

Sincerely,

A handwritten signature in black ink that reads "Bruce Maurhoff". The signature is fluid and cursive, with the first and last names being clearly legible.

Bruce Maurhoff  
Sr. VP & Chief Operating Officer