DOMINION ENERGY VIRGINIA

CONDITIONAL USE PERMIT APPLICATION

LAUREL BRANCH SWITCHYARD

AUGUST 2022

Table of Contents
Laurel Branch
Public Utility, Major – Switchyard Facility

TAB A

Cover Letter

600 East Canal Street, 19th Floor
Richmond, VA 23219

August 24, 2022

HAND DELIVERY

Taylor Newton
Director of Planning and Economic Development County of Lunenburg
11413 Courthouse Road
Lunenburg, Virginia 23952

RE: Virginia Electric and Power Company (d/b/a Dominion Energy Virginia) ("Dominion") Conditional Use Permit Application for a Public Utility, Major

Dear Ms. Newton:

Enclosed please find a conditional use permit application packet (the "Application") requesting approval of a Public Utility, Major (the "Switchyard") in Lunenburg County, Virginia (the "County"). Pursuant to Article 8 of the County's Zoning Ordinance, Dominion is providing ten (10) copies of the Application (see enclosed binders), which includes documents and plans related to the conditional use permit request for the Switchyard. In addition, four (4) over-sized copies of the Switchyard preliminary site plan are included separately. The Application fee of $2,500.00 is enclosed with the binders. An electronic copy of the application documents has also been separately submitted.

Should you have any questions or need additional information, please do not hesitate to contact me at 804-212-5426 or at robin.l.lucey@dominionenergy.com.

Sincerely,

Robin L. Lucey

Robin L. Lucey
Dominion Energy Virginia Business Development Manager

cc: Frank Rennie, Esquire, County Attorney

TAB B

Conditional Use Permit
Application Form

Lunenburg Planning Office
Application for Conditional Use Permit for **Solar Facilities**
Case Number: _____ (Office Use Only)

Section 1

Applicant Name: Virginia Electric and Power Company (d/b/a Dominion Energy Virginia)

Owner Name: Dixie Lee Farms, Inc. (See TAB C in the Application Materials)

Owner Signature: See "Power of Attorney - Property Owner" (TAB D)

Contact Name for Application: Robin L. Lucey

Physical and Mailing Address: 600 E. Canal Street, 19th Floor, Richmond, VA 23219

Phone Number: 804-212-5426

Email Address: robin.l.lucey@dominionenergy.com

Fax Number (if applicable): N/A

Power of Attorney Name: Robin L. Lucey

Power of Attorney Signature: Robin L Lucey (See attached POA - TAB D)

As owner or authorized agent of this property, I certify that this application is complete and accurate to the best of my knowledge, and I authorize the Lunenburg County representative(s) entry on the property for purposes of reviewing this application.

Section 2
Property Information

Parcel Number(s): 058-0A-0-68

Area (ac./sq. ft.): 465.62

Magisterial District: Columbian Grove

Address: 464 Laurel Branch Road, Kenbridge, VA 23944

Existing Zoning: A-1 (Agricultural)

Requested Use: Public Utility, Major (Switchyard)

Does this property have a historical designation? If yes, describe: No

Parcel number(s), acreage, magisterial district and existing zoning can be located at: https://lunenburggis.timmons.com/#/mwl. The address can be typed into the "*By Parcel Address*" search bar followed by selecting search. This will pull up the information pertaining to the parcel.

The application deadline is the **1st of the month proceeding the month** in which the public hearing by the Planning Commission is to be held. The Planning Commission meeting is held on the 1st Thursday of the month at 7:00 p.m. Applications must be submitted in completed form prior to scheduling for public hearing by the Planning Commission. Notice of incomplete applications will be sent to the applicant at the listed address in Section 1.

The site plan must be submitted as described in the site plan requirements at the time of the application.

Application fee is $2,500.00, which must be paid at the time of application submission.

Incomplete applications will be returned to the applicant and not docketed for a public hearing

Section 3
Certification of Adjoining Property Owners, Board of Supervisors, and Planning Commissioners

Applicants Certification:

I certify that I have notified all adjacent property owners, to the property which is the subject of this application request, that this application is being filed. Notifications were sent via first class mail.

Adjacent property includes all property touching the project parcel, across roadways, watercourses, railroads, and/or municipal boundaries.

I further certify that the names and addresses below are those of the adjacent property owners as listed in the tax records of the Commissioner of Revenue of Lunenburg County.

Applicant's Signature: Robin L. Lucey

State of: Virginia.

County of: Henrico.

Before me, Andrew J. Hedrick, on this 3rd day of
Name of Notary Public

August, 2022, Robin L. Lucey, personally appeared, and
Applicant(s) Name

provided verification to be the person(s) whose name(s) is/are subscribed to the foregoing instrument and acknowledged to me that he/she/they executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 3rd day of August, 2022.

Andrew J. Hedrick
Notary Public's Signature

Henrico Co.
Location of Commission

Registration #: 7733786

Commission Expiration: 10-31-2025

(Seal)

ANDREW J. HEDRICK NOTARY PUBLIC MY COMMISSION NUMBER 7733786 COMMONWEALTH OF VIRGINIA

Verification of Identity

[X] Driver's License or Govt./State Identification Card:
State: VA Number: T63258260 (AJH)
[ ] U. S. Passport: Number: A67143454 (ALL)
[ ] U. S. Military ID Card
[ ] Social Security Card
[ ] Birth Certificate
[ ] Other: _____

Adjacent Parcel (Property) Owners		
Parcel Number	**Name(s)**	**Address**
058-0A-0-70	Bessie R. Callahan	4525 Oral Oaks Road Kenbridge, VA 23944
046-0A-0-39, 40 & 5A	James M. or Wanda S. Campbell	10663 Plank Road Kenbridge, VA 23944
046-0A-0-38	Vicky J. Hall	P.O. Box 242 Kenbridge, VA 23944
046-0A-0-26	Derrick Scott Hall or Lucy Lafoon	1286 Fletcher Chapel Road Kenbridge, VA 23944
046-0A-025, 20, 54 & 69	Dixie Lee Farms Inc.	464 Laurel Branch Road Kenbridge, VA 23944
058-0A-0-65A	Theodore Bauer	1202 Sneads Store Road Kenbridge, VA 23944
046-0A-0-37	Good Hope Church	8510 Oral Oaks Road Kenbridge, VA 23944
046-0A-0-28	Lucious H. Clemons, Jr. & Faye C. Johnson	1600 Lakeside Avenue Henrico, VA 23228
046-0A-0-33, 35 & 36	Illinois Municipal Retirement Fund	P.O. Box 1288 Mobile, AL 36633
058-0A-0-67	Johnny K. Long	3502 Laurel Branch Road Kenbridge, VA 23944
046-0A-0-24	Bernice Leonard Bishop	716 East 6th Avenue Kenbridge, VA 23944
058-0A-0-5	David S. Hoerauf or Teresa M. Cummings	15200 Mt. Nebo Road Poolesville, MD 20837
058-0A-0-6	Robert C. or Cassie E. Daniel	10326 Plank Road Kenbridge, VA 23944
058-0A-0-71A	Doretha J. Smith	10291 Plank Road Kenbridge, VA 23944
058-0A-0-71	Sheila Macwelch	4022 Plank Road Kenbridge, VA 23944

*If there are additional adjacent property owners, please include them on a separate sheet. Also, the letter that follows can be completed and mailed to adjacent property owners.

Section 4
Applicant's Report
Section 8.3(b) of Lunenburg Zoning Ordinance

Every application for a Conditional Use Permit shall be accompanied by a report from the applicant describing the proposed Conditional Use and explaining the manner which it complies with the requirements and standards of this article.

The following questions address the basic issues. The Planning Commission and/or Board of Supervisors may request additional information.

1.) What type of use is being requested?
Public Utility, Major (Switchyard)

2.) Describe how you plan to develop the property for the proposed use and any associated uses.
Please see attached Applicant's materials including the "Project Narrative" included in TAB E for details.

3.) Describe why the proposed use is desirable and appropriate for the area. What measures will be taken to assure that the proposed use will not have a negative impact on the surrounding vicinity?
Please see attached Applicant's materials including the "Project Narrative" included in TAB E for details.

Also, address the following:

a. Details of Operations: Please see the "Applicant's Report" section in the "Project Narrative" (TAB E).

b. Hours of Operation: Please see the "Applicant's Report" section in the "Project Narrative" (TAB E).

c. Traffic: Please see the "Applicant's Report" section in the "Project Narrative" (TAB E).

d. Noise: Please see the "Applicant's Report" section in the "Project Narrative" (TAB E).

e. Dust/Smoke: Please see the "Applicant's Report" section in the "Project Narrative" (TAB E).

f. Runoff: Please see the "Applicant's Report" section in the "Project Narrative" (TAB E).

g. Intensity of Use: Please see the "Applicant's Report" section in the "Project Narrative" (TAB E).

h. Hazardous Materials: Please see the "Applicant's Report" section in the "Project Narrative" (TAB E).

i. Outside Storage: Please see the "Applicant's Report" section in the "Project Narrative" (TAB E).

4.) Is the use location on a floodplain, wetland area, or dam break inundation zone? No

5.) Are there any deed restrictions concerning the type of use proposed? If so, provide the date the said restrictions expire. We are not aware of any restrictions.

6.) Has a survey of the parcel(s) been conducted to include project parcel, property boundaries, existing roadways and structures, and adjoining parcels, as well as, the parcel owner? If so, is it included in the application packet? The parcel boundaries and owner information are based on publicly available data and the existing roadways and structure information has been compiled based on aerial photographs. This data is included with the project "Location Map with Property Owner Information" in TAB C.

7.) Has a site plan been included to note the information required on the survey, but also any new construction, parking, clearing, planting, etc.? Yes, please see "TAB G - Preliminary Site Plan".

8.) Has a business plan been established? If so, please provide it with application submittal. Please refer to "TAB E".

9.) Describe how the proposed project complies or refutes the goals and objectives noted in the Kenbridge-Victoria-Lunenburg Comprehensive Plan. This can be located the Lunenburg County, Virginia website. As noted in the Lunenburg/Kenbridge/Victoria Joint Comprehensive Plan 2019-2024, some private or quasi-public facilities, as well as certain utility systems are "important resources for the local community and must be taken into account when analyzing the full range of public resources." The proposed Switchyard is necessary to provide valuable support to future Laurel Branch Solar Project and the future energy needs of the County. Further, its location is ideal in that in will be developed as part of the future Laurel Branch Solar Project and is close to two, existing transmission lines. This will serve to co-locate utility infrastructure and not negatively impact other areas of the County. Please see "TAB E - Project Narrative" for additional details.

Requirements for telecom site plans can be found in Section 22 Article III, items 22-81 thru 22-112 of the Lunenburg County Code.

Section 5
Construction Traffic Management Plan (CTMP)

VDOT and the County have identified that the construction phase of solar energy projects have an increased impact on VDOT's secondary road network. These impacts occur as VDOT's secondary road system was not designed to accommodate large numbers of truck traffic that results from the transport of the needed materials for the solar project to the construction sites. The increase in number of employees, also, impacts the roadways. To assist VDOT and the County in mitigating the increased maintenance costs associated with the increased traffic, the County requires the submission and approval of a CTMP. The outline below includes the needed elements for the required CTMP.

Construction Traffic Haul Routes

- Identify the routes to be used to transport supplies to the construction site. The plan shall begin at a VDOT maintained primary route and include all secondary routes to be used to access the site.
- The plan shall, also, include any truck routes that may be used to dispose of excess materials, clearing and grubbing debris, timber harvesting, or other activities that generate truck traffic leaving the site.

Roadway Condition Survey

- The applicant shall document by either photos, videos, or other method acceptable to VDOT and the County, the condition of the secondary roadways identified as haul routes. This condition survey will be utilized to identify areas damaged by the construction traffic that will be required to be repaired to the pre-existing conditions or better.

On-Site Storage, Unloading, and Turn-Around Areas

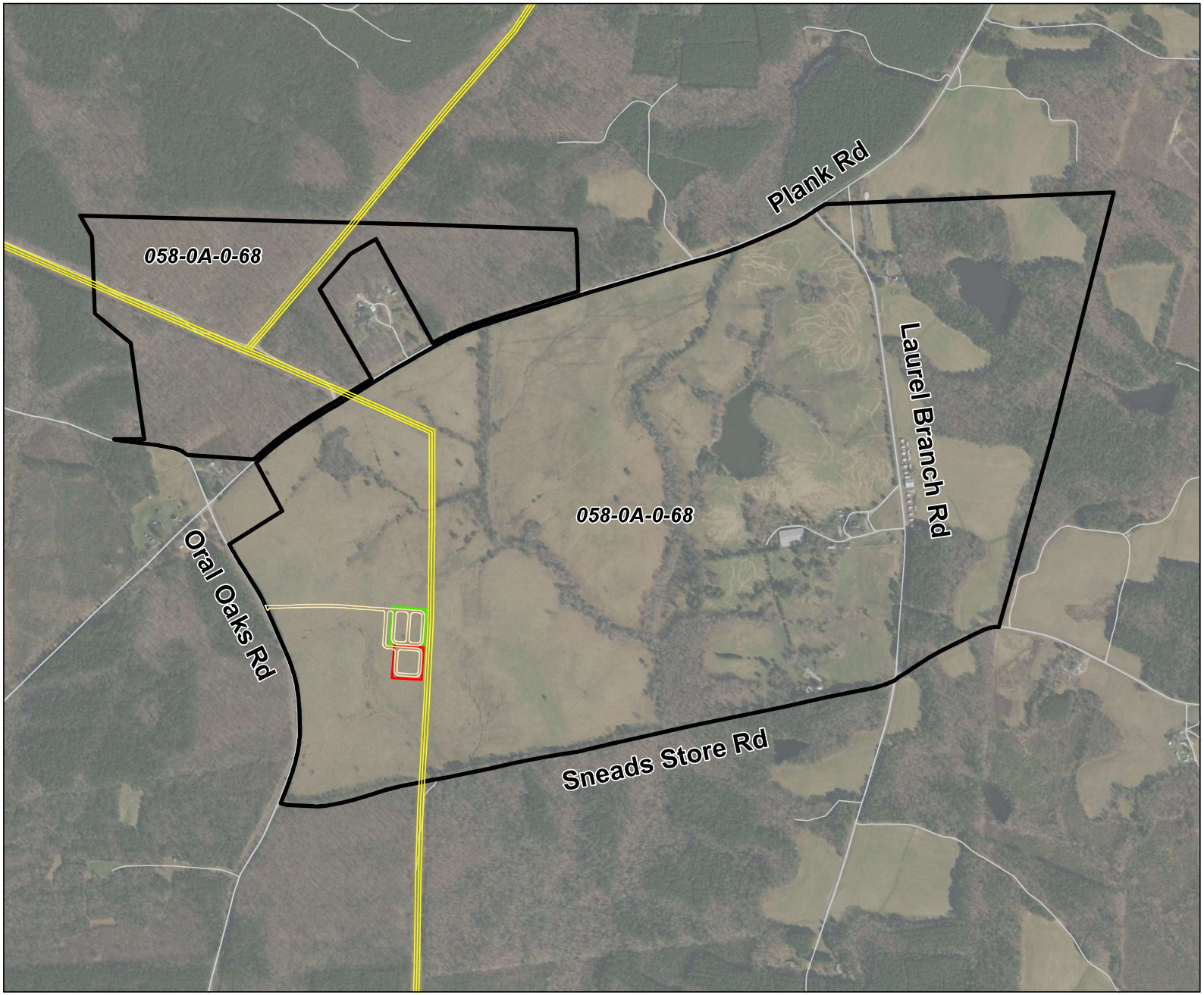
- The applicant shall demonstrate that they have adequate areas available on-site to unload trucks, store the materials on-site, and provide an area where trucks can turn around on-site prior to entering the VDOT roadway.

On-Site Parking Areas for Construction Employees

- The applicant shall provide an estimated number of employees to be on-site during construction and demonstrate that adequate on-site parking areas are available for the anticipated employees. Employees will not be allowed to park along roadways or within VDOT Right-of-Way (ROW) adjacent to the construction areas.

TAB C

Location Map with Property Owner Information



NOT FOR CONSTRUCTION

Laurel Branch Solar Project

Dominion Energy

Laurel Branch Switchyard/Substation

Lunenburg County, Virginia

- Interconnection Transmission Lines
- Proposed Substation
- Proposed Switchyard
- Proposed Substation/Switchyard
- Access Roads
- Road
- Project Parcel

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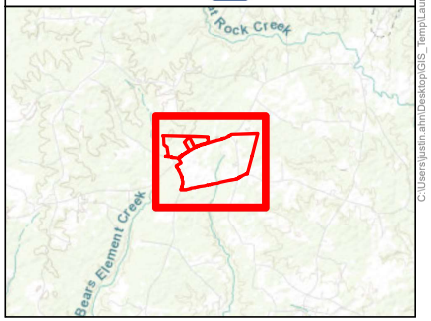
0 500 1,000 2,000 Feet

Prepared By: TETRA TECH



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464 LAUREL BRANCH ROAD

Parcel Information

Parcel ID: 058-0A-0-68
Tax Map: 058
Block:
Parcel Address 1: 464 LAUREL BRANCH ROAD
Legal Description 1: CROOKED CREEK 465.63 AC
Legal Description 2: N/A
District: COLUMBIAN GROVE
Topology: ROLLING
Class: AGRICULTURAL/UNDEVELOPED (99+ ACRE)
PRN/Link: 8520
Double Circle: 0A
Lot: 68
Parcel Address 2: N/A
Deed: NONE
Will: NONE
Plat: NONE
Utilities: ELECTRICITY, SEPTIC SYSTEM, WELL

Owner Information

Owner: DIXIE LEE FARMS INC,
Owner Address: 464 LAUREL BRANCH ROAD
Owner City, ST Zip: KENBRIDGE VA 23944

Current Valuation

Assessment Year:
Exempt:
Current Land: $732,600
Current Building: $230,600
Current Improvements: $45,300
Current Total: $1,008,500

Sales History

Sale Date	Grantor	Sale Price	Instrument

Land Segments

Segment	Description	Size	Value	Zoning
1	BUILDING SITE (500 -13000)	2.0000	$16,000	R1: RESIDENTIAL - LOW DENSITY
2	PAVED SECONDARY	297.0000	$490,039	R1: RESIDENTIAL - LOW DENSITY
3	PAVED SECONDARY	165.6300	$173,906	R1: RESIDENTIAL - LOW DENSITY
4	TIMBER/MIXED	165.6300	$49,689	R1: RESIDENTIAL - LOW DENSITY
5	LAKES & PONDS (100 - 2600)	1.0000	$3,000	R1: RESIDENTIAL - LOW DENSITY

Main Structures:2

Year Built	Construction Style	Rooms	Bedrooms	Cost Per Sq Ft	Heated Sq Ft	Depreciation Schedule
1950	CONVENTIONAL	10	2	38.91		RES AVG DEPR

Building Sections

Section	Year Built	Effective Year	Description	Story Height	Class	Grade	Value
1	1950	1965	SINGLE FAMILY	2.00	1	C+10	$76,165

Building Attributes

Attribute Type	Type	Number Of
CHIMNEYS	2 STORY MASONRY	1.00
EXTERIOR FINISH	WOOD LAP SIDING	1840.00
FLOOR	SOFTWOOD	1840.00
FOUNDATION	BRICK	920.00
FUEL	ELECTRIC	1840.00
HVAC	CENTRAL AIR	1840.00
HVAC	CENTRAL HEAT	1840.00
OPENINGS	FIREPLACE OPENINGS	2.00
PLUMBING	3 FIXTURE BATH	2.00
ROOF MATERIAL	COMPOSITION SHINGLE	920.00
ROOF TYPE	GABLE	920.00
WALL	DRY WALL	1840.00

Section	Year Built	Effective Year	Description	Story Height	Class	Grade	Value
2	1950	1965	SINGLE FAMILY	1.00	1	C+10	$25,997

Building Attributes

Attribute Type	Type	Number Of
EXTERIOR FINISH	WOOD LAP SIDING	648.00
HVAC	CENTRAL AIR	648.00
HVAC	CENTRAL HEAT	648.00

Section	Year Built	Effective Year	Description	Story Height	Class	Grade	Value
3	1950	1965	OPEN MASONRY PORCH	1.00	106	C+10	$1,207
4	1950	1965	ENCLOSED PORCH	1.00	107	C+10	$1,310

Building Attributes

Attribute Type	Type	Number Of
EXTERIOR FINISH	WOOD LAP SIDING	90.00

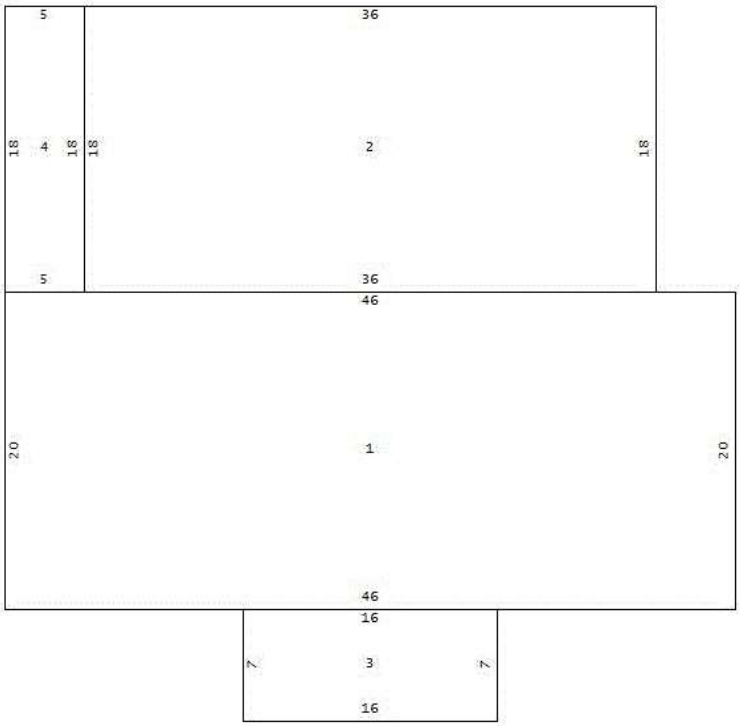
Year Built	Construction Style	Rooms	Bedrooms	Cost Per Sq Ft	Heated Sq Ft	Depreciation Schedule
1945	CONVENTIONAL	8	3	34.79		RES AVG DEPR

Building Sections

Section	Year Built	Effective Year	Description	Story Height	Class	Grade	Value
1	1945	1965	SINGLE FAMILY	1.50	1	C+5	$95,395
2	1945	1965	SINGLE FAMILY	1.00	1	C+5	$25,186
3	1945	1965	OPEN MASONRY PORCH	1.00	106	C	$2,193
4	1945	1965	CARPORT	1.00	104	C	$3,116

Other Structures

Year Built	Description	Story Height	Class	Grid	Base Rate	Depreciation	Value
N/A	STORAGE SHED -FRAME	1	9	SOUND VALUE	N/A	SOUND VALUE	$500
N/A	STORAGE SHED -FRAME	1	9	SOUND VALUE	N/A	SOUND VALUE	$2,500
N/A	BARN	1	68	SOUND VALUE	N/A	SOUND VALUE	$2,000
N/A	GRAIN BIN	1	54	SOUND VALUE	N/A	SOUND VALUE	$1,000
N/A	SILO	1	58	SOUND VALUE	N/A	SOUND VALUE	$10,000
N/A	POLE SHELTER	1	48	SOUND VALUE	N/A	SOUND VALUE	$19,663
2005	STORAGE SHED -FRAME	1	9	SOUND VALUE	N/A	SOUND VALUE	$3,154
N/A	POLE SHELTER	1	48	SOUND VALUE	N/A	SOUND VALUE	$800
N/A	OLD DWELLING	1	66	SOUND VALUE	N/A	SOUND VALUE	$5,000
N/A	GREENHOUSE - RESIDENTIAL	1	115	SOUND VALUE	N/A	SOUND VALUE	N/A
N/A	FENCE (WOOD)	1	16	SOUND VALUE	N/A	SOUND VALUE	$200
N/A	STORAGE SHED -FRAME	1	9	SOUND VALUE	N/A	SOUND VALUE	$500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TAB D

Power of Attorney - Property Owner

SPECIAL LIMITED POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that I, Robin Gunn Wrenn, am the President of Dixie Lee Farms, Inc., a Virginia corporation (the "Owner"). Owner owns in fee that certain real property located in the County of Lunenburg, Virginia (the "County") identified as Tax Map Nos. 046-0A-0-20, 058-0A-0-54, 058-0A-0-63, 058-0A-0-68, 058-0A-0-69, 059-0A-0-27 and 059-0A-0-56B (the "Property"). On or about February 26, 2021, Owner executed an Option to lease agreement (the "Option Agreement"), with Virginia Electric and Power Company, a Virginia public service corporation ("VEPCO"), whereby Owner granted VEPCO the option to lease the Property upon terms and conditions set forth in the Option Agreement. VEPCO proposes to develop and operate a utility-scale solar facility (the "Solar Facility") on a portion of the Property. VEPCO is required to obtain a conditional use permit ("CUP") from the County Board of Supervisors in order to develop, construct and operate the Solar Facility, and/or related facilities on the Property.

Owner of the Property, having full right and authority to do so, do hereby makes, constitutes, and appoints Robin L. Lucey, Business Development Manager, VEPCO, and M. Ann Neil Cosby, Esq., McGuireWoods, LLP, (collectively, the "Appointees"), either of whom may act, as the true and lawful attorneys in fact for the Owner in connection with the filing and approval of the CUP. The Appointees shall have full power and authority to do and perform as may be necessary to prepare and file zoning application documents (the "Application") and such other supporting information (including but not limited to conditions of development) on behalf of the Owner, to seek and obtain approval of the CUP and to agree to any and all terms and conditions as necessary for the use of the Property as requested in the Application.

IN WITNESS WHEREOF, I have hereunto set my hand this 28th day of February, 2022

By: Robin Gunn Wrenn, Pres

Name:
Title:

STATE OF Virginia

COUNTY OF Lunenburg, to-wit:

The foregoing instrument was acknowledged before me this 28th day of February, 2022, by Robin Gunn Wrenn as President of Dixie Lee Farms Inc.

Melinda B Bagley
Notary Public

My Commission Expires: 09/30/2023

Notary Registration Number: 154836

MELINDA B. BAGLEY
NOTARY PUBLIC
Commonwealth of Virginia
Reg. #154836

TAB E

Project Narrative

Dominion Virginia Power – Laurel Branch Switchyard

CONDITIONAL USE PERMIT – PROJECT NARRATIVE

August 2022

I. INTRODUCTION

Pursuant to Section 4-11(b)(14) of the *Lunenburg County Code* (the "Code"), the Virginia Electric and Power Company (d/b/a Dominion Energy Virginia) (the "Applicant" or "Dominion"), requests conditional use permit (the "CUP") approval and a §15.2-2232 substantially in accord review for a public facility. The proposed public facility will be a public utility switchyard (the "Switchyard") located on an approximately five (5) acre portion of the property located at 464 Laurel Branch Road.[1] The property is further described as Parcel Identification No. 058-0A-0-68 (the "Property").[2]

The proposed Switchyard and its adjacent substation (the "Substation") will be located within and as part of the proposed Laurel Branch Solar Facility, which has filed a concurrent conditional use application to permit an 80 MWac utility-scale solar facility (the "Solar Project").[3] The Switchyard will remain in perpetuity even after the Solar Project is decommissioned.[4] See details about the Switchyard in the *Background and Need* section below.

II. BACKGROUND AND NEED

Dominion Energy Virginia is a public service corporation organized under the laws of the Commonwealth of Virginia and is responsible for furnishing electric service to the public within its Virginia and North Carolina service territory. Dominion's electric system, consisting of facilities for generation, transmission, and distribution of electric energy, as well as associated facilities, is interconnected with the electric systems of neighboring utilities, and is part of the interconnected network of electric systems serving the continental United States.

The proposed Switchyard will be an integral component of the proposed Laurel Branch Solar Project and will also serve as important infrastructure within Dominion's network. The Solar Project's Substation will serve to step up lower-voltage from the Solar Project to a higher-voltage transmission level and transfer that generated power to the Switchyard. The Switchyard taps into the transmission line via a "switch" allowing Dominion to transfer the energy from the Solar Project's Substation to the area's existing transmission system.

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[1] Prior to operation, the Switchyard will be subdivided into a standalone parcel per the County ordinances.
[2] The Property is approximately 465.63 acres and zoned A-1, Agricultural.
[3] The Solar Project will be located on the subject Property as well as twenty-four (24) additional parcels in the immediate area.
[4] The Solar Project (including the Substation) will be subject to its decommissioning plan per the solar conditional use permit application.

Electrical switchyards are important parts of the electrical grid allowing a public utility to transfer electricity from one voltage to another. In addition, a switchyard controls the flow of power along a section of the transmission line and can adjust where power is going due to outages or breaks in a line. As such, the Switchyard will remain a part of the overall transmission system, owned and operated by Dominion, in perpetuity, even after decommissioning of the Solar Project.

III. DESCRIPTION OF PROPOSAL (Section 4, Questions 1, 2, 3, and 8)

There are two existing transmission lines that run through the proposed Solar Project, joining on the north side of Plank Road near Oral Oaks Road. The proposed Switchyard has been strategically located within the Solar Project area to interconnect with the electrical infrastructure already in place. The Switchyard will be an important component of the Solar Project; however, following decommissioning, the Switchyard will continue to provide a valuable service for the County by providing a facility that will interconnect the existing transmission infrastructure. Being able to network multiple transmission lines together creates a robust transmission system and allows power to continue to flow if one of the transmission lines is out of service for contingency events (such as storms), maintenance, or repair. A Switchyard also helps the system operator control the power system voltage during heavy or light-load conditions. Overall, the Switchyard will help provide consistent and reliable power to the County.

The Switchyard will be approximately 284 feet x 251 feet in dimension, fenced, and include structures not exceeding 75 feet in height, breakers, and ancillary equipment. See Preliminary Site Plan (TAB G) and Switchyard and Substation Design (TAB H) for a representative depiction of the Switchyard location. The Switchyard will be set back approximately 774 feet from Oral Oaks Road and approximately 1,550 feet from Plank Road. In addition to the landscaping proposed along the Switchyard and Substation fence, they will have minimal visibility from adjacent rights-of-way after installation of the 50-foot landscape buffer and/or retention of existing vegetation along Oral Oaks and Plank Roads, which is included as part of the Solar Project. The Switchyard will be constructed, operated, and owned by Dominion.

Once constructed, the Solar Project will be monitored 24/7 via surveillance cameras and electrical system monitoring equipment. The Solar Project will be constructed over an approximate 18-month period. The Switchyard and the Substation will be constructed as part of the overall construction of the Solar Project. It is anticipated that construction will commence in 2024 and the Solar Project will be operational by the end of 2025.

IV. LOCATION, APPEARANCE AND OPERATIONAL REQUIREMENTS[5]

All signage on the Property will comply with the County Sign Ordinance and all noise will comply with the County Noise Ordinance. Unless approved in writing by the County, no signage shall be permitted on the Property. Signage containing notices, warnings, or other information, if required by law or deemed by the County to be in the interest of the safety and welfare of the community, shall be permitted.

During construction, temporary signage to direct deliveries, identifying the site name, address, and contact information for the contractors on a board at the various construction entrance location(s) will be needed. Safety and security signage in these locations will be posted as well. Post construction, warning and notice signs will be provided on the fence, including environmental signage for environmentally sensitive areas.

During construction of the Switchyard, any temporary construction lighting shall be directed and positioned downward, inward, and shielded to eliminate glare from all adjacent properties. Emergency and/or safety lighting shall be exempt from this construction lighting condition. Any permanent lighting shall be limited to the minimum amount necessary for security purposes. Post construction lighting shall be limited to security and/or safety lighting only. All lighting will be limited to the minimum necessary for security purposes and fixtures will be dark-sky compliant shielded away from adjacent properties and positioned downward to minimize light spillage onto adjacent properties. Emergency and/or safety lighting shall be exempt from this post construction lighting condition.

Groundcover on the site will consist of pollinator plants where practicable, and grasses, forbs, and wildflowers native to the County. No invasive plants listed by DCR will be used. All groundcover will be maintained as set forth in the Landscaping Plan, which is included in the Preliminary Site Plan (TAB G). A performance bond will be posted to ensure maintenance. If pesticides and fertilizers are applied to the Property, the operator will notify the County prior to application. Both the Substation and Switchyard will be adequately fenced for security and safety with a twelve (12) foot chain-link security fence topped with about three (3) feet of barbed wire. Fencing will be installed on the interior of the vegetative buffer and provided in sections to provide access corridors for wildlife.

Landscaping will be existing or installed vegetation as deemed necessary during CUP approval, and will be comprised of native (non-invasive, pollinator-friendly and wildlife friendly) plant materials at least three (3) feet tall at the time of planting and expected to grow to a minimum height of eight (8) feet within three years (or as otherwise approved by the Board). Vegetative buffers shall be maintained for the life of the facility. The Project will include minimum setbacks of 200 feet from adjacent

[5] This section addresses the requirements in Section 5 of the Solar Ordinance for the Switchyard.

property lines and the centerline of all adjoining rights-of-way. A minimum setback of 400 feet will be maintained from adjacent residential structures.[6] Areas of the Project will be fenced separately allowing the open area between the fences to serve as wildlife corridors that will allow for the movement of migratory animals and other wildlife. These areas are also shown on the Preliminary Site Plan at TAB G (Landscape Buffer Sheet).

The County's emergency services providers will be provided materials, education, and/or training on how to safely respond to any on-site emergencies and a key or code to access the property in case of an on-site emergency. Dominion intends to grant the easements needed for inspections and other requirements to the County, as required by Section 5(A)(7) of the County's Solar Ordinance.

V. APPLICANT'S REPORT (Section 4, Question 3, a through i)

a. Details of Operations: Please see information in the "Introduction" and "Background and Need" sections in the "Project Narrative."

b. Hours of Operation: Once operational, the switchyard will run continuously.

c. Traffic: Once operational, the switchyard will be unmanned and there will be no impacts to the surrounding roadways. There will be occasional visits for maintenance. Please see the "Traffic Study" included under TAB I for additional information for traffic during construction.

d. Noise: The operation and maintenance of the switchyard will not increase noise within the area. There will be a temporary increase of noise within the area during the construction of the switchyard. Due to the temporary nature of the construction noise, no adverse or long-term effects are expected.

e. Dust/Smoke: The operation and maintenance of the switchyard will not increase dust/smoke within the area. There may be a temporary increase of dust within the immediate area during construction activities. Dust control measures will be implemented during construction to minimize dust and erosion. Due to the temporary nature of the construction, no adverse or long-term effects are expected.

f. Runoff: A Stormwater Pollution Prevention Plan (SWPPP) will be prepared in accordance with the Virginia Stormwater Management Program (VSMP), to obtain the required General VPDES Permit for discharges of stormwater from construction activities. The SWPPP outlines the steps and techniques to reduce pollutants in stormwater runoff from the

[6] Setbacks will not apply to internal property lines that are part of the Project site, including the Switchyard site. Access roads, stormwater management facilities and interconnection facilities are permitted in the setback(s) provided they are generally perpendicular to the property line, where applicable.

construction, including water quality and quantity requirements that are consistent with the VSMP permit regulations. This will be prepared prior to construction commencement.

g. Intensity of Use: The proposed switchyard will be unmanned; therefore, there will be minimal impacts to the surrounding area.

h. Hazardous Materials:

During Construction: The proposed facility will not endanger the public's health or safety. The project will require the use of fuel and lubricants for equipment and tools during construction. Contractors use absorbent materials and containment pools to catch and contain any drips or spills and provide for proper disposal.

During Operations: The project will also require the use of fuel and lubricants for equipment and tools during operations.

i. Outside Storage:

During Construction: The project will store equipment, materials, and vehicles outdoors during construction. All components will be secured from public access by security fencing.

During Operations: The project will store most spare materials and equipment inside a container during operations, though some larger equipment and materials may be stored outdoors. All components will be secured from public access by security fencing.

VI. CONSTRUCTION TRAFFIC MANAGEMENT PLAN (CTMP)

Please find the "Construction Traffic Management Plan" included in TAB I in the documentation for the CUP application.

VII. CONDITIONAL USE PERMIT REQUIREMENTS AND REQUEST

Section 8-5 of the Lunenburg County Zoning Ordinance (the "Ordinance") sets out the general requirements for approval of conditional use permits. Responses to those requirements are set forth below.

a. Will not be contrary to the purposes stated in Section 2-3 of the Ordinance.

Response: The proposed Switchyard will serve to meet the general purposes outlined in the Ordinance by promoting the health, safety, and general welfare of the public. It will provide the necessary public utility infrastructure that will not only serve the future Solar Project, but also the County, beyond the life of the Solar Project. The proposed Switchyard will

support the provision of clean and sustainable energy, as well as provide long-lasting infrastructure that will deliver reliable power to the County.

In addition, the Switchyard will not impact light, air, convenience of access and will provide safety from fire, flood, crime, and other dangers. It will not create congestion in public streets and will facilitate a convenient community by adding to the electrical infrastructure. The Switchyard will not impact schools, police, recreations facilities, airports, historic areas, or other facilities noted in Sec. 203. The facility will not create overcrowding or impact affordable housing but will enlarge the tax base of the county. The development of the both the Solar Facility and the Switchyard will protect surface waters and ground waters as well as wetlands.

b. Will not be in conflict with the objectives of the County's Comprehensive Plan.

Response: As noted in the *Lunenburg/Kenbridge/Victoria Joint Comprehensive Plan 2019-2024*, some private or quasi-public facilities, as well as certain utility systems are "important resources for the local community and must be taken into account when analyzing the full range of public resources." The proposed Switchyard is necessary to provide valuable support to the future Solar Project and the future energy needs of the County. Further, its location is ideal in that it will be developed as part of the future Solar Project and is close to two, existing transmission lines. This will serve to co-locate utility infrastructure and not negatively impact other areas of the County.

c. Conform with all applicable provisions of the County Zoning Ordinance, all other applicable requirements of the district in which such use is located, and any specific conditions applicable to the proposed conditional use specified elsewhere in this ordinance.

Response: The proposed Switchyard will meet all applicable Zoning Ordinance provisions, as well as any specific development conditions required as part of the CUP approval.

d. Include satisfactory provision for or arrangement of the following, where applicable:

(1) Sewer, water, and other public utilities.

Response: The proposed Switchyard is a public utility and will be unmanned. As such, it will not need the sewer or water.

(2) Ingress and egress, including access for fire and other emergency vehicles.

Response: Adequate vehicular access will be provided off Oral Oaks Road with a recorded easement of sufficient width and character to provide access for service and emergency vehicles.

(3) Off-street parking, loading and vehicle circulation, including adequate consideration of the safety of motorists and pedestrians.

Response: Since the Switchyard will be unmanned, it will place no burden on the existing transportation infrastructure.

(4) Yards, open spaces, relationship among buildings and other elements of the site.

Response: During operation of the Solar Project, the Switchyard will be internal to the Solar Project and set back approximately 774 feet from Oral Oaks Road and approximately 1,550 feet from Plank Road. The Switchyard will be subdivided as a separate lot in accordance with the County requirements. Because the Substation and the Switchyard are interconnected, no setbacks will be provided between those facilities

(5) Retention of natural vegetation and topographic features.

Response: The Switchyard will be positioned interior to the Property. As part of the Solar Project, the preservation of existing vegetation, where available, and additional landscaping will be provided.

(6) Landscaping, buffers, screening, fences, and other features or means of separation to protect adjacent properties from potential adverse effects of the conditional use.

Response: To minimize visibility from other properties, the Switchyard will include substantial setbacks from Oral Oaks Road and Plank Road and will be extensively screened by proposed landscape buffers to be installed as part of the Solar Project. In addition, both the Substation and Switchyard will be adequately fenced for security and safety with a twelve (12) foot chain-link fence topped with about three (3) feet of barbed wire. Upon future subdivision of the Switchyard parcel, the project will meet Ordinance requirement related to screening and buffering around the perimeter of the Switchyard parcel and any conditions related to such.

For the reasons stated above, the Applicant respectfully requests approval of this CUP request.

TAB F

Environmental Inventory and Impact Statement

Environmental Inventory and Impact Statement

Laurel Branch Solar Project Switchyard and Substation

August 17, 2022

Prepared for

Dominion Energy®

Prepared by

TETRA TECH

4101 Cox Road, Suite 120
Glen Allen, VA 23060

Table of Contents

List of Figures

List of Attachments

Acronyms and Abbreviations

3D	three-dimensional
BMP	best management practices
CUP	Conditional Use Permit
GIS	geographic information system
GPS	global positioning system
KOP	key observation point
MW	megawatts
Project Area	The approximately 2,189 acres of privately-owned land where the proposed Project is located
Project	Laurel Branch Solar Project
VADEQ	Virginia Department of Environmental Quality

1.0 INTRODUCTION AND PROJECT DESCRIPTION

Dominion Energy Virginia (Dominion) is proposing to develop a Switchyard and Substation as part of a commercial solar energy project, Laurel Branch Solar Project (Project), on private land encompassing approximately 2,189 acres. The Project Switchyard and Substation is located on one parcel (058-0A-0-68) and will be accessible via a gated entrance off of Oral Oaks Road. The Project is in Lunenburg County, Virginia, and is largely undeveloped, and zoned agricultural, as shown on the Orthoimagery and Topographic Project Location Maps (Figure 1 and Figure 2).

1.1 Project Description

The scope of the Project will consist of all work to construct, commission, energize, and train operation staff of the Switchyard and Substation and associated infrastructure, including but not limited to the following:

- A pad containing the Switchyard and Substation
- Internal infrastructure including permanent gravel access roads and security fencing.

A desktop environmental inventory was conducted to identify environmental, wildlife, and cultural resources within and within applicable buffers off of the Project survey area. These resources include wetlands, surface water, floodplains, air quality, federal and state listed threatened and endangered species, and architectural and archaeological resources. Additionally, a preliminary assessment was conducted to evaluate the impact of the Project on environmental, wildlife, and cultural resources within a 2.5-mile radius of the Project survey area. This impact assessment was based on preliminary site plans and anticipated avoidance and minimization measures that may be implemented.

2.0 ENVIRONMENTAL IMPACTS NARRATIVE

2.1 Existing Conditions

A desktop wetland determination memo was prepared in February 2022 to summarize the findings of publicly available desktop resources within the Project study area. The desktop wetland determination identified 29 potential streams totaling approximately 6,075 linear feet and 5 potential wetlands totaling approximately 2.9 acres. Based on desktop research, the floodplain data for the Project were obtained from Federal Emergency Management Agency Flood Insurance Rate Map Number 51111C0175B, effective July 20, 2009 (FEMA 2021). According to these data, the majority of the site is located within Zone X, area of minimal flood hazard. Bears Element Creek, located just west of the Project area parcel is mapped as Zone A, with a one percent annual chance flood hazard.

The Project is located within Lunenburg County, which is not one of Virginia's 29 coastal counties deemed "Tidewater Virginia". Therefore, the Project is not subject to the Chesapeake Bay Preservation Act Resource Protection Area or Resource Management Area regulatory buffers, as outline in 9 Virginia Administrative Code 25-830-80. Additional information, including references, on wetlands, surface waters, and groundwater can be found in Attachment A: Wetland Determination Memo. Wetlands, waterbodies, and floodplains have not been inventoried outside of the Project

survey area; however, off-site impacts to these potential features will be addressed under the direct and indirect impacts section.

Primary air quality standards protect the public health, including the health of "sensitive populations, such as people with asthma, children, and older adults." Secondary air quality standards protect public welfare by promoting ecosystems health and preventing decreased visibility and damage to crops and buildings. The EPA has set national ambient air quality standards (NAAQS) for the following six criteria pollutants: ozone (O3), particulate matter (PM2.5, PM10), nitrogen dioxide (NO2), carbon monoxide (CO), sulfur dioxide (SO2), and lead (Pb). The AirNow Interactive Map of Air Quality (AirNow 2022) was used to identify nearby monitoring locations and determine the current estimated air quality index (AQI). According to the AirNow map, the nearest Ozone monitoring location to the Project survey area is the Prince Edward County EPA Office of Atmospheric Programs. This air quality monitoring station identified that the ozone daily AQI level was considered in good standing (29) at the issuance of this report. There were no results for the five other criteria pollutants.

2.2 Direct and Indirect Impacts

The desktop wetland determination identified 29 potential streams, and 5 potential wetlands within the Project study area (Figure 3). The Project is currently designed to avoid and minimize impacts to wetlands and streams as they are currently desktop mapped within the Project Area to the extent practicable. These features have not yet been confirmed by the USACE or VADEQ and are subject to change. Pending any changes to mapped features, impacts to jurisdictional features will be permitted through the proper regulatory agency. Wetlands, waterbodies, and floodplains have not been inventoried outside of the Project survey area; however, there are no anticipated direct impacts to any features outside of the Project survey area. Through the use of stormwater and erosion and sediment control best management practices (BMPs) during construction, as well as routine stormwater inspections, no indirect impacts to adjacent water resources are anticipated from the Project. These BMPs, in tandem with temporary and permanent soil stabilization, will minimize erosion and sedimentation to protect water quality of these aquatic resources. The Project will abide by all erosion and sediment control regulations as outlined by the Virginia Erosion and Sediment Control Program.

The Project may result in a minor centralized increase of air emissions during construction; however, construction air emissions would be temporary. To reduce temporary impacts to air quality, the construction contractors may water down construction areas to control dust when necessary. Emissions from fuel-burning internal combustion engines (e.g. heavy equipment and earthmoving machinery) could temporarily increase the levels of some of the criteria pollutants, including CO, NO_2, O_3, PM_{10}, and non-criteria pollutants such as volatile organic compounds. To reduce the emission of criteria pollutants, fuel-burning equipment running times should be kept to a minimum and engines should be properly maintained. Additional best management practices for construction include using low or ultra-low sulfur fuel (including biodiesel) and using electric-powered tools (instead of gas-powered tools) wherever feasible. The operations and maintenance of the Project are not anticipated to have any long-term effects on air quality or increased air emissions.

3.0 WILDLIFE IMPACTS NARRATIVE

3.1 Existing Conditions

A desktop threatened and endangered species determination memo was prepared in May 2022 to summarize the findings of publicly available desktop resources within the Project study area.

According to the threatened and endangered species determination memo, the United States Fish and Wildlife Service (USFWS) Information Planning and Consultation (IPaC) System indicated that the northern long-eared bat (*Myotis septentrionalis*), which is listed as both federally threatened and state threatened, is expected to occur within the Project study area.

The bald eagle (*Haliaeetus leucocephalus*) is protected under the Bald and Golden Eagle Protection Act. According to the Center for Conservation Biology (CCB) Bald Eagle Nest Locator, the closest known bald eagle nest is approximately 15 miles to the southeast of the proposed Project study area. A field assessment is recommended to confirm the presence and/or absence of bald eagle nests on the Project study area. If bald eagle nests are identified during the recommended field assessments and work is anticipated to be conducted during the breeding season (October 1 through May 15), a 660-foot buffer is recommended around active nests. The buffer may be reduced to 330 feet for special circumstances.

The USFWS Bald Eagle Conservation Area (BECA) Map did not indicate a bald eagle concentration area within the Project study area. The closest bald eagle concentration is approximately 58 miles southwest of the Project study area.

No federally listed critical habitat was documented on the USFWS Critical Habitat for Threatened and Endangered Species Mapper as occurring within or in the vicinity of the proposed Project study area. The Project study area is approximately 8 miles south of the closest critical habitat for Yellow lance (*Elliptio lanceolata*).

The Virginia Department of Wildlife Resources (VDWR) northern long-eared bat (NLEB) mapping application shows that there are no known NLEB winter hibernacula or roost trees in the vicinity of the Project. The nearest winter hibernacula and roosting habitat is located approximately 99 miles northwest of the Project study area.

The VDWR mapping system of the little brown bat (*Myotis lucifugus*) and tri-colored bat (*Perimyotis subflavus*) shows that the nearest winter hibernacula and roosting habitat are located approximately 80 miles northwest of the Project study area.

The VDWR Virginia Fish and Wildlife Information Service (VaFWIS) indicates no state threatened or endangered species with confirmed occurrences within the Project study area and a 2-mile radius from the Project study area boundary. Please note that the Virginia Department of Game and Inland Fisheries has recently changed its name to the VDWR, but the VaFWIS database search results still show the outdated department name.

The Virginia Department of Conservation and Resources Natural Heritage Data Explorer identified two state threatened species, loggerhead shrike (*Lanius ludovicianus*) and Atlantic pigtoe (*Fusconaia*

masoni), as possibly occurring within the Project study area watersheds, Meherrin River-Mason Creek (12-digit Hydrologic Unit Code [HUC] 030102040301), Meherrin River – Crooked Creek (HUC 030102040302), and Flat Rock Creek (HUC 030102040303).

Additional information, including references, on biological resources is included in Attachment B: Threatened and Endangered Species Determination Memo.

3.2 Direct and Indirect Impacts

The Desktop Threatened and Endangered Species Determination identified several federal and state listed species that have the potential to occur within the vicinity of the Project study area. Upon a review of the information gathered from publicly available resources, the following actions or avoidance measures are recommended for the Project to ensure potential impacts to listed wildlife species that have potential to occur are avoided:

- Based on the results of the environmental field assessment, potential impacts to threatened and endangered species and their habitats can be reduced by avoiding and minimizing Project impacts to wetlands, forested areas, streams, and riparian corridors; and
- Informal consultation with state and federal agencies is recommended after the completion of the environmental field assessments to better determine the need for species-specific onsite surveys and the need for avoidance or mitigation measures.

4.0 CULTURAL IMPACTS NARRATIVE

4.1 Existing Conditions

A cultural resources desktop review memo was prepared in August 2022 to summarize the findings of publicly available desktop resources within the Project study area. This assessment reviewed the Project survey area and a 0.5-mile radius around the Project survey area.

According to the cultural resources memo, a review of Virginia Department of Historic Resources (VDHR) Virginia Cultural Resources Information System (VCRIS) records identified 6 previously recorded architectural resources within a 0.5-mile radius of the Project study area. Among the resources are 4 dwellings, a wagon shed, and a church/chapel. The resources range in date from the early-nineteenth century to the mid-twentieth century. VDHR #055-5132 (Good Hope Christadelphian Chapel) has been determined to be eligible for inclusion in the NRHP.

Two resources are located partially within the Project study area. These resources include: VDHR #055-5132 (Good Hope Christadelphian Chapel) and VDHR #055-5138 (Samuel A. Wallace, Jr. House). As mentioned above, VDHR #055-5132 (Good Hope Christadelphian Chapel) has been determined to be eligible for inclusion in the NRHP and VDHR #055-5138 has been determined to not be eligible for inclusion in the NRHP.

The Project study area excludes the majority of VDHR #055-5132 and VDHR #055-5138. Likewise, VDHR #055-0117 is located within a parcel which is excluded from the Project study area.

Additional information on cultural resources can be found in Attachment C: Cultural Resources Desktop Review Memo.

In accordance with the Lunenburg County solar ordinance, a supplemental desktop review was conducted for resources in a 2-mile radius from the previously assessed area in the May 2022 cultural resources desktop review memo to assess a total 2.5-mile radius around the Project survey area. The supplemental desktop review of the VDHR VCRIS for resources identified an additional 23 architectural resources and one historic district, Broad Branch Creek Rural Historic District (VCRIS, 2022). Archaeological resources were not assessed during the supplemental desktop review.

4.2 Direct and Indirect Impacts

Preparation of a Phase IA cultural resources assessment (Phase IA), including a research design to guide a subsequent Phase I identification survey, is recommended for the Project study area. The Phase IA should include further consideration of site soils, historic maps, and existing field conditions and result in the development of a stratified testing strategy for identifying archaeological resources within the project area. The completed Phase IA should be submitted to the Virginia Department of Environmental Quality and VDHR for review and comment prior to initiation of Phase I identification survey of the site in accordance with the recommended testing strategy. There are no anticipated direct impacts to cultural resources outside of the 0.5-mile radius of the Project survey area, including the architectural resources and mapped historic district. Archaeological resources outside of the 0.5-mile radius of the Project survey area were not evaluated as there are no anticipated ground disturbing activities that would directly or indirectly impact these resources.

5.0 PROJECT DEVELOPMENT

5.1 Erosion and Stormwater

The Project will be developed predominately on agricultural and forested lands and will require the detention and release of stormwater. The Project will meet construction and post construction stormwater quantity requirements in accordance with Chapter 840 (9VAC25-840-40.19) and 870 (9VAC25-870.66) of the Virginia Administrative Code. Where applicable all post construction stormwater technical criteria will be implemented across the Project. The following conditions will be reviewed and analyzed when applicable, Channel protection for concentrated flows shall be met via the application of the Energy Balance Method. Flood protection for concentrated flows shall be met by reducing the 10-year 24-hour runoff totals. Sheet flow requirements will be met via no additional increases in sheet flow volumes and may at times require the installation of energy dissipaters. Additionally, permissible stormwater runoff velocities will be analyzed at the point of discharge and when applicable within the immediate receiving channel.

The Solar Ordinance Section 5.D.4.e states: “Access, erosion & stormwater structures, and interconnection to the electrical grid may be made through setback areas provided that such are generally perpendicular to the property line.” Virginia regulations emphasizes the placement of temporary and permanent erosion & stormwater facilities adjacent to a natural stormwater conveyance system to further decrease a potential impact to the environment and downstream

properties. When performing work within the setback area, this Project intends to meet Virginia water quantity regulations by returning runoff to a sheet flow condition (9VAC25-870-66.D). The need to place stormwater facilities within the setback area is to effectively convey the stormwater runoff to an adequate natural stormwater conveyance system and its placement will be based on natural topography. Natural topography can be parallel or perpendicular to setbacks and property lines. These facilities will be designed to further assure that sheet flow conditions and non-erosive velocities are maintained when stormwater runoff leaves the Project area. Meaning that the stormwater runoff can be discharged into a main channel of a natural stream/waterbody or within the flood-prone area (e.g. wetland edge) adjacent to the main channel.

When discharging stormwater runoff directly into a natural stormwater conveyance system an outfall will be constructed to allow for the runoff to be released perpendicular to the contours and will flow through an energy dissipater (e.g. level spreader, flow diffuser). It should be noted that an energy dissipator is a device that is used to convert concentrated stormwater runoff into sheet flow so that it is released in such a manor to decrease the likelihood of downstream impacts to the environment and neighboring properties. The design of an energy dissipator is to maintain sheet flow prior to entering an existing natural stormwater conveyance channel. This existing channel may be within the setback and be perpendicular or parallel to the setback based on natural topographic contours.

Additionally, minimal clearing and grading will be performed within the setback areas to allow for the adequate construction and installation of erosion & stormwater facilities. Any area disturbed outside of the footprint of an erosion & stormwater facility will be restored to a natural vegetative state.

During the site planning process, a comprehensive and detailed engineered erosion & stormwater plan will be submitted for review and consideration by the County and VADEQ.

5.2 Visual Impacts

This Project will utilize materials that will have the least negative impact on the surrounding environment. Proposed vegetative plantings will reduce any potential visibility of the Switchyard and Substation from Oral Oaks Road, and Sneads Store Road.

Additionally, a visual impact assessment has been conducted to determine visual impacts from potentially sensitive visual resources within the surrounding community. It was determined that visual impacts would vary depending on several factors, such as the distance of the viewer from the Project, whether the viewer is stationary or in motion, and whether views toward the Project are unobstructed or screened by vegetation, topography, or existing structures. Project views can be very different from one location to another, including in proximity, because of the rolling terrain and dense vegetation. In all cases, the Switchyard would be located 700 feet or more from public roadways, limiting viewing opportunities.

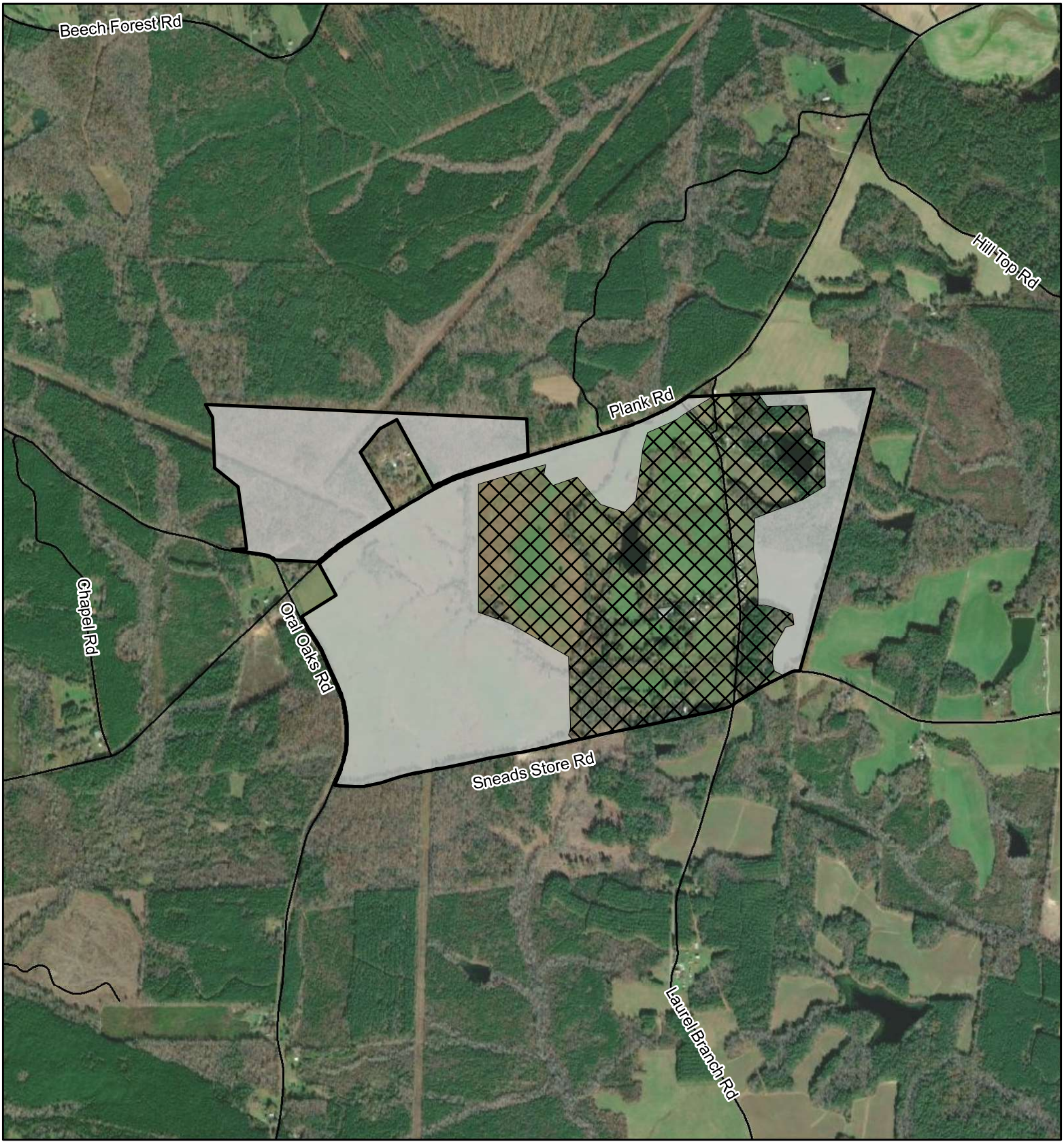
Additional information on visual impacts can be found in Tab H – Switchyard and Substation Design.

6.0 REFERENCES

AirNow. 2022. AirNow Interactive Map of Air Quality. Available online at: https://gispub.epa.gov/airnow/?xmin=-8772280.263742598&ymin=4344250.063163923&xmax=-8623564.381510958&ymax=4438305.776892184&clayer=ozonepm&mlayer=none

VCRIS (Virginia Cultural Resources Information System) 2022. VCRIS Mapping Tool. Available online at: https://www.dhr.virginia.gov/v/cris/

FIGURES



Project Study Area

Anticipated Parcel Carve Out

N

0 500 1,000

Feet

Source: ESRI/Vivid Imagery (2020)

TETRA TECH

Figure 1
Orthoimagery
Project Location Map

Laurel Branch Switchyard/Substation
Lunenburg County, Virginia

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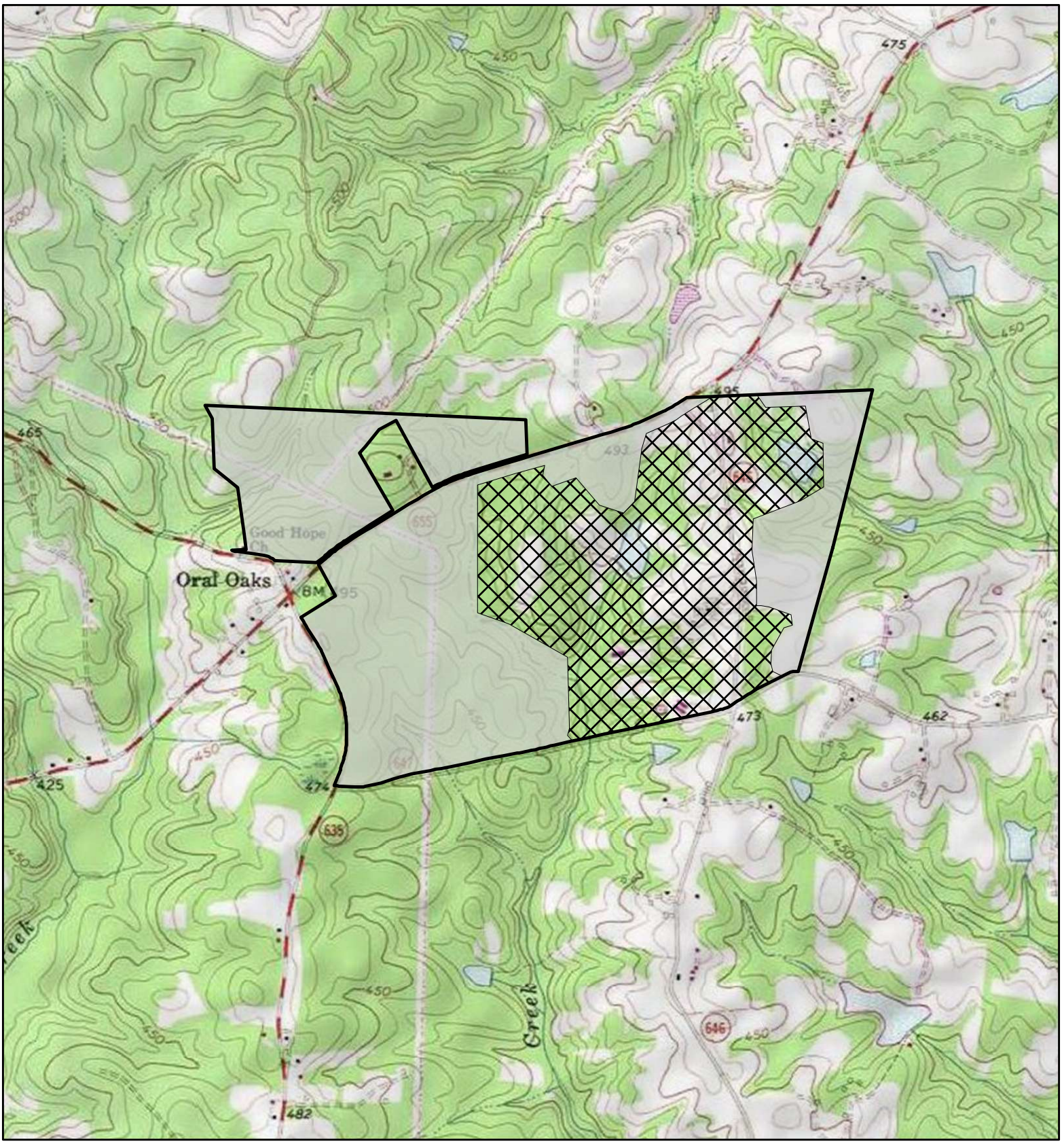

Project Study Area

Anticipated Parcel Carve Out

N

0 500 1,000

Feet

Source: USGS (2022)

TETRA TECH

Figure 2
Topographic
Project Location Map

Laurel Branch Switchyard/Substation

Lunenburg County, Virginia

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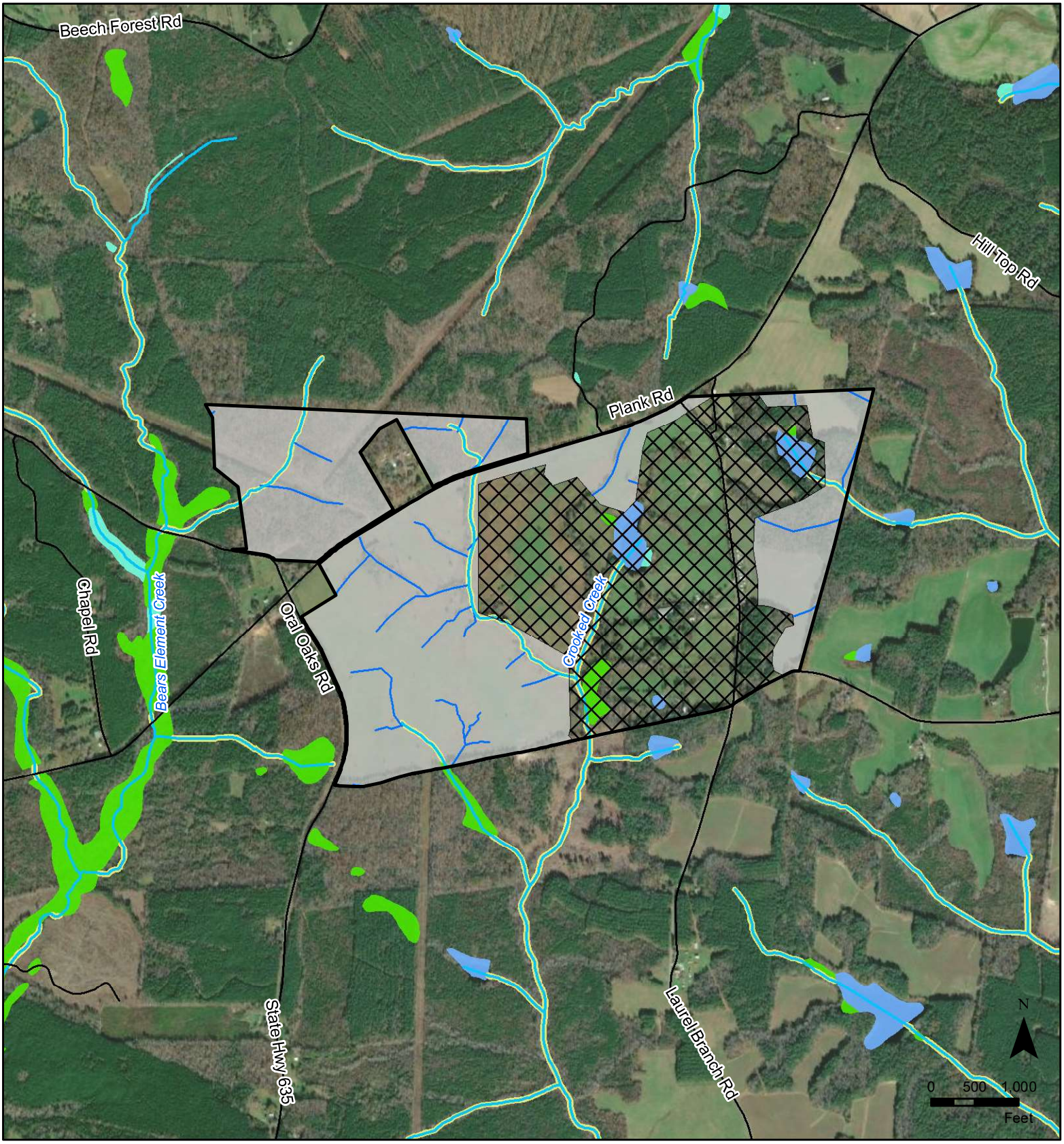

Project Study Area

Anticipated Parcel Carve Out

TT Mapped Streams (15,340 feet)

NHD Stream (6,075 feet)

NWI Wetland (2.9 acres)

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

Riverine

Source: NHD (2020), NWI (2020)

TETRA TECH

Figure 3
Wetlands and Other Waters Map

Laurel Branch Switchyard/Substation
Lunenburg County, Virginia

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ATTACHMENT A: WETLAND DETERMINATION MEMO

Desktop Wetland Determination Report

Laurel Branch Solar Project Switchyard and Substation

August 15, 2022

Prepared for

Dominion Energy®

600 E Canal Street
Richmond, VA 23219

Prepared by

TETRA TECH

4101 Cox Road, Suite 120
Glen Allen, VA 23060

Table of Contents

List of Tables

List of Figures

Acronyms and Abbreviations

3D	three-dimensional
CUP	Conditional Use Permit
GIS	geographic information system
GPS	global positioning system
KOP	key observation point
MW	megawatts
Project Area	The 2,189± acres of privately-owned land where the proposed Project is located
Project	Laurel Branch Solar Project

1.0 INTRODUCTION AND PROJECT DESCRIPTION

Dominion Energy Virginia (Dominion) is proposing to develop a Switchyard and Substation as part of a commercial solar energy project, Laurel Branch Solar Project (Project), on private land encompassing approximately 2,189± acres. . The Project Switchyard and Substation is located on one parcel (058-0A-0-68) and will be accessible via a gated entrance off of Oral Oaks Road. The Project is in Lunenburg County, Virginia, and is largely undeveloped, and zoned agricultural, as shown on the Orthoimagery and Topographic Project Location Maps (Figure 1 and Figure 2).

Tetra Tech, on behalf of Dominion, prepared this Desktop Wetland Determination Memo summarizing the findings of publicly available desktop resources for the Project study area (Figures 3 through 5) for the presence of potential wetland and surface water feature constraints. Tetra Tech made preliminary wetland determinations utilizing methods detailed in the United States Army Corps of Engineers' (USACE) *Wetland Delineation Manual* (*1987 Manual*; Environmental Laboratory 1987).

2.0 METHODOLOGY

The primary objective of the desktop wetland determination and delineation is to identify the potential wetlands and surface waters on or adjacent to the Project study area. Information from Google Earth Pro®, United States Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2019), United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI; USFWS 2021), United States Geological Survey (USGS) National Hydrography Dataset (NHD; USGS 2021), and Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs; FEMA 2021) was consulted to create Figure 3 (Wetlands and Other Waters Map), Figure 4 (Flood Hazard Map), and Figure 5 (NRCS Soils Map). These maps were reviewed by a Tetra Tech Natural Resource Specialist who identified and classified wetlands and other surface waters within the Project study area. The Tetra Tech–identified wetlands and surface waters are summarized in Table 1 and depicted on Figure 3.

3.0 FINDINGS AND RECOMMENDATIONS

The desktop wetland determination identified several riverine wetlands, which appear to be associated with the Bears Element Creek, and Crooked Creek, and Flat Rock Creek. The NWI and NHD mapping applications identified 4 potential streams within the Project study area totaling approximately 6,075 linear feet. The NWI and NHD mapping applications identified 5 potential palustrine forested (PFO) or riverine wetlands totaling approximately 2.9 acres within the Project study area (USFWS 2021). In addition to the NWI and NHD mapped features, Tetra Tech identified an additional 25 potential streams totaling approximately 15,340 linear feet using the USGS topographic map, Google Earth Pro orthoimagery, and NRCS Soils database. These desktops identified features can all be found on Figure 3.

3.1 Findings

The Desktop Aquatic Resources Table (Table 1) summarizes the stream and wetland information for all features identified during the desktop wetland determination. The desktop wetland determination identified 29 potential streams totaling approximately 6,075 linear feet and 5 potential wetlands totaling approximately 2.9 acres (Figure 3).

Based on desktop research, the floodplain data for the Project were obtained from FEMA FIRM Numbers 51111C0175B, effective July 20, 2009 (FEMA 2021). According to these data, the majority of the site is located within Zone X, area of minimal flood hazard. Bears Element Creek, located just west of the Project area parcel is mapped as Zone A, with a one percent annual chance flood hazard (Figure 4).

The Project is located within Lunenburg County, which is not one of Virginia's 29 coastal counties deemed "Tidewater Virginia." Therefore, the Project is not subject to the Chesapeake Bay Preservation Act (CBPA) Resource Protection Area or Resource Management Area regulatory buffers, as outlined in 9 Virginia Administrative Code 25-830-80.

3.2 Recommendations

The desktop wetland determination identified 29 potential streams, and 5 potential wetlands within the Project study area. Figure 3 illustrates the wetland and stream locations in relation to the Project study area and the Project boundary. Upon a review of the information gathered from the cursory desktop surveys of the proposed Project study area, Tetra Tech recommends the following actions to expedite permit timelines:

- Conduct a formal wetland and stream delineation for the proposed Project utilizing methods detailed in the USACE's *1987 Manual* (Environmental Laboratory 1987); and
- Submit an request for a jurisdictional determination with the USACE based on the results of the formal delineation.

This Desktop Wetland Determination Memo represents our best professional judgment and is based on publicly available desktop resources for the Project study area. All designations, classifications, and boundaries should be considered preliminary and should not be considered to be final. Using boundaries of features provided in this memo (and associated shapefiles) should only be utilized for preliminary Project design and may be changed upon the completion of formal delineations.

4.0 REFERENCES

FEMA (Federal Emergency Management Agency). 2021. National Flood Hazard Layer. U.S. Department of Homeland Security, FEMA, Generated January 3, 2022. Available at: https://www.fema.gov/flood-maps/national-flood-hazard-layer

NRCS (Natural Resources Conservation Service, United States Department of Agriculture). 2019. *Web Soil Survey*. Updated July 31, 2019. Available at: https://websoilsurvey.sc.egov.usda.gov/

Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual,* Wetlands Research Program Technical Report Y-87-1. Vicksburg, MS: U.S. Army Corps of Engineers Waterways Experiment Station.

USFWS (United States Fish and Wildlife Service). 2021. National Wetlands Inventory website. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Updated May 1, 2021. Available at: https://www.fws.gov/wetlands/data/Mapper.html

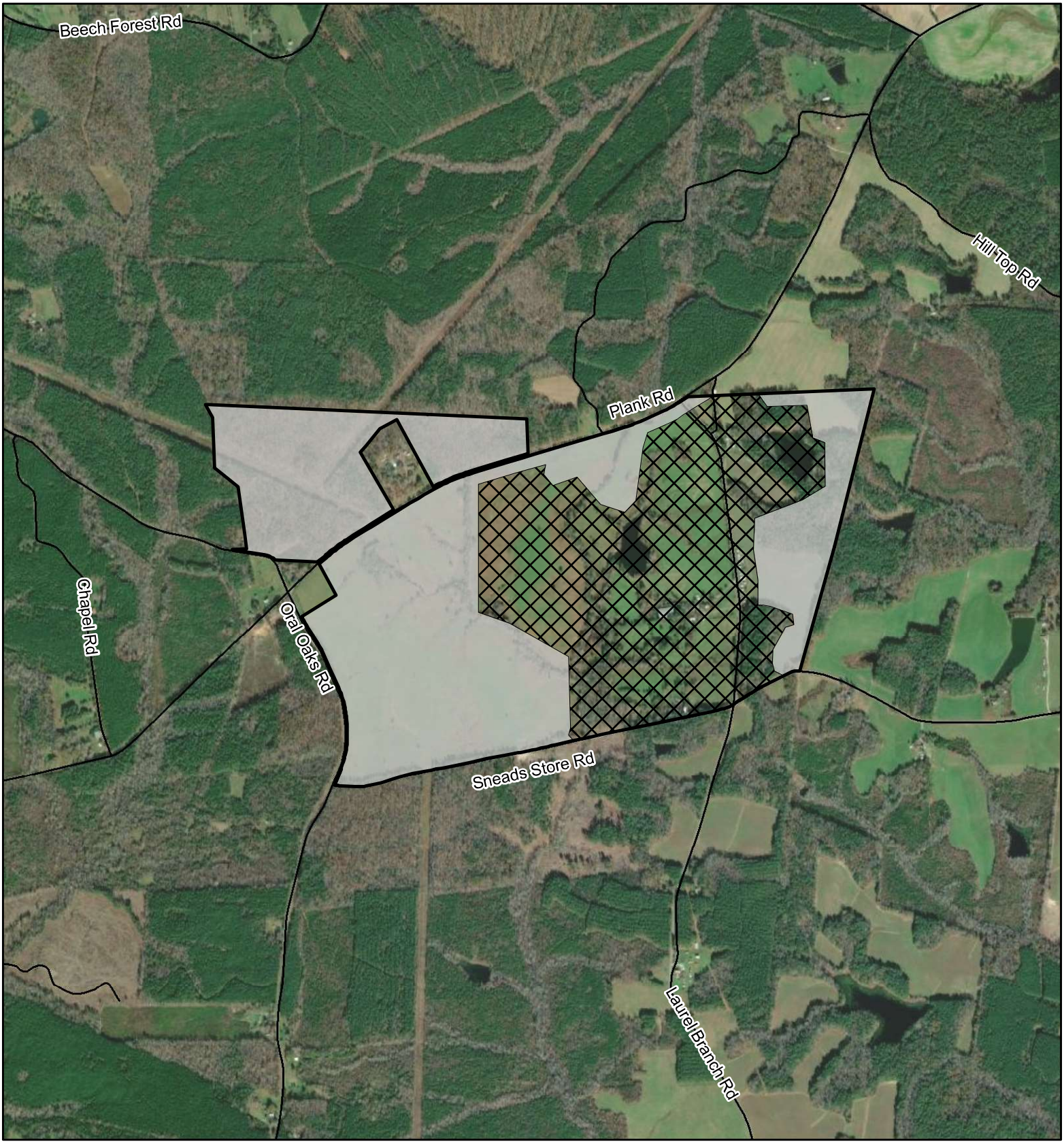
USGS (U.S. Geological Survey). 2020. *National Hydrography Dataset Best Resolution for Virginia*. Available online at: https://viewer.nationalmap.gov/basic/?basemap=b1&category=nhd&title=NHD%20View.

TABLES

Table 1: Desktop Aquatic Resources Table

Location ID	Area Description
Stream 1	Unnamed tributary to Bears Element Creek, appears to be intermittent stream (R4SBC)
Stream 2	Crooked Creek, perennial stream (R5UBH)
Stream 3	Unnamed tributary to Flat Rock Creek, appears to be intermittent stream (R4SBC)
Stream 4	Unnamed tributary to Crooked Creek, appears to be intermittent stream (R4SBC)
Stream 5	Tetra Tech mapped stream.
Stream 6	Tetra Tech mapped stream.
Stream 7	Tetra Tech mapped stream.
Stream 8	Tetra Tech mapped stream.
Stream 9	Tetra Tech mapped stream.
Stream 10	Tetra Tech mapped stream.
Stream 11	Tetra Tech mapped stream.
Stream 12	Tetra Tech mapped stream.
Stream 13	Tetra Tech mapped stream.
Stream 14	Tetra Tech mapped stream.
Stream 15	Tetra Tech mapped stream.
Stream 16	Tetra Tech mapped stream.
Stream 17	Tetra Tech mapped stream.
Stream 18	Tetra Tech mapped stream.
Stream 19	Tetra Tech mapped stream.
Stream 20	Tetra Tech mapped stream.
Stream 21	Tetra Tech mapped stream.
Stream 22	Tetra Tech mapped stream.
Stream 23	Tetra Tech mapped stream.
Stream 24	Tetra Tech mapped stream.
Stream 25	Tetra Tech mapped stream.
Stream 26	Tetra Tech mapped stream.
Stream 27	Tetra Tech mapped stream.
Stream 28	Tetra Tech mapped stream.
Stream 29	Tetra Tech mapped stream.
Wetland 1	NWI mapped freshwater forested/shrub wetland (PFO1A) with hydrological connection to Bears Element Creek
Wetland 2	NWI mapped freshwater forested/shrub wetland (PFO1A) with hydrological connection to Crooked Creek
Wetland 3	NWI mapped freshwater forested/shrub wetland (PFO1A) with hydrological connection to Crooked Creek
Wetland 4	NWI mapped freshwater forested/shrub wetland (PFO1A) with hydrological connection to Crooked Creek
Wetland 5	NWI mapped freshwater forested/shrub wetland (PFO1A) with hydrological connection to Flat Rock Creek

FIGURES



Project Study Area

Anticipated Parcel Carve Out

N

0 500 1,000

Feet

Source: ESRI/Vivid Imagery (2020)

TETRA TECH

Figure 1
Orthoimagery
Project Location Map

Laurel Branch Switchyard/Substation

Lunenburg County, Virginia

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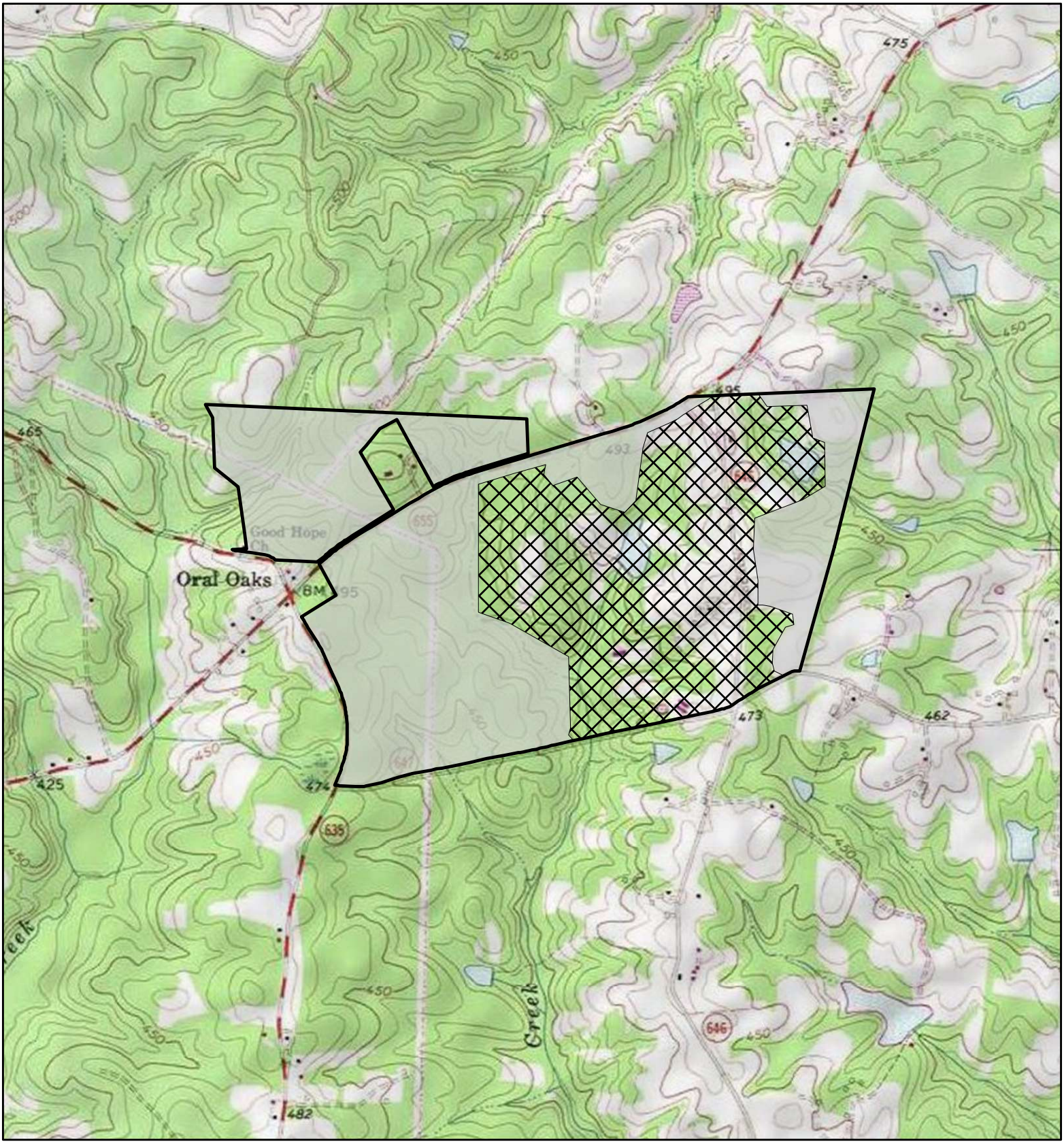

Project Study Area

Anticipated Parcel Carve Out

N

0 500 1,000

Feet

Source: USGS (2022)

TETRA TECH

Figure 2
Topographic
Project Location Map

Laurel Branch Switchyard/Substation
Lunenburg County, Virginia

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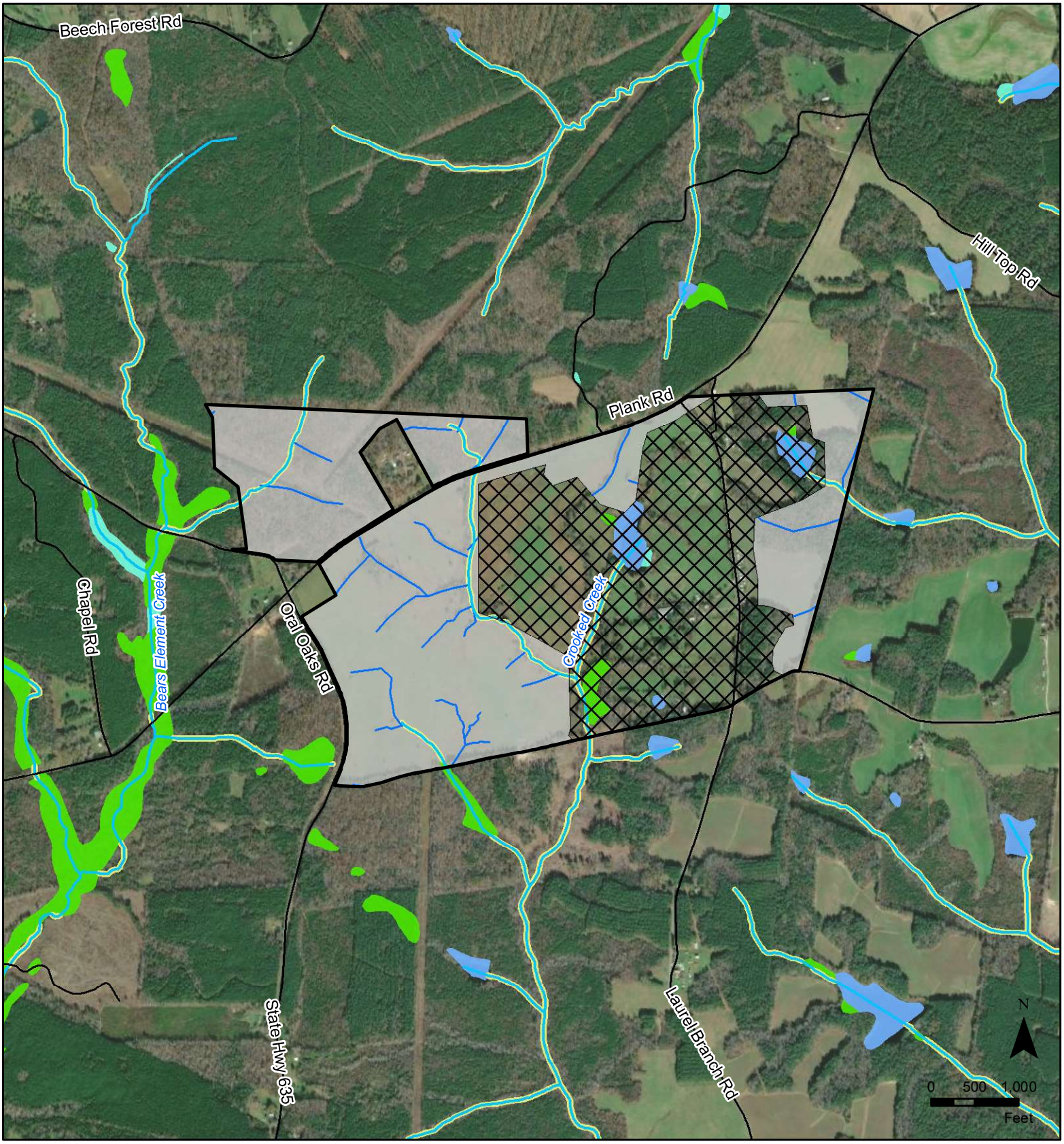

Project Study Area

Anticipated Parcel Carve Out

TT Mapped Streams (15,340 feet)

NHD Stream (6,075 feet)

NWI Wetland (2.9 acres)

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

Riverine

Source: NHD (2020), NWI (2020)

TETRA TECH

Figure 3
Wetlands and Other Waters Map

Laurel Branch Switchyard/Substation
Lunenburg County, Virginia

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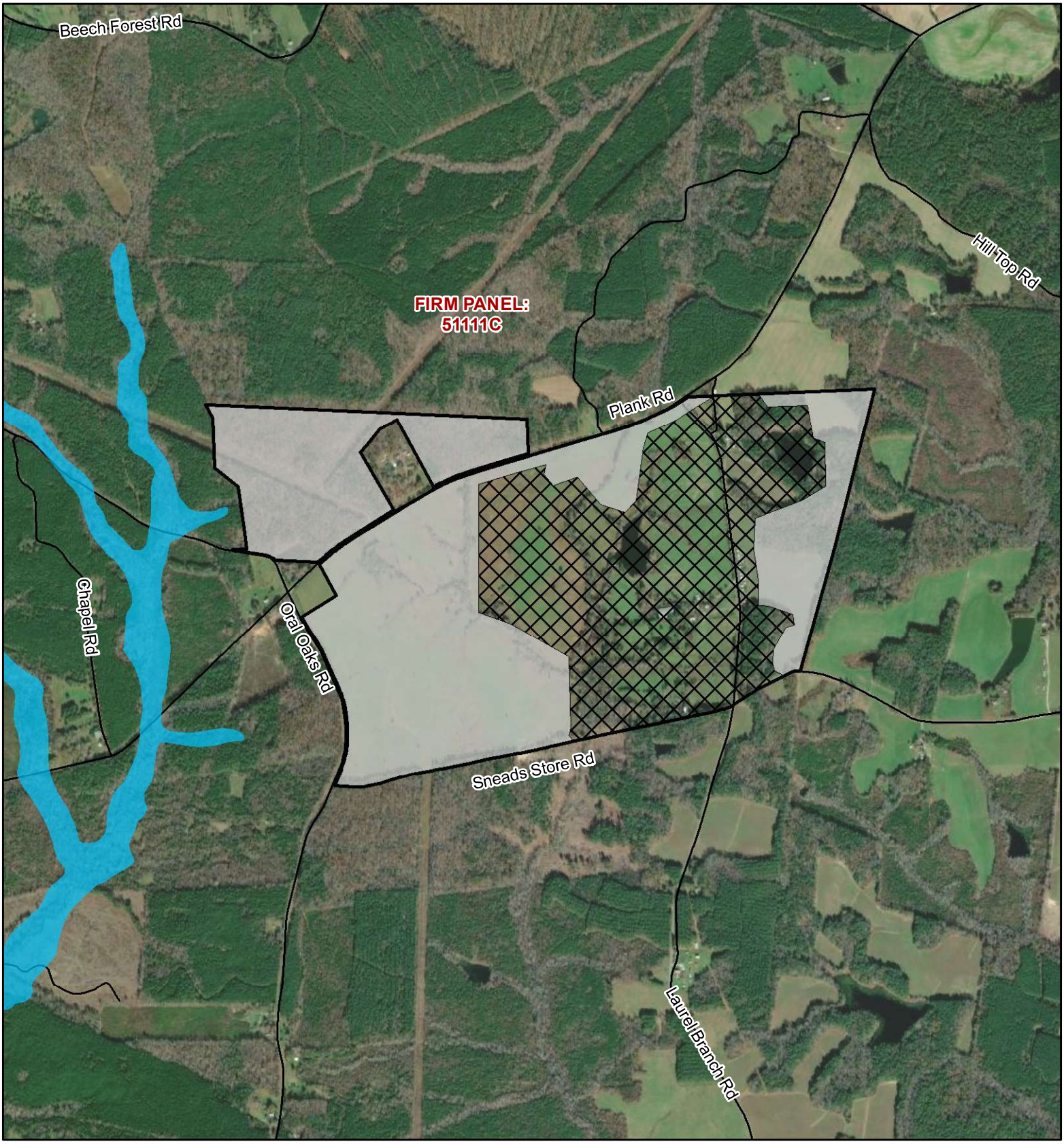

Project Study Area

Anticipated Parcel Carve Out

1% Annual Chance Flood Hazard

FIRM Panel

N

0 500 1,000

Feet

Source: FEMA (2009)

TETRA TECH

Figure 4
Flood Hazard Map

Laurel Branch Switchyard/Substation
Lunenburg County, Virginia

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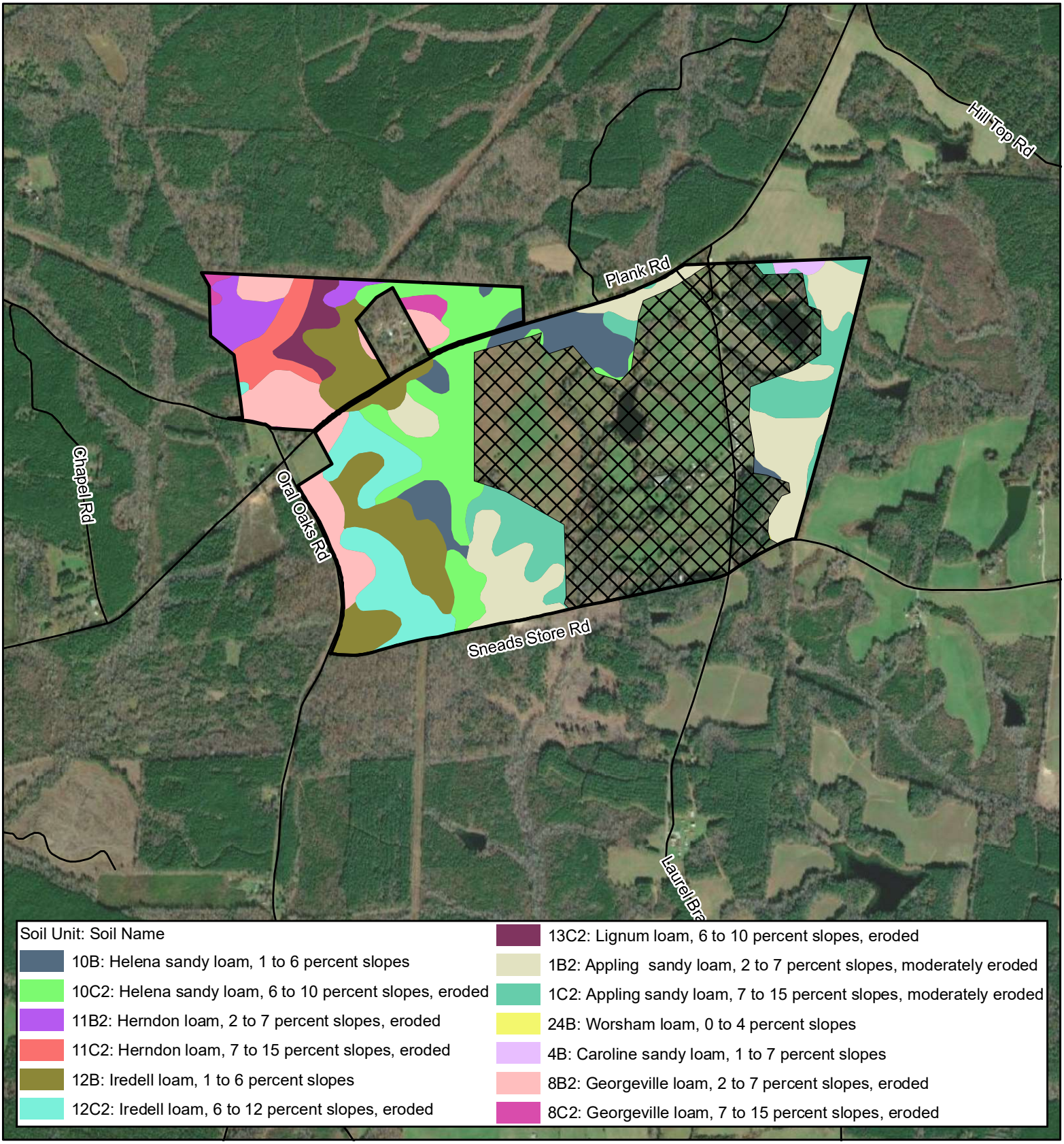

Project Study Area

Anticipated Parcel Carve Out

N

0 500 1,000

Feet

Source: NRCS (2021)

TETRA TECH

Figure 5
NRCS Soils Map

Laurel Branch Switchyard/Substation
Lunenburg County, Virginia

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ATTACHMENT B: THREATENED AND ENDANGERED SPECIES DETERMINATION MEMO

Desktop Threatened and Endangered Species Determination Report

Laurel Branch Solar Project Switchyard and Substation

August 15, 2022

Prepared for

Dominion Energy®

600 E Canal Street
Richmond, VA 23219

Prepared by

TETRA TECH

4101 Cox Road, Suite 120
Glen Allen, VA 23060

Table of Contents

List of Figures

List of Attachments

Acronyms and Abbreviations

3D	three-dimensional
CUP	Conditional Use Permit
GIS	geographic information system
GPS	global positioning system
KOP	key observation point
MW	megawatts
Project Area	The 2,189± acres of privately-owned land where the proposed Project is located
Project	Laurel Branch Solar Project

1.0 INTRODUCTION AND PROJECT DESCRIPTION

Dominion Energy Virginia (Dominion) is proposing to develop a Switchyard and Substation as part of a commercial solar energy project, Laurel Branch Solar Project (Project), on private land encompassing approximately 2,189 acres. The Project Switchyard and Substation is located on one parcel (058-0A-0-68) and will be accessible via a gated entrance off of Oral Oaks Road. The Project is in Lunenburg County, Virginia, and is largely undeveloped, and zoned agricultural, as shown on the Orthoimagery and Topographic Project Location Maps (Figure 1 and Figure 2).

Tetra Tech, on behalf of Dominion, prepared this Desktop Threatened and Endangered Species Determination Memo summarizing the findings of publicly available desktop resources for the Project study area. Additional resources were evaluated to make preliminary determinations for habitat suitability, including the National Hydrography Dataset (NHD) and the United States Fish and Wildlife Service (USFWS) National Wetland Inventory (Figure 3). Additionally, Tetra Tech utilized publicly available desktop resources to identify additional areas of potential wetlands and surface waters that may also provide suitable habitat for listed species. These potential features are also included on Figure 3.

2.0 METHODOLOGY

The primary objective of the Desktop Threatened and Endangered Species Determination is to identify the potential for the Project to impact federal and state protected species and designated critical habitat. The following state and federal natural resource databases were reviewed:

- USFWS Information for Planning and Consultation (IPaC; USFWS 2021a);
- USFWS Critical Habitat for Threated and Endangered Species Map (USFWS 2021b);
- USFWS Bald Eagle Concentration Area (BECA) Map (USFWS 2021c);
- Center for Conservation Biology (CCB) Bald Eagle Nest Locator for Virginia (CCB 2021);
- Virginia Department of Wildlife Resources (VDWR) Northern-Long Eared Bat (NLEB; *Myotis septentrionalis*) Winter Habitat and Roost Trees Map (VDWR 2021a);
- VDWR Little Brown Bat and Tri-colored Bat Winter Habitat and Roosts (VDWR 2021b);
- VDWR Virginia Fish and Wildlife Information Services (VaFWIS) (VDWR 2021c); and
- Virginia Department of Conservation and Recreation (VDCR) Natural Heritage Data Explorer (NHDE) (VDCR 2021).

3.0 FINDINGS AND RECOMMENDATIONS

Tetra Tech prepared this Desktop Threatened and Endangered Species Determination Memo for Dominion based on evaluations made by qualified biologists that are experienced within the region. The Threatened and Endangered Species List for the Project study area (Table 1) summarizes federal and state listed species within and adjacent to the Project study area. Federal resources reviewed, including the IPaC System, USFWS Critical Habitat for Threated and Endangered Species Map, CCB Bald Eagle Nest Locator, and the BECA map are found in Attachment A. State resources evaluated,

which include the NLEB Winter Habitat & Roost Tree Application Map, VDWR VaFWIS, VDCR NHDE, and the Little Brown and Tri-Colored Bat Winter Habitat & Roost Tree Application Map, are found in Attachment B.

3.1 Findings

The IPaC System (USFWS 2021a) indicated that the Northern long-eared bat *(Myotis septentrionalis*), which is listed as both federally threatened and state threatened, is expected to occur within the Project study area.

The bald eagle (*Haliaeetus leucocephalus*) is protected under the Bald and Golden Eagle Protection Act. According to the CCB Bald Eagle Nest Locator, the closest known bald eagle nest is approximately 15.42 miles to the southeast of the proposed Project study area. A field assessment is recommended to confirm the presence and/or absence of bald eagle nests on the Project study area. If bald eagle nests are identified during the recommended field assessments and work is anticipated to be conducted during the breeding season (October 1 through May 15), a 660-foot buffer is recommended around active nests. The buffer may be reduced to 330 feet for special circumstances.

The USFWS BECA Map did not indicate a bald eagle concentration area within the Project study area. The closest Bald Eagle concentration is approximately 58 miles southwest of the Project area.

No federally listed critical habitat was documented on the USFWS Critical Habitat for Threatened and Endangered Species Mapper as occurring within or in the vicinity of the proposed Project study area. The Project study area is approximately 8 miles south of the closest critical habitat for Yellow lance (*Elliptio lanceolata)*.

The VDWR NLEB mapping application shows that there are no known NLEB winter hibernacula or roost trees in the vicinity of the Project. The nearest winter hibernacula and roosting habitat is located approximately 99 miles northwest of the Project study area.

The VDWR mapping system of the little brown bat (*Myotis lucifugus*) and tri-colored bat (*Perimyotis subflavus*) shows that the nearest winter hibernacula and roosting habitat are located approximately 80 miles northwest of the Project study area.

The VDWR VaFWIS indicates no state threatened or endangered species with confirmed occurrences within the Project study area and a ±2-mile radius from the Project study area boundary. Please note that the Virginia Department of Game and Inland Fisheries has recently changed its name to the VDWR, but the VaFWIS database search results still show the outdated department name.

The VDCR NHDE identified two state threatened species, loggerhead shrike (*Lanius ludovicianus*) and Atlantic pigtoe (*Fusconaia masoni*), as possibly occurring within the Project study area watersheds, Meherrin River - Mason Creek (12-digit Hydrologic Unit Code [HUC] 030102040301), Meherrin River – Crooked Creek (HUC 030102040302), and Flat Rock Creek (HUC 030102040303).

Table 1. Threatened and Endangered Species List for the Project Study Area

Common Name	Scientific Name	Status[1]	Potential to Occur at Project study area	Habitat Description	Database[2]
Birds					
Loggerhead Shrike	*Lanius ludovicianus*	ST	Medium	Agricultural fields, open pastures, riparian areas, and prairies characterized by barbed wire fences and/or vegetation typically with spines or thorns.	NHDE
Bivalves					
Atlantic pigtoe	*Fusconaia masoni*	FP, ST	Medium	Small creeks to large rivers with excellent water quality and coarse sand to gravel substrate.	NHDE
Mammals					
Northern long-eared bat	*Myotis septentrionalis*	FT, ST	Medium	Underneath bark, in cavities or in crevices of both live trees and snags (dead trees)	IPaC

Notes:
1. FT: Federally Threatened; ST: State Threatened
2. IPaC: Information for Planning and Consultation; VaFWIS: VDWR Virginia Fish and Wildlife Information Services; NHDE: VDCR Natural Heritage Data Explorer

3.2 Recommendations

The Desktop Threatened and Endangered Species Determination identified several federal and state listed species that have the potential to occur within and in the vicinity of the Project study area. Upon a review of the information gathered from publicly available resources, Tetra Tech recommends the following actions or avoidance measures;

- Conduct an environmental field assessment to determine habitat suitability for listed species potentially present within Project study area;
- Conduct a pedestrian bald eagle nest survey, concurrent with the habitat suitability field assessment, by visually inspecting canopy trees within the study area were for the presence of large stick nests;
- Based on the results of the environmental field assessment, potential impacts to threatened and endangered species and their habitats can be reduced by avoiding and minimizing Project impacts to wetlands, forested areas, streams, and riparian corridors; and
- Informal consultation with state and federal agencies is recommended after the completion of the environmental field assessment to better determine the need for species-specific onsite surveys and the need for avoidance or mitigation measures. Tetra Tech will coordinate with VDCR once the final project boundary is determined to obtain an accurate species list for the Project-specific area.

This Desktop Threatened and Endangered Species Determination Memo represents our best professional judgment and is based on publicly available desktop resources for the Project study area.

4.0 REFERENCES

CCB (The Center for Conservation Biology) 2021. CCB Mapping Portal. Accessed December 1, 2021. Available online at: https://www.ccbbirds.org/maps/

USFWS. 2021a. USFWS Information Planning and Conservation System. Accessed December 26, 2021. Available online at: https://ecos.fws.gov/ipac/

USFWS. 2021b. Critical Habitat for Threated and Endangered Species Map. Accessed December 1, 2021. Available online at: https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77

USFWS (United States Fish and Wildlife Service). 2021c. Bald Eagle Concentration Areas Mapping Portal. Accessed December 1, 2021. Available online at: http://fws.maps.arcgis.com/apps/Viewer/index.html?appid=0e5ca36a4056471db1b12c1b4065f3cb#

VDCR (Virginia Department of Conservation and Resources). 2021. Natural Heritage Data Explorer (NHDE). Accessed December 5, 2021 Available online at: https://vanhde.org/species-search

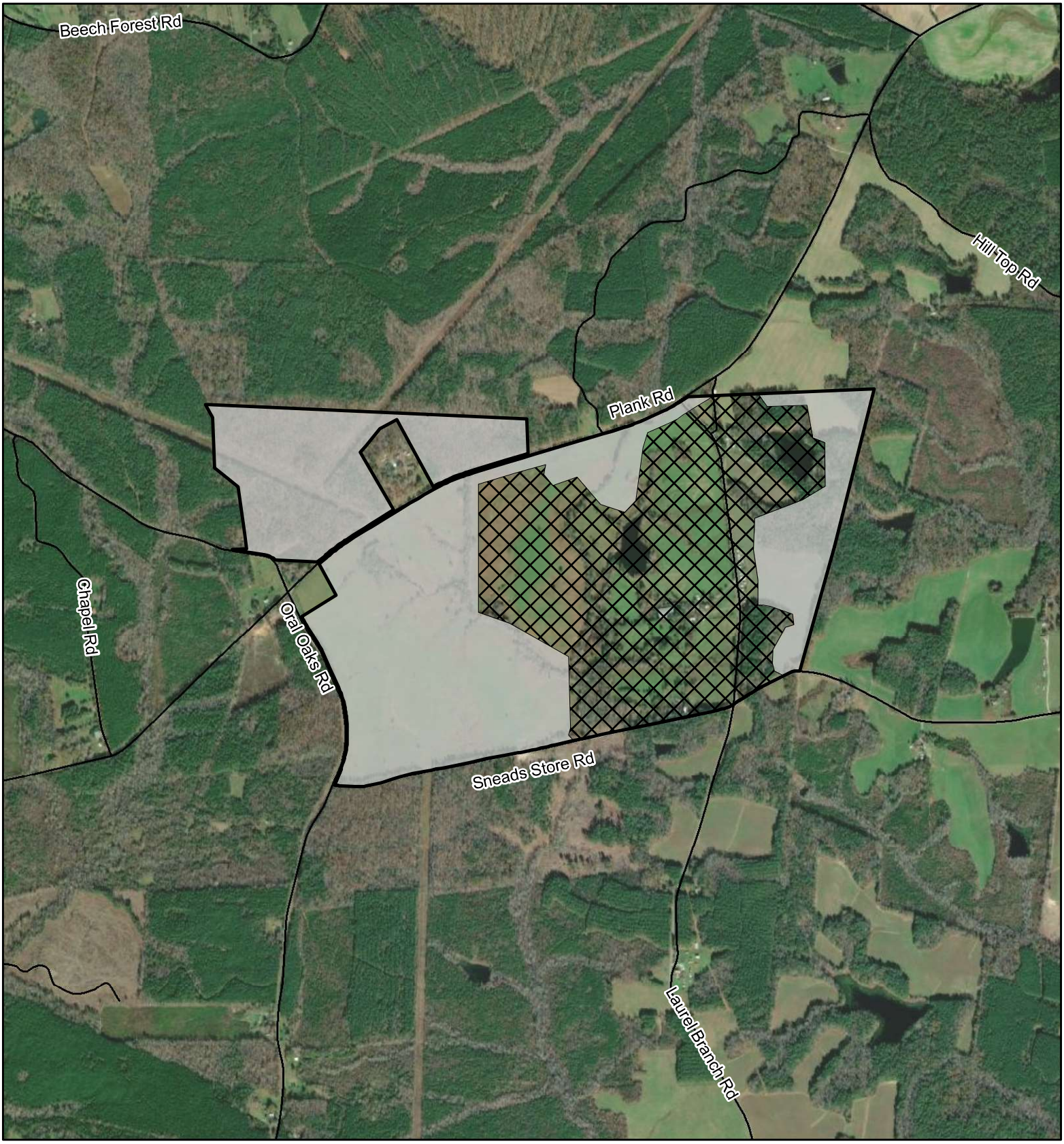
VDWR (Virginia Department of Wildlife Resources). 2021a. NLEB Winter Habitat & Roost Tree Application. Accessed December 1, 2021. Available online at: https://dgif-

virginia.maps.arcgis.com/apps/webappviewer/index.html?id=32ea4ee4935942c092e41ddcd19e5ec5

VDWR. 2021b. Little Brown Bat and Tri-Colored Bat Winter Habitat and Roosts Application. Accessed December 1, 2021. Available online at: https://dwr.virginia.gov/wildlife/bats/little-brown-bat-tri-colored-bat-winter-habitat-roosts-application/

VDWR. 2021c. Virginia Fish and Wildlife Information Service (VaFWIS). Accessed January 3, 2022. Available online at: https://vafwis.dgif.virginia.gov/fwis/

FIGURES



Project Study Area

Anticipated Parcel Carve Out

N

0 500 1,000

Feet

Source: ESRI/Vivid Imagery (2020)

TETRA TECH

Figure 1
Orthoimagery
Project Location Map

Laurel Branch Switchyard/Substation
Lunenburg County, Virginia

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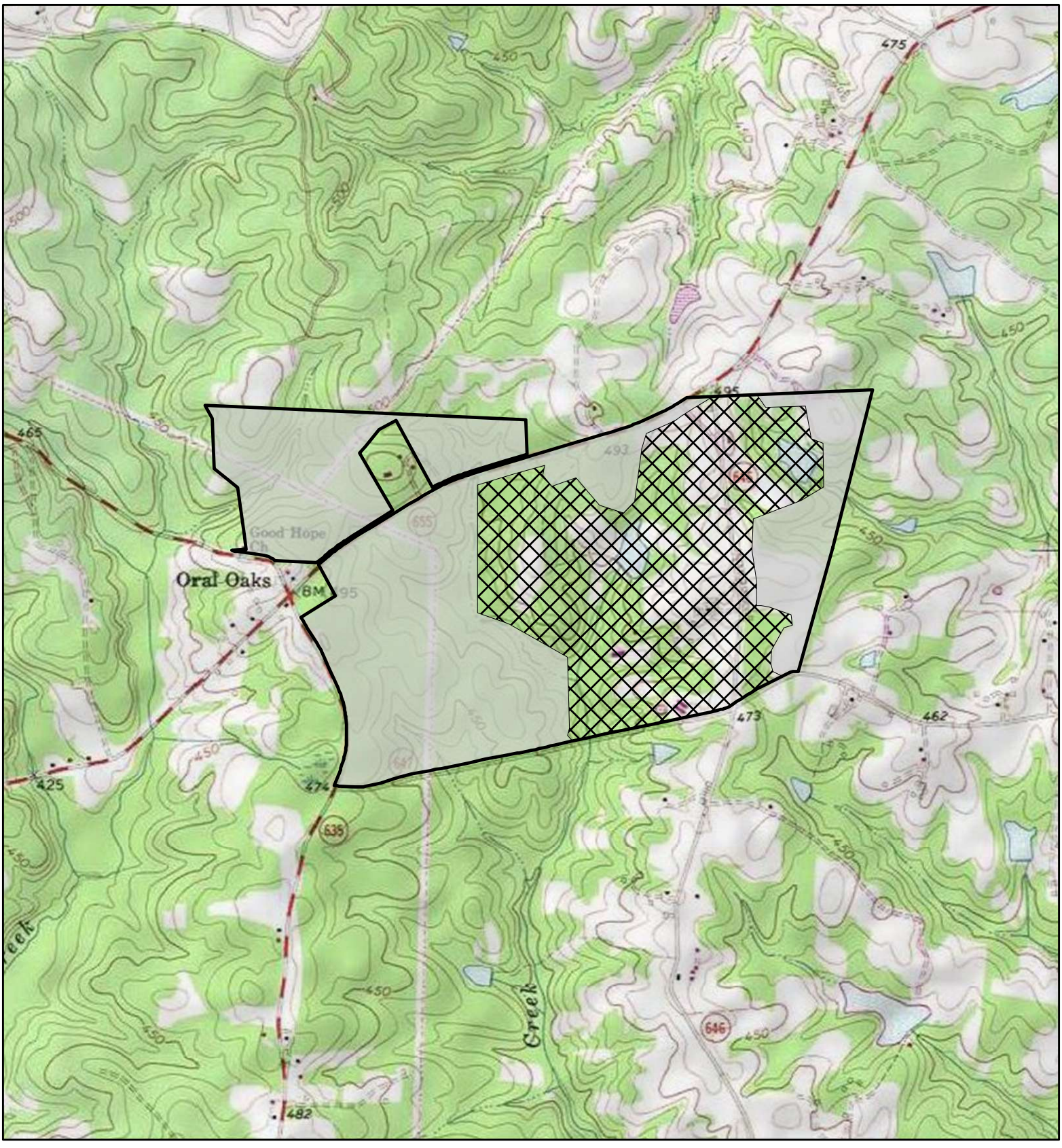

Project Study Area

Anticipated Parcel Carve Out

N

0 500 1,000

Feet

Source: USGS (2022)

TETRA TECH

Figure 2
Topographic
Project Location Map

Laurel Branch Switchyard/Substation
Lunenburg County, Virginia

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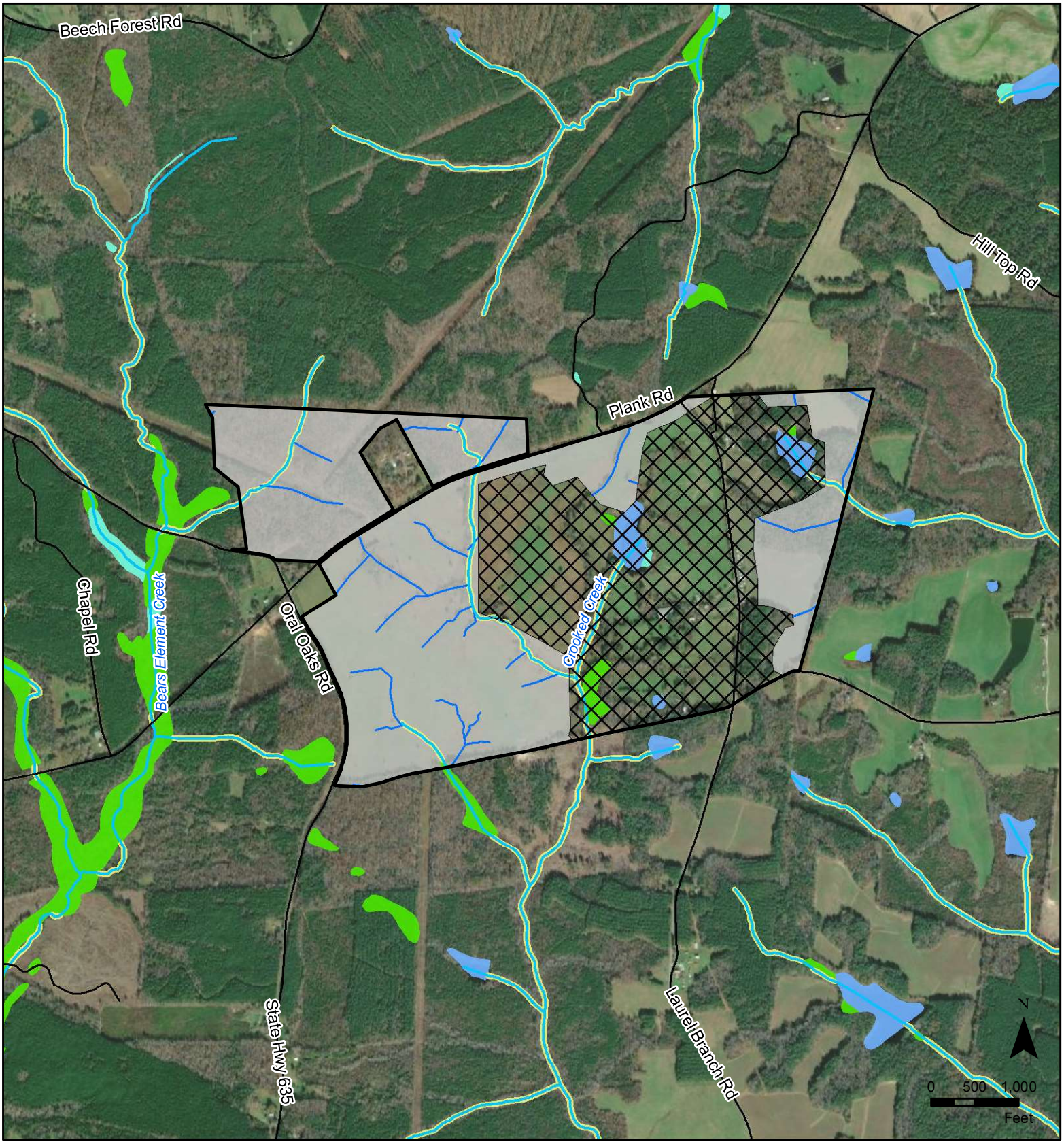

Project Study Area

Anticipated Parcel Carve Out

TT Mapped Streams (15,340 feet)

NHD Stream (6,075 feet)

NWI Wetland (2.9 acres)

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

Riverine

Source: NHD (2020), NWI (2020)

TETRA TECH

Figure 3
Wetlands and Other Waters Map

Laurel Branch Switchyard/Substation
Lunenburg County, Virginia

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ATTACHMENT A: USFWS IPAC AND FEDERALLY LISTED SPECIES INFORMAL REVIEW

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:
Project Code: 2022-0043762
Project Name: Laurel Branch

May 17, 2022

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Project Code in the header of this

letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

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

Official Species List

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

This species list is provided by:

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

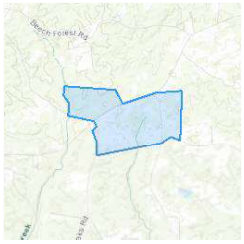
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Lunenburg County, Virginia



Local office

Virginia Ecological Services Field Office

(804) 693-6694
(804) 693-9032

6669 Short Lane
Gloucester, VA 23061-4410

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. 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.

The following species are potentially affected by activities in this location:

Mammals

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

Insects

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

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

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

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
Chimney Swift Chaetura pelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Eastern Whip-poor-will Antrostomus vociferus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20

Prairie Warbler Dendroica discolor — Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Red-headed Woodpecker Melanerpes erythrocephalus — Breeds May 10 to Sep 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wood Thrush Hylocichla mustelina — Breeds May 10 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▮)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

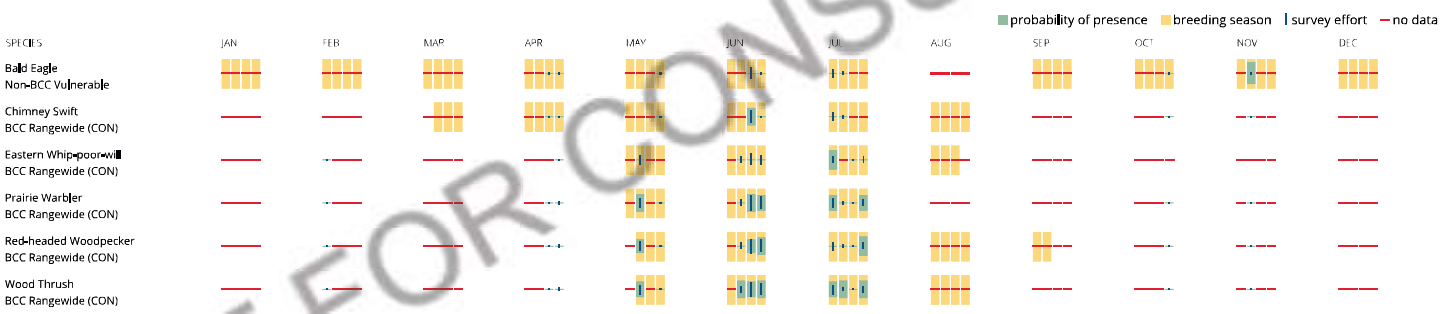
Breeding Season (▮)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Coastal Barrier Resources System

Projects within the John H. Chafee Coastal Barrier Resources System (CBRS) may be subject to the restrictions on federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local Ecological Services Field Office or visit the CBRA Consultations website. The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

There are no known coastal barriers at this location.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the official CBRS maps. The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

Facilities

National Wildlife Refuge lands

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 at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND
Palustrine

RIVERINE
Riverine

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.