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

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

Response: **Land Use**

The general character of the Project area is predominantly rural areas. The Project begins in New Kent County and traverses through King William, King and Queen, Essex, and terminates in Richmond County.

Wetlands

According to the U.S. Geological Survey ("USGS") topographic quadrangles (Walkers [1965, rev 1981], New Kent [1965, rev 1978], King and Queen Court House [1968, rev 1981], Truhart [1970, rev 1989], Dunnsville [1968, rev 1985], Tappahannock [1968, rev 1989], and Haynesville [1968, rev 1981]), the existing transmission line crosses eleven named perennial streams and rivers and one reservoir, including: Diascund Creek Reservoir, Timber Swamp, Beaver Dam Creek, Mill Creek, Pamunkey River, Bull Swamp, Mattaponi River, Courthouse Creek, Exol Swamp, Dragon Swamp, Mill Creek, Bellview Creek, Rappahannock River, and Totuskey Creek.

Within a portion of the Project right-of-way, wetlands and other waters of the United States were delineated previously and received confirmation by the U.S. Army Corps of Engineers (the "Corps") (Pamunkey River NAO-2018-00662, Mattaponi River NAO-2018-00656, Diascund and Beaverdam Creeks NAO-2018-00661, Diascund Creek Reservoir NAO-2018-00660). Within the rest of the right-of-way, the Company delineated wetlands and other waters of the United States and submitted the results of this delineation to the Corps in October 2020 for confirmation. All delineations were conducted using the *Routine Determination Method* as outlined in the *1987 Corps of Engineers Wetland Delineation Manual* and methods described in the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region* (Version 2.0). Total jurisdictional resources within the proposed Project right-of-way is provided in the table below.

Jurisdictional Resources within Project Right-of-Way

Resource	Previously Confirmed Acreage (±)	Pending Confirmation Acreage (±)	Total Acreage (±)
Estuarine Emergent Wetlands	11.40	8.48	19.88
Estuarine Scrub-Shrub Wetlands	-	0.03	0.03
Non-tidal Palustrine Emergent Wetland	10.30	75.65	85.95
Tidal Palustrine Emergent Wetland	-	1.38	1.38
Palustrine Scrub-Shrub Wetland	3.69	9.60	13.28
Palustrine Forested Wetland	0.02	0.03	0.05
Unconsolidated Bottom Subtidal Estuarine Wetlands	5.82 (8,851 linear feet)	20.61 (1,104 linear feet)	26.42 (9,955 linear feet)
Riverine Tidal Unconsolidated Bottom	2.86 (140 linear feet)	-	2.86 (140 linear feet)
Lower Perennial Stream	-	0.39 (1,989 linear feet)	0.39 (1,989 linear feet)
Upper Perennial Stream	0.05 (573 linear feet)	0.32 (3,523 linear feet)	3.22 (7,060 linear feet)
Intermittent Stream	-	0.48 (8,832 linear feet)	0.48 (8,832 linear feet)
Ephemeral Stream	-	0.01 (154 linear feet)	0.01 (154 linear feet)
Jurisdictional Ditch	-	0.05 (520 linear feet)	0.05 (520 linear feet)
Non-tidal Open Water	0.41	3.81	4.22

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

Historic Features

In accordance with the *Guidelines for Assessing Impacts of Proposed Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia (2008),* a Stage I Pre-Application Analysis was conducted by Stantec for the proposed Project. This analysis was completed in

October 2020 and submitted to the VDHR. The report is included as Attachment 2.H.2 to the DEQ Supplement.

The background archival research identified zero National Historic Landmarks within the 1.5-mile buffer; three NRHP-listed resources and one NRHP-eligible battlefields within the 1-mile buffer; three NRHP-listed, three NRHP-eligible resources, and one battlefield within the 0.5-mile buffer; and one archaeological site that has not been evaluated for listing within the right-of-way.

Based upon the proposed changes to structure heights and design, it is anticipated that the Project will have no impact to historic properties for which the Project is not within their viewshed, and will have potentially a minimal incremental impact to those historic properties for which the Project is within their viewshed. See the table below. The Company will coordinate with VDHR through review of the Stage I Pre-Application Analysis regarding these initial findings.

Previously Recorded Architectural Resources Considered under the Stage I Pre-Application Guidelines				
VDHR #	**Resource Name**	**VDHR/NRHP Status**	**Distance to Centerline (Feet)**	**Impact**
049-0064	Rose Garden, Carlton's Corner Road	Determined Eligible by VDHR in 2000	2,062	None
049-0036	King and Queen County Court House, Court House Landing Road	Determined Eligible by VDHR in 1994	1,208	Minimal
049-0035	Immanuel Chapel, 190 Allens Circle	Determined Eligible by VDHR in 2006 and 2019	1,336	None
050-0067	Sweet Hall, Route 634	NRHP-Listed 1977	229	Minimal
050-0070	Ruffin's Ferry/Windsor Shade, 1685 Sweet Hall Road	NRHP-Listed 1978	1,130	Minimal
049-5001	King and Queen County Courthouse Green Historic District	NRHP-Listed 2014	662	Moderate

049-5007	Mantapike Hill/Walkerton Battlefield	Determined Eligible by VDHR in 2016	256	Minimal
N/A	Captain John Smith Chesapeake National Historic Trail	Not Evaluated within the APE	0	Minimal

Previously Recorded Archaeological Resources within the Existing Right-of-Way and Considered under the Stage I Pre-Application Guidelines		
VDHR #	**Resource Name**	**VDHR/NRHP Status**
44RD0025	Woodland Terrestrial, open air site	Not Evaluated

Wildlife

A search of the Virginia Department of Wildlife Resources ("DWR") public database identified several federal and state listed species that have the potential to occur within the Project area. These resources are identified in the report included as Attachment 2.F.1 to the DEQ Supplement. The Company intends to reasonably minimize any impact on these resources and coordinate with DWR as appropriate.

Dwellings

Using New Kent, King William, King and Queen, Essex, and Richmond Counties GIS data, verified with aerial photograph, there are 119 dwellings located within 500 feet of the centerline of existing Line #224, 52 dwellings located within 250 feet of the centerline, and eight dwellings located within 100 feet of the centerline.

Farmland/Forests

There are 346.39 acres of prime farmland, 24.05 acres of prime farmland if drained, and 0.47 acre of prime farmland if irrigated located within the Project right-of-way. A total of 186.94 acres of farmland of statewide importance are located within the right-of-way (see Attachment III.A.1). As the right-of-way for the proposed Project is currently in use for transmission line operation, no impact to farmlands would be expected beyond temporary impacts during construction. Because the right-of-way is currently maintained for transmission line operation, no forestland occurs within the right-of-way.

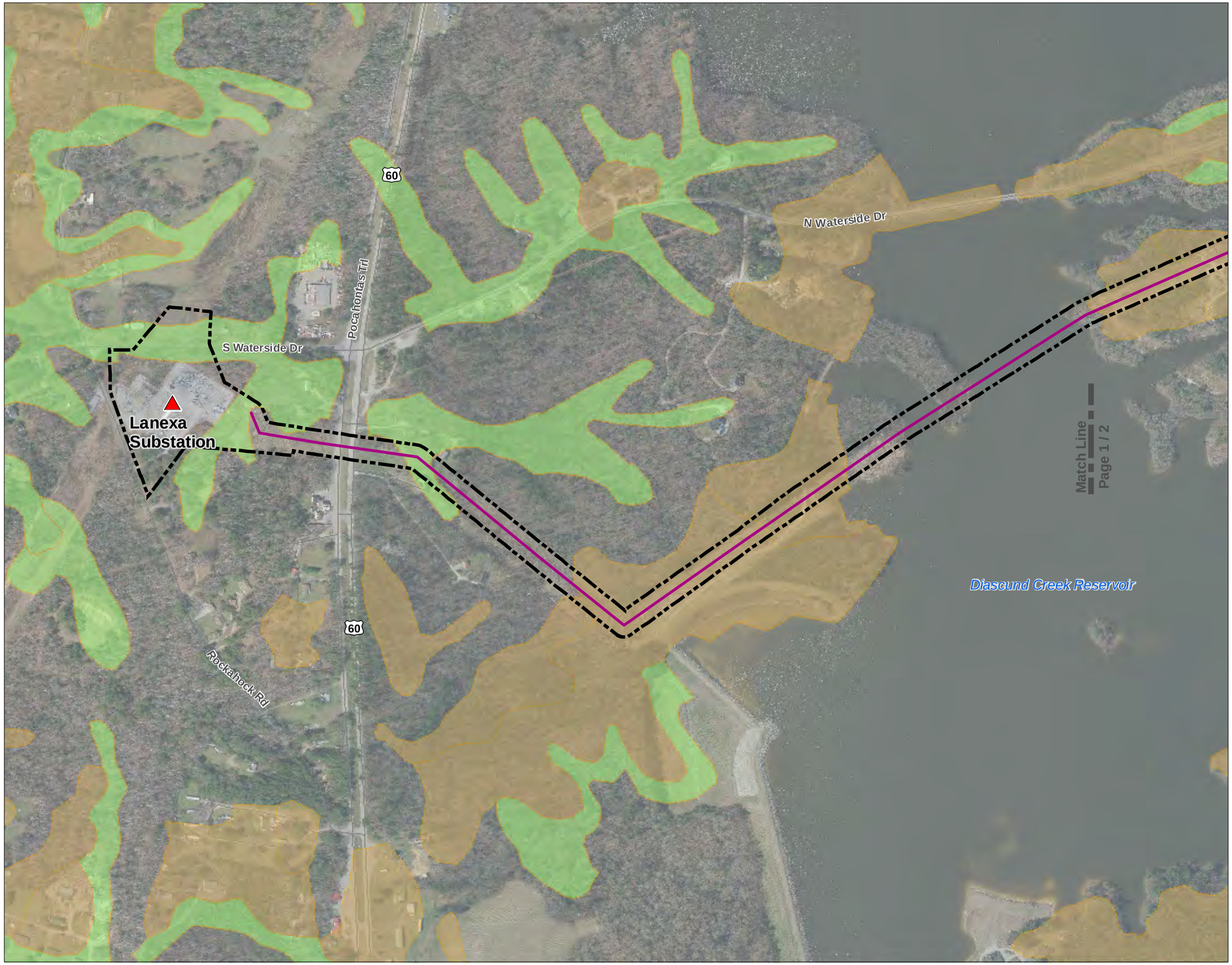

Figure No.
III.A.1

Title
Prime Farmland Map

Client/Project 203401404
Dominion Energy Virginia
Lanexa-Northern Neck 230 kV Transmission Line #224
Rebuild and New 230 kV Line #2208

Project Location
New Kent, King William, King and Queen, Essex, and Richmond Counties, Virginia

Prepared by LJB on 2020-09-17
TR by ECL on 2020-09-18
IR by CPG on 2020-09-18

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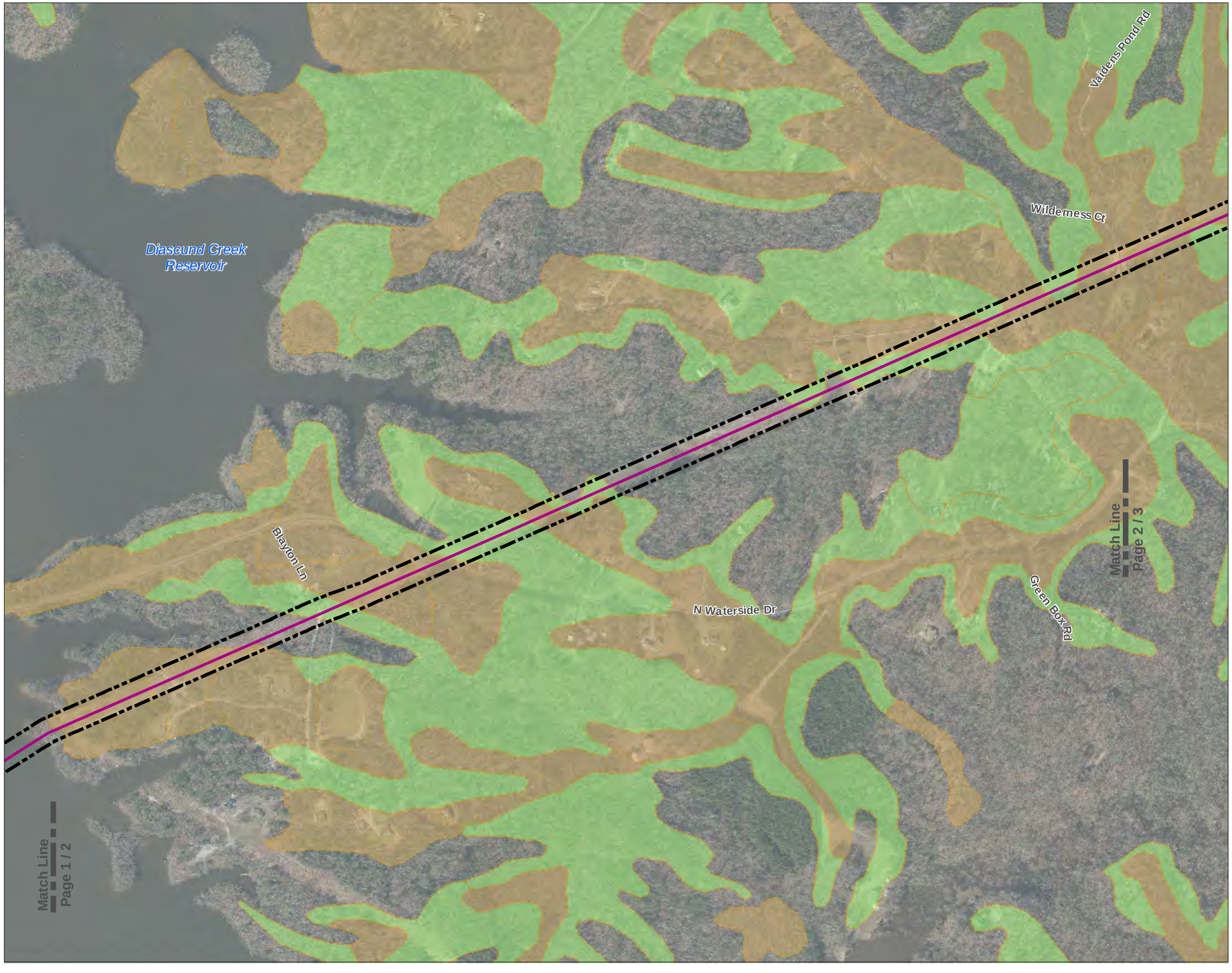

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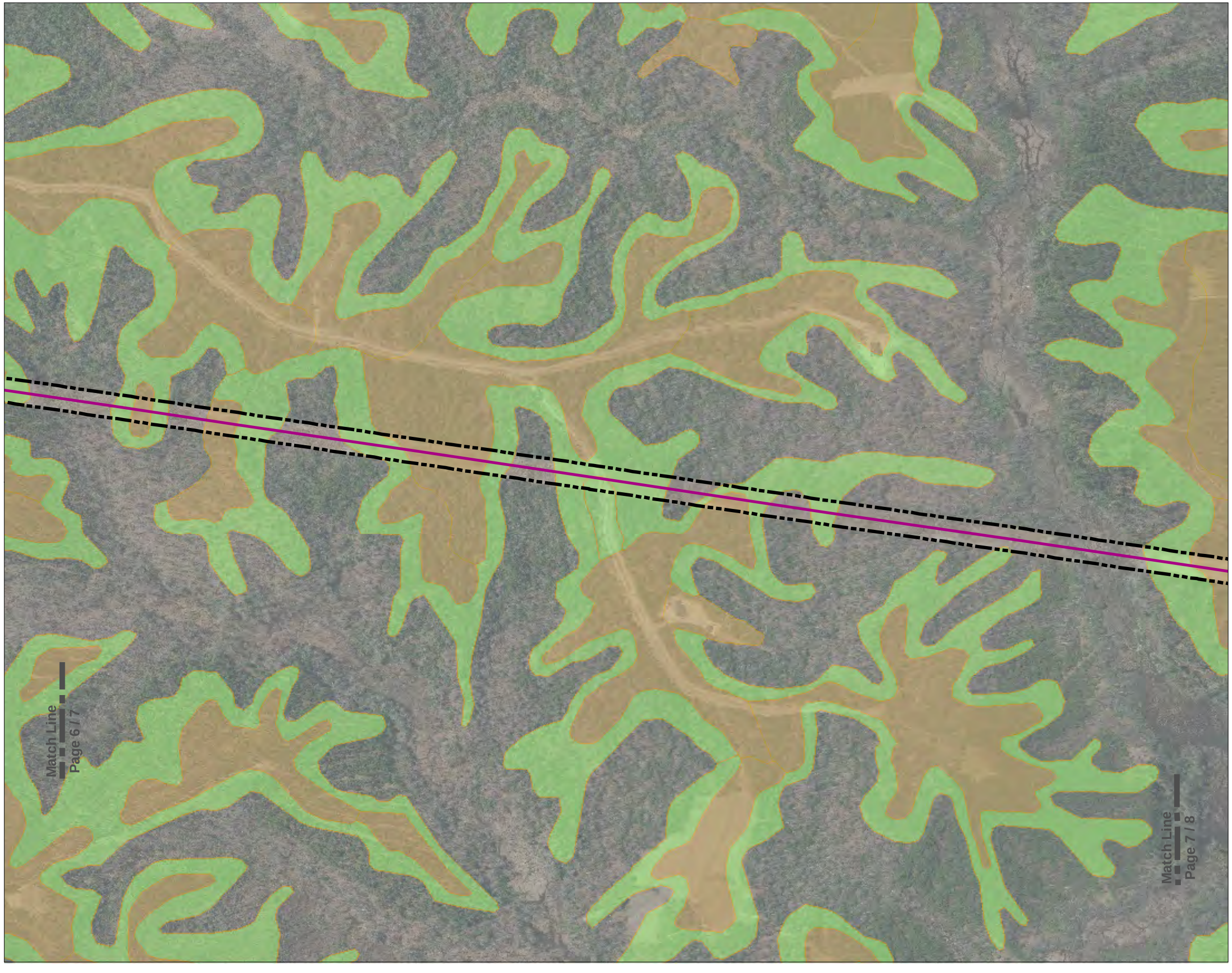

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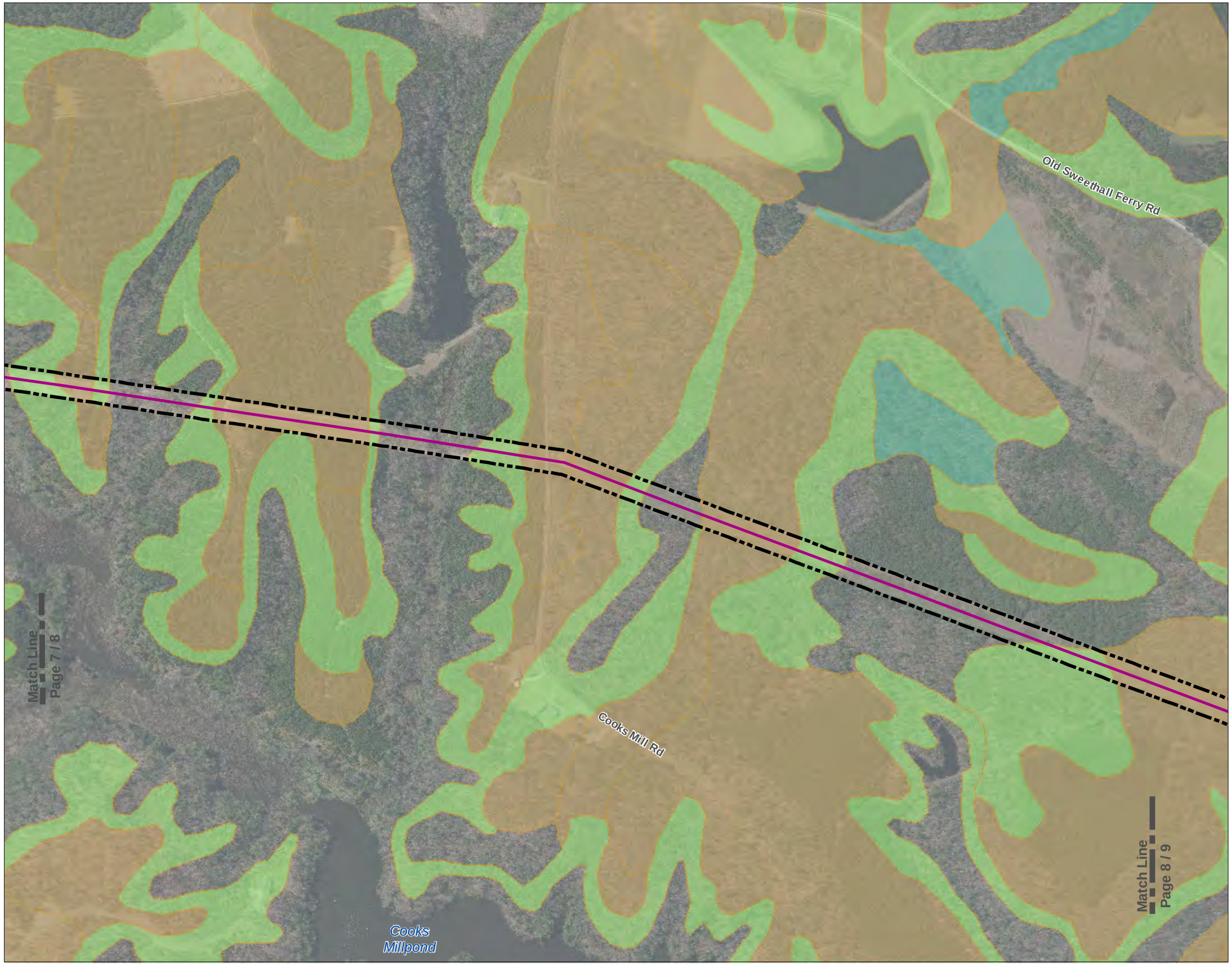

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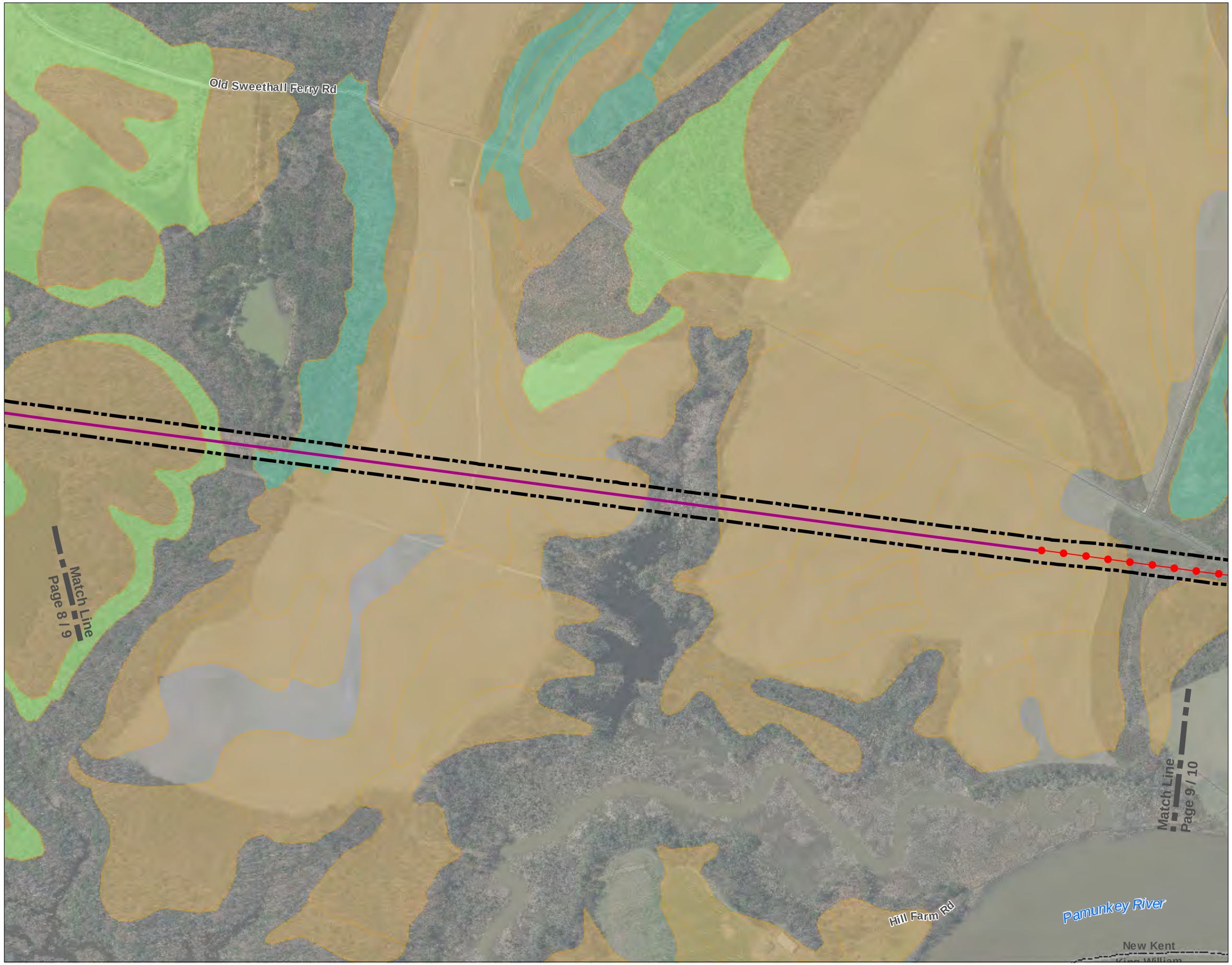

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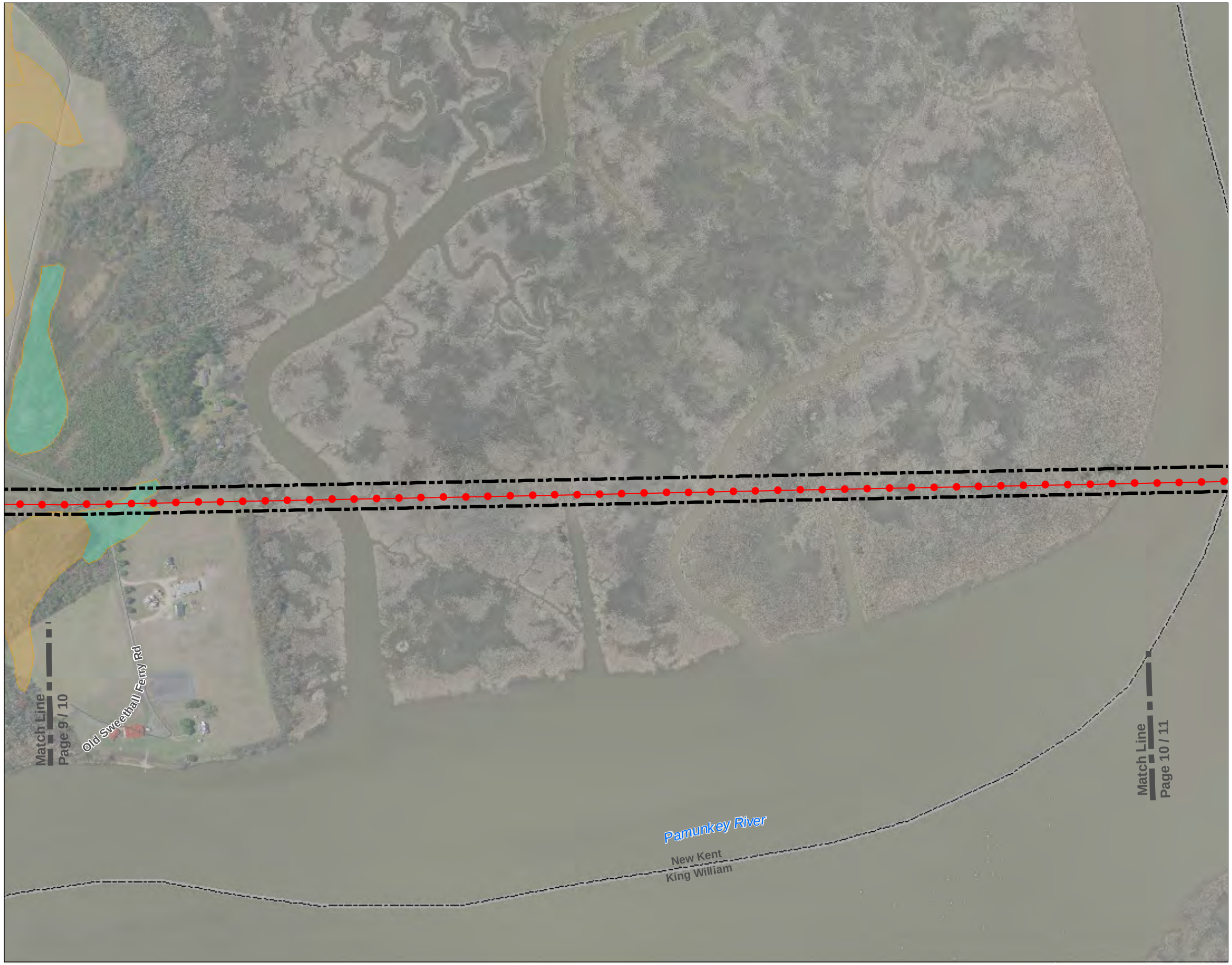

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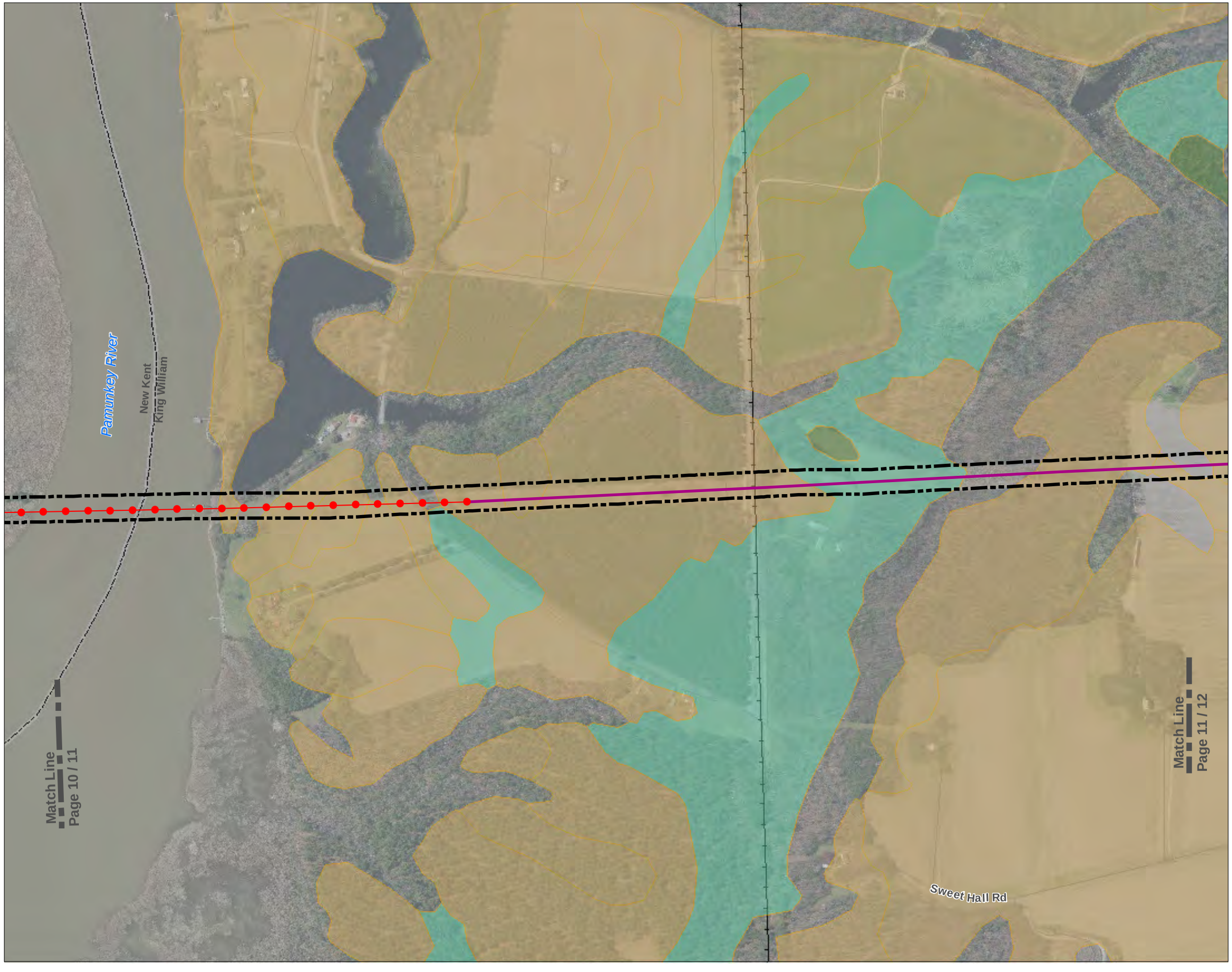

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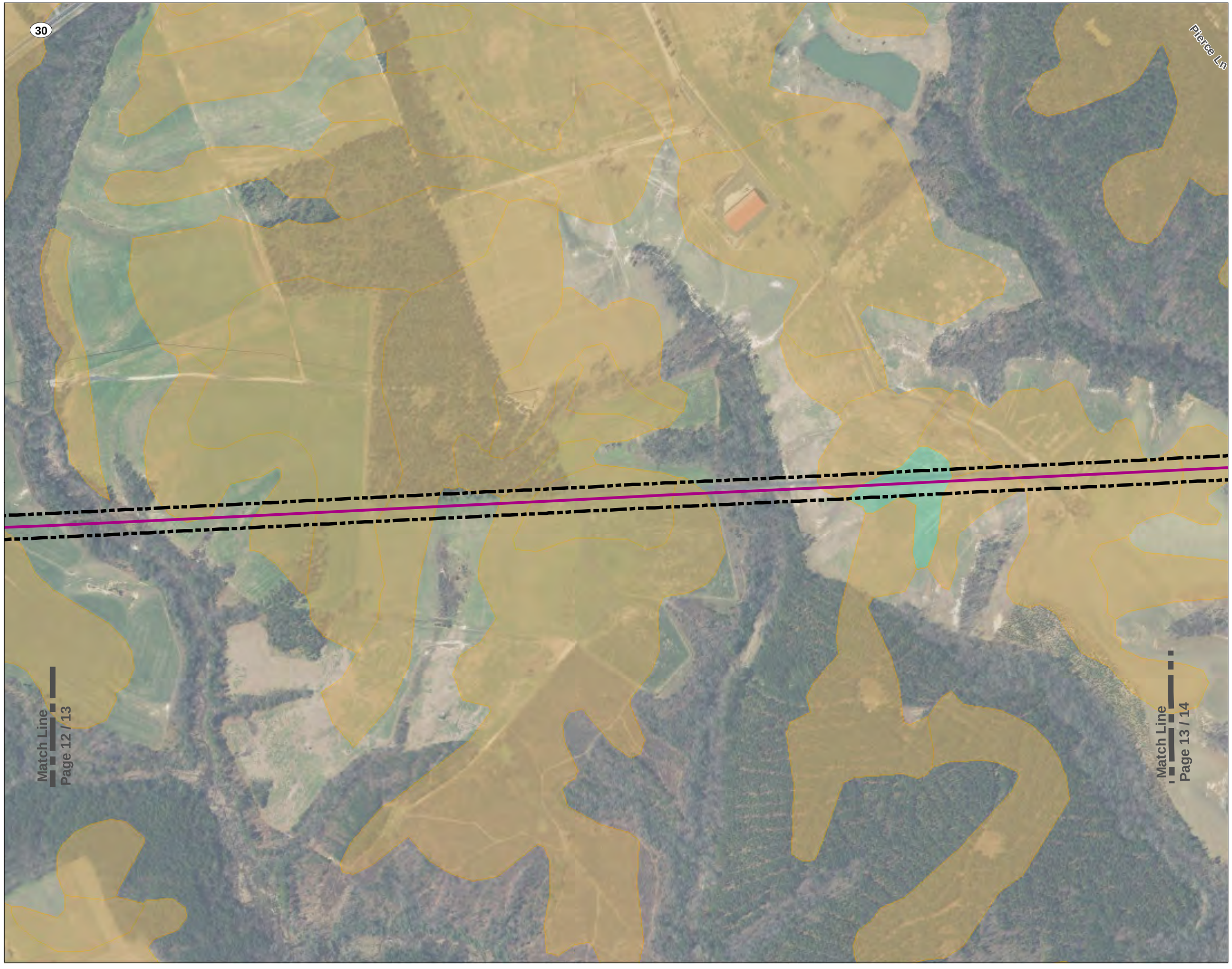

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Figure No.
III.A.1

Title
Prime Farmland Map

Client/Project 203401404
Dominion Energy Virginia
Lanexa-Northern Neck 230 kV Transmission Line #224
Rebuild and New 230 kV Line #2208

Project Location
New Kent, King William, King and Queen, Essex, and Richmond Counties, Virginia

Prepared by LJB on 2020-09-17
TR by ECL on 2020-09-18
IR by CPG on 2020-09-18

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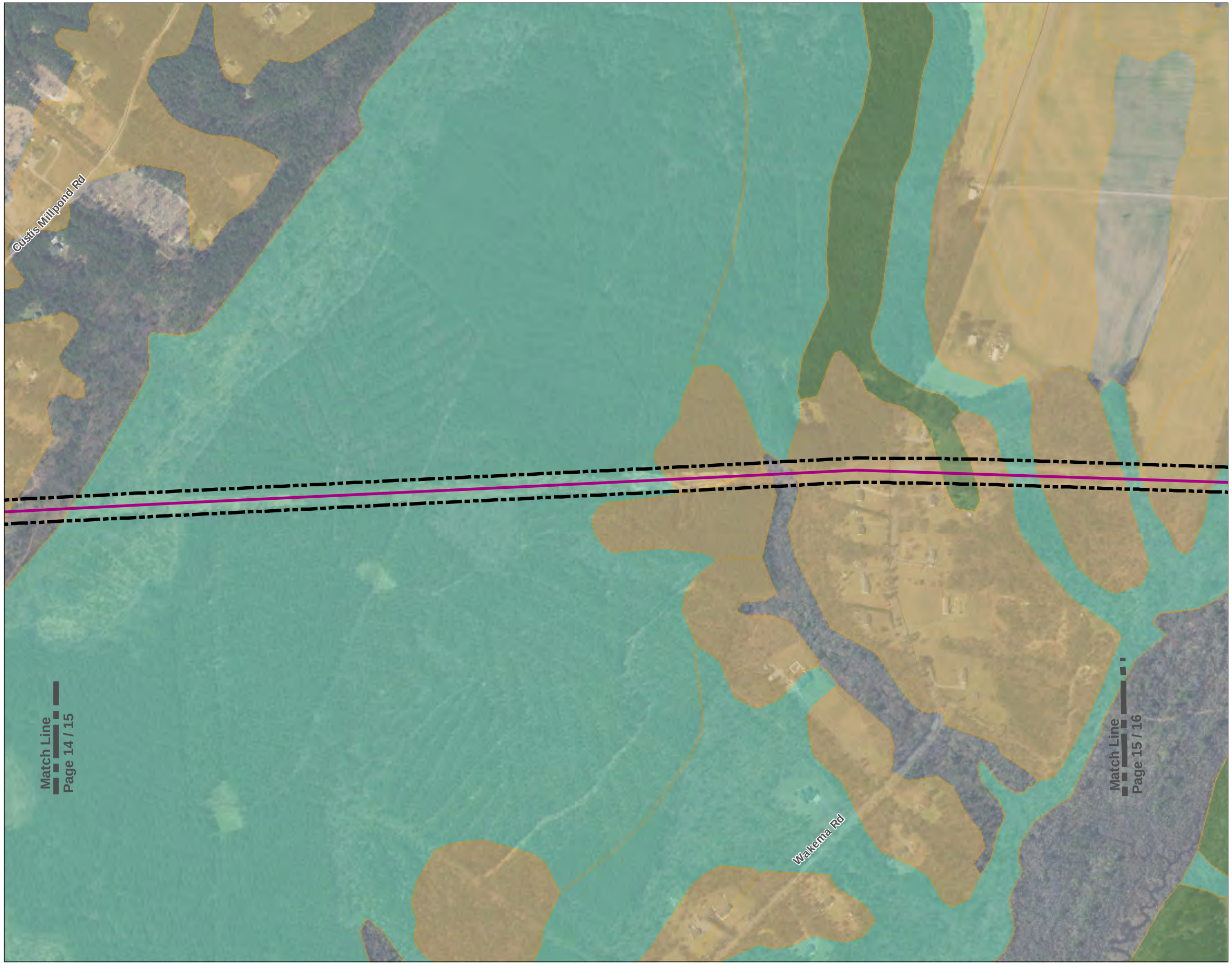

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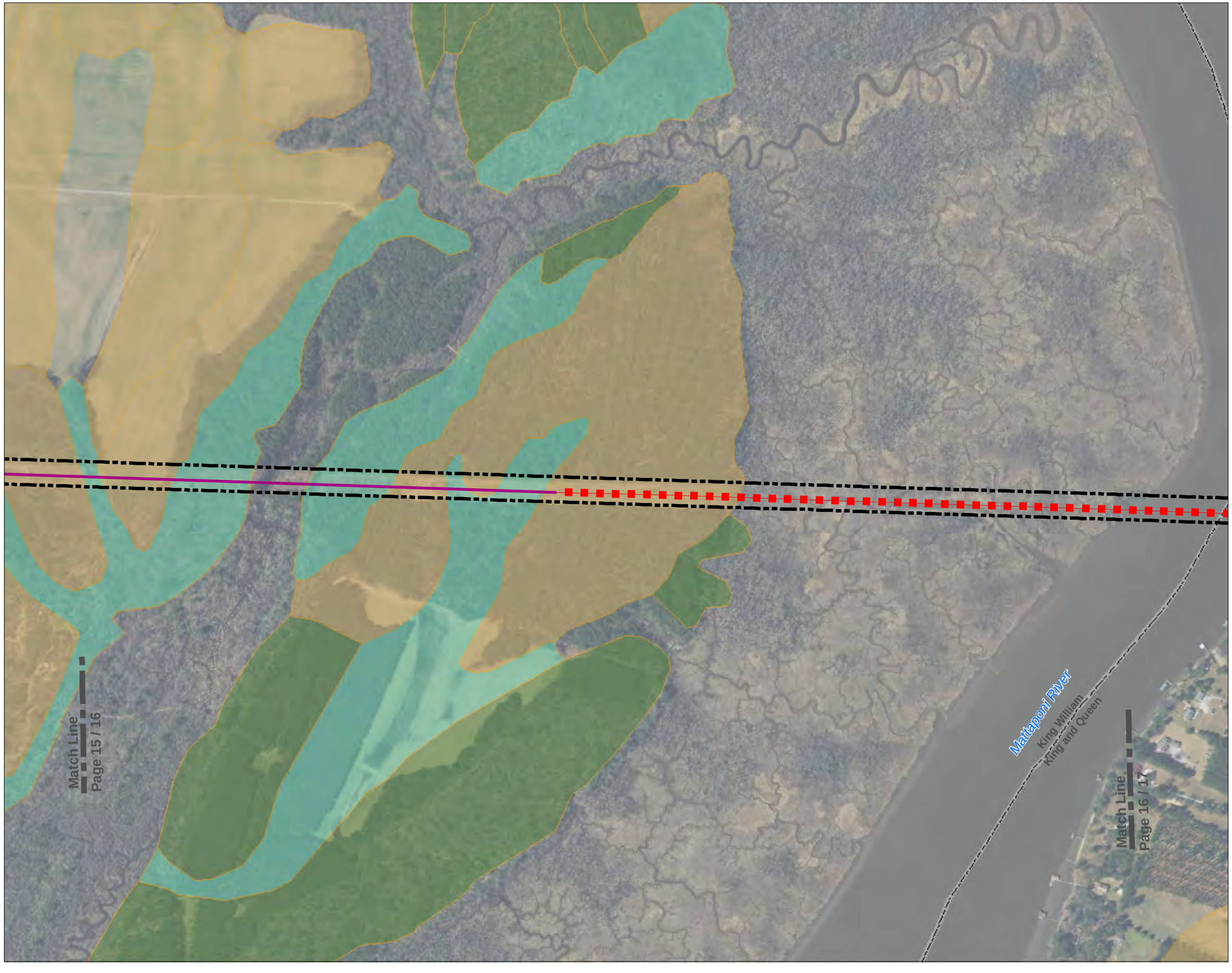

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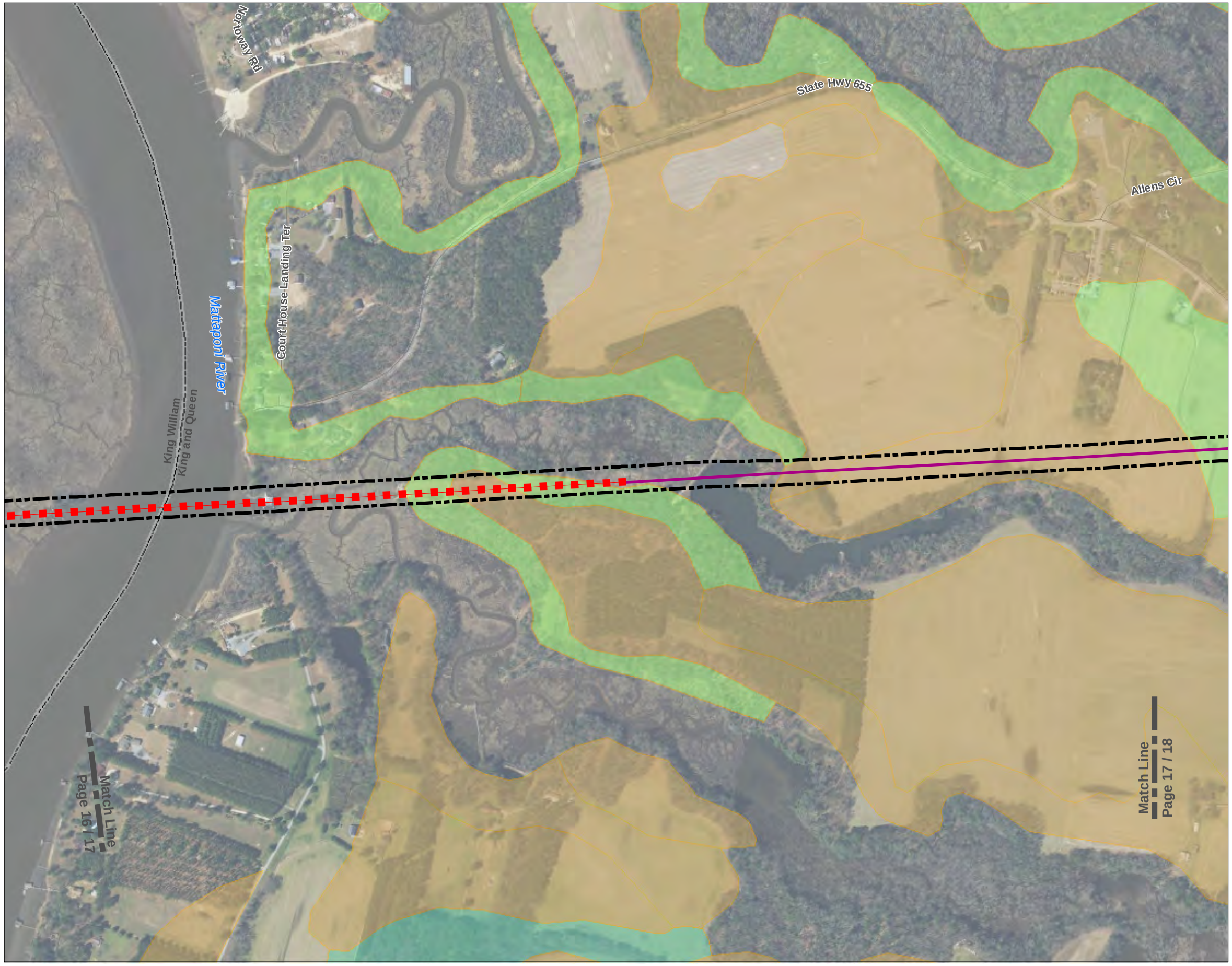

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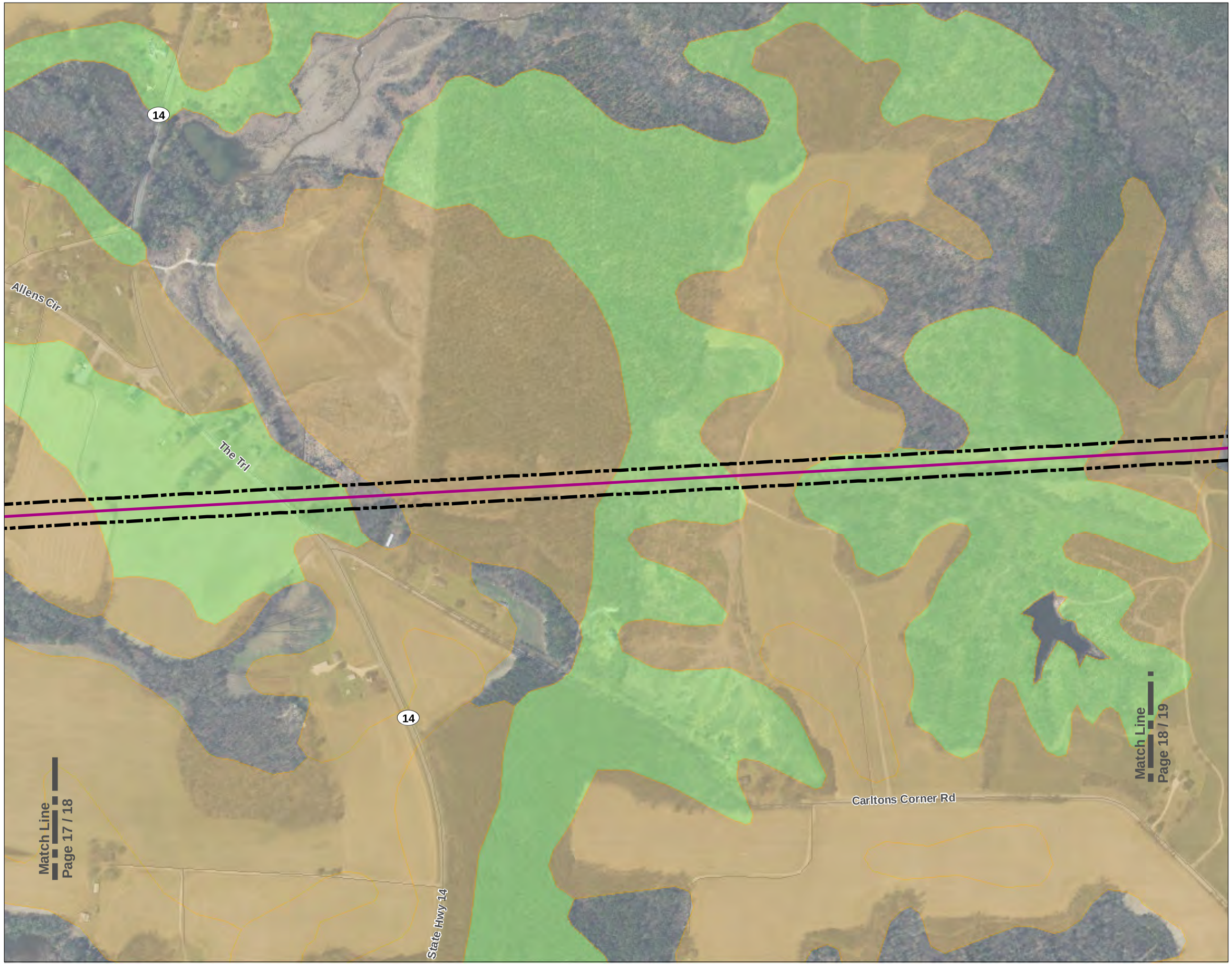

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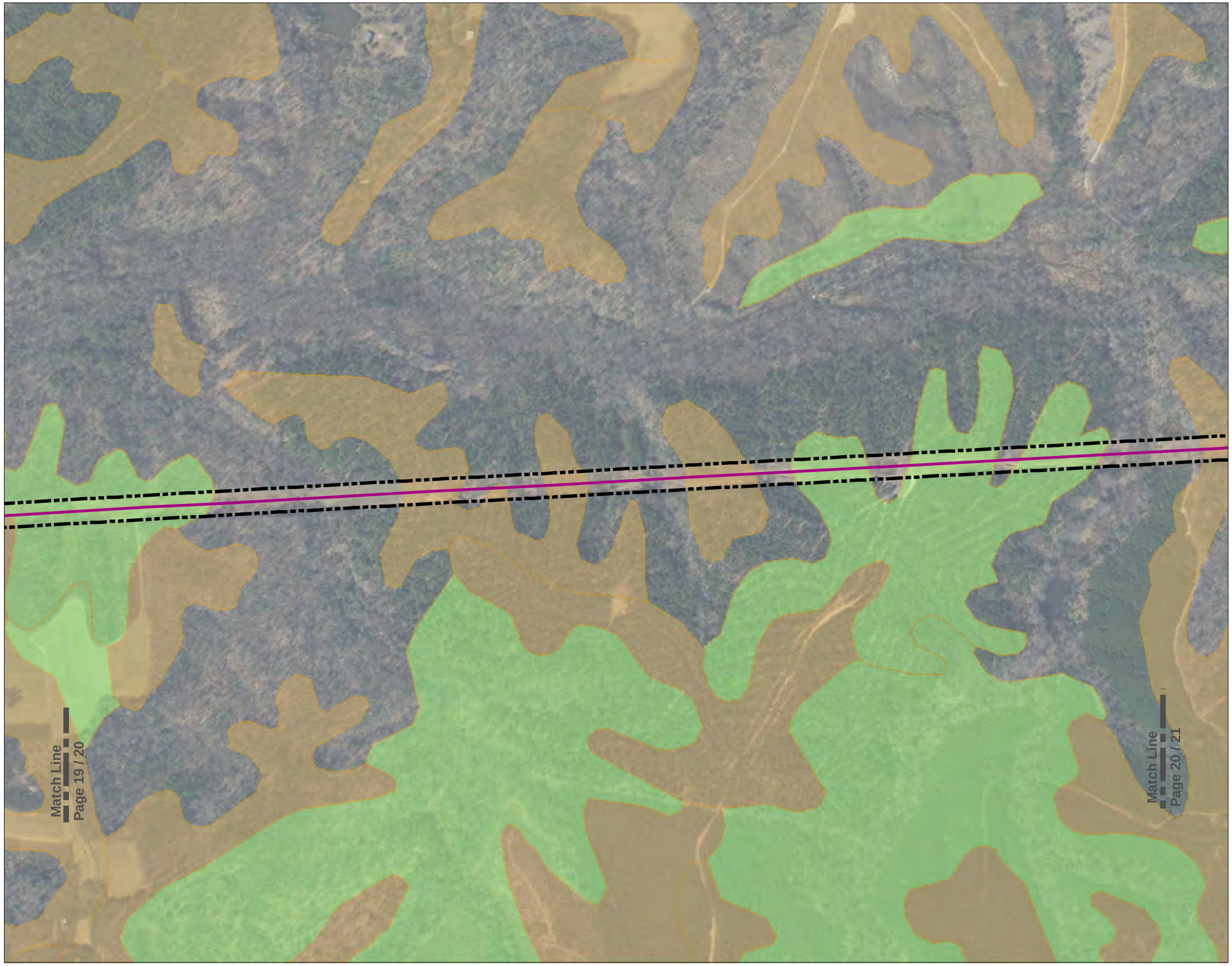

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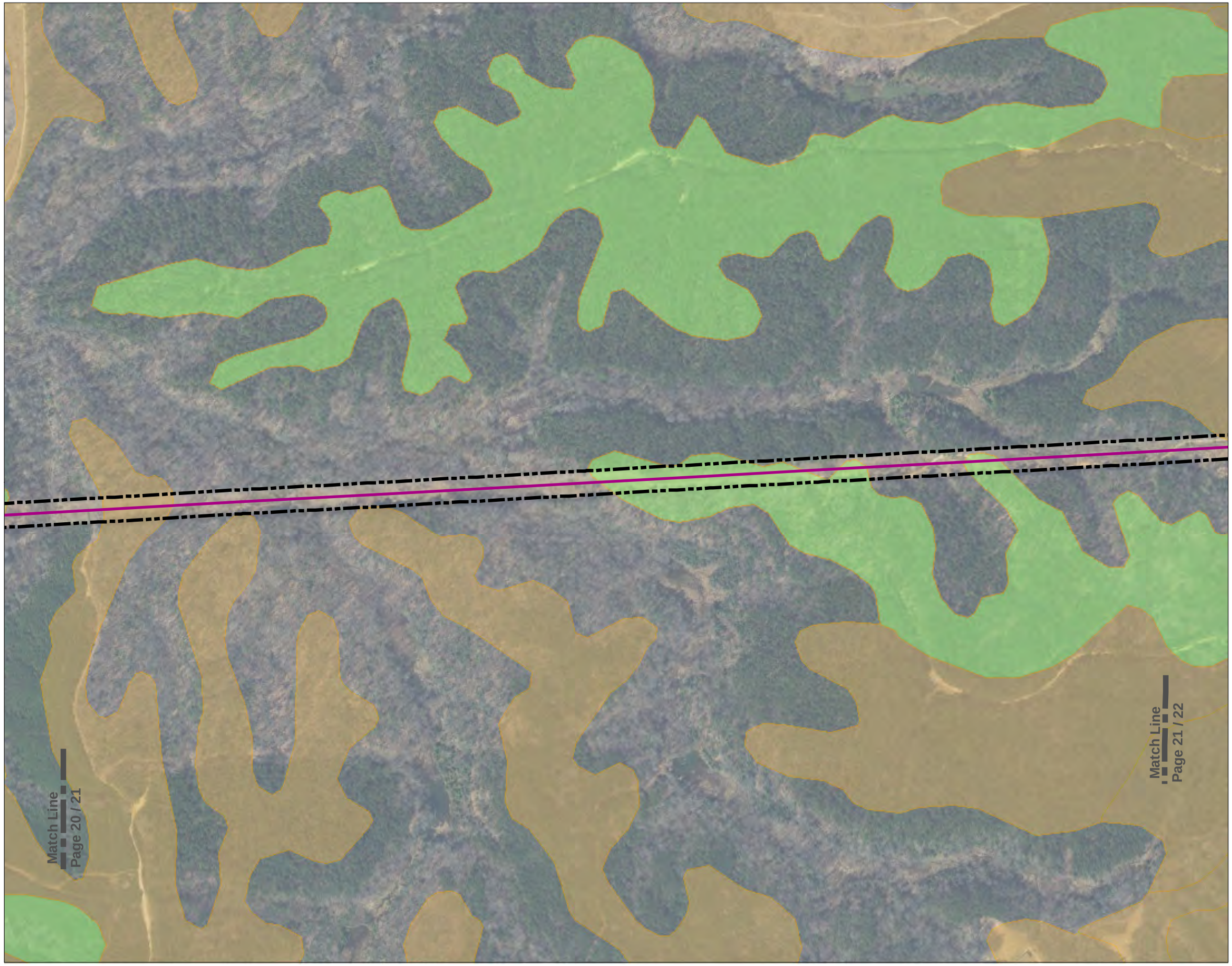

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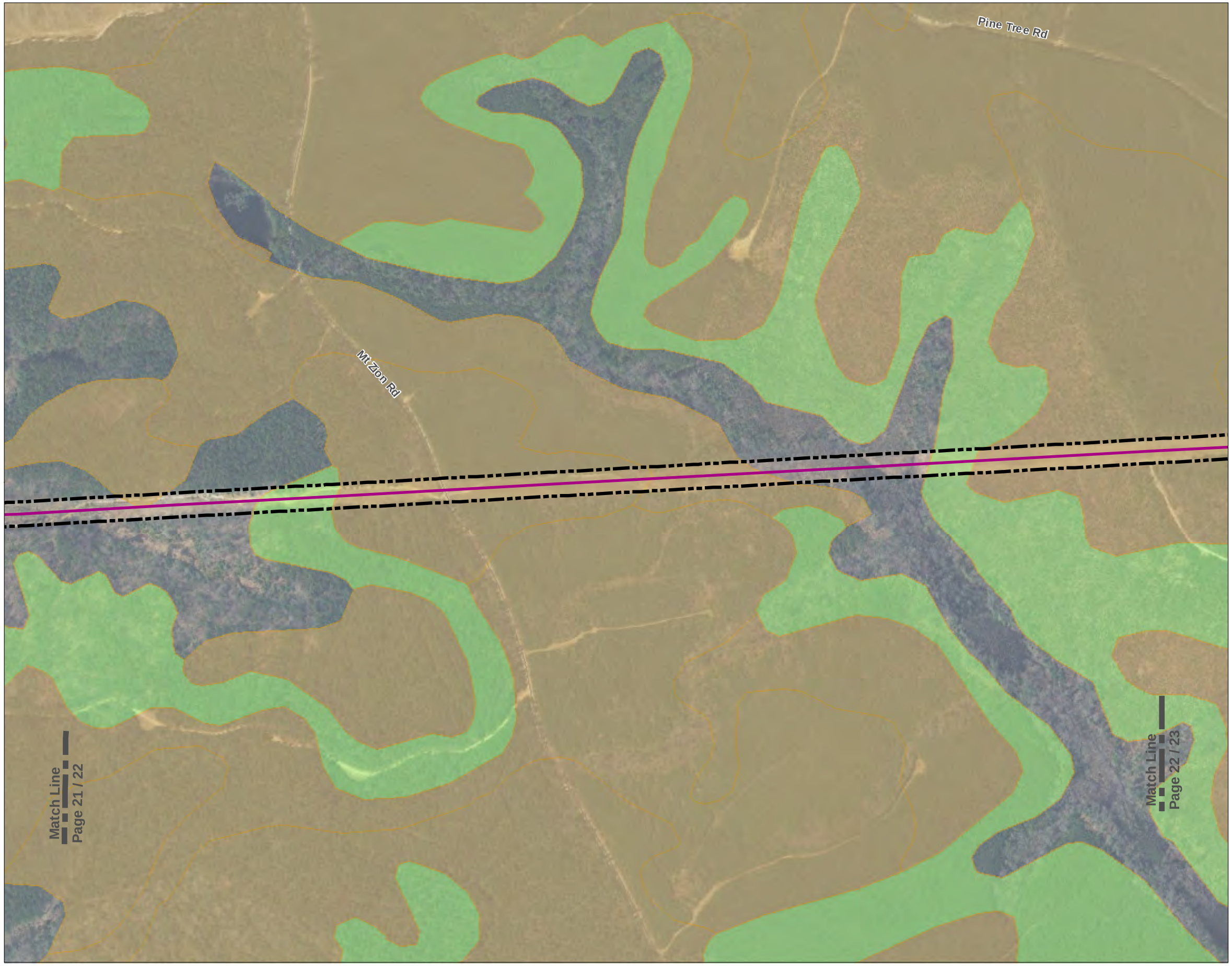

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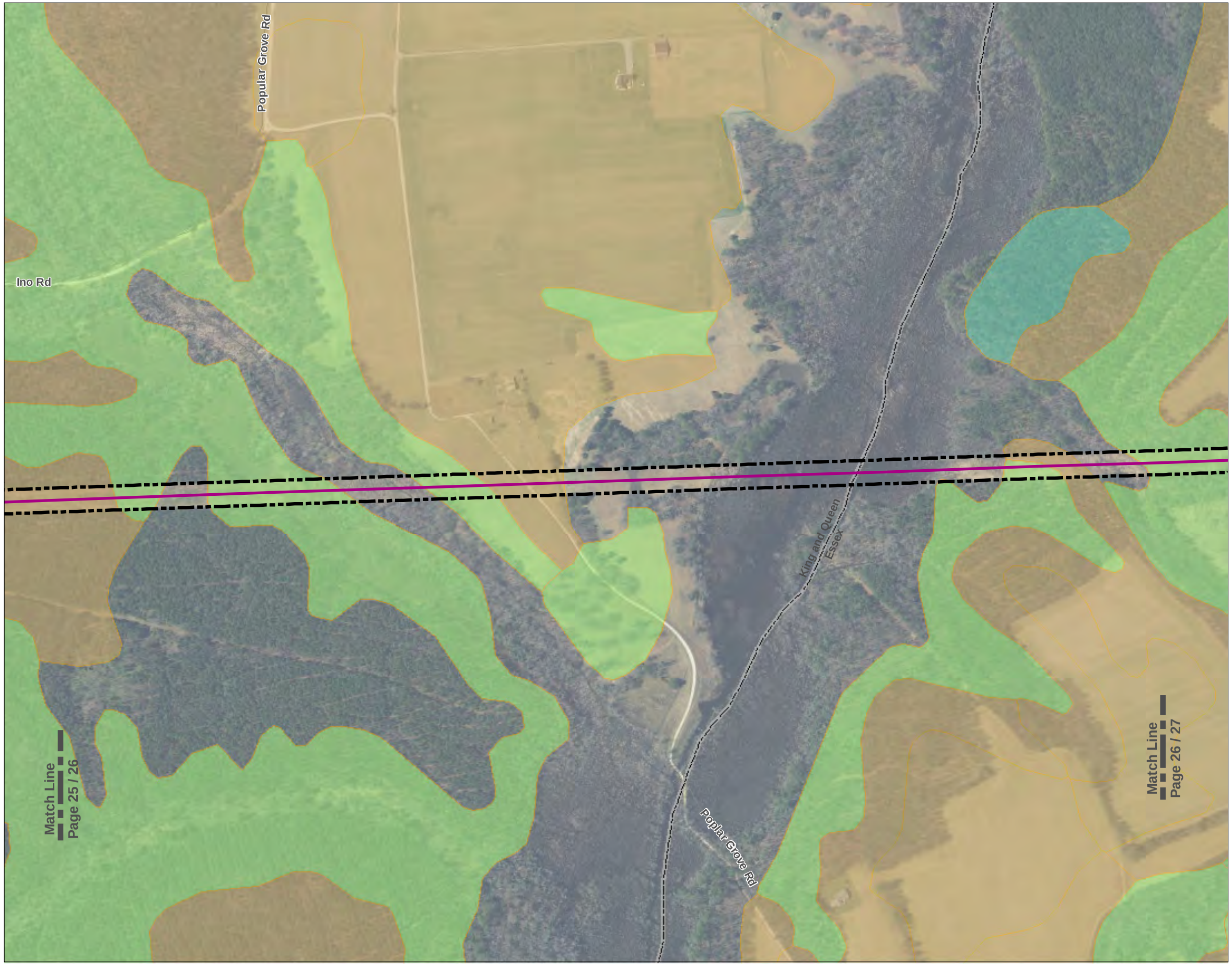

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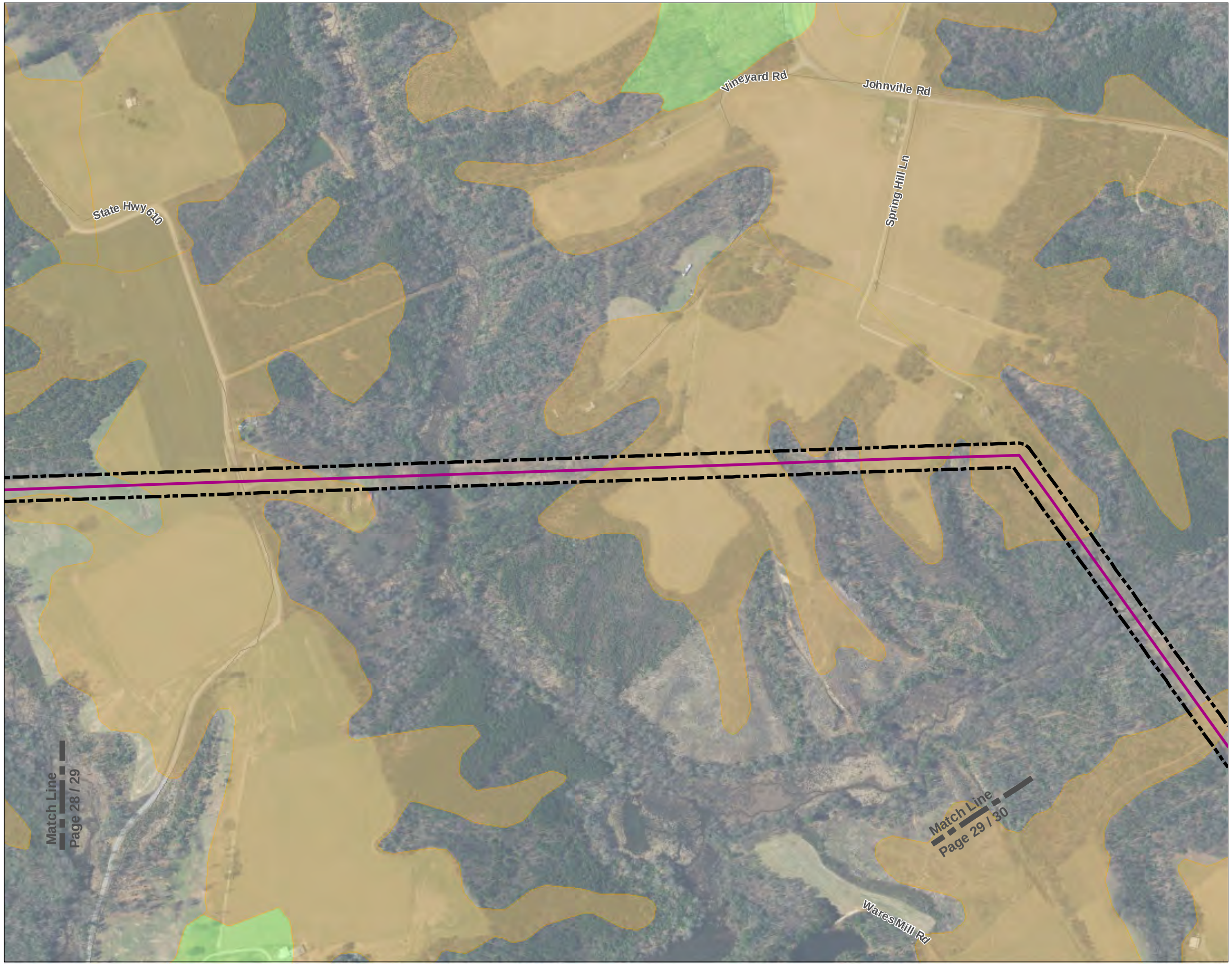

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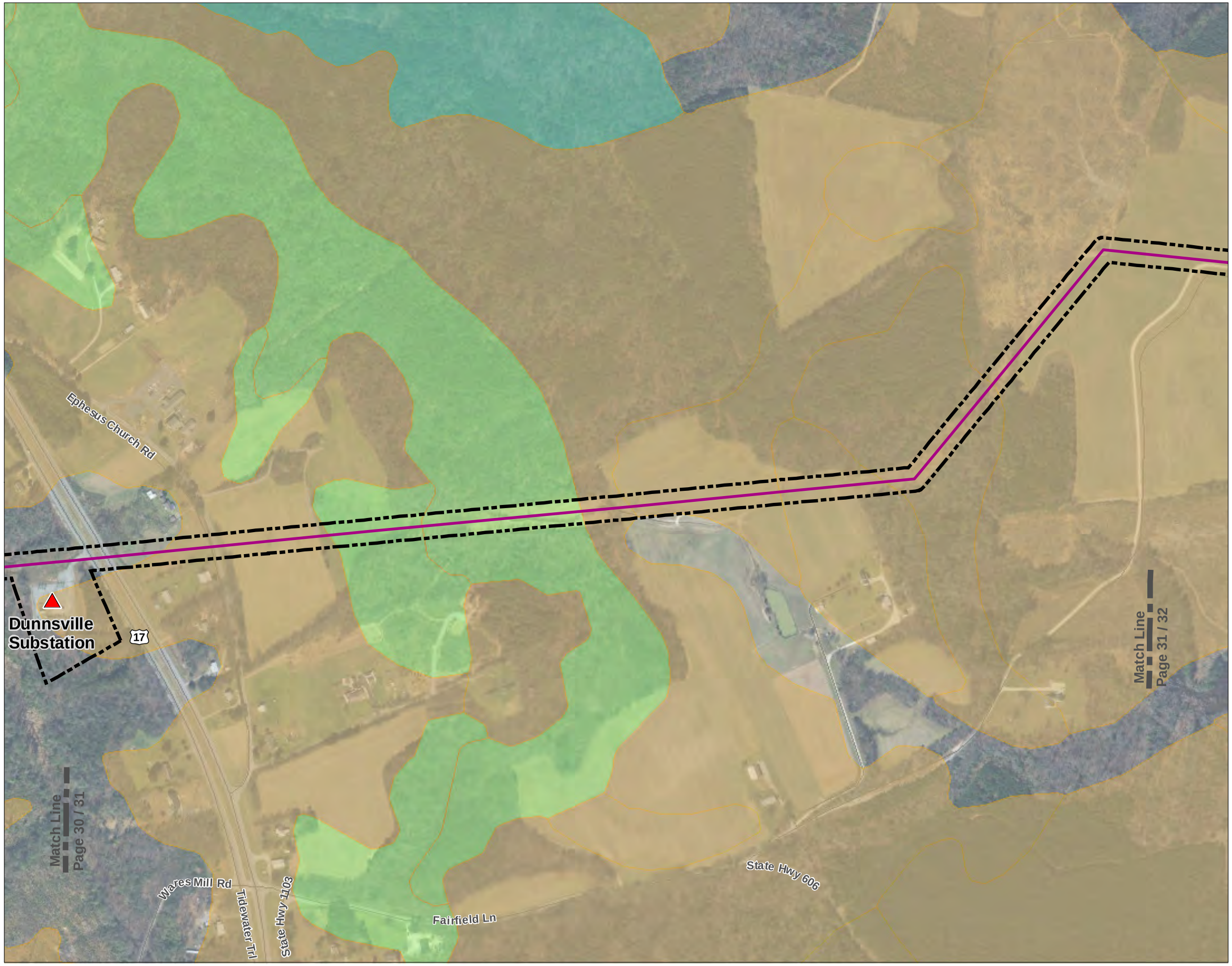

Figure No.
III.A.1

Title
Prime Farmland Map

Client/Project 203401404
Dominion Energy Virginia
Lanexa-Northern Neck 230 kV Transmission Line #224
Rebuild and New 230 kV Line #2208

Project Location
New Kent, King William, King and Queen, Essex, and Richmond Counties, Virginia

Prepared by LJB on 2020-09-17
TR by ECL on 2020-09-18
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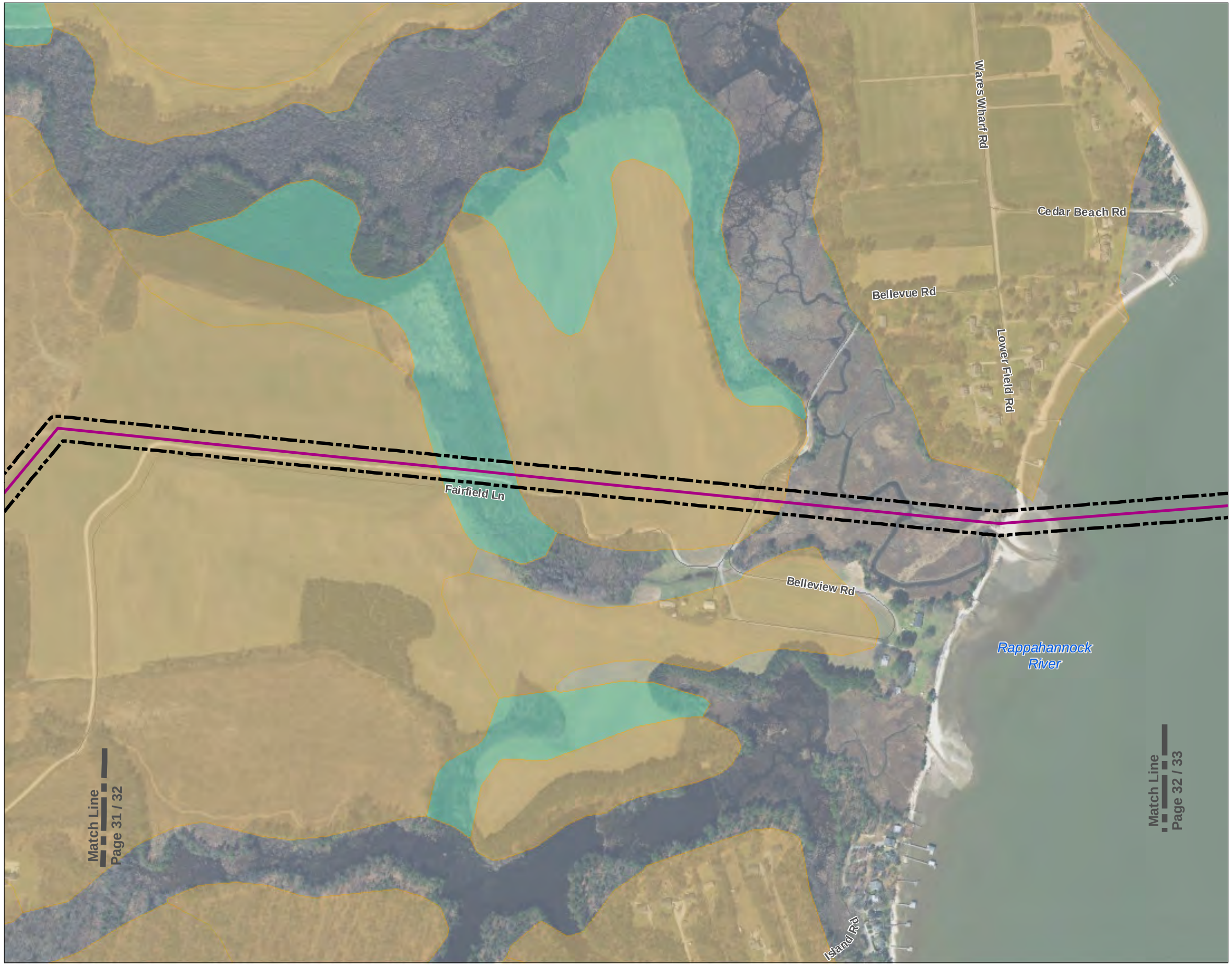

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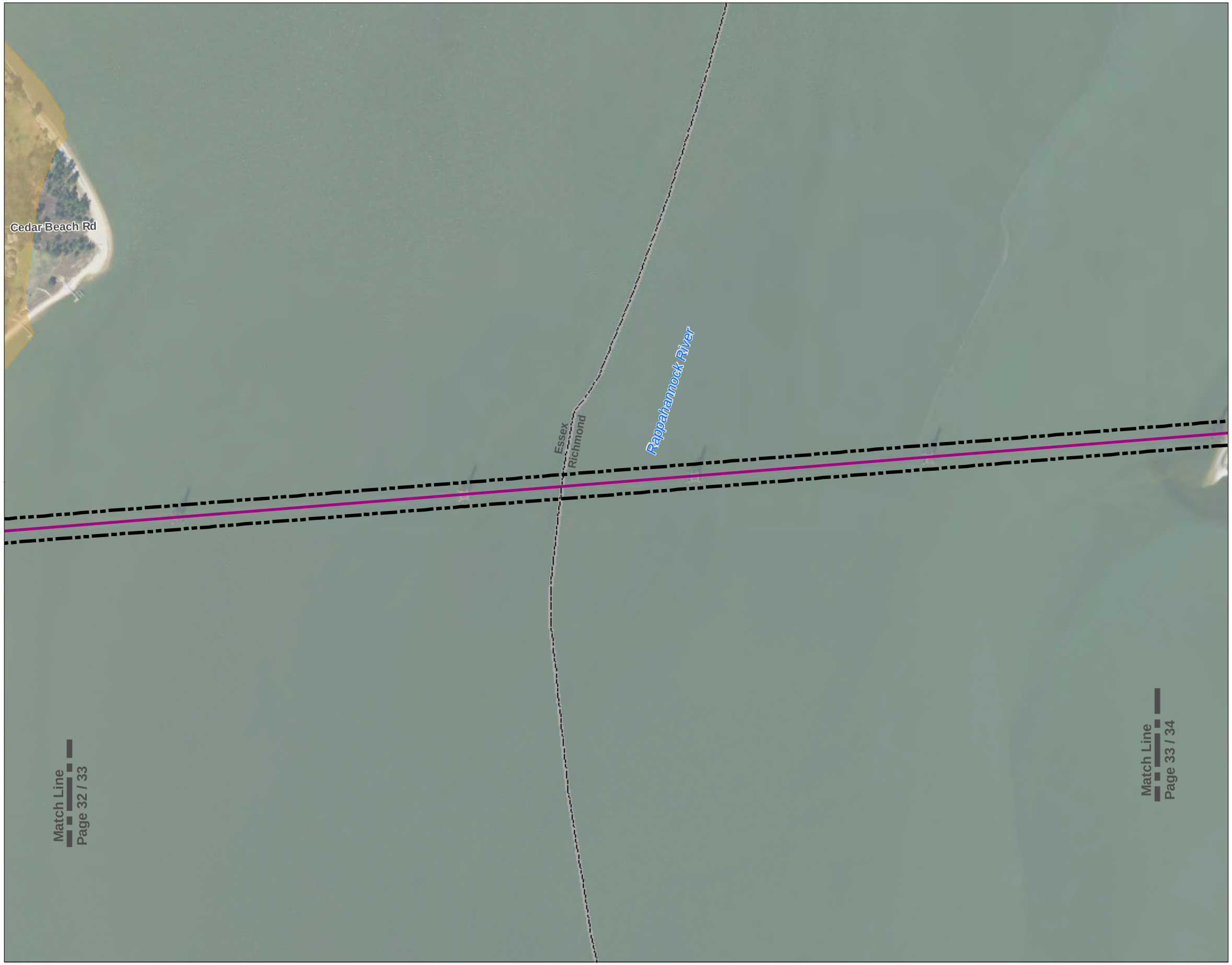

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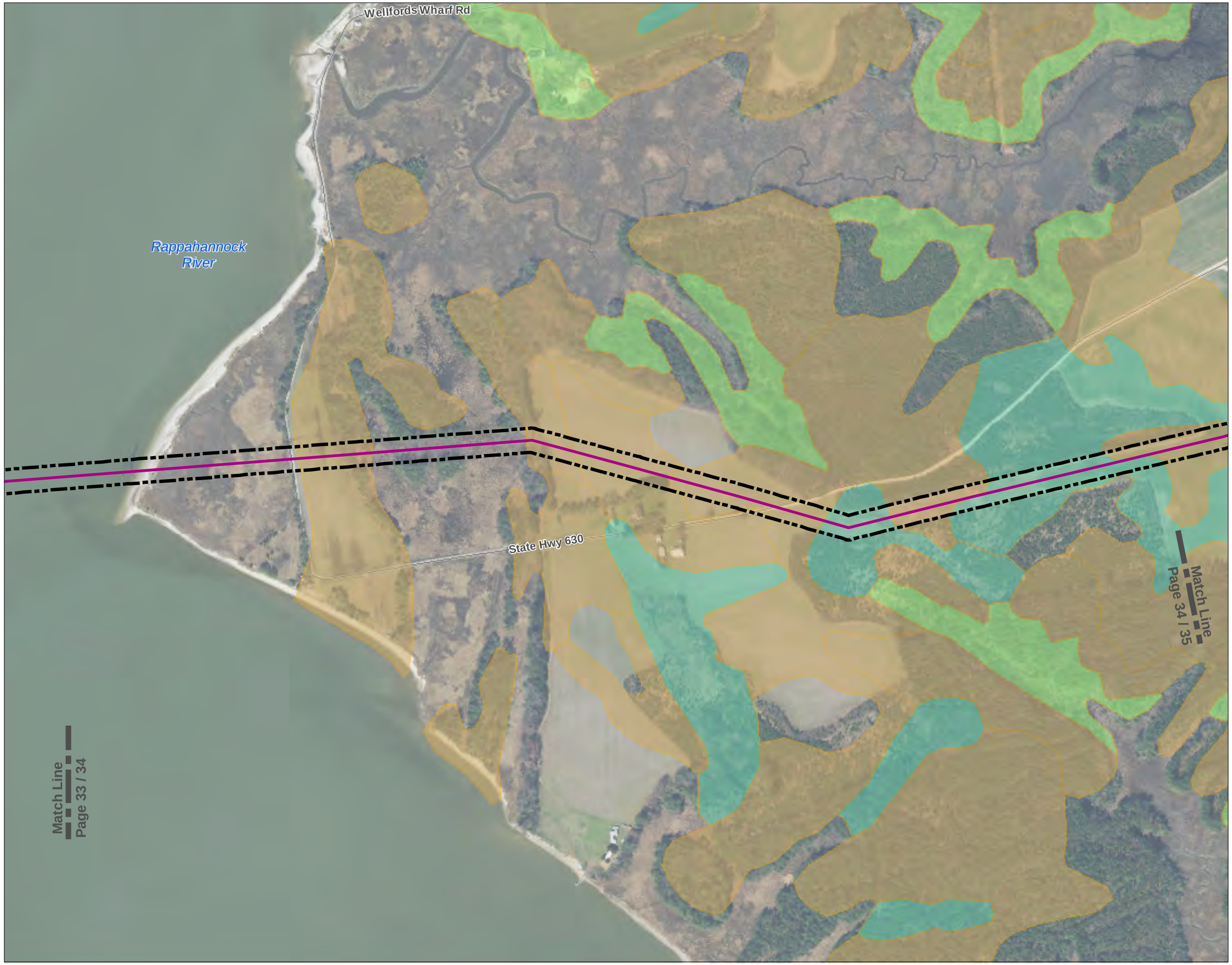

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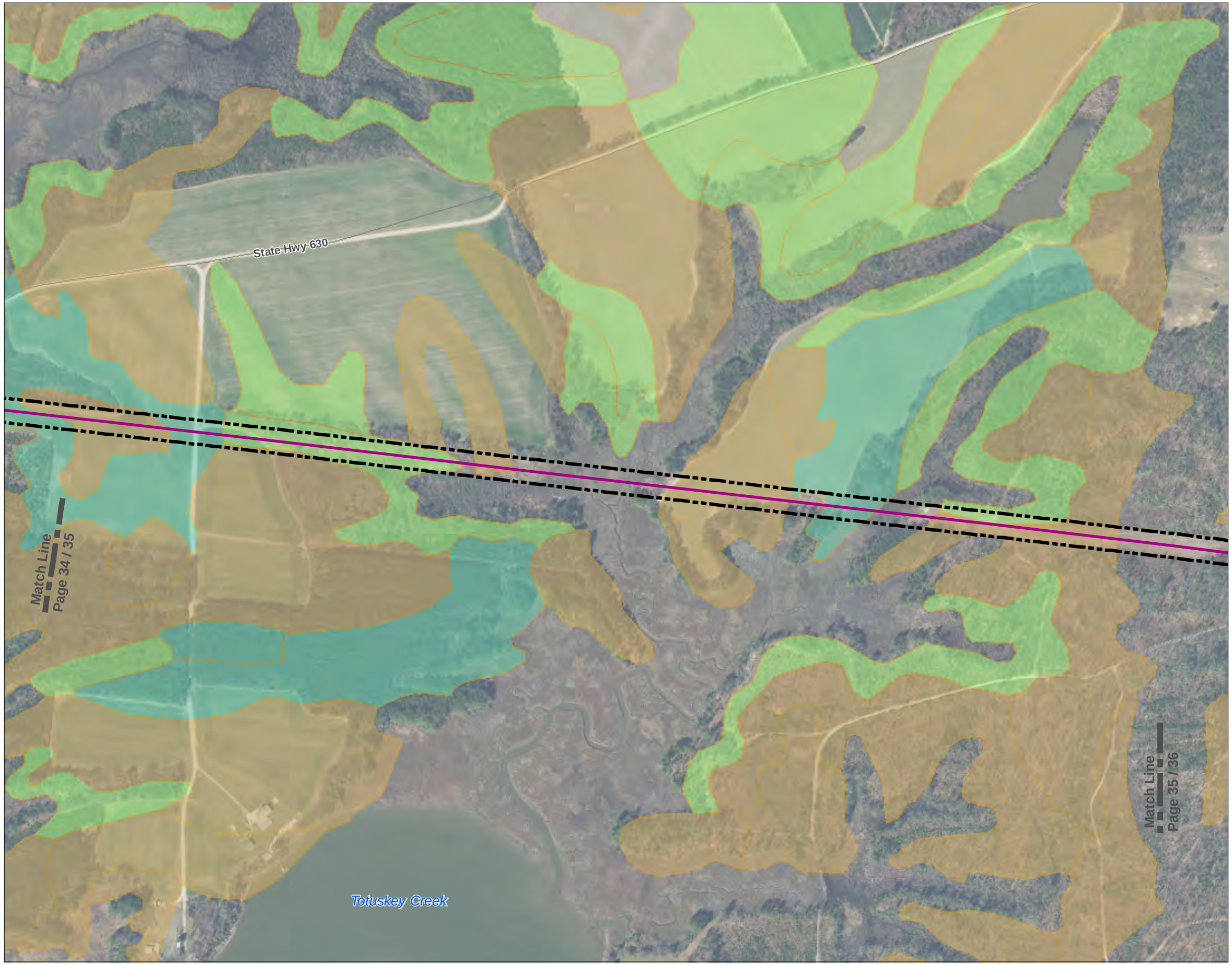

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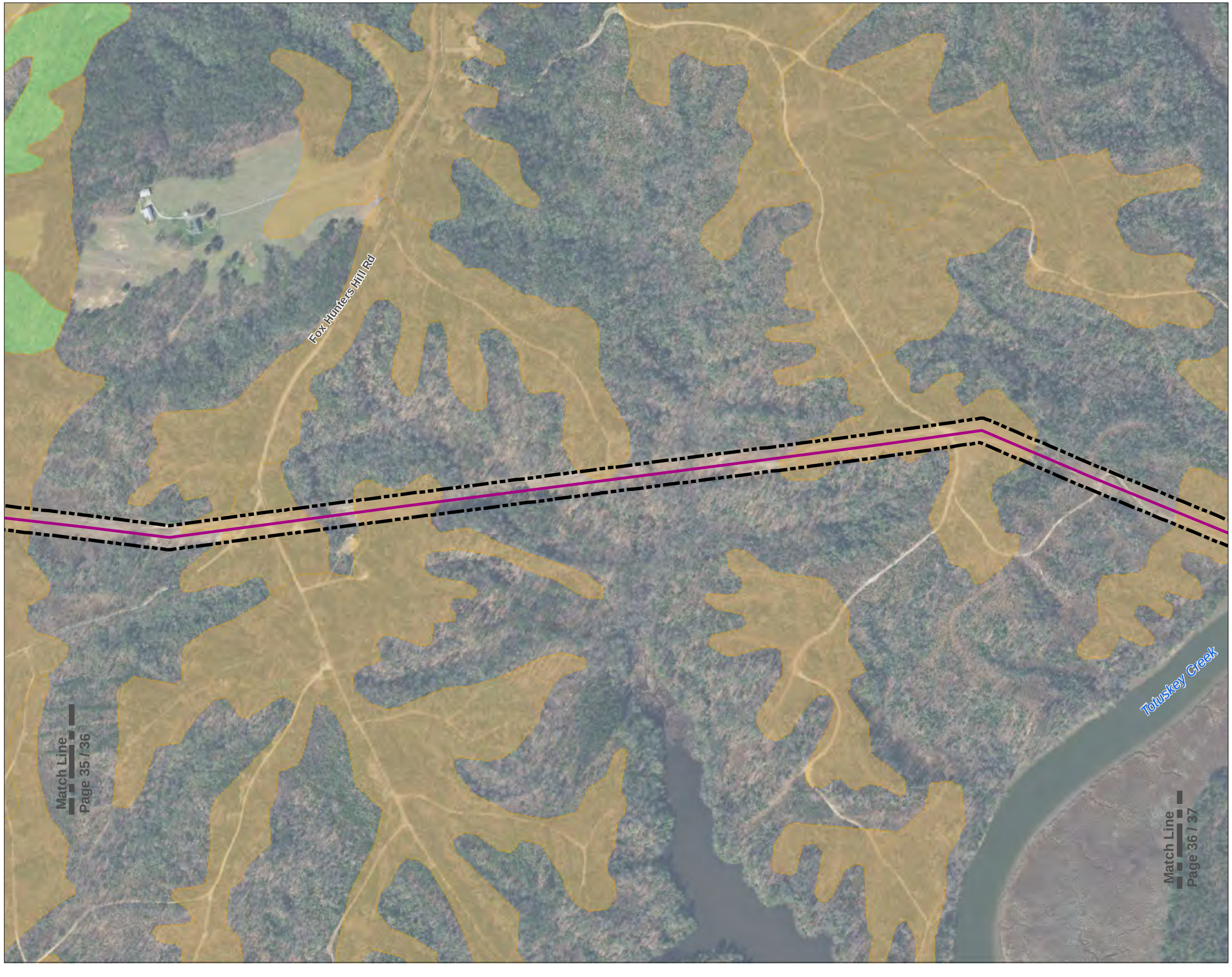

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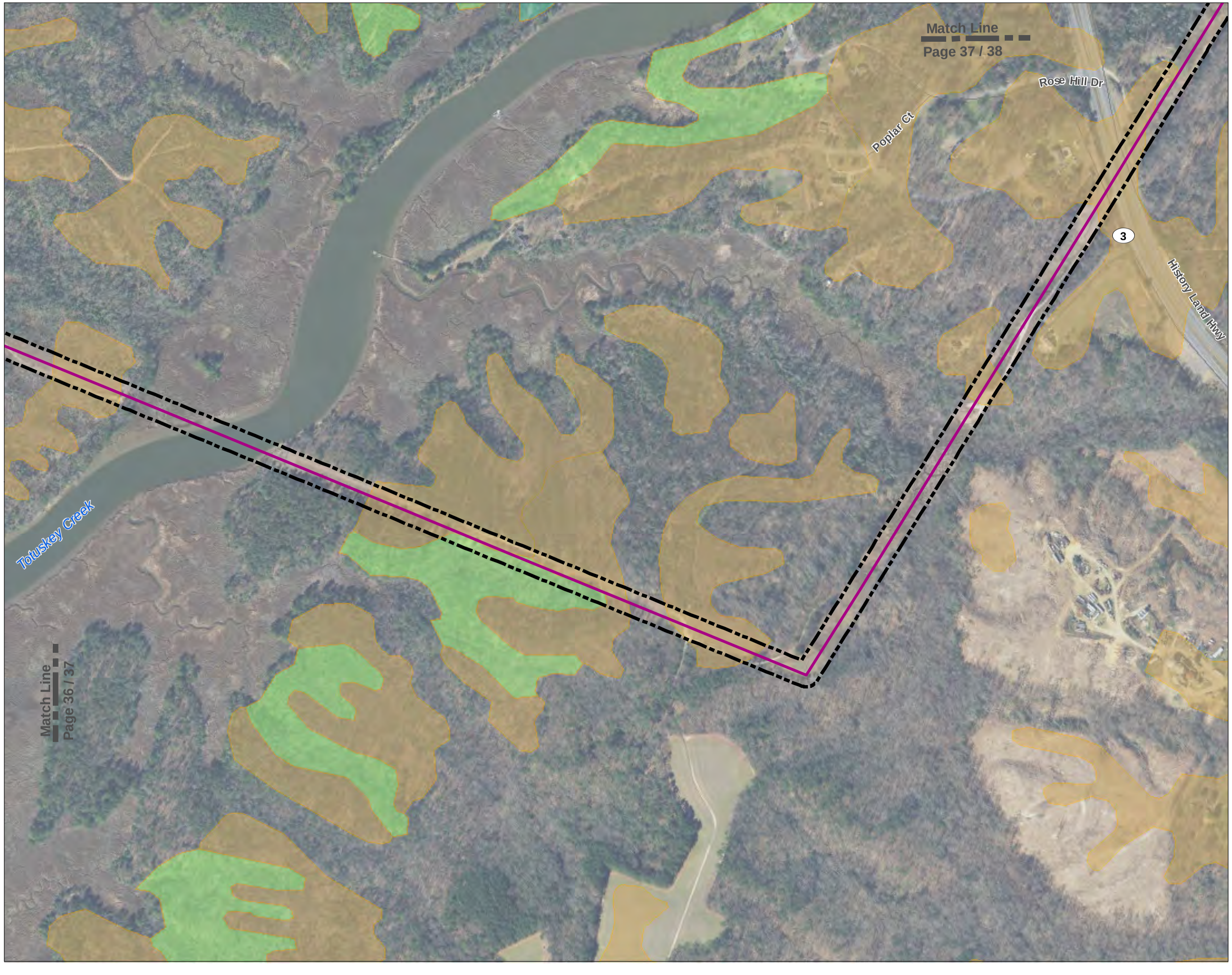

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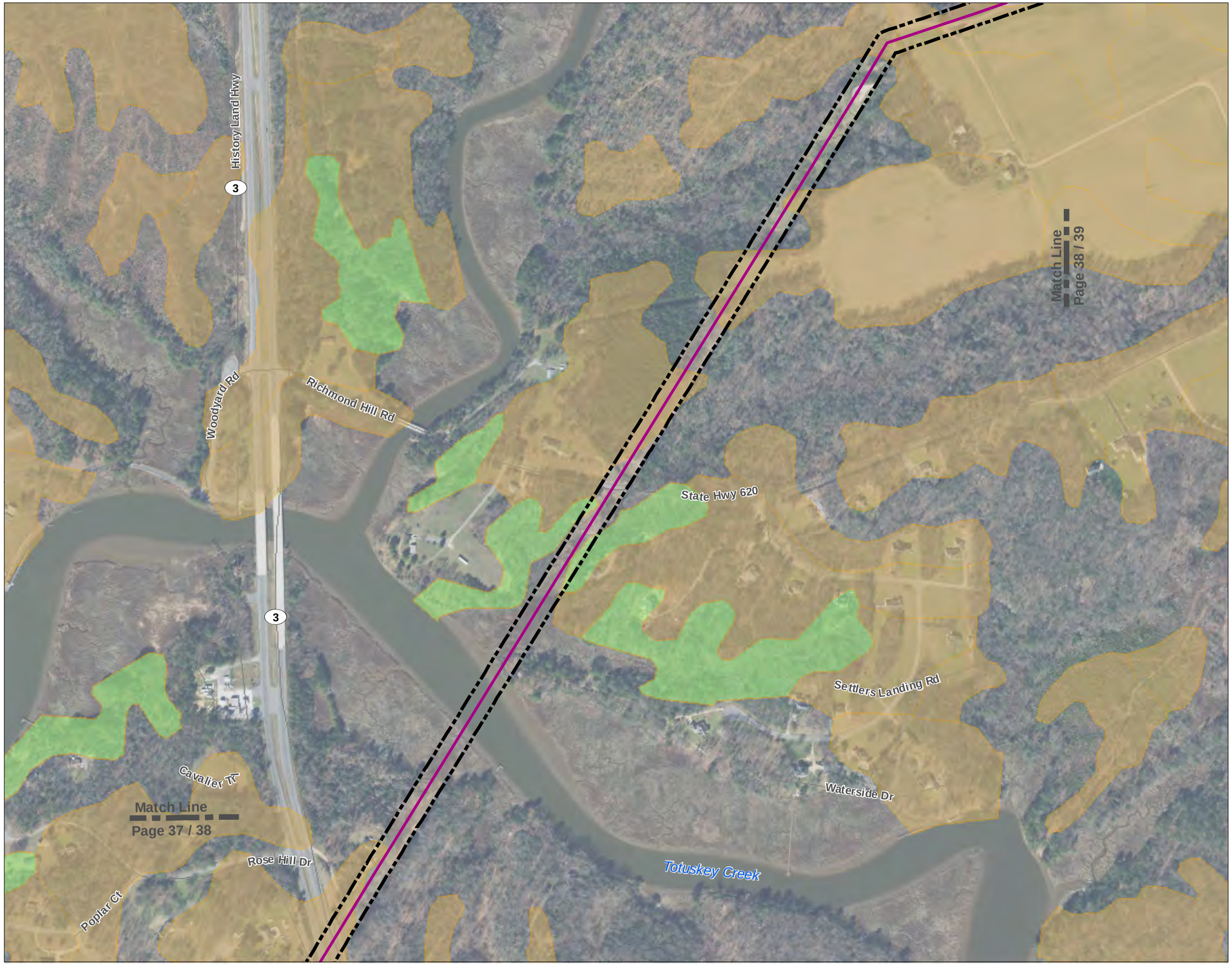

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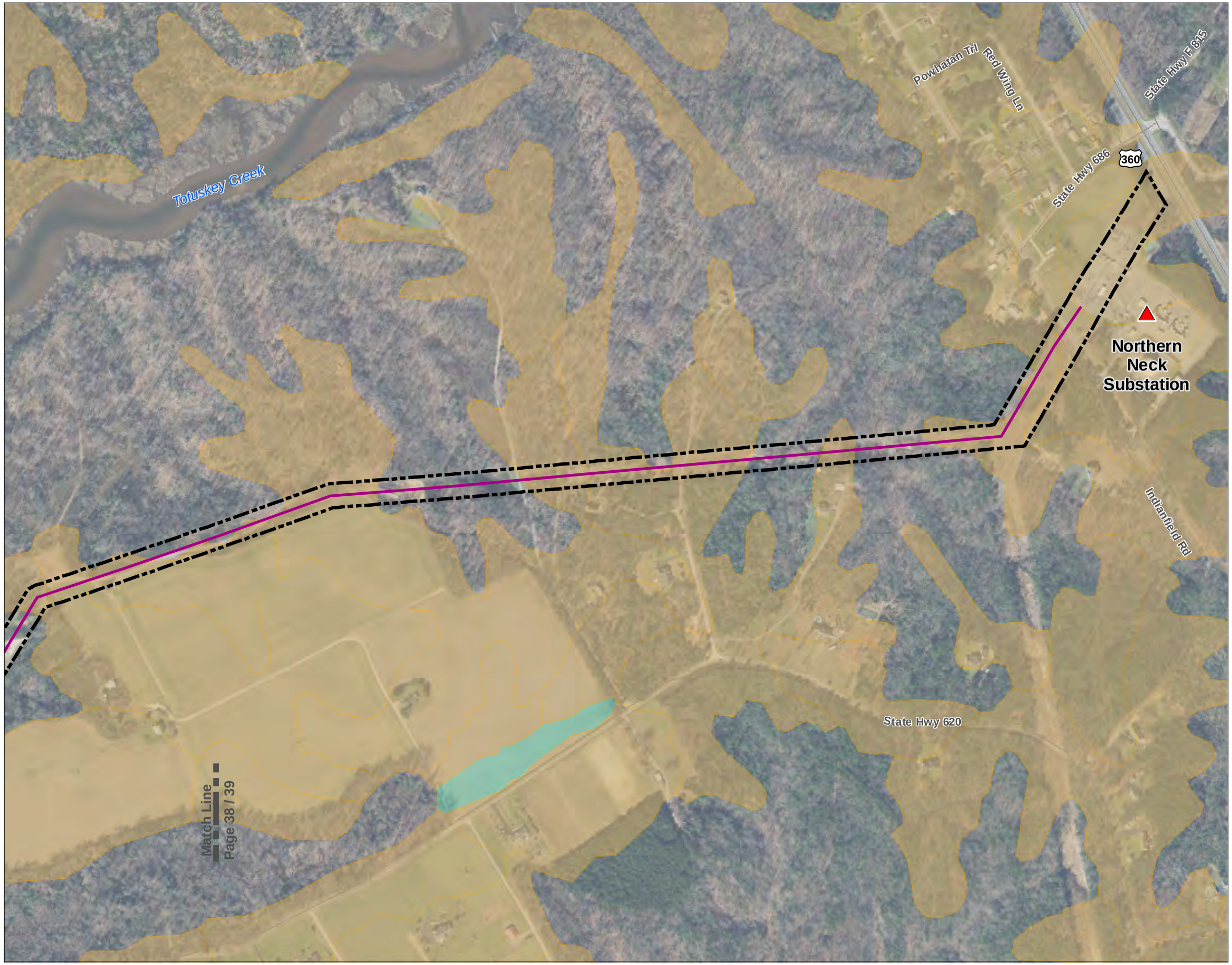

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III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL AND HISTORIC FEATURES

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

Response: Save the date postcards and letters were sent to more than 400 property owners inviting them to attend a virtual community meeting event to hear specific details relating to the Project and to provide any feedback on the scope and potential impacts of the Project. Examples of the postcards and letters are included as Attachments III.B.1 and III.B.2, respectively. The letter sent to property owners outlined the scope of the Project, provided an overview map, and invited recipients to visit the website for more information regarding the Project. The postcard and letter also offered a dedicated phone number and email address for community members to provide comment on or to ask any questions about the Project. The virtual open house event was held on September 10, 2020, from 5 p.m. to 6 p.m. utilizing WebEx Events software. At the virtual community meeting, the Company provided details about construction, project timing, and the State Corporation Commission approval process. Twenty-four people attended the virtual community meeting.

In addition to the postcards and letters, advertisements for the open houses were placed in the New Kent Charles City Chronicle (9/3), Country Courier (9/2), Rappahannock Times (9/2), Northern Neck News (9/2), Tidewater Review (9/2) prior to the event. A copy of the advertisement placed in the New Kent Charles City Chronicle is included as Attachment III.B.3; the same advertisement was placed in the other publications targeting residents in New Kent, King William, King and Queen, Essex and Richmond Counties. Paid digital and social media campaigns that ran from September 4-20, 2020, were also used to drive awareness of the Company's Project and the virtual community meeting, as well as to educate the public. The event campaigns ran within Google AdWords, Google Display, Google Video, Facebook and Twitter. All phases urged local residents to visit www.dominionenergy.com/line224 to learn more about the meeting and to participate virtually. Campaign results include 1,394,405 Impressions Delivered, 8,177 Clicks on Ads, .59% Click Thru Rate, 3,793 Link Clicks, 201,571 Video Views.

All of the open house materials, including simulations of the proposed Project from key locations have been posted on the website for the Project. The visual simulations from key locations are included as Attachment III.B.4.

The internet website dedicated to the Project can be found at: www.dominionenergy.com/line_224. The website includes route maps, an explanation of need, a description of the Project and its benefits, information on the Commission review process, structure diagrams and answers to frequently asked questions.

See Sections III.J, III.K and V.D regarding communications with municipal, state or federal governments, as well as non-governmental organizations or private citizen groups.

As part of preparing for this Project, the Company researched the demographics of the surrounding communities using 2010 U.S. Census data. This information revealed that there are 6 Census Tracts and 13 Census Block Groups within the Project area that fall within a mile of the existing transmission line to be rebuilt. A review of ethnicity, income, age, and education census data identified populations within the study area that meet the U.S. Environmental Protection Agency threshold to be defined as Environmental Justice communities ("EJ Communities").

Pursuant to Va. Code §§ 56-46.1 C and 56-259 C and Attachment 1 to these Guidelines, there is a strong preference for the use of existing utility rights-of-way whenever feasible. The Project is within the existing right-of-way and will not require any of the following: additional permanent or temporary right-of-way, the construction of a temporary line, or an increase in operating voltage. As shown in Section II.B.5, there is an increase in the average structure height due to compliance with National Electric Safety Standards and use of structures that do not require additional right-of-way.

While the Project will result in an average increase in structure height of more than 20%, the Company determined that installing H-frame structures would have required additional right-of-way. Therefore, the Company decided to use monopoles, which resulted in an overall height increase. See Section II.B.5.

Based on the analysis of the Project, the Company does not anticipate disproportionately high or adverse impacts to the surrounding community and the EJ Communities located within the study area, consistent with the Project design to reasonably minimize impacts. In addition to its evaluation of impacts, the Company will engage the EJ Communities and others affected by the Project in a manner that allows them to meaningfully participate in the project development and approval process so that their views and input can be taken into consideration.[12]

Dominion Energy image. Not project specific.

Electric Transmission
P.O. Box 26666
Richmond, VA 23261

Dominion Energy®

Actions Speak Louder

YOU'RE INVITED TO A VIRTUAL COMMUNITY MEETING!

DETAILS ENCLOSED

IMPORTANT

Local Power Line Project Information

Use your iPhone camera or the QR reader app on other smartphones to visit the project page on our website.

Line 224 Lanexa to Northern Neck Electric Transmission Rebuild Project

AT DOMINION ENERGY, we are committed to staying connected with our customers and providing the latest information on work being done in the communities we serve.

You are receiving this postcard because we would like to invite you to attend our virtual community meeting for the Line 224 Lanexa to Northern Neck Electric Transmission Line Rebuild Project. During the meeting, you can ask questions and interact with our project team as they present important information, including construction timelines, visual simulations and the project's impact on your community.

You can access our virtual community meeting for free using a mobile device, tablet, computer, or you can simply dial-in with your telephone. Please visit DominionEnergy.com/line224 for details.

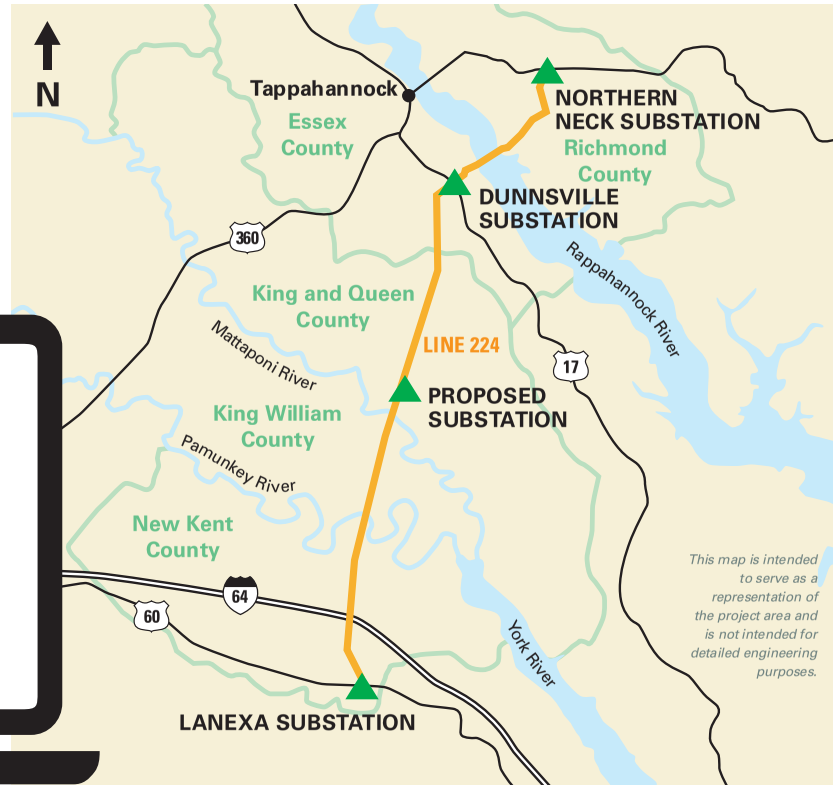
In addition, we want to inform you that in the wake of ongoing public health concerns from the spread of the coronavirus, we are mindful of our activities and maintaining property owner interactions with the appropriate social distancing. The work we do is integral to maintaining grid reliability and our crews will continue to perform work as needed to provide reliable electric service.

VIRTUAL COMMUNITY MEETING

Thursday, Sept. 10, 2020
5 – 6 p.m.

First 20 minutes will be a project overview presentation.

For more information, visit DominionEnergy.com/line224



CONTACT US

Visit our website at DominionEnergy.com/line224 for project updates. Or contact us by calling 888-291-0190 or sending an email to powerline@dominionenergy.com.

Sept. 2, 2020

Line 224 Lanexa to Northern Neck Rebuild Project

Dear:

At Dominion Energy, we are dedicated to finding the best solution for our long-term needs in the communities we serve. As a valued stakeholder with a vested interest in the community**,** we invite you to participate in the development of a 230 kilovolt (kV) electric transmission line rebuild project that crosses the Mattaponi, Pamunkey, and Rappahannock rivers.

This 41-mile line runs from Lanexa, Virginia to the Northern Neck and an area just east of Warsaw, Virginia. After nearly five decades of service, the structures and related components are at the end of their service life and need to be replaced to maintain reliability. We are currently replacing the structures and cables crossing the Mattaponi River. Our initial plan includes replacing wooden H-frame structures with a new double-circuit, weathering steel monopole. The new steel structures will average 108 feet in height and be placed in or near the same location as existing structures.

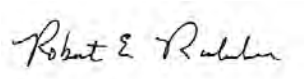
We are currently in the conceptual phase and are seeking input as we prepare to submit an application with the Virginia State Corporation Commission (SCC) in October 2020. Doing so allows us to hear any concerns you may have as we work to meet the project's needs. Attached is a project overview map to help in your review. Please feel free to notify other relevant organizations that may have an interest in the project area. For reference, recipients of this letter include other county and statewide historic, cultural and scenic organizations and Native American tribes.

Due to the ongoing public health concerns resulting from the spread of the coronavirus, we do not plan to host formal community open house events at this time. In lieu of our traditional in-person meetings, we will hold a virtual meeting Sept.10, 2020 from 5-6 p.m. You can find meeting details, as well as project information, at DominionEnergy.com/line224.

If you would like any additional information, have any questions, or would like to set up a meeting to discuss the project, please do not hesitate to contact me by sending an email to Robert.E.Richardson@dominionenergy.com or calling 888-291-0190.

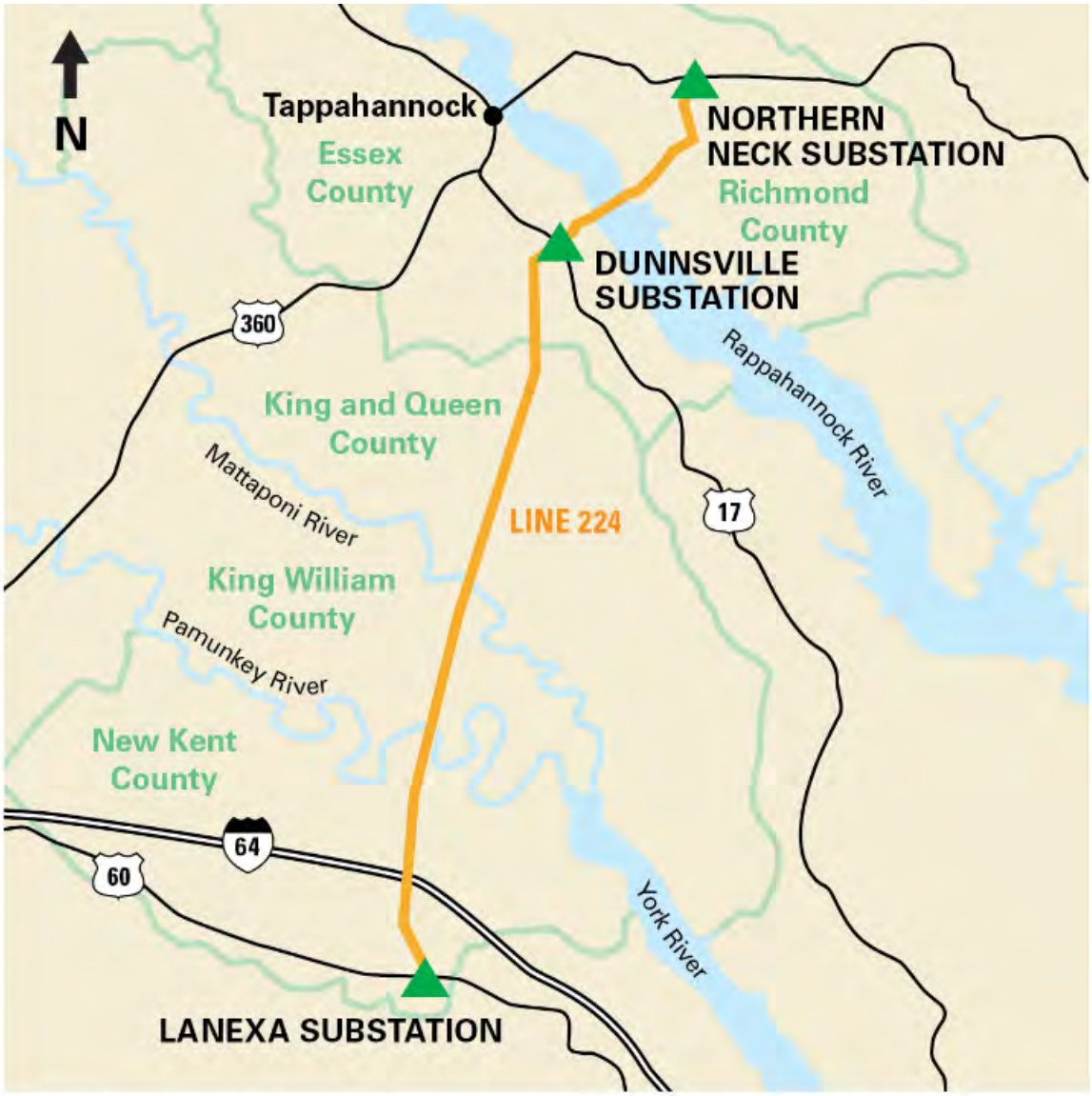
Thank you for your willingness to join us in our commitment to serving the community.

Sincerely,



Rob Richardson
The Electric Transmission Project Team

Enclosure



This map is intended to serve as a representation of the project area and is not intended for detailed engineering purposes.

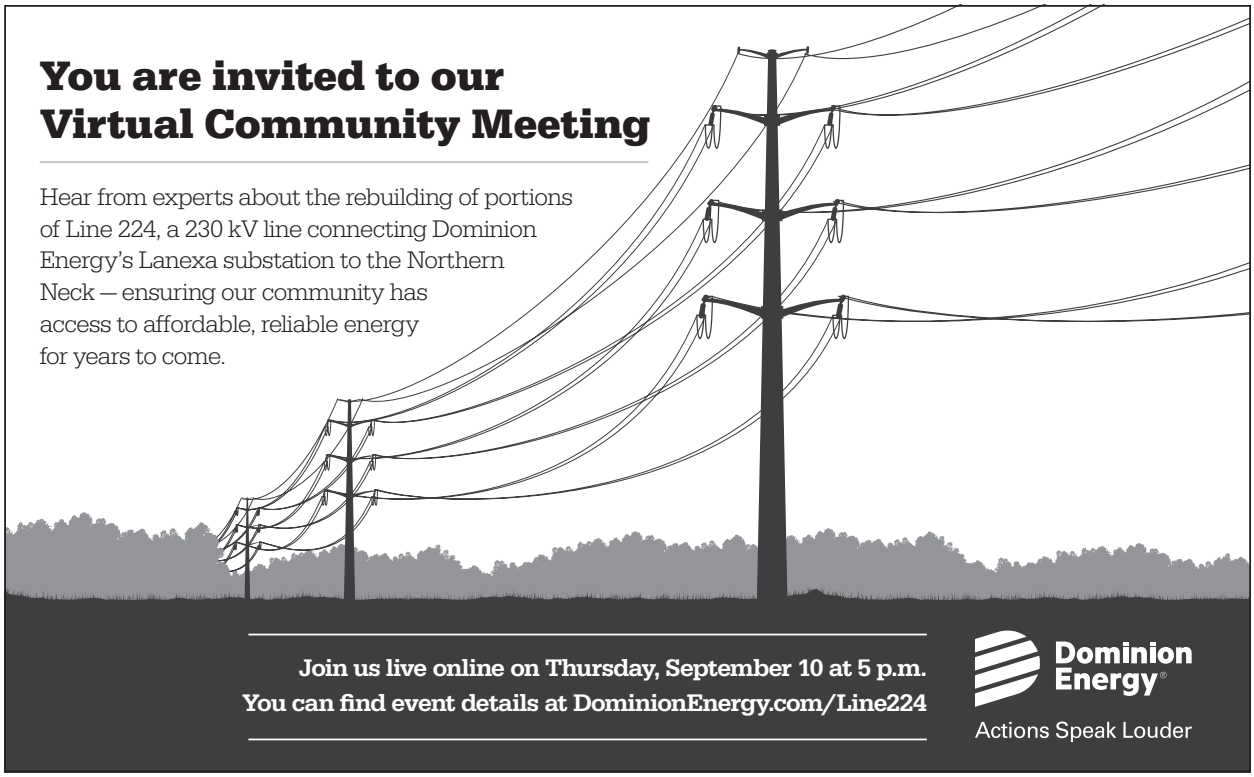
charles ryan associates

Dominion Energy Electric Transmission

Line 224 Creative

Event Video:

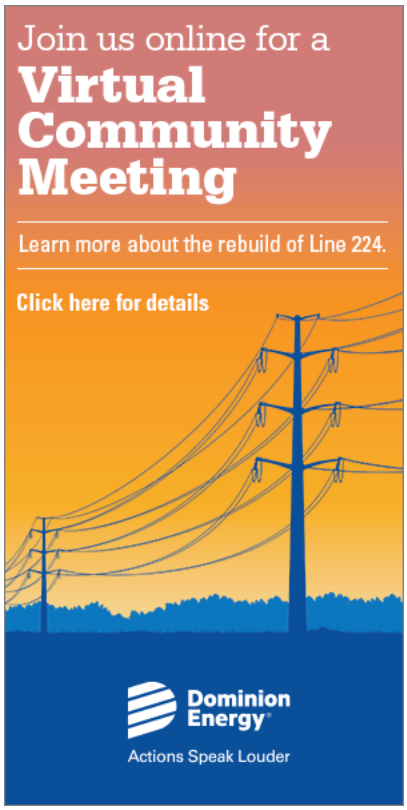
Newspaper:



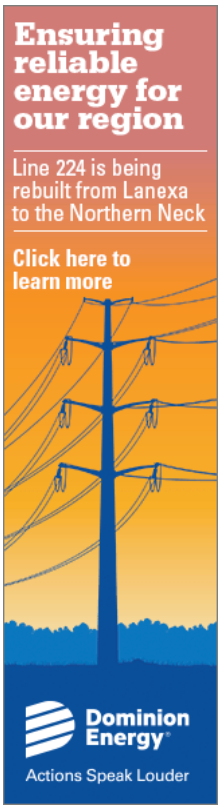
Dominion Energy
Electric Transmission
Line 224 Creative

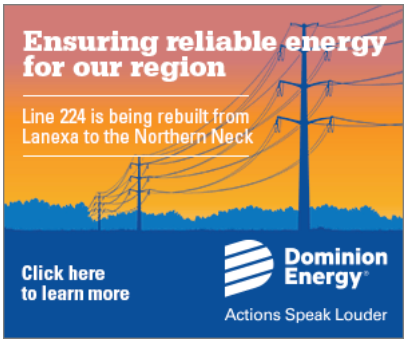
Both versions will be resized to all of the various sizes needed for the campaign.

Event Display:



Awareness Display:





LINE 224

LANEXA-NORTHERN NECK 230kV TRANSMISSION REBUILD PROJECT

PHOTO LOCATION MAP

DATE: 02/28/2020

TIME: 11:10 AM

DIRECTION: WEST

1 PHOTO LOCATION

TRANSMISSION LINE TO BE REBUILT

Dominion Energy®

PHOTO SIMULATION IS FOR VISUALIZATION PURPOSES ONLY. DESIGN IS SUBJECT TO FINAL ENGINEERING.

LINE 224

LANEXA-NORTHERN NECK 230kV
TRANSMISSION REBUILD PROJECT

PHOTO VIEWPOINT LOCATION 1

DATE:
06/01/2020

DIRECTION:
NORTH

① PHOTO LOCATION

TRANSMISSION LINE TO BE REBUILT

Dominion Energy®

LINE 224

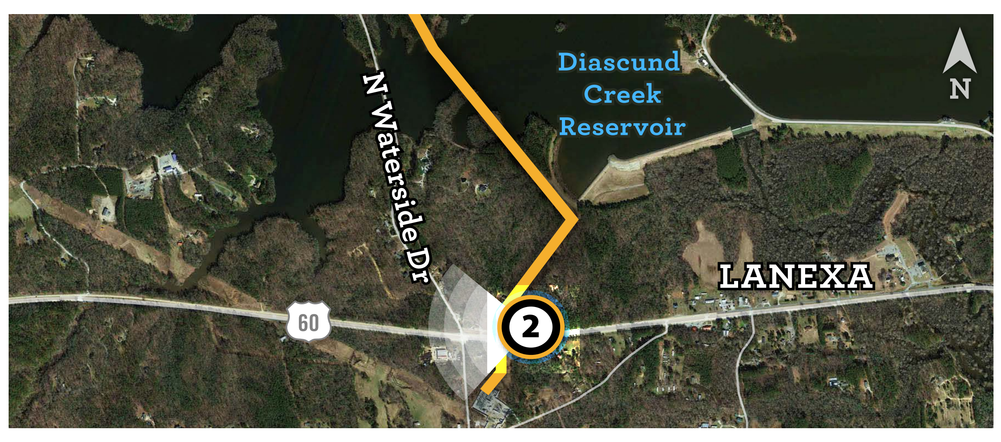
LANEXA-NORTHERN NECK 230kV
TRANSMISSION REBUILD PROJECT

PHOTO VIEWPOINT LOCATION 2

DATE:
02/28/2020

TIME:
11:10 AM

DIRECTION:
WEST



2 PHOTO LOCATION

TRANSMISSION LINE
TO BE REBUILT

Dominion Energy®

PHOTO SIMULATION IS FOR VISUALIZATION PURPOSES ONLY. DESIGN IS SUBJECT TO FINAL ENGINEERING.

LINE 224

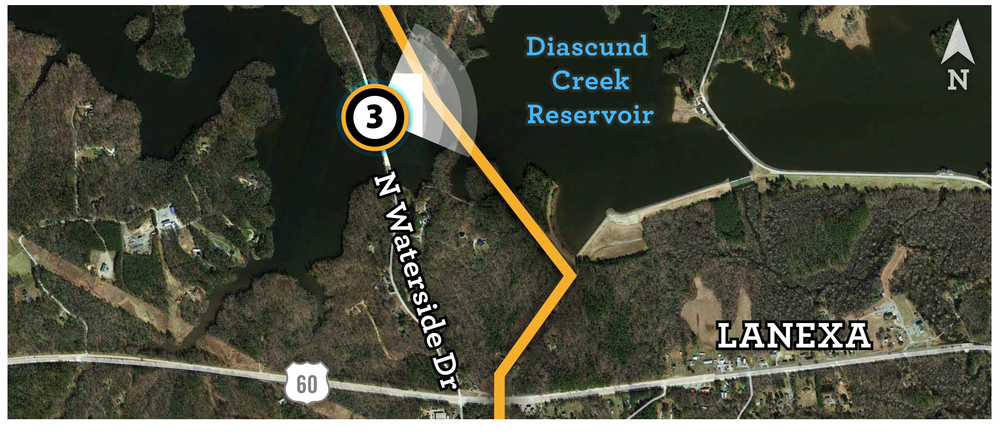
LANEXA-NORTHERN NECK 230kV
TRANSMISSION REBUILD PROJECT

PHOTO VIEWPOINT LOCATION 3

DATE:
02/28/2020

TIME:
11:30 AM

DIRECTION:
EAST



3 PHOTO LOCATION

TRANSMISSION LINE
TO BE REBUILT

Dominion Energy®

LINE 224

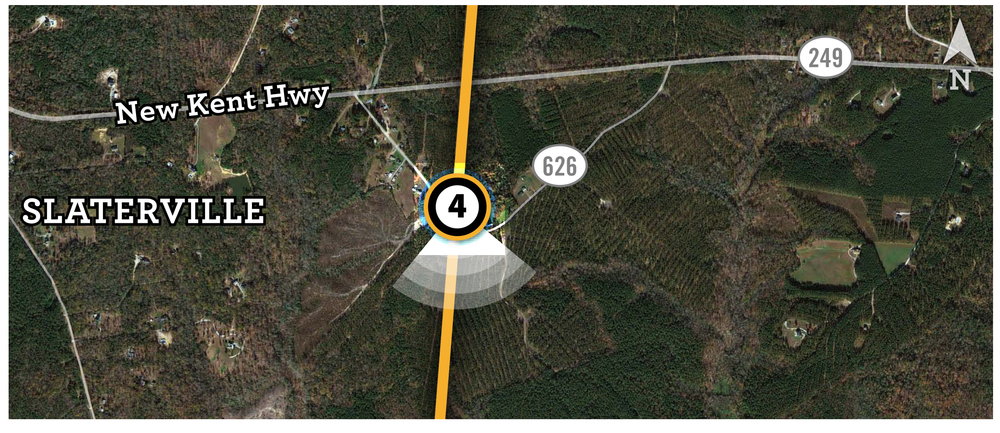
LANEXA-NORTHERN NECK 230kV
TRANSMISSION REBUILD PROJECT

PHOTO VIEWPOINT LOCATION 4

DATE:
02/28/2020

TIME:
1:46 PM

DIRECTION:
SOUTH



4 PHOTO LOCATION

TRANSMISSION LINE TO BE REBUILT

Dominion Energy®

396

LINE 224

LANEXA-NORTHERN NECK 230kV
TRANSMISSION REBUILD PROJECT

PHOTO VIEWPOINT LOCATION 5

DATE:
02/28/2020

TIME:
3:41 PM

DIRECTION:
WEST

5 PHOTO LOCATION

TRANSMISSION LINE TO BE REBUILT

Dominion Energy®

LINE 224

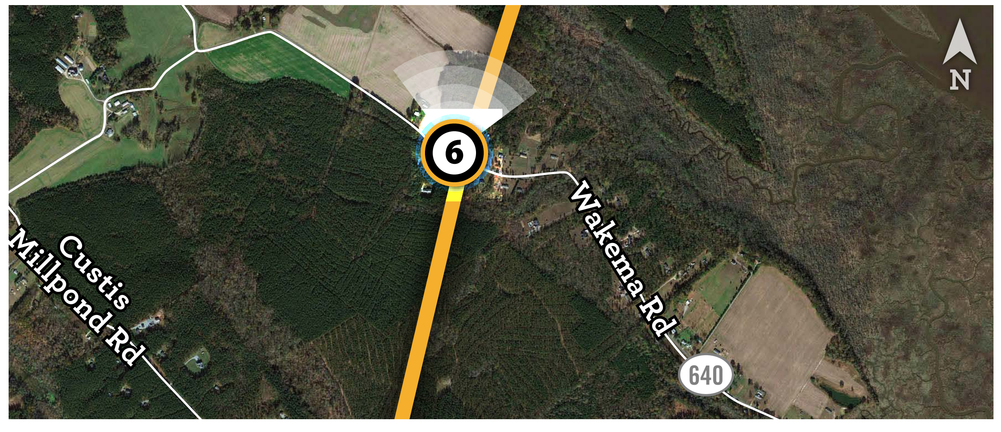
LANEXA-NORTHERN NECK 230kV
TRANSMISSION REBUILD PROJECT

PHOTO VIEWPOINT LOCATION 6

DATE:
02/29/2020

TIME:
9:24 AM

DIRECTION:
NORTH



6 PHOTO LOCATION

TRANSMISSION LINE TO BE REBUILT

Dominion Energy®

LINE 224

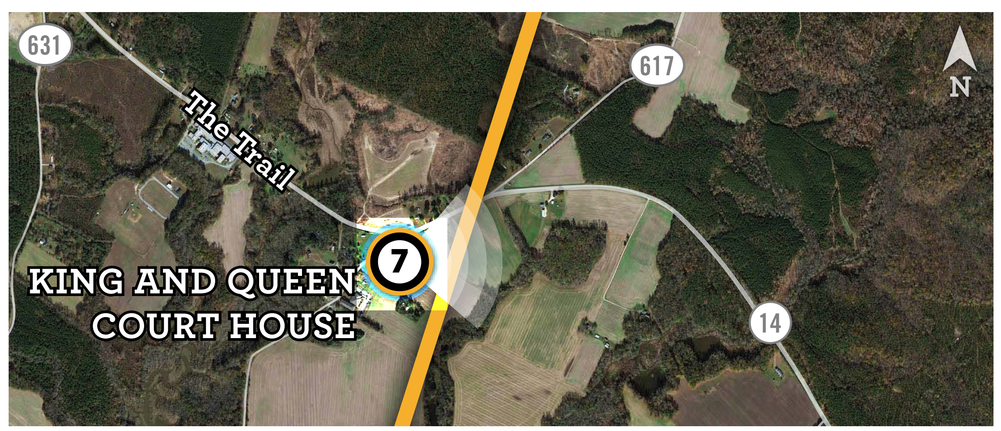
LANEXA-NORTHERN NECK 230kV
TRANSMISSION REBUILD PROJECT

PHOTO VIEWPOINT LOCATION 7

DATE:
02/29/2020

TIME:
11:09 AM

DIRECTION:
EAST



7 PHOTO LOCATION

TRANSMISSION LINE
TO BE REBUILT

Dominion Energy®

LINE 224

LANEXA-NORTHERN NECK 230kV
TRANSMISSION REBUILD PROJECT

PHOTO VIEWPOINT LOCATION 8

DATE:
02/29/2020

TIME:
2:17 PM

DIRECTION:
EAST

8 PHOTO LOCATION

TRANSMISSION LINE
TO BE REBUILT

Dominion Energy®

EXISTING CONDITIONS

400

PROPOSED CONDITIONS

PHOTO SIMULATION IS FOR VISUALIZATION PURPOSES ONLY. DESIGN IS SUBJECT TO FINAL ENGINEERING.

LINE 224

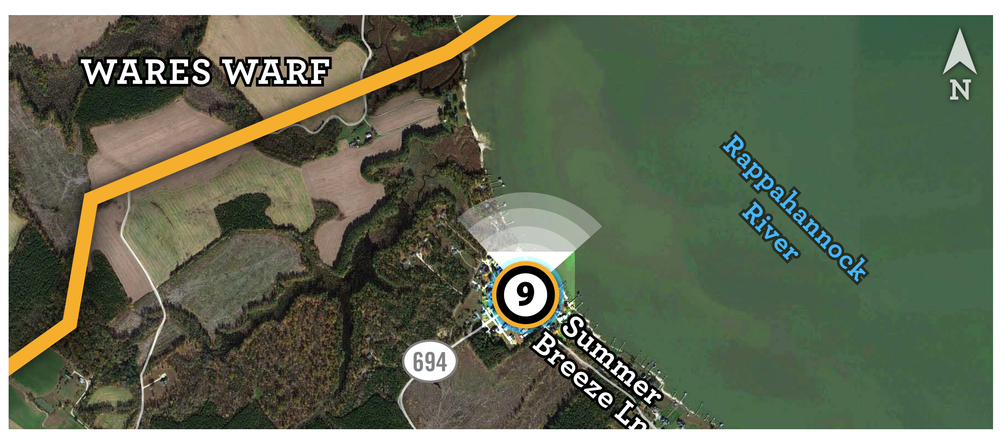
LANEXA-NORTHERN NECK 230kV
TRANSMISSION REBUILD PROJECT

PHOTO VIEWPOINT LOCATION 9

DATE:
02/29/2020

TIME:
4:24 PM

DIRECTION:
NORTH



9 PHOTO LOCATION

TRANSMISSION LINE TO BE REBUILT

Dominion Energy®

LINE 224

LANEXA-NORTHERN NECK 230kV
TRANSMISSION REBUILD PROJECT

PHOTO VIEWPOINT LOCATION 10

DATE:
03/01/2020

TIME:
10:40 AM

DIRECTION:
SOUTHWEST

10 PHOTO LOCATION

TRANSMISSION LINE TO BE REBUILT

Dominion Energy®

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

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

Response: During the Company's initial review of the existing right-of-way, it became aware of approximately nine properties with unauthorized encroachments. Encroachments include trailers, broken down vehicles, debris, boats, a carport, and a playset. The encroachments will need to be addressed with the respective property owners as the Company continues to investigate the right-of-way.

In support of the Project, the Company will be reviewing the entire corridor width prior to construction and plans to address unauthorized encroachments and easement violations as appropriate.

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

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

Response: Lanexa-Northern Neck 230 kV Line #224 is within an existing transmission line corridor that begins in New Kent County and traverses through King William County, King and Queen County, Essex County, and ends in Richmond County. In addition to Line #224, the existing transmission corridor contains Lines #65, #85, and #2016, at various sections of the corridor.

While Line #224 does not parallel any railroad corridors or highways, it crosses over these facilities. It currently crosses and will continue to cross a Norfolk Southern railroad right-of-way, as well as Interstate 64, Route 249, Route 30, US-17, and Route 3. The general character of the Project area is predominantly rural.

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

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

Response: The Company reviewed *New Kent County Comprehensive Plan, King and Queen County, Virginia 2030 Comprehensive Plan, King William County Comprehensive Plan, Essex County Comprehensive Plan, and Richmond County Virginia Comprehensive Plan* to evaluate the potential effect the Project could have on future development. The Essex County plan encourages the use of "existing utilities and transmission right of ways to minimize installation of new facilities and avoid additional land disturbance to the greatest extent possible." The Richmond County Plan discourages the establishment of new public or private service facilities and utilities within or near flood zones where they may create a hazard if damaged during a storm. The placement and construction of electric transmission lines is not addressed within the other plans. The Project is entirely within existing right-of-way or on Company-owned property, and would not affect land use. The Project is not expected to impact the character of these localities, as the transmission corridor has been in use for at least 50 years.

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

F. Government Bodies

1. Indicate if the Applicant determined from the governing bodies of each county, city and town in which the proposed facilities will be located whether those bodies have designated the important farmlands within their jurisdictions, as required by § 3.2-205 B of the Code.

2. If so, and if any portion of the proposed facilities will be located on any such important farmland:

a. Include maps and other evidence showing the nature and extent of the impact on such farmlands;

b. Describe what alternatives exist to locating the proposed facilities on the affected farmlands, and why those alternatives are not suitable; and

c. Describe the Applicant's proposals to minimize the impact of the facilities on the affected farmland.

Response: 1. New Kent County, King William County, King and Queen County, Essex County, and Richmond County have not designated important farmlands within their jurisdictions. New Kent County, King and Queen County, Essex County, and Richmond County have identified agricultural districts within their jurisdictions. King William County has not identified agricultural districts within its jurisdiction.

2. Not applicable.

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

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

1. **Any district, site, building, structure, or other object included in the National Register of Historic Places maintained by the U.S. Secretary of the Interior;**

2. **Any historic architectural, archeological, and cultural resources, such as historic landmarks, battlefields, sites, buildings, structures, districts or objects listed or determined eligible by the Virginia Department of Historic Resources ("DHR");**

3. **Any historic district designated by the governing body of any city or county;**

4. **Any state archaeological site or zone designated by the Director of the DHR, or its predecessor, and any site designated by a local archaeological commission, or similar body;**

5. **Any underwater historic assets designated by the DHR, or predecessor agency or board;**

6. **Any National Natural Landmark designated by the U.S. Secretary of the Interior;**

7. **Any area or feature included in the Virginia Registry of Natural Areas maintained by the Virginia Department of Conservation and Recreation ("DCR");**

8. **Any area accepted by the Director of the DCR for the Virginia Natural Area Preserves System;**

9. **Any conservation easement or open space easement qualifying under §§ 10.1-1009 – 1016, or §§ 10.1-1700 – 1705, of the Code (or a comparable prior or subsequent provision of the Code);**

10. **Any state scenic river;**

11. **Any lands owned by a municipality or school district; and**

12. **Any federal, state or local battlefield, park, forest, game or wildlife preserve, recreational area, or similar facility. Features, sites, and the like listed in 1 through 11 above need not be identified again.**

Response:

1. Sweet Hall (VDHR #049-0064), Ruffin's Ferry (VDHR #050-0070), and King and Queen County Courthouse Green Historic District (VDHR #050-5001) are listed on the NRHP and occur adjacent to the existing right-of-way for the Project.

2. Historic properties listed on the NRHP were provided in the response above. Adjacent to the existing right-of-way, there are three NRHP-eligible architectural resources: These resources are the King and Queen County Courthouse (VDHR #049-0036), Immanuel Chapel (VDHR #049-0035), and Mantapike Hill/Walkerton Battlefield (VDHR #049-5007).

3. None.

4. None.

5. None.

6. None.

7. According to a letter from the Virginia Department of Conservation and Recreation ("DCR") dated March 20, 2020, there are four natural areas crossed by the Project. See Attachment 2.F.3 of the DEQ Supplement. The Exol Swamp Stream Conservation Unit ("SCU"), located in King and Queen County on the Truhart Quad, has been given a biodiversity ranking of B3, which represents a site of high significance. The natural heritage resource associated with this site is the NC-Great Wicomico-Piankatank First Order Stream. The documented Aquatic Natural Community has a stream contributing to high biological integrity at the watershed level based on number of native/non-native, pollution-tolerant/intolerant and rare, threatened or endangered fish and macroinvertebrate species present.

   According to the March 20, 2020 letter from DCR, there are two natural areas crossed by the right-of-way in the Walkers Quad located in King and Queen County. The Beaverdam Creek SCU, located on the Walkers Quad in New Kent County has been given a biodiversity ranking of B3, which represents a site of high significance. The natural heritage resource associated with this site is NC-Lower James Third Order Stream. The documented Aquatic Natural Community has a stream contributing to high biological integrity at the watershed level based on number of native/non-native, pollution-tolerant/intolerant and rare, threatened or endangered fish and macroinvertebrate species present. The Chickahominy River – Shipyard Creek – Diascund Creek SCU has been given a biodiversity ranking of B2, which represents a site of very high significance. The natural heritage resources associated with this site are tropical water-hyssop (*Bacopa innominata*), Parker's pipewort (*Eriocaulon parkeri*), winter quillwort (*Isoetes hyemalis*), narrow-leaved spatterdock (*Nuphar sagittifolia*), Carolina fanwork (*Cabomba caroliniana*), glossy crayfish snake (*Regina rigida*), and NC-Lower James Fourth Order Stream.

8. None. There are no State Natural Area Preserves under DCR's jurisdiction in the Project vicinity.

9. There are five conservation easements crossed by the existing right-of-way for the proposed Project. The conservation easements within the right-of-way are held by the Historic Virginia Land Conservancy, Virginia Department of Forestry, Virginia Outdoors Foundation, and the Nature Conservancy, which holds two easements. The transmission line and right-of-way were present when the conservation easements were designated.

10. The Rappahannock River has been identified as a potential scenic river, while Dragon Run has been identified as a qualified river for inclusion within the state scenic river program, but neither have been designated as a scenic river. The Pamunkey River and Mattaponi River have been designated as potentially eligible for listing as state scenic rivers. The partial rebuild of Line #224 at these river crossings was previously approved by the Commission in Case No. PUR-2018-00090.[18]

11. The existing right-of-way for Line #224 crosses one property jointly owned by the City of Newport News and James City County, Diascund Reservoir in New Kent County. The reservoir is a local recreation area that is operated jointly by the City of Newport News, James City County, and DWR. The existing right-of-way does not cross any other parks or similar facilities.

12. The Project crosses the Captain John Smith Chesapeake National Historic Trail.

[18] *See supra* n. 1, 2.

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

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

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

The Company reviewed the FAA's website[19] to identify airports within 10 miles of the proposed Project. Based on this review, three FAA-restricted airports were identified:

- New Kent Airport, approximately 8.9 nautical miles west of the line;
- Middle Peninsula Regional Airport, approximately 8 nautical miles east of the line; and
- Tappahannock-Essex County Airport, approximately 5.6 nautical miles northwest of the line.

Additionally, four privately owned airfields and one privately owned helipad were identified within 10 miles of the proposed Project.

- Shandy Hall Farm Airport, approximately 2 miles south of the line;
- Folly Neck Airport, approximately 1.4 miles southeast of the line;
- Lee Field Airport approximately 3 miles east of the line;
- Branham Mill Airpark Airport, approximately 1 mile north of the line; and
- Tappahannock Hospital Heliport, approximately 5 miles northwest of the line.

The Company will work with private entities as appropriate.

In a letter dated September 15, 2020, the Virginia Department of Aviation ("DOAv") stated that a Form 7460 will need to be submitted to the FAA to initiate an aeronautical study to ensure that the proposed Project will not constitute a hazard to air navigation. The letter is included as Attachment 2.N.1 of the DEQ Supplement. Based upon the proposed structure heights, 118 structures will need to be filed using Form 7460 with the FAA. The Company

[19] https://oeaaa.faa.gov/oeaaa/external/portal.jsp.

will file Form 7460 for these structures and coordinate as necessary with the FAA and DOAv to ensure the replacement structures are not an obstruction to aeronautical navigation.

See also Section 2.N of the DEQ Supplement.

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

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

Response: The existing right-of-way to be used for the Project crosses State Route 14, which has been designated as a scenic byway. The Company will meet with stakeholders of these resources and will explore mitigation measures if necessary.

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

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

Response: Below is a list of coordination that has occurred with municipal, state, and federal agencies:

- Letters dated September 2, 2020 were submitted to New Kent County, King William County, King and Queen County, Essex County and Richmond County to describe the Project and request comment. See Section V.D of the Appendix.

- Letters were submitted to the agencies listed in Section V.C on September 2, 4, and 25, 2020, describing the Project and requesting comment (See Attachment 2.0 to the DEQ Supplement).

- A Stage I Pre-Application Analysis was completed in October 2020 and was submitted to VDHR.

- Coordination with the U.S. Army Corps of Engineers ("Corps"), DEQ, VDOT and the Virginia Marine Resources Commission ("VMRC") will take place as appropriate to obtain necessary approvals for the Project.

- In a letter dated March 20, 2020, the DCR Division of Natural Heritage commented on the occurrences of natural heritage resources near and/or within the Project area. (See Attachment 2.F.3 to the DEQ Supplement).

- As part of the Project, the Company solicited comments via email from several federally-recognized Native American tribes, including: Cheroenhaka, Chickahominy, Mattaponi, Monacan, Nansemond, Nottaway, Pamunkey, Rappahannock, Upper Mattaponi, Chickahominy Tribe - Eastern Division. See Attachment III.J.1.

September 05, 2020

Line 224 Lanexa to Northern Neck Rebuild Project

Dear :

We're following up with our discussion with you from back in March and April about the electric transmission rebuild project for Line 224. This project rebuilds the transmission line from Lanexa, Virginia to the Northern Neck and an area just east of Warsaw, Virginia. It's 41 miles long and crosses the Mattaponi, Pamunkey, and Rappahannock Rivers.

No new right of way is needed

This transmission line has been in service since the late 60s and after more than 5 decades the structures and related components are at the end of their service life and need to be replaced to ensure reliable operation of this transmission line.

We are planning a virtual open house meeting on September 10, 2020. Details on how to join that meeting can be found at DominionEnergy.com/line224. It is our hope that you will be able to view the meeting or call in and ask any questions you have.

If you have specific questions or would like to set up a meeting to discuss the project, please contact me by sending an email to Robert.E.Richardson@DominionEnergy.com or Ken.Custalow@DominionEnergy.com You can also call Powerline at 888-291-0190.

Thank you for your willingness to join us in our commitment to serve the community.

Sincerely,

Rob Richardson
Electric Transmission Communications

Ken Custalow
External Affairs Manager – Tribal Relations

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

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

Response: On September 2, 2020, the Company solicited comments via letter from the non-governmental organizations and private citizens groups identified in the table below. A copy of the letter template and overview map is included as Attachment III.K.1.

Name	Organization
Ms. Elizabeth S. Kostelny	Preservation Virginia
Mr. Thomas Gilmore	Civil War Trust
Mr. Jim Campi	Civil War Trust
Mr. Adam Gillenwater	Civil War Trust
Ms. Kym Hall	Colonial National Historical Park
Mr. Jack Gary	Council of Virginia Archaeologists
Ms. Leighton Powell	Scenic Virginia
Mr. Alexander Macaulay	Macaulay & Jamerson
Sharee Williamson	National Trust for Historic Preservation
Dan Holmes	Piedmont Environmental Council
Dr. Newby- Alexander	Norfolk State University
Mr. Dave Dutton	Dutton + Associates, LLC

Sept. 2, 2020

Line 224 Lanexa to Northern Neck Rebuild Project

Dear:

At Dominion Energy, we are dedicated to finding the best solution for our long-term needs in the communities we serve. As a valued stakeholder with a vested interest in the community**,** we invite you to participate in the development of a 230 kilovolt (kV) electric transmission line rebuild project that crosses the Mattaponi, Pamunkey, and Rappahannock rivers.

This 41-mile line runs from Lanexa, Virginia to the Northern Neck and an area just east of Warsaw, Virginia. After nearly five decades of service, the structures and related components are at the end of their service life and need to be replaced to maintain reliability. We are currently replacing the structures and cables crossing the Mattaponi River. Our initial plan includes replacing wooden H-frame structures with a new double-circuit, weathering steel monopole. The new steel structures will average 108 feet in height and be placed in or near the same location as existing structures.

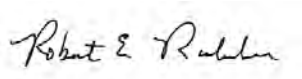
We are currently in the conceptual phase and are seeking input as we prepare to submit an application with the Virginia State Corporation Commission (SCC) in October 2020. Doing so allows us to hear any concerns you may have as we work to meet the project's needs. Attached is a project overview map to help in your review. Please feel free to notify other relevant organizations that may have an interest in the project area. For reference, recipients of this letter include other county and statewide historic, cultural and scenic organizations and Native American tribes.

Due to the ongoing public health concerns resulting from the spread of the coronavirus, we do not plan to host formal community open house events at this time. In lieu of our traditional in-person meetings, we will hold a virtual meeting Sept.10, 2020 from 5-6 p.m. You can find meeting details, as well as project information, at DominionEnergy.com/line224.

If you would like any additional information, have any questions, or would like to set up a meeting to discuss the project, please do not hesitate to contact me by sending an email to Robert.E.Richardson@dominionenergy.com or calling 888-291-0190.

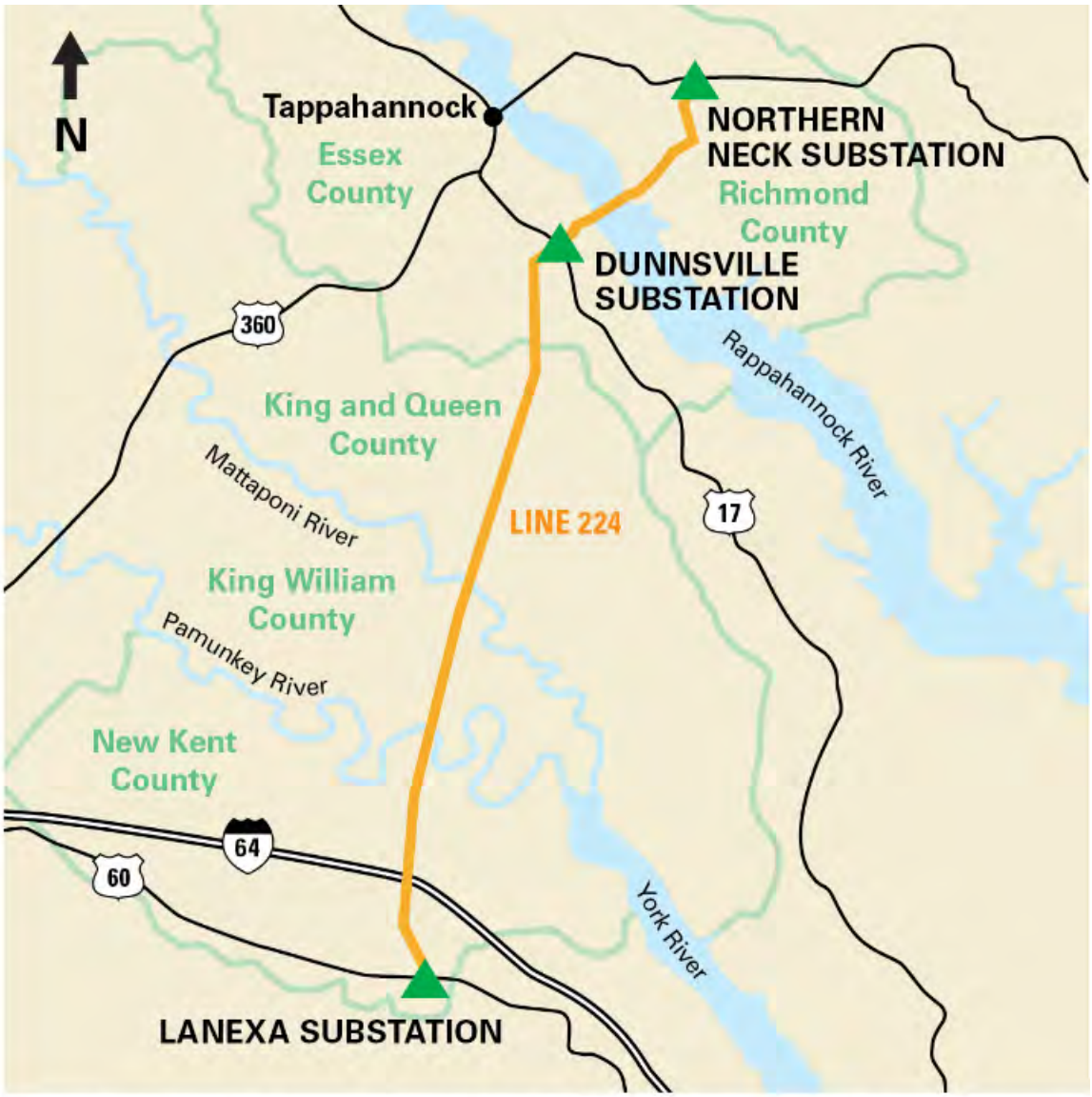
Thank you for your willingness to join us in our commitment to serving the community.

Sincerely,



Rob Richardson
The Electric Transmission Project Team

Enclosure



This map is intended to serve as a representation of the project area and is not intended for detailed engineering purposes.

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

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

Response See table below.

Potential Permits

Activity	Permit	Agency / Entity
Impacts to wetlands and waters of the U.S.	Nationwide Permit 12	U.S. Army Corps of Engineers
Work within, over or under state subaqueous bottom	Subaqueous Bottom Permit	Virginia Marine Resources Commission
Discharge of Stormwater from Construction	Construction General Permit	Virginia Department of Environmental Quality
Work within VDOT right-of-way	Land Use Permit	Virginia Department of Transportation
Work within, over or under tidal wetlands	Wetlands Permit	Richmond County Wetlands Board
Work within, over or under tidal wetlands	Wetlands Permit	Essex County Wetlands Board
Work within, over, or on Railroad owned property	Utility Occupancy Permit	Norfolk Southern Railroad

:

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

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

Response: Public exposure to magnetic fields is best estimated by field levels from power lines calculated at annual average loading. For any day of the year, the EMF levels associated with average conditions provide the best estimate of potential exposure. Maximum (peak) values are less relevant as they may occur for only a few minutes or hours each year.

This section describes the levels of EMF associated with the existing transmission Lines #65, #85, #224 and #2016 compared with the proposed rebuild of Line #224 with the addition of Line #2208, along with the other lines remaining in the corridor. EMF levels are provided for both historical (2019) and future (2025) annual average and maximum (peak) loading conditions.

Existing Lines – Average Historical Loading

EMF levels were calculated for the existing lines at the ***historical average*** load conditions shown in the table below:

Line No.	Operating Voltage (kV) on existing structures	Attachments	Average (Amps)
224	241.5	II.A.5.a, c, g, i	117.7
65	120.75	II.A.5.a	70.1
85	120.75	II.A.5.g, i	119.0
2016	241.5	II.A.5.g, i	187.1

These field levels are calculated at mid-span where the conductors are closest to the ground and the conductors were at historical average load operating temperatures. EMF levels at the edge of the rights-of-way for the existing lines at the historical average loading are listed below:

Existing Lines - Historic Average Loading				
	Left Edge Looking Towards Lanexa		Right Edge Looking Towards Lanexa	
Attachment	Electric Field (kV/m)	Magnetic Field (mG)	Electric Field (kV/m)	Magnetic Field (mG)
II.A.5.a	3.438	0.465	6.964	1.093
II.A.5.c	6.017	0.876	6.017	0.876
II.A.5.g	1.839	0.132	8.840	1.462
II.A.5.i	1.928	0.094	7.662	1.070

Existing Lines – Peak Historical Loading

EMF levels were calculated for the existing lines at the ***historical peak*** load conditions at the table shown below:

Line No.	Operating Voltage (kV) on existing structures	Attachments	Historic Peak Loading (Amps)
224	241.5	II.A.5.a, c, g, i	480.9
65	120.75	II.A.5.a	327.4
85	120.75	II.A.5.g, i	379.8
2016	241.5	II.A.5.g, i	475.8

These field levels are calculated at mid-span where the conductors are closest to the ground and the conductors were at historical peak load operating temperature. EMF levels at the edge of the rights-of-way for the existing lines at the historical peak loading are listed below:

Existing Lines - Historic Peak Loading				
	Left Edge Looking Towards Lanexa		Right Edge Looking Towards Lanexa	
Attachment	Electric Field (kV/m)	Magnetic Field (mG)	Electric Field (kV/m)	Magnetic Field (mG)
II.A.5.a	18.904	0.465	28.451	1.091
II.A.5.c	24.756	0.873	24.756	0.873
II.A.5.g	5.502	0.132	35.377	1.462
II.A.5.i	6.594	0.093	27.816	1.080

Proposed Project – Average Historical Loading

EMF levels were calculated for the proposed Project at the ***historical average*** load condition shown in the table below:

Line No.	Operating Voltage (kV) on proposed structures	Attachments	Historic Average Loading (Amps)
224	241.5	II.A.5.b, d, h, j	117.7
65	120.75	II.A.5.b	70.1
85	120.75	II.A.5.h, j	119.0
2016	241.5	II.A.5.h, j	187.1

These field levels are calculated at mid-span where the conductors are closest to the ground and the conductors were at a historical average load operating temperature. EMF levels at the edge of the rights-of-way for the proposed Rebuild Project at historical average loading are listed below:

Proposed Lines - Historic Average Loading				
	Left Edge Looking Towards Lanexa		Right Edge Looking Towards Lanexa	
Attachment	Electric Field (kV/m)	Magnetic Field (mG)	Electric Field (kV/m)	Magnetic Field (mG)
II.A.5.b	4.173	0.389	1.811	0.150
II.A.5.d	3.065	0.215	1.762	0.148
II.A.5.h	2.795	0.045	1.216	0.066
II.A.5.j	5.482	0.173	1.803	0.044

Proposed Project – Peak Historical Loading

EMF levels were calculated for the proposed Project at the ***historical peak*** load condition as shown in the table below:

Line No.	Operating Voltage (kV) on proposed structures	Attachments	Historic Peak Loading (Amps)
224	241.5	II.A.5.b, d, h, j	480.9
65	120.75	II.A.5.b	327.4
85	120.75	II.A.5.h, j	379.8
2016	241.5	II.A.5.h, j	475.8

These field levels are calculated at mid-span where the conductors are closest to the ground and the conductors were at peak historical load operating temperature. EMF levels at the edge of the rights-of-way for the proposed Rebuild Project at historical peak loading are listed below:

Proposed Lines - Historic Peak Loading				
	Left Edge Looking Towards Lanexa		Right Edge Looking Towards Lanexa	
Attachment	Electric Field (kV/m)	Magnetic Field (mG)	Electric Field (kV/m)	Magnetic Field (mG)
II.A.5.b	22.238	0.388	7.846	0.150
II.A.5.d	12.578	0.210	7.217	0.149
II.A.5.h	11.231	0.046	6.500	0.066
II.A.5.j	8.586	0.036	5.710	0.050

Proposed Project – Projected Average Loading in 2025

EMF levels were calculated for the proposed Project and remaining existing lines at the ***projected average*** load condition shown in the table below:

Line No.	Operating Voltage (kV) on proposed structures	Attachments	Projected Average Loading (Amps)
224	241.5	II.A.5.b, d, h, j	65.0
65	120.75	II.A.5.b	59.0
85	120.75	II.A.5.h, j	99.0
2016	241.5	II.A.5.h, j	154.0
2208	241.5	II.A.5.b, d, h, j	56.0

These field levels are calculated at mid-span where the conductors are closest to the ground and the conductors were at projected average load operating temperature. EMF levels at the edge of the rights-of-way for the proposed Rebuild Project at projected average loading are listed below:

Proposed Lines - Projected Average Loading

Attachment	Left Edge Looking Towards Lanexa		Right Edge Looking Towards Lanexa	
	Electric Field (kV/m)	Magnetic Field (mG)	Electric Field (kV/m)	Magnetic Field (mG)
II.A.5.b	3.535	0.440	1.444	0.422
II.A.5.d	2.486	0.129	2.385	0.129
II.A.5.h	2.276	0.089	1.809	0.653
II.A.5.j	4.199	0.100	1.832	1.263

Proposed Project – Peak Loading in 2025

EMF levels were calculated for the proposed Project and remaining existing lines at the ***projected peak*** load conditions shown in the table below:

Line No.	Operating Voltage (kV) on proposed structures	Attachments	Projected Peak Loading (Amps)
224	241.5	II.A.5.b, d, h, j	258.6
65	121	II.A.5.b	291.8
85	121	II.A.5.h, j	297.7
2016	241.5	II.A.5.h, j	440.7
2208	241.5	II.A.5.b, d, h, j	221.0

These field levels are calculated at mid-span where the conductors are closest to the ground and the conductors were at projected peak load operating temperature. EMF levels at the edge of the rights-of-way for the proposed Rebuild Project at projected peak loading are listed below:

Proposed Lines - Projected Peak Loading				
	Left Edge Looking Towards Lanexa		**Right Edge Looking Towards Lanexa**	
Attachment	Electric Field (kV/m)	Magnetic Field (mG)	Electric Field (kV/m)	Magnetic Field (mG)
II.A.5.b	17.510	0.439	6.466	0.422
II.A.5.d	9.877	0.127	9.450	0.128
II.A.5.h	7.158	0.088	6.004	0.653
II.A.5.j	11.968	0.102	6.730	1.263

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

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

Response: The conclusions of multidisciplinary scientific review panels assembled by national and international scientific agencies during the past two decades are the foundation of the Company's opinion that no adverse health effects will result from the operation of the proposed Project. Each of these panels has evaluated the scientific research related to health and power-frequency EMF and provided conclusions that form the basis of guidance to governments and industries. The Company regularly monitors the recommendations of these expert panels to guide their approach to EMF.

Research on EMF and human health varies widely in approach. Some studies evaluate the effects of high, short-term EMF exposures not typically found in people's day-to-day lives on biological responses, while others evaluate the effects of common, lower EMF exposures found throughout communities. Studies also have evaluated the possibility of effects (e.g., cancer, neurodegenerative diseases, reproductive effects) of long-term exposure. Altogether, this research includes well over a hundred epidemiologic studies of people in their natural environment and many more laboratory studies of animals (*in vivo*) and isolated cells and tissues (*in vitro*). Standard scientific procedures, such as weight-of-evidence methods, were used by the expert panels assembled by agencies to identify, review, and summarize the results of this large and diverse research.

The reviews of EMF biological and health research have been conducted by numerous scientific and health agencies, including the European Health Risk Assessment Network on Electromagnetic Fields Exposure ("EFHRAN"), the International Commission on Non-Ionizing Radiation Protection ("ICNIRP"), the World Health Organization ("WHO"), the International Committee on Electromagnetic Safety ("ICES"), the Scientific Committee on Emerging and Newly Identified Health Risks ("SCENIHR") of the European Commission, and the Swedish Radiation Safety Authority ("SSM") [formerly the Swedish Radiation Protection Authority ("SSI")] (EFHRAN, 2010, 2012; ICNIRP, 2010; WHO, 2007; SCENIHR, 2009, 2015; SSM, 2015, 2016, 2018, 2019; ICES, 2019). The general scientific consensus of the agencies that have reviewed this research, relying on generally accepted scientific methods, is that the scientific evidence does not show that common sources of EMF in the environment, including transmission lines and other parts of the electric system, appliances, etc., are a cause of any adverse health effects. The WHO, for example, states on their website: "Based on a recent in-depth review of the scientific literature, the WHO concluded that current evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields" (WHO,

2020).

The most recent reviews on this topic include the 2015 report by SCENIHR and annual reviews published by SSM (e.g., for the years 2015, 2016, 2018, and 2019). These reports, similar to previous reviews, found that the scientific evidence does not confirm the existence of any adverse health effects caused by environmental or community exposure to EMF.

The WHO has recommended that countries adopt recognized international standards published the International Commission on Non-ionizing Radiation (ICNIRP) and the IEEE's International Committee on Electromagnetic Safety (ICES). Typical levels of EMF from Dominion's power lines outside its property and rights-of-way are far below the screening reference levels of EMF recommended for the general public and still lower than exposures equivalent to restrictions to limits on fields within the body (ICNIRP, 2010; ICES, 2019).

Thus, based on the conclusions of scientific reviews and the levels of EMF associated with the proposed Project, the Company has determined that no adverse health effects are anticipated to result from the operation of the proposed Project.

References

European Health Risk Assessment Network on Electromagnetic Fields Exposure (EFHRAN). Report on the Analysis of Risks Associated to Exposure to EMF: *In Vitro* and *In Vivo* (Animals) Studies. Milan, Italy: EFHRAN, 2010.

European Health Risk Assessment Network on Electromagnetic Fields Exposure (EFHRAN). Risk Analysis of Human Exposure to Electromagnetic Fields (Revised). Report D2 of the EFHRAN Project. Milan, Italy: EFHRAN, 2012.

International Commission on Non-ionizing Radiation Protection (ICNIRP). Guidelines for limiting exposure to time-varying electric and magnetic fields (1 Hz to 100 kHz). Health Phys 99: 818-36, 2010.

International Committee on Electromagnetic Safety (ICES). IEEE Standard for Safety Levels with Respect to Human Exposure to Electromagnetic Fields 0 to 300 GHz. IEEE Std C95.1-2019. New York, NY: IEEE, 2019.

Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR). Health Effects of Exposure to EMF. Brussels, Belgium: European Commission, 2009.

Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR). Opinion on Potential Health Effects of Exposure to Electromagnetic Fields (EMF). Brussels, Belgium: European Commission, 2015.

Swedish Radiation Safety Authority (SSM). Research 2015:19. Recent Research

on EMF and Health Risk - Tenth report from SSM's Scientific Council on Electromagnetic Fields. Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2015.

Swedish Radiation Safety Authority (SSM). Research 2016:15. Recent Research on EMF and Health Risk - Eleventh report from SSM's Scientific Council on Electromagnetic Fields, 2016. Including Thirteen years of electromagnetic field research monitored by SSM's Scientific Council on EMF and health: How has the evidence changed over time? Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2016.

Swedish Radiation Safety Authority (SSM). Research 2018:09. Recent Research on EMF and Health Risk - Twelfth report from SSM's Scientific Council on Electromagnetic Fields, 2017. Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2018.

Swedish Radiation Safety Authority (SSM). Research 2019:08. Recent Research on EMF and Health Risk – Thirteenth Report from SSM's Scientific Council on Electromagnetic Fields, 2018. Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2019.

World Health Organization (WHO). Environmental Health Criteria 238: Extremely Low Frequency (ELF) Fields. Geneva, Switzerland: World Health Organization, 2007.

World Health Organization (WHO). Electromagnetic fields (EMF). World Health Organization, 2020.
http://www.who.int/peh-emf/about/WhatisEMF/en/index1.html (last accessed March 23, 2020).

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

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

1. Became available for consideration since the completion of the Virginia Department of Health's most recent review of studies on EMF and its subsequent report to the Virginia General Assembly in compliance with 1985 Senate Joint Resolution No. 126;

2. Include findings regarding EMF that have not been reported previously and/or provide substantial additional insight into findings; and

3. Have been subjected to peer review.

Response: The Virginia Department of Health ("VDH") conducted its most recent review and issued its report on the scientific evidence on potential health effects of extremely low frequency ("ELF") EMF in 2000: "[T]he Virginia Department of Health is of the opinion that there is no conclusive and convincing evidence that exposure to extremely low frequency EMF emanated from nearby high voltage transmission lines is causally associated with an increased incidence of cancer or other detrimental health effects in humans."[20]

The continuing scientific research on EMF exposure and health has resulted in many peer-reviewed publications since 2000. The accumulating research results have been regularly and repeatedly reviewed and evaluated by national and international health, scientific, and government agencies. One of the most comprehensive and detailed reviews of the relevant scientific peer-reviewed literature was published by the WHO in 2007. The conclusion of the WHO, as currently expressed on its website, is consistent with the earlier VDH conclusions: "Based on a recent in-depth review of the scientific literature, the WHO concluded that current evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields."[21]

Research published in the peer-reviewed literature subsequent to the WHO report has been reviewed by several scientific organizations, including most notably:

- SCENIHR, a committee of the European Commission, that published its assessments in 2009 and 2015;

- The Swedish Radiation Safety Authority ("SSM"), formerly the Swedish Radiation Protection Authority ("SSI"), that has published annual reviews of the relevant peer-reviewed scientific literature since 2003, with its most recent

[20] *See* http://www.vdh.virginia.gov/content/uploads/sites/12/2016/02/highfinal.pdf.

[21] *See* http://www.who.int/peh-emf/about/WhatisEMF/en/index1.html.

review published in 2019; and,

- EFHRAN, that published its reviews in 2010 and 2012.

The above reviews provide detailed analyses and summaries of relevant recent peer-reviewed scientific publications. The conclusions of these reviews that the evidence overall does not confirm the existence of any adverse health effects due to exposure to EMF are consistent with the conclusions of the VDH and the WHO reports. With respect to the statistical association observed in some of the childhood leukemia epidemiologic studies, the most recent comprehensive review of the literature by SCENIHR, published in 2015, concluded that "no mechanisms have been identified and no support is existing [*sic*] from experimental studies that could explain these findings, which, together with shortcomings of the epidemiological studies prevent a causal interpretation" (SCENIHR, 2015, p. 16).

While research is continuing on multiple aspects of EMF exposure and health, many of the recent publications have focused on an epidemiologic assessment of the relationship between EMF exposure and childhood leukemia and neurodegenerative diseases. Of these, the following recent publications, published following the inclusion date (June 2014) for the SCENIHR (2015) report, provided additional evidence and contributed to clarification of previous findings. Overall, new research studies have not provided evidence to alter the previous conclusions of scientific and health organizations, including the WHO and SCENIHR.

Recent epidemiologic studies of EMF and childhood leukemia include:

- Bunch et al. (2015) assessed the potential association between residential proximity to high-voltage underground cables and development of childhood cancer in the United Kingdom largely using the same epidemiologic data as in a previously published study on overhead transmission lines (Bunch et al., 2014). No statistically significant associations or trends were reported with either distance to underground cables or calculated magnetic fields from underground cables for any type of childhood cancers.

- Pedersen et al. (2015) published a case-control study that investigated the potential association between residential proximity to power lines and childhood cancer in Denmark. The study included all cases of leukemia (n=1,536), central nervous system tumor, and malignant lymphoma (n=417) diagnosed before the age of 15 between 1968 and 2003 in Denmark, along with 9,129 healthy control children matched on sex and year of birth. Considering the entire study period, no statistically significant increases were reported for any of the childhood cancer types.

- Salvan et al. (2015) compared measured magnetic-field levels in the bedroom for 412 cases of childhood leukemia under the age of 10 and 587 healthy control children in Italy. Although the statistical power of the study was

limited because of the small number of highly exposed subjects, no consistent statistical associations or trends were reported between measured magnetic-field levels and the occurrence of leukemia among children in the study.

- Bunch et al. (2016) and Swanson and Bunch (2018) published additional analyses using data from an earlier study (Bunch et al., 2014). Bunch et al. (2016) reported that the association with distance to power lines observed in earlier years was linked to calendar year of birth or year of cancer diagnosis, rather than the age of the power lines. Swanson and Bunch (2018) re-analyzed data using finer exposure categories (e.g., cut-points of every 50-meter distance) and broader groupings of diagnosis date (e.g., 1960-1979, 1980-1999, and 2000-on) and reported no overall associations between exposure categories and childhood leukemia for the later time periods (1980 and on), and consistent pattern for time periods prior to 1980.

- Crespi et al. (2016) conducted a case-control epidemiologic study of childhood cancers and residential proximity to high-voltage power lines (60 kilovolts ["kV"] to 500 kV) in California. Childhood cancer cases, including 5,788 cases of leukemia and 3,308 cases of brain tumor, diagnosed under the age of 16 between 1986 and 2008, were identified from the California Cancer Registry. Controls, matched on age and sex, were selected from the California Birth Registry. Overall, no consistent statistically significant associations for leukemia or brain tumor and residential distance to power lines were reported.

- Kheifets et al. (2017) assessed the relationship between calculated magnetic-field levels from power lines and development of childhood leukemia within the same study population evaluated in Crespi et al. (2016). In the main analyses, which included 4,824 cases of leukemia and 4,782 controls matched on age and sex, the authors reported no consistent patterns, or statistically significant associations between calculated magnetic-field levels and childhood leukemia development. Similar results were reported in subgroup and sensitivity analyses. In two subsequent studies (Amoon et al., 2018a, 2019), the potential impact of residential mobility (i.e., moving residences between birth and diagnosis) on the associations reported in Crespi et al. (2016) and Kheifets et al. (2017) were examined. Amoon et al. (2019) concluded that while uncontrolled confounding by residential mobility had some impact on the association between EMF exposure and childhood leukemia, it was unlikely to be the primary driving force behind the previously reported associations.

- Amoon et al. (2018b) conducted a pooled analysis of 29,049 cases and 68,231 controls from 11 epidemiologic studies of childhood leukemia and residential distance from high-voltage power lines. The authors reported no statistically-significant association between childhood leukemia and proximity to transmission lines of any voltage. Among subgroup analyses, the reported associations were slightly stronger for leukemia cases diagnosed before 5

years of age and in study periods prior to 1980. Adjustment for various potential confounders (e.g., socioeconomic status, dwelling type, residential mobility) had little effect on the estimated associations.

- Kyriakopoulou et al. (2018) assessed the association between childhood acute leukemia and parental occupational exposure to social contacts, chemicals, and electromagnetic fields. The study was conducted at a major pediatric hospital in Greece and included 108 cases and 108 controls matched for age, gender, and ethnicity. Statistically non-significant associations were observed between paternal exposure to magnetic fields and childhood acute leukemia for any of the exposure periods examined (1 year before conception; during pregnancy; during breastfeeding; and from birth until diagnosis); maternal exposure was not assessed due to the limited sample size. No associations were observed between childhood acute leukemia and exposure to social contacts or chemicals.

- Auger et al. (2019) examined the relationship between exposure to EMF during pregnancy and risk of childhood cancer in a cohort of 784,000 children born in Quebéc. Exposure was defined using residential distance to the nearest high-voltage transmission line or transformer station. The authors reported statistically non-significant associations between proximity to transformer stations and any cancer, hematopoietic cancer, or solid tumors. No associations were reported with distance to transmission lines.

- Crespi et al. (2019) investigated the relationship between childhood leukemia and distance from high-voltage lines and calculated magnetic-field exposure, separately and combined, within the California study population previously analyzed in Crespi et al. (2016) and Kheifets et al. (2017). The authors reported that neither close proximity to high-voltage lines nor exposure to calculated magnetic fields alone were associated with childhood leukemia; an association was observed only for those participants who were both close to high-voltage lines (< 50 meters) and had high calculated magnetic fields (≥ 0.4 microtesla [i.e., 4 milligauss]). No associations were observed with low-voltage power lines (< 200 kV).

- Talibov et al. (2019) conducted a pooled analysis of 9,723 cases and 17,099 controls from 11 epidemiologic studies to examine the relationship between parental occupational exposure to magnetic fields and childhood leukemia. No statistically significant association was found between either paternal or maternal exposure and leukemia (overall or by subtype). No associations were observed in the meta-analyses.

Recent epidemiologic studies of EMF and neurodegenerative diseases include:

- Seelen et al. (2014) conducted a population-based case-control study in the Netherlands and included 1,139 cases diagnosed with amyotrophic lateral sclerosis (“ALS”) between 2006 and 2013 and 2,864 frequency-matched

controls. The shortest distance from the case' and control residences to the nearest high-voltage power line (50 kV to 380 kV) was determined by geocoding. No statistically significant associations between residential proximity to power lines with voltages of either 50 to 150 kV or 220 to 380 kV and ALS were reported.

- Sorahan and Mohammed (2014) analyzed mortality from neurodegenerative diseases in a cohort of approximately 73,000 electricity supply workers in the United Kingdom. Cumulative occupational exposure to magnetic-fields was calculated for each worker in the cohort based on their job titles and job locations. Death certificates were used to identify deaths from neurodegenerative diseases. No associations or trends for any of the included neurodegenerative diseases (Alzheimer's disease, Parkinson's disease, and ALS) were observed with various measures of calculated magnetic fields.

- Koeman et al. (2015, 2017) analyzed data from the Netherlands Cohort Study of approximately 120,000 men and women who were enrolled in the cohort in 1986 and followed up until 2003. Lifetime occupational history, obtained through questionnaires, and job-exposure matrices on ELF magnetic fields and other occupational exposures were used to assign exposure to study subjects. Based on 1,552 deaths from vascular dementia, the researchers reported a statistically not significant association of vascular dementia with estimated exposure to metals, chlorinated solvents, and ELF magnetic fields. However, because no exposure-response relationship for cumulative exposure was observed and because magnetic fields and solvent exposures were highly correlated with exposure to metals, the authors attributed the association with ELF magnetic fields and solvents to confounding by exposure to metals (Koeman et al., 2015). Based on a total of 136 deaths from ALS among the cohort members, the authors reported a statistically significant, approximately two-fold association with ELF magnetic fields in the highest exposure category. This association, however, was no longer statistically significant when adjusted for exposure to insecticides (Koeman et al., 2017).

- Fischer et al. (2015) conducted a population-based case-control study that included 4,709 cases of ALS diagnosed between 1990 and 2010 in Sweden and 23,335 controls matched to cases on year of birth and sex. The study subjects' occupational exposures to ELF magnetic fields and electric shocks were classified based on their occupations, as recorded in the censuses and corresponding job-exposure matrices. Overall, neither magnetic fields nor electric shocks were related to ALS.

- Vergara et al. (2015) conducted a mortality case-control study of occupational exposure to electric shock and magnetic fields and ALS. They analyzed data on 5,886 deaths due to ALS and over 58,000 deaths from other causes in the United States between 1991 and 1999. Information on occupation was obtained from death certificates and job-exposure matrices were used to categorize exposure to electric shocks and magnetic fields. Occupations

classified as "electric occupations" were moderately associated with ALS. The authors reported no consistent associations for ALS, however, with either electric shocks or magnetic fields, and they concluded that their findings did not support the hypothesis that exposure to either electric shocks or magnetic fields explained the observed association of ALS with "electric occupations."

- Pedersen et al. (2017) investigated the occurrence of central nervous system diseases among approximately 32,000 male Danish electric power company workers. Cases were identified through the national patient registry between 1982 and 2010. Exposure to ELF magnetic fields was determined for each worker based on their job titles and area of work. A statistically significant increase was reported for dementia in the high exposure category when compared to the general population, but no exposure-response pattern was identified, and no similar increase was reported in the internal comparisons among the workers. No other statistically significant increases among workers were reported for the incidence of Alzheimer's disease, Parkinson's disease, motor neuron disease, multiple sclerosis, or epilepsy, when compared to the general population, or when incidence among workers was analyzed across estimated exposure levels.

- Vinceti et al. (2017) examined the association between ALS and calculated magnetic-field levels from high-voltage power lines in Italy. The authors included 703 ALS cases and 2,737 controls; exposure was assessed based on residential proximity to high-voltage power lines. No statistically significant associations were reported and no exposure-response trend was observed. Similar results were reported in subgroup analyses by age, calendar period of disease diagnosis, and study area.

- Checkoway et al. (2018) investigated the association between Parkinsonism[22] and occupational exposure to magnetic fields and several other agents (endotoxins, solvents, shift work) among 800 female textile workers in Shanghai. Exposure to magnetic fields was assessed based on the participants' work histories. The authors reported no statistically significant associations between Parkinsonism and occupational exposure to any of the agents under study, including magnetic fields.

- Jalilian et al. (2018) conducted a meta-analysis of 20 epidemiologic studies of occupational exposure to magnetic fields and Alzheimer's disease. The authors reported a moderate, statistically significant overall association; however, they noted substantial heterogeneity among studies and evidence for publication bias.

- Gervasi et al. (2019) assessed the relationship between residential distance to

[22] Parkinsonism is defined by Checkoway et al. (2018) as *"a syndrome whose cardinal clinical features are bradykinesia, rest tremor, muscle rigidity, and postural instability. Parkinson disease is the most common neurodegenerative form of [parkinsonism]"* (p. 887).

overhead power lines in Italy and risk of Alzheimer's dementia and Parkinson's disease. The authors included 9,835 cases of Alzheimer's dementia and 6,810 cases of Parkinson's disease; controls were matched by sex, year of birth, and municipality of residence. A weak, statistically non-significant association was observed between residences within 50 meters of overhead power lines and both Alzheimer's dementia and Parkinson's disease, compared to distances of over 600 meters.

- Peters et al. (2019) examined the relationship between ALS and occupational exposure to both magnetic fields and electric shock in a pooled study of data from three European countries. The study included 1,323 ALS cases and 2,704 controls matched for sex, age, and geographic location; exposure was assessed based on occupational title and defined as low (background), medium, or high. Statistically significant associations were observed between ALS and ever having been exposed above background levels to either magnetic fields or electric shocks; however, no clear exposure-response trends were observed with exposure duration or cumulative exposure. The authors also noted significant heterogeneity in risk by study location.

- Huss et al. (2018) conducted a meta-analysis of 20 epidemiologic studies of ALS and occupational exposure to magnetic fields. The authors reported a weak overall association; a slightly stronger association was observed in a subset analysis of six studies with full occupational histories available. The authors noted substantial heterogeneity among studies, evidence for publication bias, and a lack of a clear exposure-response relationship between exposure and ALS.

- Röösli and Jalilian (2018) performed a meta-analysis using data from five epidemiologic studies examining residential exposure to magnetic fields and ALS. A statistically non-significant negative association was reported between ALS and the highest exposed group, where exposure was defined based on distance from power lines or calculated magnetic-field level.

References

Amoon AT, Oksuzyan S, Crespi CM, Arah OA, Cockburn M, Vergara X, Kheifets L. Residential mobility and childhood leukemia. Environ Res 164: 459-466, 2018a.

Amoon AT, Crespi CM, Ahlbom A, Bhatnagar M, Bray I, Bunch KJ, Clavel J, Feychting M, Hemon D, Johansen C, Kreis C, Malagoli C, Marquant F, Pedersen C, Raaschou-Nielsen O, Röösli M, Spycher BD, Sudan M, Swanson J, Tittarelli A, Tuck DM, Tynes T, Vergara X, Vinceti M, Wunsch-Filho V, Kheifets L. Proximity to overhead power lines and childhood leukaemia: an international pooled analysis. Br J Cancer 119: 364-373, 2018b.

Amoon AT, Arah OA, Kheifets L. The sensitivity of reported effects of EMF on

childhood leukemia to uncontrolled confounding by residential mobility: a hybrid simulation study and an empirical analysis using CAPS data. Cancer Causes Control 30: 901-908, 2019.

Auger N, Bilodeau-Bertrand M, Marcoux S, Kosatsky T. Residential exposure to electromagnetic fields during pregnancy and risk of child cancer: A longitudinal cohort study. Environ Res 176: 108524, 2019.

Bunch KJ, Keegan TJ, Swanson J, Vincent TJ, Murphy MF. Residential distance at birth from overhead high-voltage powerlines: childhood cancer risk in Britain 1962-2008. Br J Cancer 110: 1402-1408, 2014.

Bunch KJ, Swanson J, Vincent TJ, Murphy MF. Magnetic fields and childhood cancer: an epidemiological investigation of the effects of high-voltage underground cables. J Radiol Prot 35: 695-705, 2015.

Bunch KJ, Swanson J, Vincent TJ, Murphy MF. Epidemiological study of power lines and childhood cancer in the UK: further analyses. J Radiol Prot 36: 437-455, 2016.

Checkoway H, Ilango S, Li W, Ray RM, Tanner CM, Hu SC, Wang X, Nielsen S, Gao DL, Thomas DB. Occupational exposures and parkinsonism among Shanghai women textile workers. Am J Ind Med 61: 886-892, 2018.

Crespi CM, Vergara XP, Hooper C, Oksuzyan S, Wu S, Cockburn M, Kheifets L. Childhood leukaemia and distance from power lines in California: a population-based case-control study. Br J Cancer 115: 122-128, 2016.

Crespi CM, Swanson J, Vergara XP, Kheifets L. Childhood leukemia risk in the California Power Line Study: Magnetic fields versus distance from power lines. Environ Res 171: 530-535, 2019.

European Health Risk Assessment Network on Electromagnetic Fields Exposure (EFHRAN). Report on the Analysis of Risks Associated to Exposure to EMF: *In Vitro* and *In Vivo* (Animals) Studies. Milan, Italy: EFHRAN, 2010.

European Health Risk Assessment Network on Electromagnetic Fields Exposure (EFHRAN). Risk Analysis of Human Exposure to Electromagnetic Fields (Revised). Report D2 of the EFHRAN Project. Milan, Italy: EFHRAN, 2012.

Fischer H, Kheifets L, Huss A, Peters TL, Vermeulen R, Ye W, Fang F, Wiebert P, Vergara XP, Feychting M. Occupational Exposure to Electric Shocks and Magnetic Fields and Amyotrophic Lateral Sclerosis in Sweden. Epidemiology 26: 824-830, 2015.

Gervasi F, Murtas R, Decarli A, Giampiero Russo A. Residential distance from high-voltage overhead power lines and risk of Alzheimer's dementia and Parkinson's disease: a population-based case-control study in a metropolitan area

of Northern Italy. Int J Epidemiol, 2019.

Huss A, Peters S, Vermeulen R. Occupational exposure to extremely low-frequency magnetic fields and the risk of ALS: A systematic review and meta-analysis. Bioelectromagnetics 39: 156-163, 2018.

Jalilian H, Teshnizi SH, Röösli M, Neghab M. Occupational exposure to extremely low frequency magnetic fields and risk of Alzheimer disease: A systematic review and meta-analysis. Neurotoxicology 69: 242-252, 2018.

Kheifets L, Crespi CM, Hooper C, Cockburn M, Amoon AT, Vergara XP. Residential magnetic fields exposure and childhood leukemia: a population-based case-control study in California. Cancer Causes Control 28: 1117-1123, 2017.

Koeman T, Schouten LJ, van den Brandt PA, Slottje P, Huss A, Peters S, Kromhout H, Vermeulen R. Occupational exposures and risk of dementia-related mortality in the prospective Netherlands Cohort Study. Am J Ind Med 58: 625-635, 2015.

Koeman T, Slottje P, Schouten LJ, Peters S, Huss A, Veldink JH, Kromhout H, van den Brandt PA, Vermeulen R. Occupational exposure and amyotrophic lateral sclerosis in a prospective cohort. Occup Environ Med 74: 578-585, 2017.

Kyriakopoulou A, Meimeti E, Moisoglou I, Psarrou A, Provatopoulou X, Dounias G. Parental Occupational Exposures and Risk of Childhood Acute Leukemia. Mater Sociomed 30: 209-214, 2018.

Pedersen C, Johansen C, Schüz J, Olsen JH, Raaschou-Nielsen O. Residential exposure to extremely low-frequency magnetic fields and risk of childhood leukaemia, CNS tumour and lymphoma in Denmark. Br J Cancer 113: 1370-1374, 2015.

Pedersen C, Poulsen AH, Rod NH, Frei P, Hansen J, Grell K, Raaschou-Nielsen O, Schüz J, Johansen C. Occupational exposure to extremely low-frequency magnetic fields and risk for central nervous system disease: an update of a Danish cohort study among utility workers. Int Arch Occup Environ Health 90: 619-628, 2017.

Peters S, Visser AE, D'Ovidio F, Beghi E, Chio A, Logroscino G, Hardiman O, Kromhout H, Huss A, Veldink J, Vermeulen R, van den Berg LH. Associations of Electric Shock and Extremely Low-Frequency Magnetic Field Exposure With the Risk of Amyotrophic Lateral Sclerosis. Am J Epidemiol 188: 796-805, 2019.

Röösli M and Jalilian H. A meta-analysis on residential exposure to magnetic fields and the risk of amyotrophic lateral sclerosis. Rev Environ Health 33: 295-299, 2018.

Salvan A, Ranucci A, Lagorio S, Magnani C. Childhood leukemia and 50 Hz

magnetic fields: findings from the Italian SETIL case-control study. Int J Environ Res Public Health 12: 2184-2204, 2015.

Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR). Health Effects of Exposure to EMF. Brussels, Belgium: European Commission, 2009.

Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR). Opinion on Potential Health Effects of Exposure to Electromagnetic Fields (EMF). Brussels, Belgium: European Commission, 2015.

Seelen M, Vermeulen RC, van Dillen LS, van der Kooi AJ, Huss A, de Visser M, van den Berg LH, Veldink JH. Residential exposure to extremely low frequency electromagnetic fields and the risk of ALS. Neurology 83: 1767-1769, 2014.

Sorahan T and Mohammed N. Neurodegenerative disease and magnetic field exposure in UK electricity supply workers. Occup Med (Lond) 64: 454-460, 2014.

Swanson J and Bunch KJ. Reanalysis of risks of childhood leukaemia with distance from overhead power lines in the UK. J Radiol Prot 38: N30-N35, 2018.

Swedish Radiation Safety Authority (SSM). Research 2019:08. Recent Research on EMF and Health Risk – Thirteenth Report from SSM's Scientific Council on Electromagnetic Fields, 2018. Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2019.

Talibov M, Olsson A, Bailey H, Erdmann F, Metayer C, Magnani C, Petridou E, Auvinen A, Spector L, Clavel J, Roman E, Dockerty J, Nikkila A, Lohi O, Kang A, Psaltopoulou T, Miligi L, Vila J, Cardis E, Schüz J. Parental occupational exposure to low-frequency magnetic fields and risk of leukaemia in the offspring: findings from the Childhood Leukaemia International Consortium (CLIC). Occup Environ Med 76:746-753, 2019.

Vergara X, Mezei G, Kheifets L. Case-control study of occupational exposure to electric shocks and magnetic fields and mortality from amyotrophic lateral sclerosis in the US, 1991-1999. J Expo Sci Environ Epidemiol 25: 65-71, 2015.

Vinceti M, Malagoli C, Fabbi S, Kheifets L, Violi F, Poli M, Caldara S, Sesti D, Violanti S, Zanichelli P, Notari B, Fava R, Arena A, Calzolari R, Filippini T, Iacuzio L, Arcolin E, Mandrioli J, Fini N, Odone A, Signorelli C, Patti F, Zappia M, Pietrini V, Oleari P, Teggi S, Ghermandi G, Dimartino A, Ledda C, Mauceri C, Sciacca S, Fiore M, Ferrante M. Magnetic fields exposure from high-voltage power lines and risk of amyotrophic lateral sclerosis in two Italian populations. Amyotroph Lateral Scler Frontotemporal Degener 18: 583-589, 2017.

World Health Organization (WHO). Environmental Health Criteria 238: Extremely Low Frequency (ELF) Fields. Geneva, Switzerland: World Health Organization, 2007.

V. NOTICE

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

Response: A map showing the existing route to be used for the Project is provided as Attachment V.A. A written description of the route is as follows:

The proposed route for the Project extends along an existing approximately 41.3-mile transmission line corridor, currently occupied by the existing 230 kV Lanexa-Northern Neck Line #224. Within that existing approximately 41.3-mile transmission corridor, an approximately 38.3-mile segment of Line #224 will be rebuilt, and a new Line #2208 extending a total of approximately 40.5 miles will be installed. The route is approximately 10.7 miles within New Kent County, 6.2 miles within King William County, 10.0 miles within King and Queen County, 7.1 miles within Essex County, and 7.3 miles within Richmond County. The Project originates in New Kent County at the Lanexa Substation located off Rockahock Road. From the Lanexa Substation, the route generally heads northeast from the station property for approximately 0.5 mile, crossing the Diascund Creek Reservoir, and continues northeast approximately 10.2 miles to the previously permitted crossing of the Pamunkey River. The line continues northeast through King William County approximately 6.2 miles to the previously permitted crossing of the Mattaponi River. The line continues northeast for approximately 10.0 miles through King and Queen County, and approximately 7.1 miles through Essex County. The line heads east at the Dunnsville Substation in Essex County and across the Rappahannock River, where it continues approximately 7.3 miles into Richmond County, turning northeast near the Route 3 crossing and terminating at the Northern Neck Substation.

For the overall Project, the minimum structure height is approximately 40 feet, the maximum structure height is approximately 191 feet, and the average structure height is approximately 108 feet, based on preliminary conceptual design, not including foundation reveal and subject to change based on final engineering design.

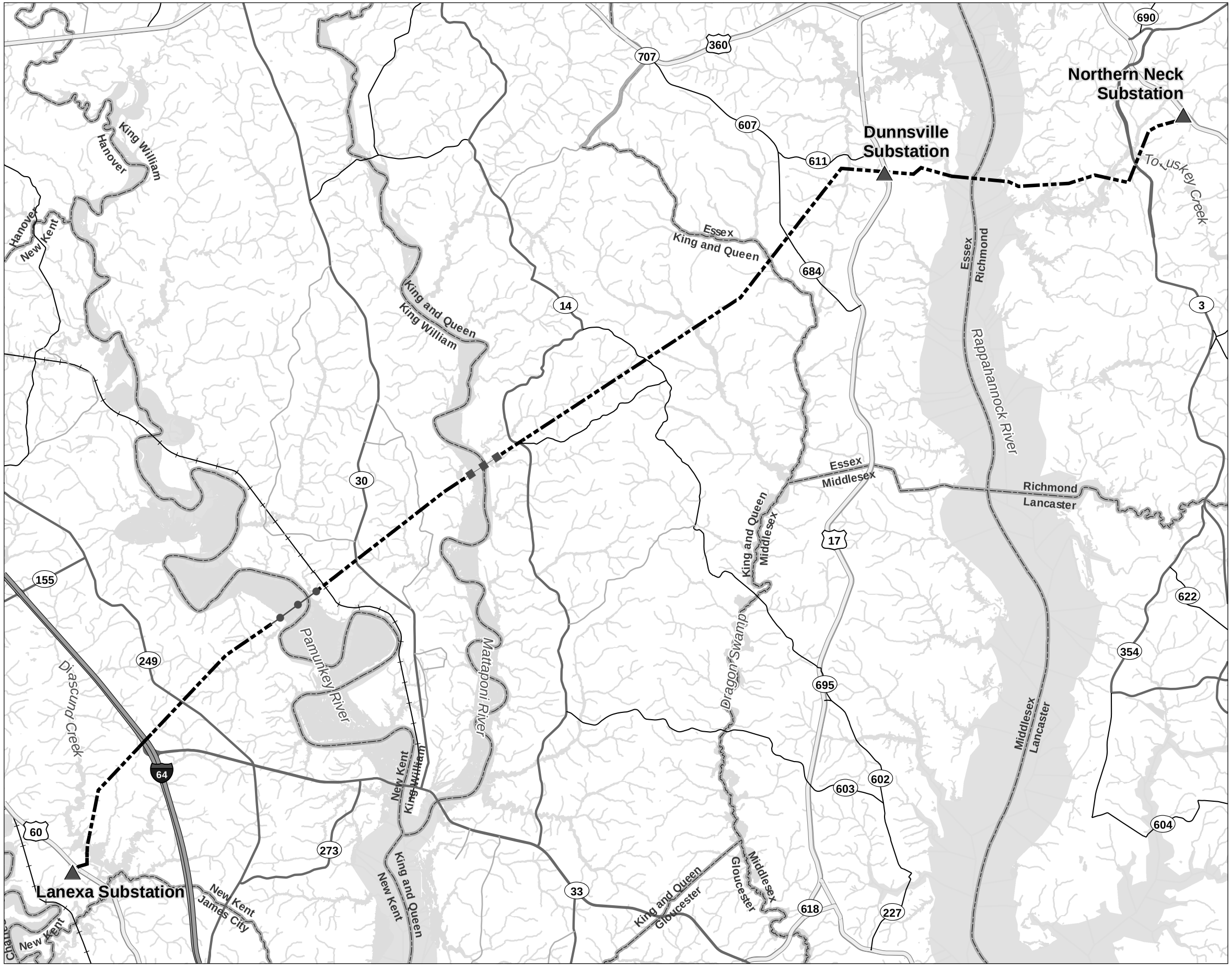


Figure No.

V.A

Title

Notification Map

Client/Project 203401404

Dominion Energy Virginia
Lanexa-Northern Neck 230 kV Transmission Line #224
Rebuild and New 230 kV Line #2208

Project Location
New Kent, King William, King and Queen, Essex, and Richmond Counties, Virginia

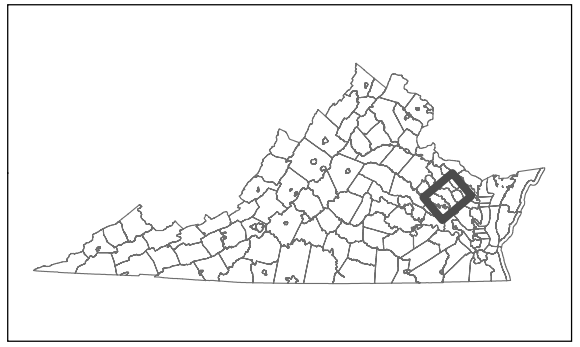
Prepared by LJB on 2019-11-11
TR by ECL on 2020-01-22
IR by CPG on 2020-02-14

N

0 15,000 30,000 Feet

(At original document size of 11x17)
1:180,000

- Substation
- Proposed 230 kV Line Rebuild and New 230 kV Circuit
- Project Centerline, Second Circuit Only (PUR-2018-00090)
- Structures and Two Circuits Previously Authorized (PUR-2018-00090)
- Railroad
- Freeway or Other Major Road
- Other Major Road
- Secondary Road
- Local Connecting Road
- Important Local Road



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, ESRI, NHD, DCR, U.S. National Transportation Atlas Railroads

Stantec

V. NOTICE

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

Response Due to the ongoing public health crisis, the Application is available for public inspection electronically at the following website: www.dominionenergy.com/line224.

V. NOTICE

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

Response: The following agency representatives may reasonably be expected to have an interest in the Project. Instead of furnishing a copy of the Application to these parties, the Company has sent a letter noting the availability of the Application for the Project on the Company's website.

Ms. Bettina Rayfield
Office of Environmental Impact Review
Department of Environmental Quality
P.O. Box 1105
Richmond, Virginia 23218

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

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

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

Ms. Amy M. Ewing
Virginia Department of Games and Inland Fisheries
7870 Villa Park, Suite 400
Henrico, Virginia 23228

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

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

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

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

Norfolk District- Main Office
US Army Corps of Engineers
803 Front Street
Norfolk, VA 23510

Kyle Winter
Virginia Department of Environmental Quality
Piedmont Regional Office
4949-A Cox Road
Glen Allen, Virginia 23060

Mr. Robert Alexzander
Obstruction Evaluation Specialist
Federal Aviation Administration
FAA Eastern Regional Office
159-30 Rockaway Blvd
Jamaica, New York 11434

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

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

Ms. Patrice Sadler
Historic Virginia Land Conservancy
5000 New Point Road, Suite 2202
Williamsburg, Virginia 23188

Ms. Locke Ogens
Nature Conservancy, State Director
530 E. Main Street, suite 800
Richmond, Virginia 23219

Mr. John Carnifax
James City County Parks & Recreation
5320 Palmer Lane
Suite 2A
Williamsburg, Virginia 23188

Mr. Ronald Harris
Division Manager Natural Resources
Newport News Waterworks
700 Town Center Drive
Newport News, VA 23606

Ms. Kelli Le Duc
New Kent County
Planning Department, Director of Planning
P.O. Box 150
New Kent, Virginia 23124

Mr. Rodney Hathaway
New Kent County, County Administrator
12007 Courthouse Circle
P.O. Box 150
New Kent, VA 23124

Mr. Ron Etter
King William County
Planning Department, Director of Community Development
180 Horse Landing Road #4
King William, Virginia 23086

Ms. Bobbie Tassinari
King William County, County Administrator
180 Horse Landing Road, #4
King William, VA 23086

Ms. Donnna Elliott Sprouse
King and Queen County
Planning Department, Director of Community Development
242 Allens Circle, Suite L
King and Queen C.H., Virginia 23085

Mr. Thomas J. Swartzwelder
King and Queen County, County Administrator
242 Allens Circle, Suite L
P.O. Box 177
King and Queen C.H., VA 23085

Ms. Hope D. Mothershead
Richmond County
Planning and Zoning Department, Director
101 Court Circle, P.O. Box 1000
Warsaw, Virginia 22572

R. Morgan Quicke
Richmond County, County Administrator
101 Court Circle, P.O. Box 1000
Warsaw, Virginia 22572

Michael Lombardo
Essex County, County Administrator
P.O. Box 1079
Tappahannock, Virginia 22560

V. NOTICE

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

Response: In accordance with Va. Code § 15.2-2202 E, letters dated September 2, 2020, were delivered to Mr. Rodney Hathaway, County Administrator in New Kent County, Mr. Bobbie Tassinari, County Administrator in King William County, Mr. Thomas J. Swartzwelder, County Administrator in King and Queen County, Mr. Michael Lombardo, County Administrator in Essex County, and to Mr. R. Morgan Quicke, County Administrator of Richmond County, advising of the Company's intention to file this Application and inviting the counties to consult with the Company about the Project. Subsequently, the Company notified these recipients of updates to the Project via email on October 6, 2020. Copies of the letters and email update communications are included as Attachment V.D.1.

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

September 2, 2020

Mr. Rodney Hathaway
New Kent County, County Administrator
12007 Courthouse Circle
P.O. Box 150
New Kent, Virginia 23124

RE: Dominion Energy Virginia's Proposed Lanexa-Northern Neck 230 kV Transmission Line #224 Rebuild and New 230 kV Line Project, New Kent, King William, King and Queen, Essex and Richmond Counties, Virginia
Notice Pursuant to Va. Code § 15.2-2202 E

Dear Mr. Hathaway:

Dominion Energy Virginia (the "Company") is proposing to rebuild its 230 kV transmission line, Line #224, which is located between the existing Lanexa Substation in New Kent County and Northern Neck Substation in Richmond County (collectively, the "Project"). Approximately 10 miles of the Project traverse New Kent County. The Project will replace aging infrastructure that is nearing the end of its service life and address future reliability concerns, thereby continuing to enable the Company to maintain safe and reliable electric service to customers. Specifically, the Project proposes to:

i. Rebuild within an existing right-of-way or on Company-owned property, approximately 38.3 miles of the existing 41.3-mile long 230 kV Lanexa-Northern Neck Line #224, on double circuit structures. The remaining approximately 3.0 miles of Line #224 currently is being rebuilt as a partial rebuild of Line #224 ("Partial Rebuild Project"), which was approved and certificated by the State Corporation Commission (the "Commission") in Case No. PUR-2018-00090. This includes the Pamunkey River crossing (1.7 miles) and the Mattaponi River crossing (1.3 miles) of Line #224;

ii. Install 40.5 miles of a new 230 kV Lanexa-Northern Neck Transmission Line collocated on double circuit structures with Line #224. This includes the addition of a second circuit to 1.29 miles of previously replaced single-circuit structures across the Pamunkey River (Partial Rebuild Project, Case No. PUR-2018-00090). The Mattaponi River crossing will already have both circuits installed as part of the Partial Rebuild Project;

iii. Install a new, permanent substation in King and Queen County and perform additional work at the Lanexa, Dunnsville and Northern Neck Substations.

The Company is preparing an application for a Certificate of Public Convenience and Necessity ("CPCN") from the SCC. Pursuant to Va. Code § 15.2-2202, the Company is writing to notify New Kent County of the proposed Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of receipt of this letter. Enclosed is an overview map of the Project. If you have any questions about this Project, you may contact me directly at (804) 310-9658 or lane.e.carr@dominionenergy.com. Dominion Energy

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

Virginia appreciates your assistance with this project review and looks forward to any additional information you may have to offer.

Sincerely,

Lane Carr
Siting and Permitting Specialist

Enclosed: Project Overview Map

446

Figure No.
V.A

Title
Notification Map

Client/Project
203401404
Dominion Energy Virginia
Lanexa-Northern Neck 230 kV Transmission Line #224
Rebuild and New 230 kV Line

Project Location
New Kent, King William, King and Queen, Essex, and Richmond Counties, Virginia

Prepared by LJB on 2019-11-11
TR by ECL on 2019-01-22
IR by CPG on 2019-02-14

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(At original document size of 11x17)
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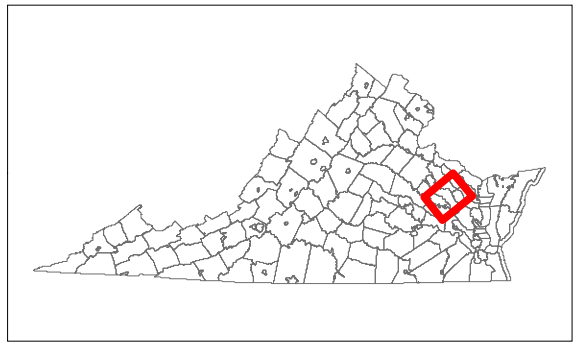
- Substation
- Proposed Substation
- Proposed 230 kV LIne Rebuild and New 230 kV Circuit
- Project Centerline, Second Circuit Only (PUR-2018-00090)
- Structures and Two Circuits Previously Authorized (PUR-2018-00090)
- Railroad
- Freeway or Other Major Road
- Other Major Road
- Secondary Road
- Local Connecting Road
- Important Local Road



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, ESRI, NHD, DCR, U.S. National Transportation Atlas Railroads

Stantec

From:	Lane E Carr (Services - 6)
To:	rahathaway@newkent-va.us
Subject:	Dominion Energy Virginia's Proposed Lanexa-Northern Neck 230 kV Transmission Line #224 Rebuild and New 230 kV Line #2208 Project, New Kent, King William, King and Queen, Essex and Richmond Counties, Virginia Notice Pursuant to Va. Code § 15.2-2202 E
Date:	Tuesday, October 6, 2020 2:06:00 PM
Attachments:	New Kent 2202 Letter.pdf Lanexa - Northern Neck Project Overview Map.pdf image001.png

Dear Mr. Hathaway,

Good afternoon. Pursuant to Va. Code § 15.2-2202 E, I am writing to inform you that installation of a new, permanent substation in King and Queen County, as noted in bullet iii. of the attached September 2, 2020 letter, will no longer be included in Dominion Energy's pending application for a Certificate of Public Convenience and Necessity ("CPCN") from the State Corporation Commission for the above-referenced Project. An updated Project Overview Map is attached.

If you have any questions about this Project, you may contact me directly at (804) 310-9658 or lane.e.carr@dominionenergy.com.

Sincerely,

Lane Carr
Siting and Permitting Specialist I 10900 Nuckols Rd. Glen Allen, VA 23060
O: 804.771.4061 I M: 804.310.9658 I Lane.E.Carr@dominionenergy.com

448

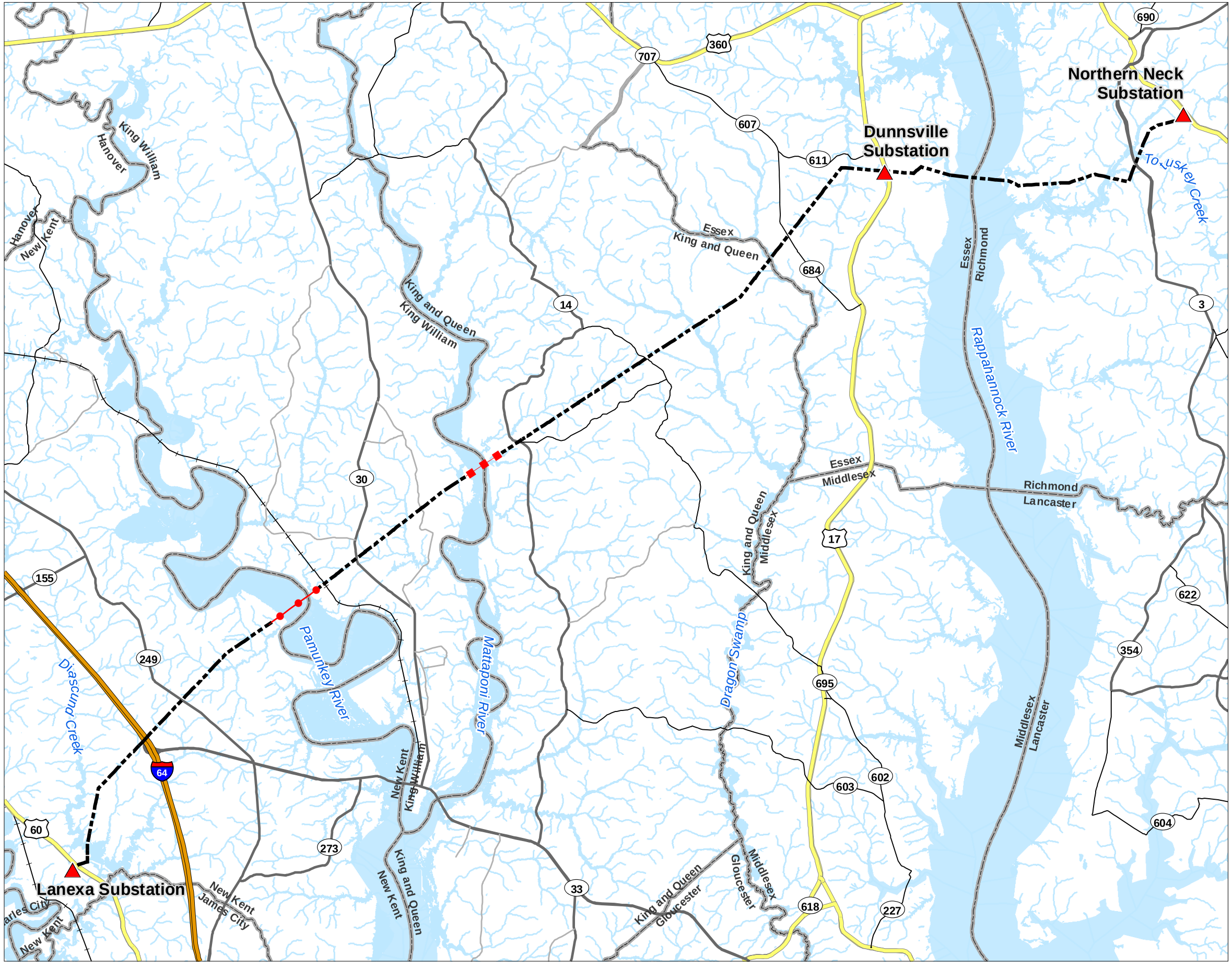


Figure No.

V.A

Title

Notification Map

Client/Project 203401404

Dominion Energy Virginia
Lanexa-Northern Neck 230 kV Transmission Line #224
Rebuild and New 230 kV Line #2208

Project Location
New Kent, King William, King and Queen, Essex, and Richmond Counties, Virginia

Prepared by LJB on 2019-11-11
TR by ECL on 2020-01-22
IR by CPG on 2020-02-14

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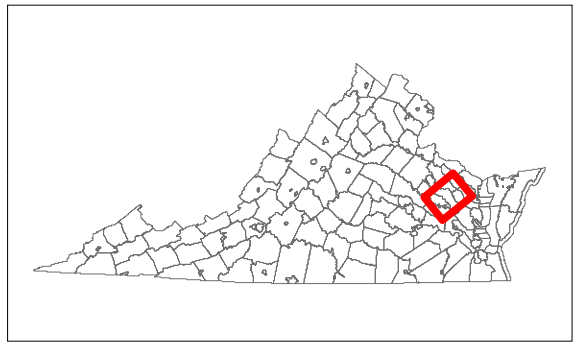
(At original document size of 11x17)
1:180,000

- Substation
- Proposed 230 kV Line Rebuild and New 230 kV Circuit
- Project Centerline, Second Circuit Only (PUR-2018-00090)
- Structures and Two Circuits Previously Authorized (PUR-2018-00090)
- Railroad
- Freeway or Other Major Road
- Other Major Road
- Secondary Road
- Local Connecting Road
- Important Local Road



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, ESRI, NHD, DCR, U.S. National Transportation Atlas Railroads

Stantec

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

September 2, 2020

Ms. Bobbie Tassinari
King William County, County Administrator
180 Horse Landing Road, #4
King William, VA 23086

RE: Dominion Energy Virginia's Proposed Lanexa-Northern Neck 230 kV Transmission Line #224 Rebuild and New 230 kV Line Project, New Kent, King William, King and Queen, Essex and Richmond Counties, Virginia
Notice Pursuant to Va. Code § 15.2-2202 E

Dear Ms. Tassinari:

Dominion Energy Virginia (the "Company") is proposing to rebuild its 230 kV transmission line, Line #224, which is located between the existing Lanexa Substation in New Kent County and Northern Neck Substation in Richmond County (collectively, the "Project"). Approximately 6 miles of the Project traverse King William County. The Project will replace aging infrastructure that is nearing the end of its service life and address future reliability concerns, thereby continuing to enable the Company to maintain safe and reliable electric service to customers. Specifically, the Project proposes to:

i. Rebuild within an existing right-of-way or on Company-owned property, approximately 38.3 miles of the existing 41.3-mile long 230 kV Lanexa-Northern Neck Line #224, on double circuit structures. The remaining approximately 3.0 miles of Line #224 currently is being rebuilt as a partial rebuild of Line #224 ("Partial Rebuild Project"), which was approved and certificated by the State Corporation Commission (the "Commission") in Case No. PUR-2018-00090. This includes the Pamunkey River crossing (1.7 miles) and the Mattaponi River crossing (1.3 miles) of Line #224;

ii. Install 40.5 miles of a new 230 kV Lanexa-Northern Neck Transmission Line collocated on double circuit structures with Line #224. This includes the addition of a second circuit to 1.29 miles of previously replaced single-circuit structures across the Pamunkey River (Partial Rebuild Project, Case No. PUR-2018-00090). The Mattaponi River crossing will already have both circuits installed as part of the Partial Rebuild Project;

iii. Install a new, permanent substation in King and Queen County and perform additional work at the Lanexa, Dunnsville and Northern Neck Substations.

The Company is preparing an application for a Certificate of Public Convenience and Necessity ("CPCN") from the SCC. Pursuant to Va. Code § 15.2-2202, the Company is writing to notify King William County of the proposed Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of receipt of this letter. Enclosed is an overview map of the Project. If you have any questions about this Project, you may contact me directly at (804) 310-9658 or lane.e.carr@dominionenergy.com. Dominion Energy Virginia appreciates your assistance with this project review and looks forward to any additional information you may have to offer.

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

Sincerely,

Lane Carr
Siting and Permitting Specialist

Enclosed: Project Overview Map

451

Figure No.
V.A

Title
Notification Map

Client/Project
203401404
Dominion Energy Virginia
Lanexa-Northern Neck 230 kV Transmission Line #224
Rebuild and New 230 kV Line

Project Location
New Kent, King William, King and Queen, Essex, and Richmond Counties, Virginia

Prepared by LJB on 2019-11-11
TR by ECL on 2019-01-22
IR by CPG on 2019-02-14

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- Substation
- Proposed Substation
- Proposed 230 kV LIne Rebuild and New 230 kV Circuit
- Project Centerline, Second Circuit Only (PUR-2018-00090)
- Structures and Two Circuits Previously Authorized (PUR-2018-00090)
- Railroad
- Freeway or Other Major Road
- Other Major Road
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- Local Connecting Road
- Important Local Road

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, ESRI, NHD, DCR, U.S. National Transportation Atlas Railroads

Stantec

From:	Lane E Carr (Services - 6)
To:	countyadmin@kingwilliamcounty.us
Subject:	Dominion Energy Virginia's Proposed Lanexa-Northern Neck 230 kV Transmission Line #224 Rebuild and New 230 kV Line #2208 Project, New Kent, King William, King and Queen, Essex and Richmond Counties, Virginia Notice Pursuant to Va. Code § 15.2-2202 E
Date:	Tuesday, October 6, 2020 2:10:00 PM
Attachments:	Lanexa - Northern Neck Project Overview Map.pdf King William 2202 Letter.pdf image003.png

---

Dear Ms. Tassinari,

Good afternoon. Pursuant to Va. Code § 15.2-2202 E, I am writing to inform you that installation of a new, permanent substation in King and Queen County, as noted in bullet iii. of the attached September 2, 2020 letter, will no longer be included in Dominion Energy's pending application for a Certificate of Public Convenience and Necessity ("CPCN") from the State Corporation Commission for the above-referenced Project. An updated Project Overview Map is attached.

If you have any questions about this Project, you may contact me directly at (804) 310-9658 or lane.e.carr@dominionenergy.com.

Sincerely,

Lane Carr
Siting and Permitting Specialist I 10900 Nuckols Rd. Glen Allen, VA 23060
O: 804.771.4061 I M: 804.310.9658 I Lane.E.Carr@dominionenergy.com

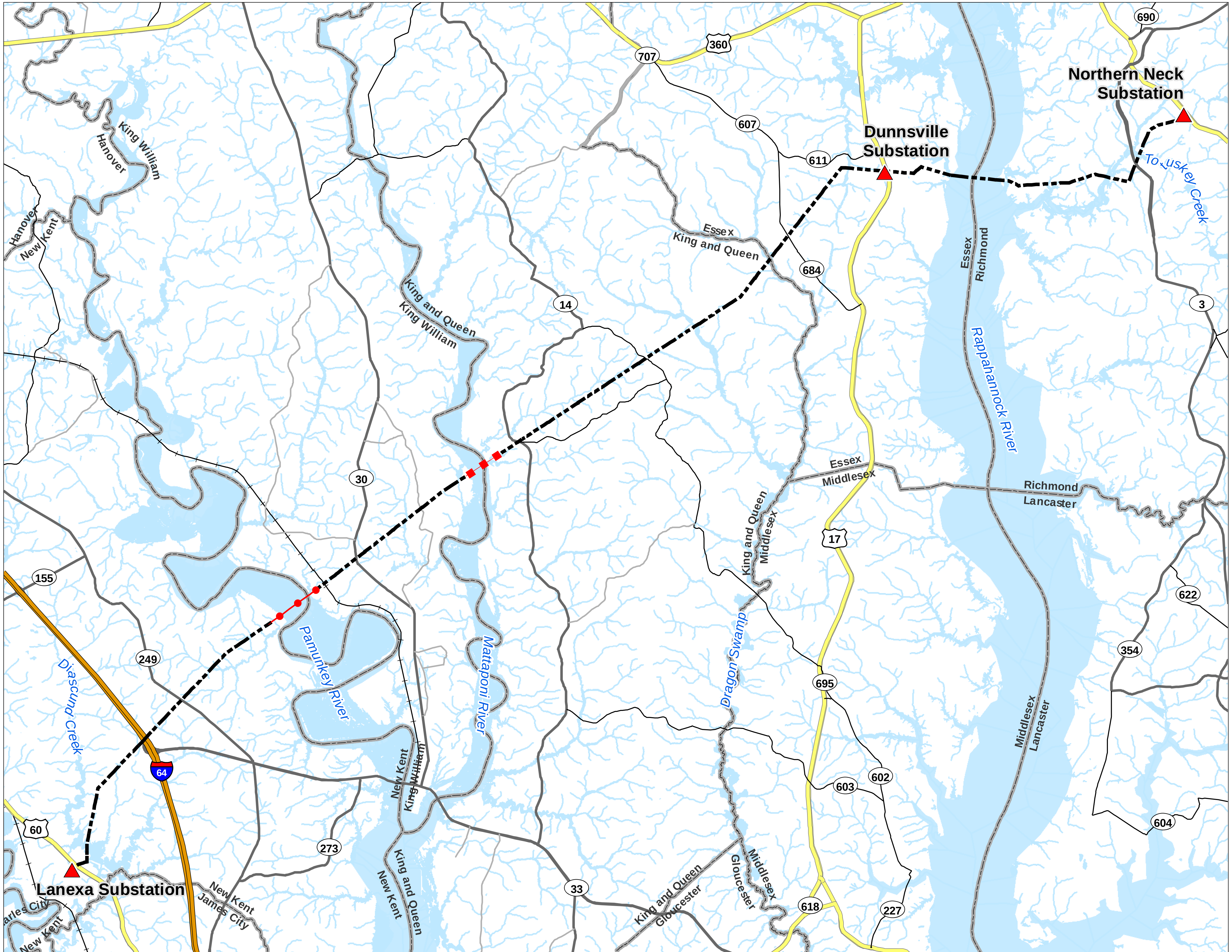

Figure No.
V.A

Title
Notification Map

Client/Project 203401404
Dominion Energy Virginia
Lanexa-Northern Neck 230 kV Transmission Line #224
Rebuild and New 230 kV Line #2208

Project Location
New Kent, King William, King and Queen, Essex, and Richmond Counties, Virginia

Prepared by LJB on 2019-11-11
TR by ECL on 2020-01-22
IR by CPG on 2020-02-14

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Legend:
- Substation
- Proposed 230 kV Line Rebuild and New 230 kV Circuit
- Project Centerline, Second Circuit Only (PUR-2018-00090)
- Structures and Two Circuits Previously Authorized (PUR-2018-00090)
- Railroad
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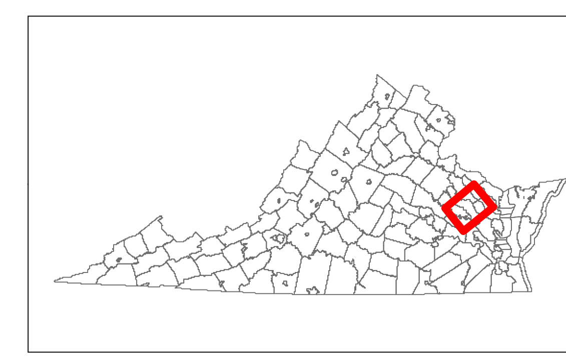

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, ESRI, NHD, DCR, U.S. National Transportation Atlas Railroads

Stantec

Page 01 of 01

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Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

September 2, 2020

Mr. Thomas J. Swartzwelder
King and Queen County, County Administrator
242 Allens Circle, Suite L
P.O. Box 177
King and Queen C.H., VA 23085

RE: Dominion Energy Virginia's Proposed Lanexa-Northern Neck 230 kV Transmission Line #224 Rebuild and New 230 kV Line Project, New Kent, King William, King and Queen, Essex and Richmond Counties, Virginia
Notice Pursuant to Va. Code § 15.2-2202 E

Dear Mr. Swartzwelder:

Dominion Energy Virginia (the "Company") is proposing to rebuild its 230 kV transmission line, Line #224, which is located between the existing Lanexa Substation in New Kent County and Northern Neck Substation in Richmond County (collectively, the "Project"). Approximately 9.75 miles of the Project traverse King and Queen County. The Project will replace aging infrastructure that is nearing the end of its service life and address future reliability concerns, thereby continuing to enable the Company to maintain safe and reliable electric service to customers. Specifically, the Project proposes to:

i. Rebuild within an existing right-of-way or on Company-owned property, approximately 38.3 miles of the existing 41.3-mile long 230 kV Lanexa-Northern Neck Line #224, on double circuit structures. The remaining approximately 3.0 miles of Line #224 currently is being rebuilt as a partial rebuild of Line #224 ("Partial Rebuild Project"), which was approved and certificated by the State Corporation Commission (the "Commission") in Case No. PUR-2018-00090. This includes the Pamunkey River crossing (1.7 miles) and the Mattaponi River crossing (1.3 miles) of Line #224;

ii. Install 40.5 miles of a new 230 kV Lanexa-Northern Neck Transmission Line collocated on double circuit structures with Line #224. This includes the addition of a second circuit to 1.29 miles of previously replaced single-circuit structures across the Pamunkey River (Partial Rebuild Project, Case No. PUR-2018-00090). The Mattaponi River crossing will already have both circuits installed as part of the Partial Rebuild Project;

iii. Install a new, permanent substation in King and Queen County and perform additional work at the Lanexa, Dunnsville and Northern Neck Substations.

The Company is preparing an application for a Certificate of Public Convenience and Necessity ("CPCN") from the SCC. Pursuant to Va. Code § 15.2-2202, the Company is writing to notify King and Queen County of the proposed Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of receipt of this letter. Enclosed is an overview map of the Project. If you have any questions about this Project, you may contact me directly at (804) 310-9658 or lane.e.carr@dominionenergy.com. Dominion Energy Virginia appreciates your assistance with this project review and looks forward to any additional information you may have to offer.

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

Sincerely,

Lane Carr
Siting and Permitting Specialist

Enclosed: Project Overview Map

456

Figure No.
V.A

Title
Notification Map

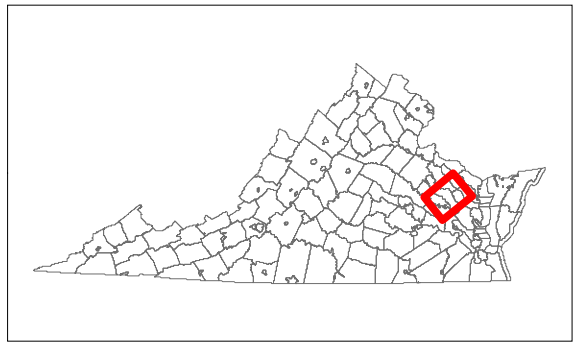
Client/Project
203401404
Dominion Energy Virginia
Lanexa-Northern Neck 230 kV Transmission Line #224
Rebuild and New 230 kV Line

Project Location
New Kent, King William, King and Queen, Essex, and Richmond Counties, Virginia

Prepared by LJB on 2019-11-11
TR by ECL on 2019-01-22
IR by CPG on 2019-02-14

0 15,000 30,000 Feet
(At original document size of 11x17)
1:180,000

- Substation
- Proposed Substation
- Proposed 230 kV LIne Rebuild and New 230 kV Circuit
- Project Centerline, Second Circuit Only (PUR-2018-00090)
- Structures and Two Circuits Previously Authorized (PUR-2018-00090)
- Railroad
- Freeway or Other Major Road
- Other Major Road
- Secondary Road
- Local Connecting Road
- Important Local Road



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, ESRI, NHD, DCR, U.S. National Transportation Atlas Railroads

Stantec

From:	Lane E Carr (Services - 6)
To:	tswartzwelder@kingandqueenco.net
Subject:	Dominion Energy Virginia's Proposed Lanexa-Northern Neck 230 kV Transmission Line #224 Rebuild and New 230 kV Line #2208 Project, New Kent, King William, King and Queen, Essex and Richmond Counties, Virginia Notice Pursuant to Va. Code § 15.2-2202 E
Date:	Tuesday, October 6, 2020 2:12:00 PM
Attachments:	Lanexa - Northern Neck Project Overview Map.pdf King and Queen 2202 Letter.pdf image001.png

Dear Mr. Swartzwelder,

Good afternoon. Pursuant to Va. Code § 15.2-2202 E, I am writing to inform you that installation of a new, permanent substation in King and Queen County, as noted in bullet iii. of the attached September 2, 2020 letter, will no longer be included in Dominion Energy's pending application for a Certificate of Public Convenience and Necessity ("CPCN") from the State Corporation Commission for the above-referenced Project. An updated Project Overview Map is attached.

If you have any questions about this Project, you may contact me directly at (804) 310-9658 or lane.e.carr@dominionenergy.com.

Sincerely,

Lane Carr
Siting and Permitting Specialist I 10900 Nuckols Rd. Glen Allen, VA 23060
O: 804.771.4061 I M: 804.310.9658 I Lane.E.Carr@dominionenergy.com

458

Figure No.
V.A

Title
Notification Map

Client/Project
203401404
Dominion Energy Virginia
Lanexa-Northern Neck 230 kV Transmission Line #224
Rebuild and New 230 kV Line #2208

Project Location
New Kent, King William, King and Queen, Essex, and Richmond Counties, Virginia

Prepared by LJB on 2019-11-11
TR by ECL on 2020-01-22
IR by CPG on 2020-02-14

N

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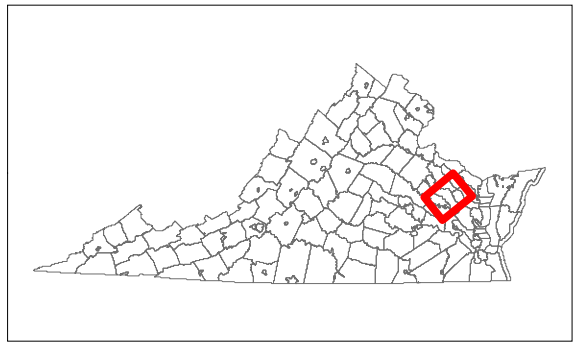
- Substation
- Proposed 230 kV Line Rebuild and New 230 kV Circuit
- Project Centerline, Second Circuit Only (PUR-2018-00090)
- Structures and Two Circuits Previously Authorized (PUR-2018-00090)
- Railroad
- Freeway or Other Major Road
- Other Major Road
- Secondary Road
- Local Connecting Road
- Important Local Road



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, ESRI, NHD, DCR, U.S. National Transportation Atlas Railroads

Stantec

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

September 2, 2020

Michael Lombardo
Essex County, County Administrator
P.O. Box 1079
Tappahannock, Virginia 22560

RE: Dominion Energy Virginia's Proposed Lanexa-Northern Neck 230 kV Transmission Line #224 Rebuild and New 230 kV Line Project, New Kent, King William, King and Queen, Essex and Richmond Counties, Virginia
Notice Pursuant to Va. Code § 15.2-2202 E

Dear Mr. Lombardo:

Dominion Energy Virginia (the "Company") is proposing to rebuild its 230 kV transmission line, Line #224, which is located between the existing Lanexa Substation in New Kent County and Northern Neck Substation in Richmond County (collectively, the "Project"). Approximately 7 miles of the Project traverse Essex County. The Project will replace aging infrastructure that is nearing the end of its service life and address future reliability concerns, thereby continuing to enable the Company to maintain safe and reliable electric service to customers. Specifically, the Project proposes to:

i. Rebuild within an existing right-of-way or on Company-owned property, approximately 38.3 miles of the existing 41.3-mile long 230 kV Lanexa-Northern Neck Line #224, on double circuit structures. The remaining approximately 3.0 miles of Line #224 currently is being rebuilt as a partial rebuild of Line #224 ("Partial Rebuild Project"), which was approved and certificated by the State Corporation Commission (the "Commission") in Case No. PUR-2018-00090. This includes the Pamunkey River crossing (1.7 miles) and the Mattaponi River crossing (1.3 miles) of Line #224;

ii. Install 40.5 miles of a new 230 kV Lanexa-Northern Neck Transmission Line collocated on double circuit structures with Line #224. This includes the addition of a second circuit to 1.29 miles of previously replaced single-circuit structures across the Pamunkey River (Partial Rebuild Project, Case No. PUR-2018-00090). The Mattaponi River crossing will already have both circuits installed as part of the Partial Rebuild Project;

iii. Install a new, permanent substation in King and Queen County and perform additional work at the Lanexa, Dunnsville and Northern Neck Substations.

The Company is preparing an application for a Certificate of Public Convenience and Necessity ("CPCN") from the SCC. Pursuant to Va. Code § 15.2-2202, the Company is writing to notify Essex County of the proposed Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of receipt of this letter. Enclosed is an overview map of the Project. If you have any questions about this Project, you may contact me directly at (804) 310-9658 or lane.e.carr@dominionenergy.com. Dominion Energy Virginia appreciates your assistance with this project review and looks forward to any additional information you may have to offer.

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

Sincerely,

Lane Carr
Siting and Permitting Specialist

Enclosed: Project Overview Map

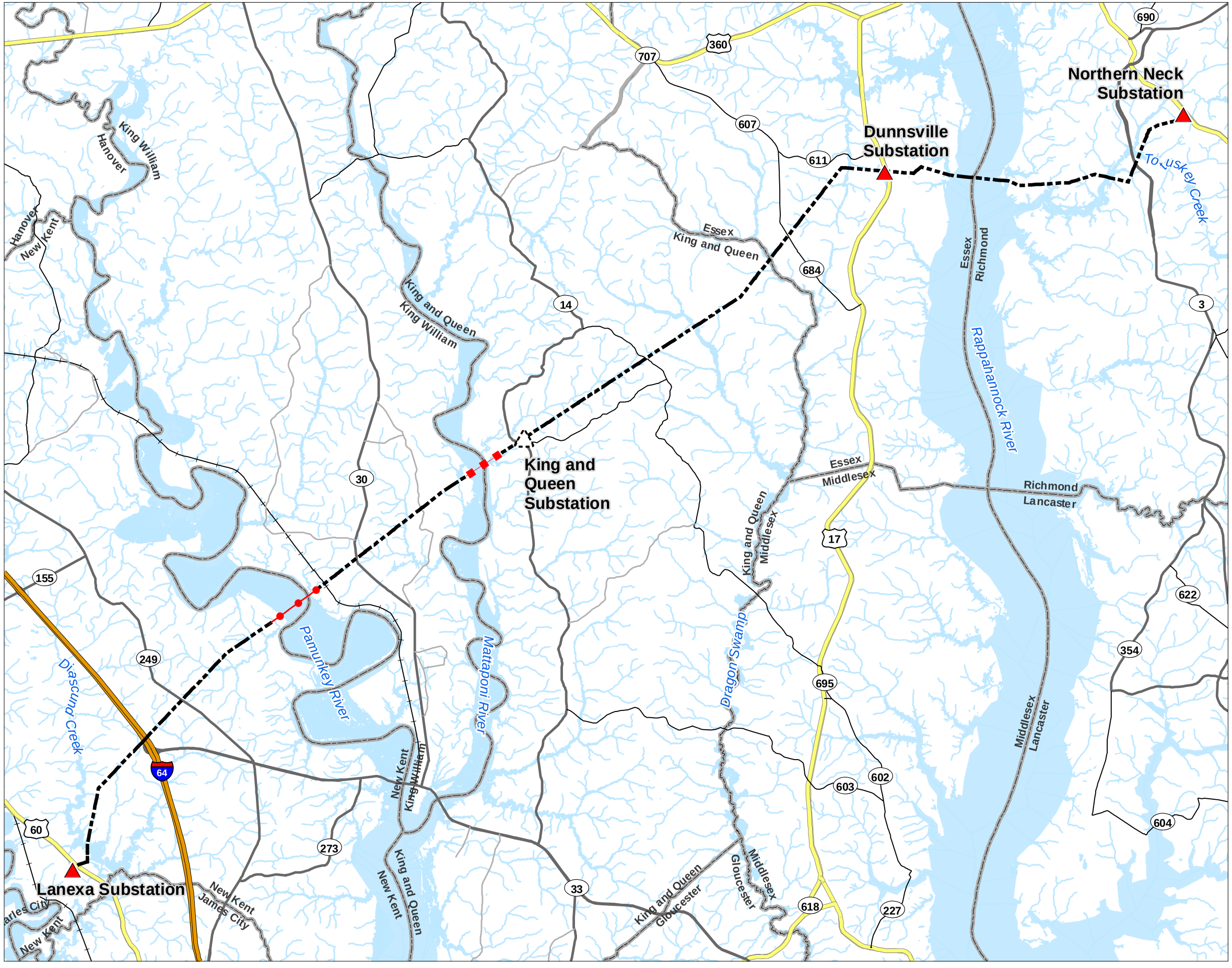


Figure No.

V.A

Title

Notification Map

Client/Project 203401404

Dominion Energy Virginia
Lanexa-Northern Neck 230 kV Transmission Line #224
Rebuild and New 230 kV Line

Project Location
New Kent, King William, King and Queen, Essex, and Richmond Counties, Virginia

Prepared by LJB on 2019-11-11
TR by ECL on 2019-01-22
IR by CPG on 2019-02-14

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(At original document size of 11x17)
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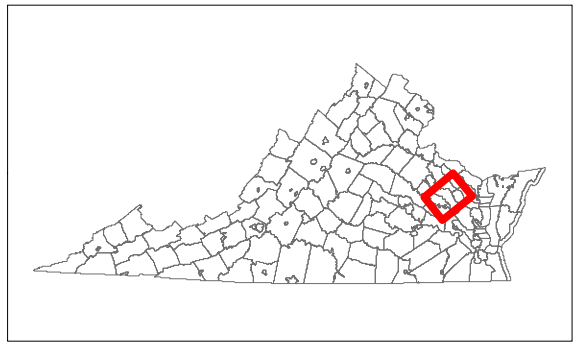
- Substation
- Proposed Substation
- Proposed 230 kV LIne Rebuild and New 230 kV Circuit
- Project Centerline, Second Circuit Only (PUR-2018-00090)
- Structures and Two Circuits Previously Authorized (PUR-2018-00090)
- Railroad
- Freeway or Other Major Road
- Other Major Road
- Secondary Road
- Local Connecting Road
- Important Local Road



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, ESRI, NHD, DCR, U.S. National Transportation Atlas Railroads

Stantec

From:	Lane E Carr (Services - 6)
To:	mlombardo@essex-virginia.org
Subject:	Dominion Energy Virginia's Proposed Lanexa-Northern Neck 230 kV Transmission Line #224 Rebuild and New 230 kV Line #2208 Project, New Kent, King William, King and Queen, Essex and Richmond Counties, Virginia Notice Pursuant to Va. Code § 15.2-2202 E
Date:	Tuesday, October 6, 2020 2:14:00 PM
Attachments:	Lanexa - Northern Neck Project Overview Map.pdf Essex 2202 Letter.pdf image002.png

Dear Mr. Lombardo,

Good afternoon. Pursuant to Va. Code § 15.2-2202 E, I am writing to inform you that installation of a new, permanent substation in King and Queen County, as noted in bullet iii. of the attached September 2, 2020 letter, will no longer be included in Dominion Energy's pending application for a Certificate of Public Convenience and Necessity ("CPCN") from the State Corporation Commission for the above-referenced Project. An updated Project Overview Map is attached.

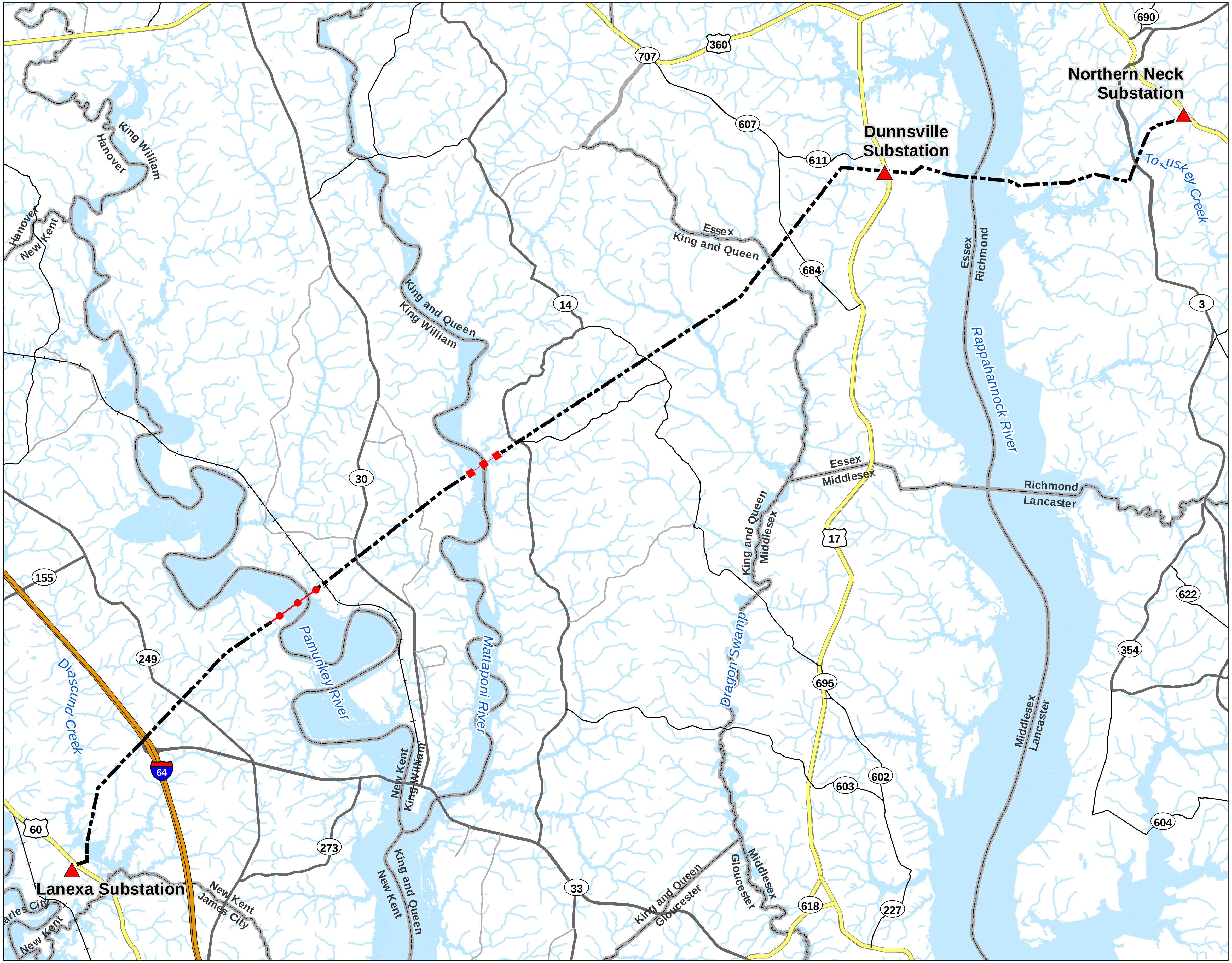
If you have any questions about this Project, you may contact me directly at (804) 310-9658 or lane.e.carr@dominionenergy.com.

Sincerely,

Lane Carr
Siting and Permitting Specialist I 10900 Nuckols Rd. Glen Allen, VA 23060
O: 804.771.4061 I M: 804.310.9658 I Lane.E.Carr@dominionenergy.com

Figure No.
V.A

Title
Notification Map



Client/Project 203401404
Dominion Energy Virginia
Lanexa-Northern Neck 230 kV Transmission Line #224
Rebuild and New 230 kV Line #2208

Project Location
New Kent, King William, King and Queen, Essex, and Richmond Counties, Virginia

Prepared by LJB on 2019-11-11
TR by ECL on 2020-01-22
IR by CPG on 2020-02-14

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- Substation
- Proposed 230 kV Line Rebuild and New 230 kV Circuit
- Project Centerline, Second Circuit Only (PUR-2018-00090)
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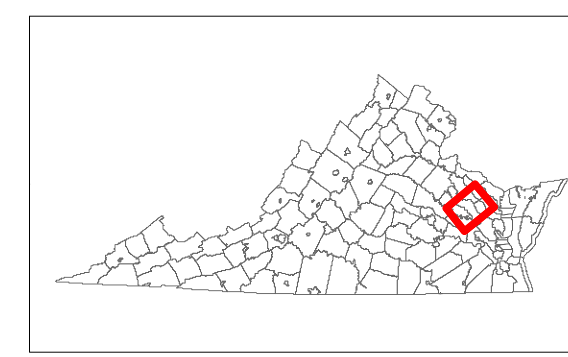

Notes
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Stantec

Page 01 of 01

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Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

September 2, 2020

R. Morgan Quicke
Richmond County, County Administrator
101 Court Circle, P.O. Box 1000
Warsaw, Virginia 22572

RE: Dominion Energy Virginia's Proposed Lanexa-Northern Neck 230 kV Transmission Line #224 Rebuild and New 230 kV Line Project, New Kent, King William, King and Queen, Essex and Richmond Counties, Virginia
Notice Pursuant to Va. Code § 15.2-2202 E

Dear Mr. Quicke:

Dominion Energy Virginia (the "Company") is proposing to rebuild its 230 kV transmission line, Line #224, which is located between the existing Lanexa Substation in New Kent County and Northern Neck Substation in Richmond County (collectively, the "Project"). Approximately 6 miles of the Project traverse Richmond County. The Project will replace aging infrastructure that is nearing the end of its service life and address future reliability concerns, thereby continuing to enable the Company to maintain safe and reliable electric service to customers. Specifically, the Project proposes to:

i. Rebuild within an existing right-of-way or on Company-owned property, approximately 38.3 miles of the existing 41.3-mile long 230 kV Lanexa-Northern Neck Line #224, on double circuit structures. The remaining approximately 3.0 miles of Line #224 currently is being rebuilt as a partial rebuild of Line #224 ("Partial Rebuild Project"), which was approved and certificated by the State Corporation Commission (the "Commission") in Case No. PUR-2018-00090. This includes the Pamunkey River crossing (1.7 miles) and the Mattaponi River crossing (1.3 miles) of Line #224;

ii. Install 40.5 miles of a new 230 kV Lanexa-Northern Neck Transmission Line collocated on double circuit structures with Line #224. This includes the addition of a second circuit to 1.29 miles of previously replaced single-circuit structures across the Pamunkey River (Partial Rebuild Project, Case No. PUR-2018-00090). The Mattaponi River crossing will already have both circuits installed as part of the Partial Rebuild Project;

iii. Install a new, permanent substation in King and Queen County and perform additional work at the Lanexa, Dunnsville and Northern Neck Substations.

The Company is preparing an application for a Certificate of Public Convenience and Necessity ("CPCN") from the SCC. Pursuant to Va. Code § 15.2-2202, the Company is writing to notify Richmond County of the proposed Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of receipt of this letter. Enclosed is an overview map of the Project. If you have any questions about this Project, you may contact me directly at (804) 310-9658 or lane.e.carr@dominionenergy.com. Dominion Energy Virginia appreciates your assistance with this project review and looks forward to any additional information you may have to offer.

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

Sincerely,

Lane Carr
Siting and Permitting Specialist

Enclosed: Project Overview Map

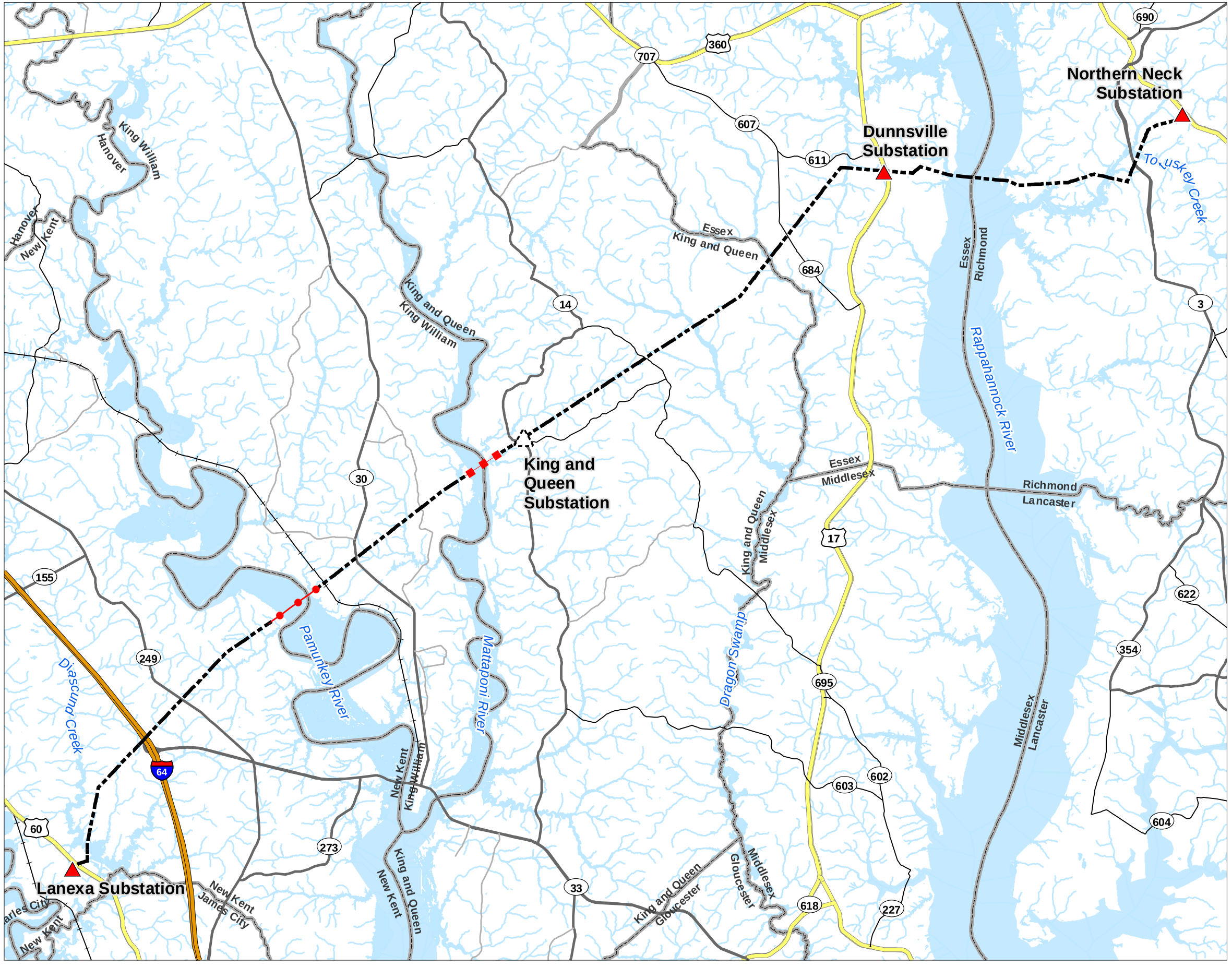

Figure No.

V.A

Title

Notification Map

Client/Project 203401404

Dominion Energy Virginia
Lanexa-Northern Neck 230 kV Transmission Line #224
Rebuild and New 230 kV Line

Project Location
New Kent, King William, King and Queen, Essex, and Richmond Counties, Virginia

Prepared by LJB on 2019-11-11
TR by ECL on 2019-01-22
IR by CPG on 2019-02-14

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(At original document size of 11x17)
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- Substation
- Proposed Substation
- Proposed 230 kV LIne Rebuild and New 230 kV Circuit
- Project Centerline, Second Circuit Only (PUR-2018-00090)
- Structures and Two Circuits Previously Authorized (PUR-2018-00090)
- Railroad
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- Other Major Road
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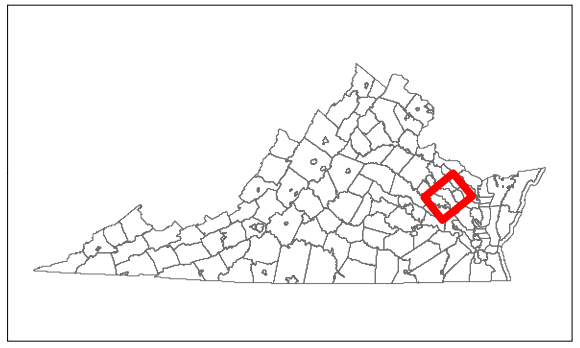
- Local Connecting Road
- Important Local Road



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, ESRI, NHD, DCR, U.S. National Transportation Atlas Railroads

Stantec

From:	Lane E Carr (Services - 6)
To:	rmquicke@co.richmond.va.us
Subject:	Dominion Energy Virginia's Proposed Lanexa-Northern Neck 230 kV Transmission Line #224 Rebuild and New 230 kV Line #2208 Project, New Kent, King William, King and Queen, Essex and Richmond Counties, Virginia Notice Pursuant to Va. Code § 15.2-2202 E
Date:	Tuesday, October 6, 2020 2:15:00 PM
Attachments:	Lanexa - Northern Neck Project Overview Map.pdf Richmond 2202 Letter.pdf image001.png

Dear Mr. Quicke,

Good afternoon. Pursuant to Va. Code § 15.2-2202 E, I am writing to inform you that installation of a new, permanent substation in King and Queen County, as noted in bullet iii. of the attached September 2, 2020 letter, will no longer be included in Dominion Energy's pending application for a Certificate of Public Convenience and Necessity ("CPCN") from the State Corporation Commission for the above-referenced Project. An updated Project Overview Map is attached.

If you have any questions about this Project, you may contact me directly at (804) 310-9658 or lane.e.carr@dominionenergy.com.

Sincerely,

Lane Carr
Siting and Permitting Specialist I 10900 Nuckols Rd. Glen Allen, VA 23060
O: 804.771.4061 I M: 804.310.9658 I Lane.E.Carr@dominionenergy.com

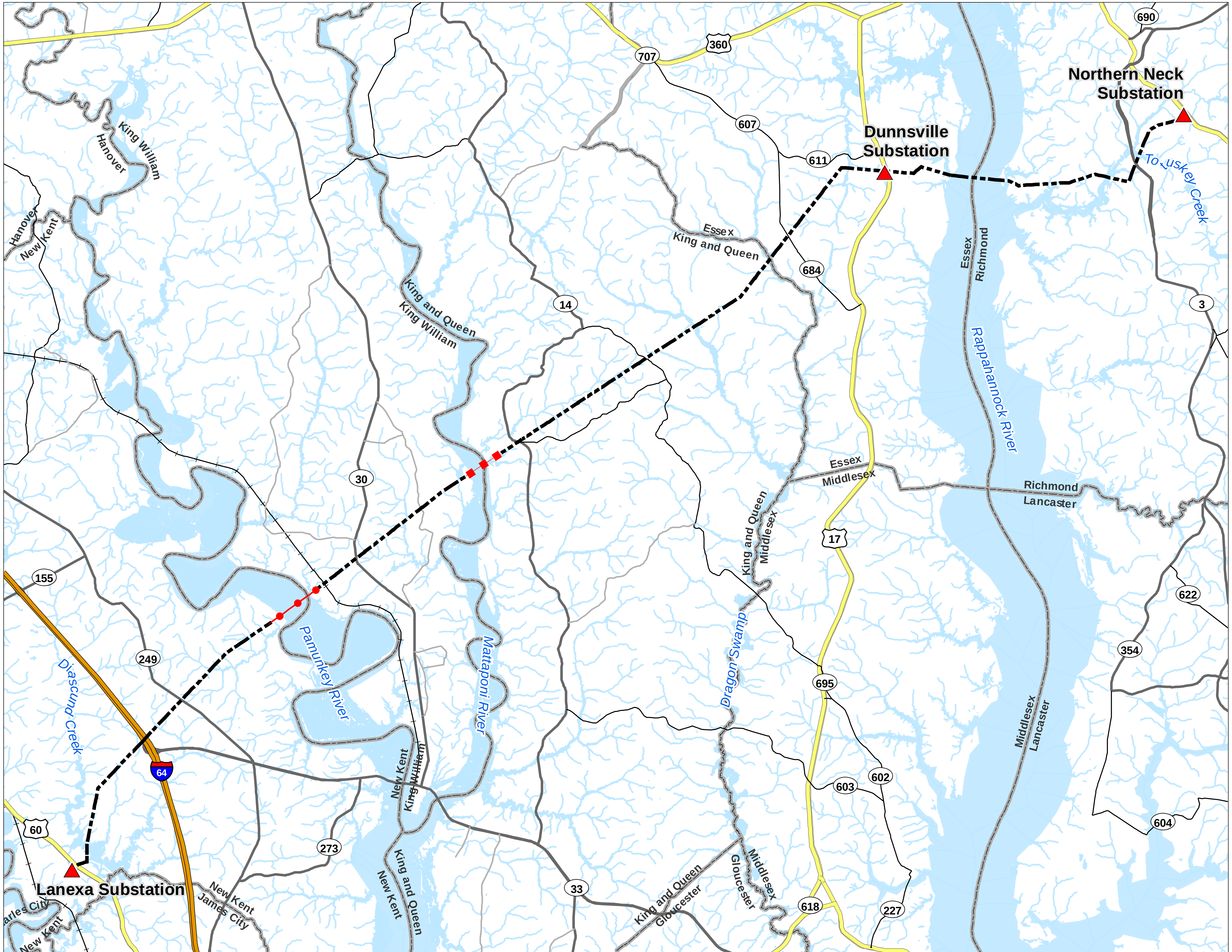


Figure No.
V.A

Title
Notification Map

Client/Project 203401404
Dominion Energy Virginia
Lanexa-Northern Neck 230 kV Transmission Line #224
Rebuild and New 230 kV Line #2208

Project Location
New Kent, King William, King and Queen, Essex, and Richmond Counties, Virginia

Prepared by LJB on 2019-11-11
TR by ECL on 2020-01-22
IR by CPG on 2020-02-14

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Legend
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- Proposed 230 kV Line Rebuild and New 230 kV Circuit
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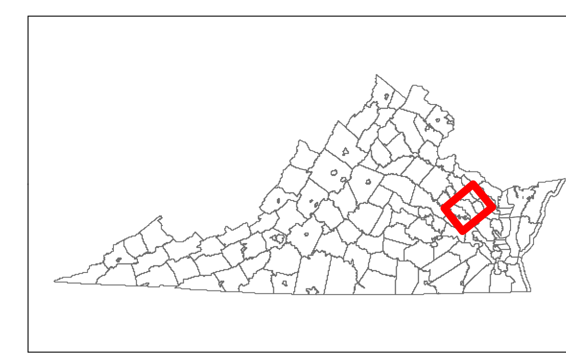

Notes
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2. Data Sources: Dominion Energy Virginia, Stantec, ESRI, NHD, DCR, U.S. National Transportation Atlas Railroads

Stantec

Page 01 of 01

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Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

COMMONWEALTH OF VIRGINIA

STATE CORPORATION COMMISSION

APPLICATION OF	)	
VIRGINIA ELECTRIC AND POWER COMPANY	)	Case No. PUR-2020-00247
	)	
For approval and certification of electric	)	
transmission facilities: Lanexa-Northern Neck 230 kV	)	
Line #224 Rebuild and New 230 kV Line #2208	)	

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

Mark R. Gill

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

Rebecca A. Suther

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

Mohammad M. Othman

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

Lane E. Carr

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

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Mark R. Gill

Title: Consulting Engineer – Electric Transmission Planning

Summary:

Company Witness Mark R. Gill sponsors those portions of the Appendix describing the Company's transmission system and need for, and benefits of, the proposed Project, as follows:

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

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

- Section I.A (co-sponsored with Company Witness Rebecca A. Suther): This section details the primary justifications for the proposed project.
- Section I.F (co-sponsored with Company Witness Rebecca A. Suther): This section describes any lines or facilities that will be removed, replaced or taken out of service upon completion of the proposed project, including the number of circuits and normal and emergency ratings of the facilities.
- Section I.G (co-sponsored with Company Witness Lane E. Carr): This section provides a system map for the affected area.
- Section II.A.3 (co-sponsored with Company Witness Lane E. Carr): This section provides color maps of existing or proposed rights-of-way in the vicinity of the proposed project.

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

DIRECT TESTIMONY
OF
MARK R. GILL
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2020-00247

Q. Please state your name, business address and position with Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company").

A. My name is Mark R. Gill, and I am a Consulting Engineer in the Electric Transmission Planning Department for the Company. My business address is 10900 Nuckols Road, Glen Allen, Virginia 23060. A statement of my qualifications and background is provided as Appendix A.

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

A. I am responsible for planning the Company's electric transmission system for voltages of 69 kilovolt ("kV") through 500 kV.

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

A. In order to maintain the structural integrity and reliability of its transmission system in compliance with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards, as well as resolve a potential violation of planning criteria, the Company proposes, within New Kent, King William, King and Queen, Essex, and Richmond Counties, Virginia, the following (collectively, the "Project"):

(i) Rebuild within an existing right-of-way or on Company-owned property, approximately 38.3 miles of the existing 41.3-mile long 230 kV Lanexa-Northern Neck Line #224, which is nearing its end of life, on new double circuit structures;

(ii) Install approximately 40.5 miles of new 230 kV Lanexa-Northern Neck

Line #2208 collocated on double circuit structures with Line #224

(iii) Perform expansion and installation work at the Company's existing Lanexa and Northern Neck Substations, and minor work at the Dunnsville Substation; and

(iv) Perform minor transmission-related work on Lines #2016, #2076, #2113, and #2129.

The purpose of my testimony is to describe the Company's transmission system and the need for, and benefits of, the proposed Project. I am sponsoring Sections I.B, I.C, I.D, I.E, I.H, I.J, I.K, I.M, I.N, and II.A.10 of the Appendix. Additionally, I co-sponsor Sections I.A and I.F with Company Witness Rebecca A. Suther, and Sections I.G and II.A.3 with Company Witness Lane E. Carr.

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

A. Yes, it does.

APPENDIX A

BACKGROUND AND QUALIFICATIONS
OF
MARK R. GILL

Mark R. Gill received a Bachelor of Science degree in Electrical Engineering from the University of Virginia in 1989. He has been licensed as a Professional Engineer in the Commonwealth of Virginia since 1994. He has been employed by the Company for 32 years. Mr. Gill's experience with the Company includes Customer Service (1988-1992), Circuit Calculations/System Protection (1992-1999), Distribution Planning (1999-2007) and Transmission Planning (2007-Present).

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

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Rebecca A. Suther

Title: Line Engineer III – Electric Transmission Line Engineering

Summary:

Company Witness Rebecca A. Suther will sponsor those portions of the Appendix providing an overview of the design characteristics of the transmission facilities for the proposed Project, and discussing electric and magnetic field levels, as follows:

- Section I.L: This section provides photographs illustrating the deterioration of structures and associated equipment as applicable.

- Section II.A.5: This section provides drawings of the right-of-way cross section showing typical transmission lines structure placements.

- Section II.B.1 to II.B.4: This section provides the line design and operational features of the proposed project.

- Section IV: This section provides analysis on the health aspects of electric and magnetic field levels.

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

- Section I.A (co-sponsored with Company Witness Mark R. Gill): This section details the primary justifications for the proposed project.

- Section I.F (co-sponsored with Company Witness Mark R. Gill): This section describes any lines or facilities that will be removed, replaced or taken out of service upon completion of the proposed project, including the number of circuits and normal and emergency ratings of the facilities.

- Section I.I (co-sponsored with Company Witness Mohammad M. Othman): This section provides the estimated total cost of the proposed project.

- Section II.B.5 (co-sponsored with Company Witness Lane E. Carr): This section provides the mapping and structure heights for the existing overhead structures.

A statement of Ms. Suther's background and qualifications is attached to her testimony as Appendix A.

DIRECT TESTIMONY
OF
REBECCA A. SUTHER
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2020-00247

Q. Please state your name, business address and position with Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company").

A. My name is Rebecca A. Suther, and I am a Transmission Line Engineer III in the Electric Transmission Line Engineering department of the Company. My business address is 10900 Nuckols Road, Glen Allen, Virginia 23060. A statement of my qualifications and background is provided as Appendix A.

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

A. I am responsible for the estimating, conceptual and final design of high voltage transmission line projects from 69 kilovolt ("kV") to 500 kV.

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

A. In order to maintain the structural integrity and reliability of its transmission system in compliance with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards, as well as resolve a potential violation of planning criteria, the Company proposes, within New Kent, King William, King and Queen, Essex, and Richmond Counties, Virginia, the following (collectively, the "Project"):

(i) Rebuild within an existing right-of-way or on Company-owned property, approximately 38.3 miles of the existing 41.3-mile long 230 kV Lanexa-Northern Neck Line #224, which is nearing its end of life, on new double circuit structures;

(ii) Install approximately 40.5 miles of new 230 kV Lanexa-Northern Neck

Line #2208 collocated on double circuit structures with Line #224

(iii) Perform expansion and installation work at the Company's existing Lanexa and Northern Neck Substations, and minor work at the Dunnsville Substation; and

(iv) Perform minor transmission-related work on Lines #2016, #2076, #2113, and #2129.

The purpose of my testimony is to describe the design characteristics of the transmission facilities for the proposed Project, and also to discuss electric and magnetic field ("EMF") levels. I sponsor Sections I.L, II.A.5, II.B.1 to II.B.4, and IV of the Appendix. I also co-sponsor Sections I.A and I.F of the Appendix with Company Witness Mark R. Gill; Section I.I of the Appendix with Company Witness Mohammad M. Othman; and Section II.B.5 with Company Witness Lane E. Carr.

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

A. Yes, it does.

APPENDIX A

BACKGROUND AND QUALIFICATIONS
OF
REBECCA A. SUTHER

Ms. Rebecca A. Suther earned her bachelor's degree from Virginia Polytechnic Institute and State University in Civil Engineering. Her past work experience includes working as a land development engineer responsible for the design of residential neighborhoods in the Central Virginia region. Ms. Suther joined Dominion Energy in 2011 in the Transmission Lines Operations and Maintenance Engineering Group where she oversaw maintenance projects for all Dominion Transmission Lines and is now an Engineer III in the Transmission Overhead Lines Engineering Group that oversees all projects involving the design of Transmission Overhead Lines.

Ms. Suther has previously submitted pre-filed testimony before the State Corporation Commission of Virginia.

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Mohammad M. Othman

Title: Engineer III – Substation Engineering

Summary:

Company Witness Mohammad M. Othman sponsors or co-sponsors the following portions of the Appendix describing the work to be performed at the existing substation for the Project, as follows:

- Section I.I (co-sponsored with Company Witness Rebecca A. Suther): This section provides the estimated total cost of the proposed project.

- Section II.C: This section describes and furnishes a one-line diagram of the substation associated with the proposed project.

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

DIRECT TESTIMONY
OF
MOHAMMAD M. OTHMAN
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2020-00247

Q. Please state your name, business address and position with Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company").

A. My name is Mohammad M. Othman, and I am an Engineer III in the Substation Engineering section of the Electric Transmission group of the Company. My business address is 2400 Grayland Avenue, Richmond, Virginia 23220. A statement of my qualifications and background is provided as Appendix A.

Q. What are your responsibilities as an Engineer III?

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

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

A. In order to maintain the structural integrity and reliability of its transmission system in compliance with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards, as well as resolve a potential violation of planning criteria, the Company proposes, within New Kent, King William, King and Queen, Essex, and Richmond Counties, Virginia, the following (collectively, the "Project"):

(i) Rebuild within an existing right-of-way or on Company-owned property, approximately 38.3 miles of the existing 41.3-mile long 230 kV Lanexa-Northern Neck Line #224, which is nearing its end of life, on new double circuit structures;

(ii) Install approximately 40.5 miles of new 230 kV Lanexa-Northern Neck Line #2208 collocated on double circuit structures with Line #224

(iii) Perform expansion and installation work at the Company's existing Lanexa and Northern Neck Substations, and minor work at the Dunnsville Substation; and

(iv) Perform minor transmission-related work on Lines #2016, #2076, #2113, and #2129.

The purpose of my testimony is to describe the work to be performed at the proposed Project's various substations. I sponsor Section II.C of the Appendix and co-sponsor Section I.I of the Appendix with Company Witness Rebecca A. Suther, specifically, as it pertains to substation work.

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

A. Yes, it does.

APPENDIX A

BACKGROUND AND QUALIFICATIONS
OF
MOHAMMAD M. OTHMAN

Mohammad M. Othman received a Bachelor of Science degree in Electrical Engineering from Virginia Commonwealth University in 2008. Mr. Othman's responsibilities included the evaluation of the substation project requirements, development of scope documents and schedules, preparation of estimates and proposals, preparation of specifications and bid documents, material procurement, design substation physical layout, develop detailed physical drawings, bill of materials, electrical schematics and wiring diagrams. Mr. Othman joined the Dominion Energy Virginia Substation Engineering department in 2010 as an Engineer II then promoted to Engineer III, the title he currently holds.

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

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Lane E. Carr

Title: Siting and Permitting Specialist I

Summary:

Company Witness Lane E. Carr sponsors those portions of the Appendix providing an overview of the design of the route for the proposed Project, and related permitting, as follows:

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

Additionally, Ms. Carr co-sponsors the following portion of the Appendix:

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

Finally, Ms. Carr sponsors the DEQ Supplement filed with the Application.

A statement of Ms. Carr's background and qualifications is attached to her testimony as Appendix A.

DIRECT TESTIMONY
OF
LANE E. CARR
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2020-00247

Q. Please state your name, business address and position with Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company").

A. My name is Lane E. Carr, and I am a Siting and Permitting Specialist for the Company. My business address is 10900 Nuckols Road, Glen Allen, Virginia 23060. A statement of my qualifications and background is provided as Appendix A.

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

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

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

A. In order to maintain the structural integrity and reliability of its transmission system in compliance with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards, as well as resolve a potential violation of planning criteria, the Company proposes, within New Kent, King William, King and Queen, Essex, and Richmond Counties, Virginia, the following (collectively, the "Project"):

(i) Rebuild within an existing right-of-way or on Company-owned property, approximately 38.3 miles of the existing 41.3-mile long 230 kV Lanexa-Northern Neck Line #224, which is nearing its end of life, on new double circuit structures;

(ii) Install approximately 40.5 miles of new 230 kV Lanexa-Northern Neck Line #2208 collocated on double circuit structures with Line #224

(iii) Perform expansion and installation work at the Company's existing Lanexa and Northern Neck Substations, and minor work at the Dunnsville Substation; and

(iv) Perform minor transmission-related work on Lines #2016, #2076, #2113, and #2129.

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

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

A. Yes. In accordance with Va. Code § 15.2-2202 E, letters dated September 2, 2020, were delivered to Mr. Rodney Hathaway, County Administrator in New Kent County, Mr. Bobbie Tassinari, County Administrator in King William County, Mr. Thomas J. Swartzwelder, County Administrator in King and Queen County, Mr. Michael Lombardo, County Administrator in Essex County, and to Mr. R. Morgan Quicke, County Administrator of Richmond County, advising of the Company's intention to file this Application and inviting the counties to consult with the Company about the Project. Subsequently, the Company notified these recipients of updates to the Project via email on October 6, 2020. Copies of the letters and email update communications are included

as Appendix Attachment V.D.1.

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

A. Yes, it does.

APPENDIX A

BACKGROUND AND QUALIFICATIONS
OF
LANE E. CARR

Lane E. Carr graduated from California Polytechnic State University in 1992 with a Bachelor of Science in Agricultural Business. She also obtained a Master of Science from California Polytechnic State University, San Luis Obispo in 1997. Ms. Carr joined the Company's Transmission Right-of-Way group in January 2019 as a Siting and Permitting Specialist, the position she presently holds. Prior to working for the Company, Ms. Carr worked as an Environmental Inspector for the County of Henrico.

Ms. Carr has previously submitted pre-filed testimony to the Virginia State Corporation Commission.