Simulation provided by Stantec

OP 12 Proposed (No Visibility)

Chancellorsville Battlefield (DHR #088-5180) and Falmouth Historic District (DHR #089-0067)

Stantec Dominion Energy

Photograph provided by Stantec

OP 13 Existing

Belmont (DHR #089-0022), Chancellorsville Battlefield (DHR #088-5180),
Battle of Fredericksburg II (DHR #111-5296), and Falmouth Historic District (DHR #089-0067)

Stantec Dominion Energy

Simulation provided by Stantec

OP 13 Proposed (No Visibility)

Belmont (DHR #089-0022), Chancellorsville Battlefield (DHR #088-5180),
Battle of Fredericksburg II (DHR #111-5296), and Falmouth Historic District (DHR #089-0067)

Stantec Dominion Energy

OP14 – Existing

Photograph provided by Stantec

OP 14 Existing

Chancellorsville Battlefield (DHR #088-5180), Falmouth Historic District (DHR #089-0067), Battle of Fredericksburg II (DHR #111-5296), and 105 West Cambridge St. (DHR #089-5082)

Stantec Dominion Energy

OP14 – Proposed (No Visibility)

Simulation provided by Stantec

OP 14 Proposed (No Visibility)

Chancellorsville Battlefield (DHR #088-5180), Falmouth Historic District (DHR #089-0067), Battle of Fredericksburg II (DHR #111-5296), and 105 West Cambridge St. (DHR #089-5082)

Stantec Dominion Energy

OP15 – Existing

Photograph provided by Stantec

OP 15 Existing
Falmouth Historic District (DHR #089-0067)

Stantec Dominion Energy

Simulation provided by Stantec

OP 15 Proposed (No Visibility)
Falmouth Historic District (DHR #089-0067)

Stantec Dominion Energy

Photograph provided by Stantec

OP 18 Existing
Carl's Frozen Custard (DHR #111-5007) and
Battle of Fredericksburg I (DHR #111-5295)

Stantec Dominion Energy

Simulation provided by Stantec

OP 18 Proposed (No Visibility)
Carl's Frozen Custard (DHR #111-5007) and
Battle of Fredericksburg I (DHR #111-5295)

Stantec Dominion Energy

Photograph provided by Stantec

OP 19 Existing

Fredericksburg and Spotsylvania Battlefields NMP (DHR #111-0147), Fall Hill (DHR #111-0149), Battle of Fredericksburg I (DHR #111-5295), Battle of Fredericksburg II (DHR #111-5296), and Salem Church Battlefield (DHR #088-5181)

Stantec Dominion Energy

Simulation provided by Stantec

OP 19 Proposed

Fredericksburg and Spotsylvania Battlefields NMP (DHR #111-0147), Fall Hill (DHR #111-0149), Battle of Fredericksburg I (DHR #111-5295), Battle of Fredericksburg II (DHR #111-5296), and Salem Church Battlefield (DHR #088-5181)

Stantec Dominion Energy

Photograph provided by Stantec

OP 21 Existing

Allman's Bar-B-Que (DHR #111-5473), Battle of Fredericksburg I (DHR #111-5295), Battle of Fredericksburg II (DHR #111-5296), and Salem Church Battlefield (DHR #088-5181)

Stantec Dominion Energy

Simulation provided by Stantec

OP 21 Proposed

Allman's Bar-B-Que (DHR #111-5473), Battle of Fredericksburg I (DHR #111-5295), Battle of Fredericksburg II (DHR #111-5296), and Salem Church Battlefield (DHR #088-5181)

Stantec Dominion Energy

OP22 – Existing

Photograph provided by Stantec

OP 22 Existing
Elmhurst (DHR #111-5267)

Stantec Dominion Energy

Simulation provided by Stantec

OP 22 Proposed (No Visibility)
Elmhurst (DHR #111-5267)

Stantec Dominion Energy

Photograph provided by Stantec

OP 23 Existing
Washington Avenue Historic District (DHR #111-5262)

Stantec Dominion Energy

Simulation provided by Stantec

OP 23 Proposed (No Visibility)
Washington Avenue Historic District (DHR #111-5262)

Stantec Dominion Energy

Photograph provided by Stantec

OP 24 Existing

Kenmore (DHR #111-0047) and Fredericksburg Historic District Extension (DHR #111-0009)

Stantec Dominion Energy

Simulation provided by Stantec

OP 24 Proposed

Kenmore (DHR #111-0047) and Fredericksburg Historic District Extension (DHR #111-0009)

Stantec Dominion Energy

OP25 – Existing

Photograph provided by Stantec

OP 25 Existing
Fredericksburg Historic District (DHR #111-0132)

Stantec Dominion Energy

OP25 – Proposed (No Visibility)

Simulation provided by Stantec

OP 25 Proposed (No Visibility)
Fredericksburg Historic District (DHR #111-0132)

Stantec Dominion Energy

OP26 – Existing

Photograph provided by Stantec

OP 26 Existing

Fredericksburg City and Confederate Cemeteries (DHR #111-5265) and
Fredericksburg Historic District Extension (DHR #111-0009)

Stantec Dominion Energy

OP26 – Proposed (No Visibility)

Simulation provided by Stantec

OP 26 Proposed (No Visibility)
Fredericksburg City and Confederate Cemeteries (DHR #111-5265) and
Fredericksburg Historic District Extension (DHR #111-0009)

Stantec Dominion Energy

Photograph provided by Stantec

OP 27 Existing

John Lewis House (DHR #111-0107) and
Fredericksburg Historic District Extension (DHR #111-0009)

Stantec Dominion Energy

Simulation provided by Stantec

OP 27 Proposed (No Visibility)
John Lewis House (DHR #111-0107) and
Fredericksburg Historic District Extension (DHR #111-0009)

Stantec Dominion Energy

Photograph provided by Stantec

OP 28 Existing
Brompton (DHR #111-0008)

Stantec Dominion Energy

Simulation provided by Stantec

OP 28 Proposed (No Visibility)
Brompton (DHR #111-0008)

Stantec Dominion Energy

Photograph provided by Stantec

OP 31 Existing
Conway House (DHR #089-0067-0031)

Stantec Dominion Energy

Simulation provided by Stantec

OP 31 Proposed (No Visibility)
Conway House (DHR #089-0067-0031)

Stantec Dominion Energy

II. DESCRIPTION OF THE PROPOSED PROJECT

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

Response: There are no new substations, switching stations, or other ground facilities associated with the proposed Rebuild Project. To support the Rebuild Project, the Company will complete the following substation work:[21]

At Fredericksburg Substation, the Company will: (1) install a 230 kV breaker in the open position in the ring to terminate converted Line #29; (2) reconfigure line terminations of 230 kV lines #2157, #2090, and #2083 (the latter two of which are not otherwise involved in this Rebuild Project); (3) upgrade circuit breakers, switches, line leads, current transformers, relays, and wave trap to 230 kV and 4000A; and (4) ensure terminal equipment will not limit conductor ratings.

At Aquia Harbour Station, the Company will: (1) upgrade circuit breaker switches and wave traps to 4000A; (2) ensure that terminal equipment will not limit conductor ratings; (3) upgrade the Line #252 wave trap, line lead, circuit breaker switch, circuit breaker lead, and other terminal equipment to 4000A; (4) upgrade switches to 4000A; and (5) upgrade circuit breakers to 4000A if the equipment are nearing their end of life.

At Ladysmith Substation, the Company will: upgrade the Line #2090 wave trap and line lead to 4000A.

At Fuller Road Substation, the Company will: (1) install one 84 MVA 230/115 kV transformer and in-service spare at Fuller Road; (2) install four-breaker 230 kV ring bus to interconnect with Line #252, creating new Line #2309 (Aquia Harbour-Fuller Road); and (3) uprate switches and other line equipment to 4000A.

At Aquia Substation, the Company will: uprate Line #252 line leads and line switches to 4000A.

At Possum Point Station, the company will: (1) relocate one existing 230/115 kV transformer #8 to new separate yard located in the existing parking lot adjacent to transformer #9; (2) install 230 kV circuit breaker on the high side of transformer #8; (3) uprate switches and other line equipment to 4000A.

[21] The proposed Rebuild Project includes transmission line work between the identified existing stations. A description of the station work is provided here for transparency. The stations are subject to locality jurisdiction. *BASF Corp. v. State Corp. Comm'n*, 289 Va. 375 (2015).

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 proposed Rebuild Project is located in Stafford and Prince William Counties and in the City of Fredericksburg. Land use consists of residential developments from Aquia Harbour Station for approximately 3.4 miles to the boundary of MCBQ. This area of MCBQ is forested outside the existing right-of-way and utilized for training operations in some locations. Crossing over Interstate 95, the land use is dominated by the Quantico National Cemetery to the west and a county golf course to the east. Approximately 0.8 miles north of Interstate 95, the corridor traverses southeast, with the golf course to either side of the right-of-way before crossing back over Interstate 95. A passive use county park is located adjacent to the right-of-way just west of where the Rebuild Project re-enters MCBQ. After leaving MCBQ, several residential developments are present prior to Lines #29 and #252 crossing Quantico Creek and then entering Company property, which consists of the Possum Point Power Station. Separately, Line #2083 resides within the City of Fredericksburg in an urban area.

Farmlands/Forests

The corridor goes through approximately 62 acres of prime farmland soils and 103.3 acres of farmland of statewide importance according to the Natural Resource Conservation Service Data. Attachment III.A.1. The majority of the existing corridor is currently maintained for transmission line operation; however, approximately 65 feet of the Company's western edge of the right-of-way is unmaintained between Aquia Harbour Station and Aquia Substation. The Company intends to clear any forestland and remove any trees encroaching into the right-of-way as part of the Rebuild Project. The right-of-way and substation expansions are proposed near the Fuller Road Substation, which has approximately 3.4 acres of forest within MCBQ. Additional discussion on farmlands and forests is provided in Section 2.L of the DEQ Supplement.

Wetlands

The proposed Rebuild Project is located within the Lower Rappahannock and Lower Potomac watersheds, Hydrologic Unit Codes 02080104 and 02070011. According to the U.S. Geological Survey ("USGS"), Stafford [1994] topographic quadrangle, the existing transmission lines cross Aquia Creek (Structures

#252/5522-5524 and #29/1789-1791). Within USGS Widewater 2019 topographic quadrangle, the existing transmission lines do not cross any waterbodies. According to the USGS Quantico [1972] topographic quadrangle, the existing transmission lines cross Chopawamsic Creek (Structures #252/5546-5547 and #29/1813-1814), Little Creek (Structures #252/5569-5570 and #29/1836-1837, and Quantico Creek (Structures #252/5577-5580 and #29/1844-1848). Existing Line #2083 within the USGS Fredericksburg [1994] topographic quadrangle, the existing Line #2083 transmission line does not cross any waterbodies.

On behalf of the Company, Stantec Consulting Services, Inc. ("Stantec") conducted a desktop level evaluation to identify potential wetlands and other surface waters within the Rebuild Project. The details of the evaluation are discussed in Section 2.D of the DEQ Supplement. Prior to construction, the Company will delineate wetlands and other waters of the United States using the Routine Determination Method, as outlined in the 1987 U.S. Army Corps of Engineers ("Corps") 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).* The Company will conduct the delineation using the latest guidance provided by the Corps and EPA, and coordinate with DEQ if needed. Prior to construction, the Company will obtain any necessary permits to impact jurisdictional waters.

For an additional description of the character of the area that will be traversed by the Rebuild Project and the related impacts, see Section 2.D of the DEQ Supplement.

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. This report was forwarded to the VDHR and is included as Attachment 2.I.2 to the DEQ Supplement. Further discussion of historic features is included in Section 2.I of the DEQ Supplement.

Threatened and Endangered Species

Online database searches for threatened and endangered species in the vicinity of the Rebuild Project, including the U.S. Fish and Wildlife ("USFWS") Information, Planning, and Consultation ("IPaC") system, the Virginia Department of Wildlife Resources ("DWR") Virginia Fish and Wildlife Information Service ("VAFWIS"), Virginia Department of Conservation and Recreation ("DCR"), Natural Heritage Data Explorer ("NHDE"), DWR Northern Long-eared Bat Regulatory Buffer Interactive Tool, DWR Little Brown Bat and Tri-colored Bat Winter Habitat and Roosts Application, and the Center for Conservation Biology ("CCB") Bald Eagle Nest Locator, were conducted, which identified federal- and state-listed species that have the potential to occur within the vicinity of the Rebuild Project right-of-way.

These results are included in Attachment 2.G.1 to the DEQ Supplement. The Company intends to reasonably minimize any impact on these resources and coordinate with pertinent agencies, as appropriate.

Dwellings

Please see the table below regarding the number of dwellings within certain distances of the centerline of the Rebuild Project.

Locality	500 feet	250 feet	100 feet
Stafford County	475	157	0
Prince William County	178	72	8
City of Fredericksburg	14	0	0

This information is derived from GIS Data from Stafford County, Prince William County, and the City of Fredericksburg.

For additional description of the character of the area that will be traversed by the Rebuild Project and the related impacts, see the DEQ Supplement, specifically as to wetlands (Section 2.D), forests (Section 2.L), agricultural lands (Section 2.L), historic resources (Section 2.I), and wildlife (Section 2.K).

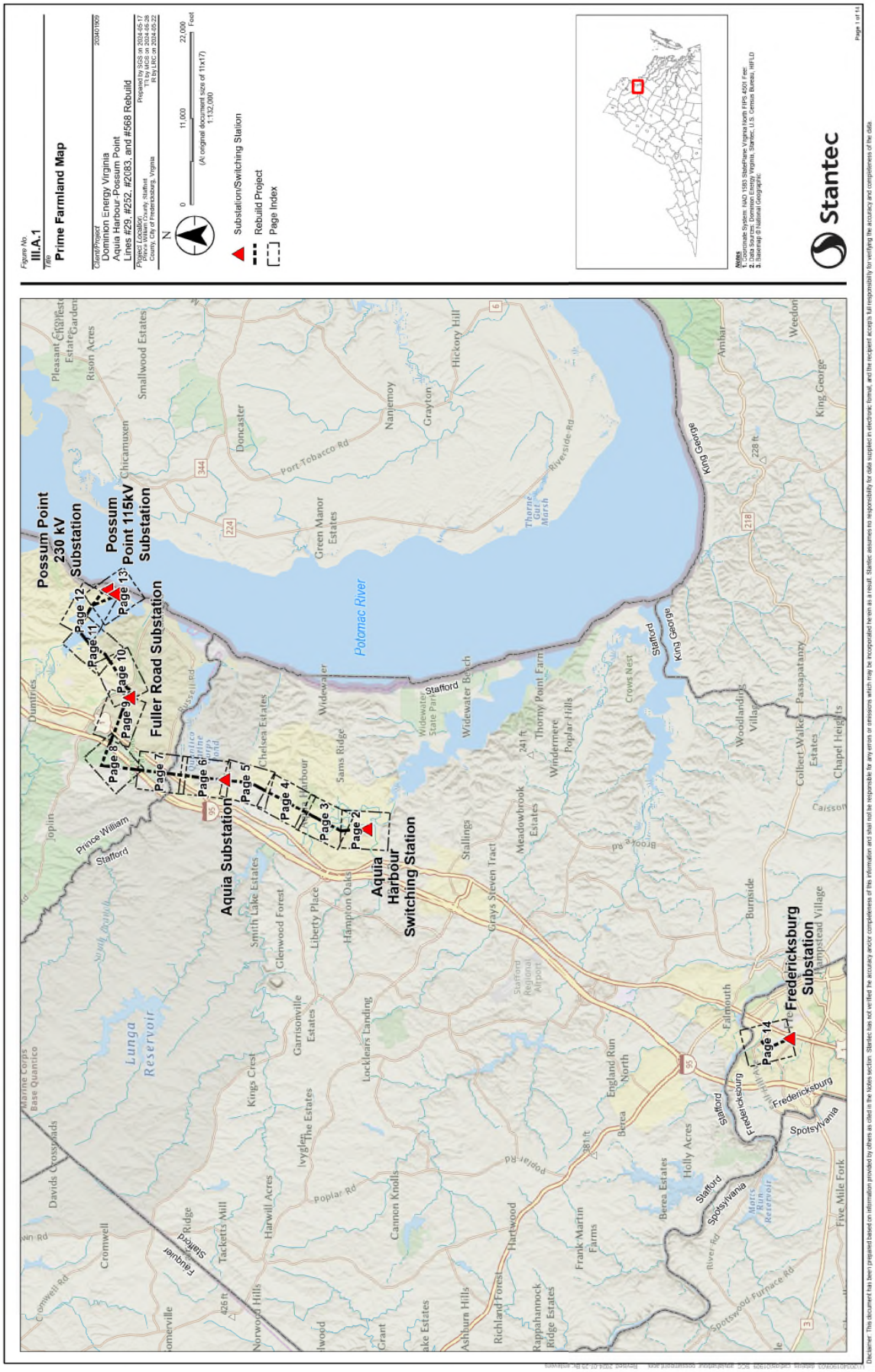
Figure No.
III.A.1
Title
Prime Farmland Map
Client/Project
Dominion Energy Virginia
Aquia Harbour-Possum Point
Lines #29, #252, #2083, and #568 Rebuild
Project Location
Prince William County, Stafford
County, and Fredericksburg, Virginia
Prepared by SGS on 2024-05-17
TR by MDB on 2024-06-28
IR by LMC on 2024-07-22
N
0
11,000
22,000
Feet
(At original document size of 11x17)
1:132,000
Substation/Switching Station
Rebuild Project
Page Index
Possum Point 230 kV Substation
Possum Point 115kV Substation
Fuller Road Substation
Aquia Substation
Aquia Harbour Switching Station
Fredericksburg Substation
Potomac River
Lunga Reservoir
Page 1
Page 2
Page 3
Page 4
Page 5
Page 6
Page 7
Page 8
Page 9
Page 10
Page 11
Page 12
Page 13
Page 14
Stantec
Page 1 of 14

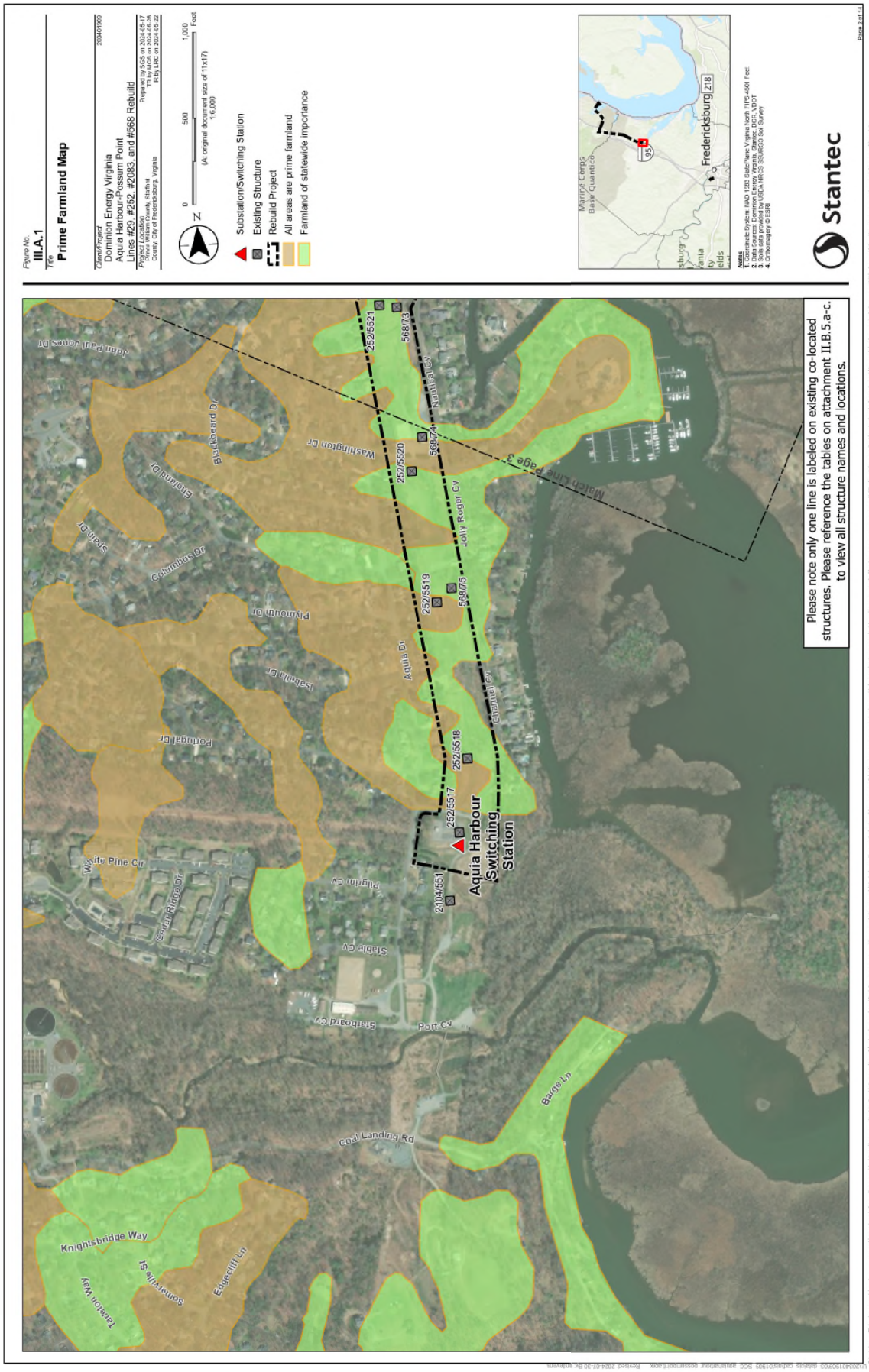
Figure No.
III.A.1
Title
Prime Farmland Map
Client/Project
Dominion Energy Virginia
Aquia Harbour-Possum Point
Lines #29, #252, #2083, and #568 Rebuild
Project Location
Prince William County, Stafford County, City of Fredericksburg, Virginia
Prepared by SGS on 2024-08-17
TR by MDB on 2024-08-28
KN by LKC on 2024-08-29
20240169
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
N
Substation/Switching Station
Existing Structure
Rebuild Project
All areas are prime farmland
Farmland of statewide importance
Aquia Harbour Switching Station
252/5521
568/73
252/5520
568/74
252/5519
568/75
252/5518
252/5517
2104/551
Match Line Page 3
Please note only one line is labeled on existing co-located structures. Please reference the tables on attachment II.B.5.a-c. to view all structure names and locations.
Marine Corps Base Quantico
Fredericksburg
218
95
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Basemap: Esri World Imagery, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
3. Soils data provided by USDA NRCS SSURGO Soil Survey
4. Orthoimagery © ESRI
Stantec
Page 2 of 11
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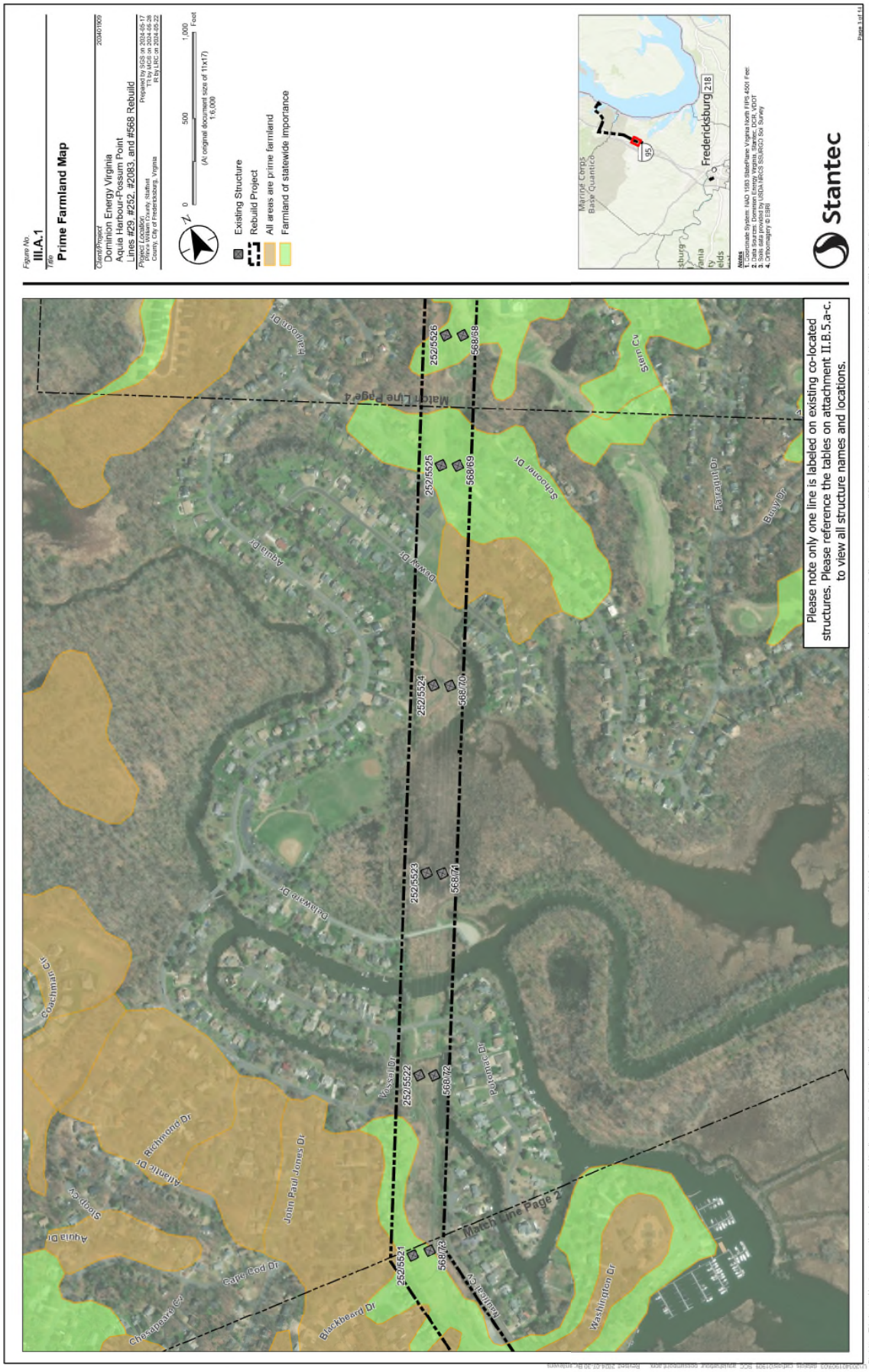

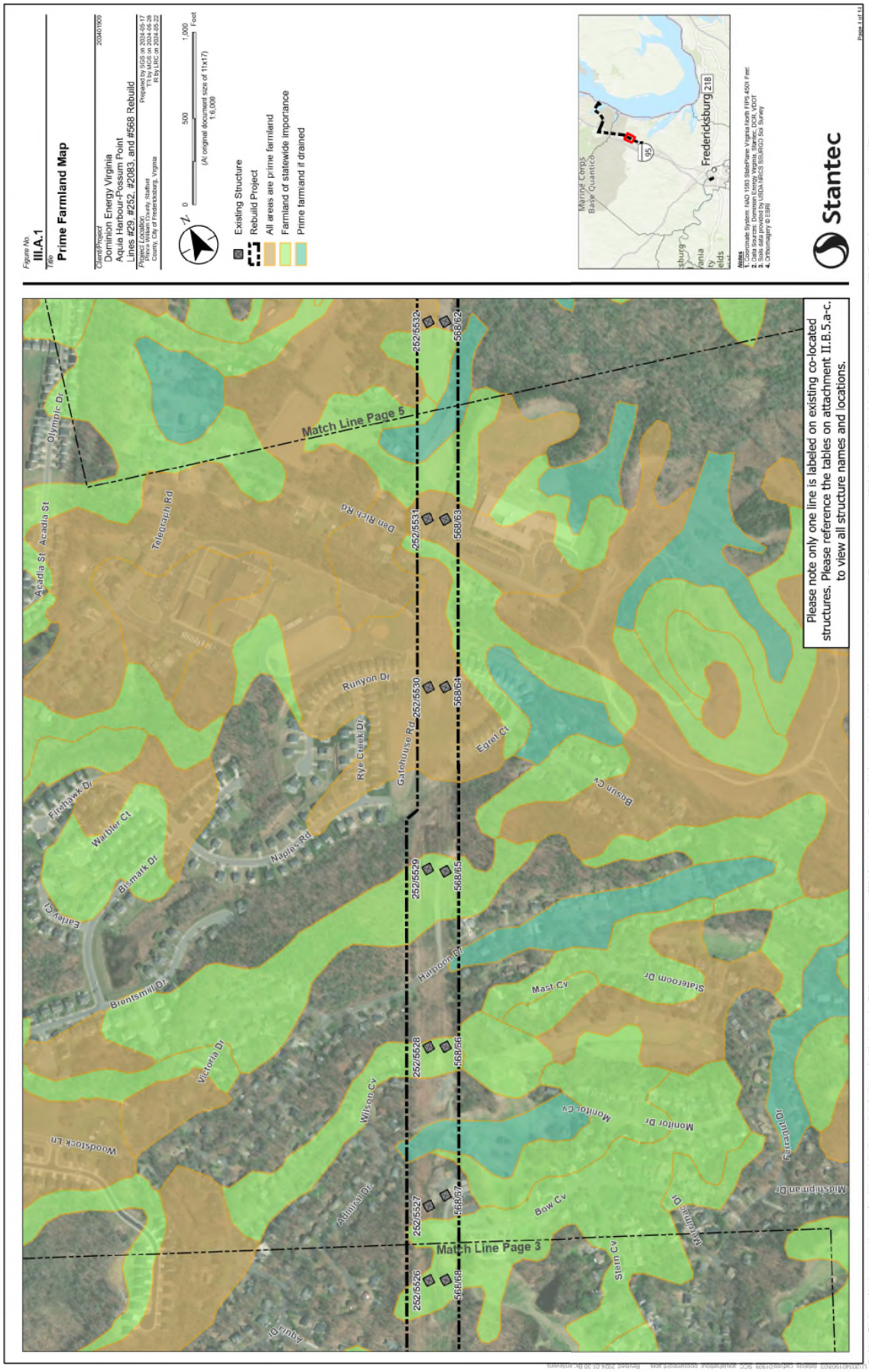
Figure No.
III.A.1
Title
Prime Farmland Map
Client/Project
Dominion Energy Virginia
Aquia Harbour-Possum Point
Lines #29, #252, #2083, and #568 Rebuild
Project Location
Prince William County, Stafford County, City of Fredericksburg, Virginia
Prepared by SGS on 2024-08-17
TR by MCB on 2024-08-28
IR by LKC on 2024-09-22
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
Existing Structure
Rebuild Project
All areas are prime farmland
Farmland of statewide importance
Prime farmland if drained
Marine Corps Base Quantico
Fredericksburg
218
95
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Basemap provided by ESRI, Maxar, Earthstar Geographics, and the GIS User Community
3. Soils data provided by USDA NRCS SSURGO Soil Survey
4. Orthoimagery © ESRI
Stantec
Match Line Page 5
Match Line Page 3
Please note only one line is labeled on existing co-located structures. Please reference the tables on attachment II.B.5.a-c. to view all structure names and locations.
252/5532
568/62
252/5531
568/63
252/5530
568/64
252/5529
568/65
252/5528
568/66
252/5527
568/67
252/5526
568/68
Olympic Dr
Acadia St
Telegraph Rd
Dan River Rd
Runyon Dr
Rye Creek Dr
Gatehouse Rd
Egret Ct
Bosun Ct
Firehawk Dr
Warbler Ct
Bismark Dr
Naples Rd
Brentsmill Dr
Harpoon Dr
Mast Cv
Stateroom Dr
Victoria Dr
Woodstock Ln
Wilson Cv
Admiral Dr
Monitor Cv
Monitor Dr
Bow Cv
Stern Cv
Midshipman Dr
Aquia Dr

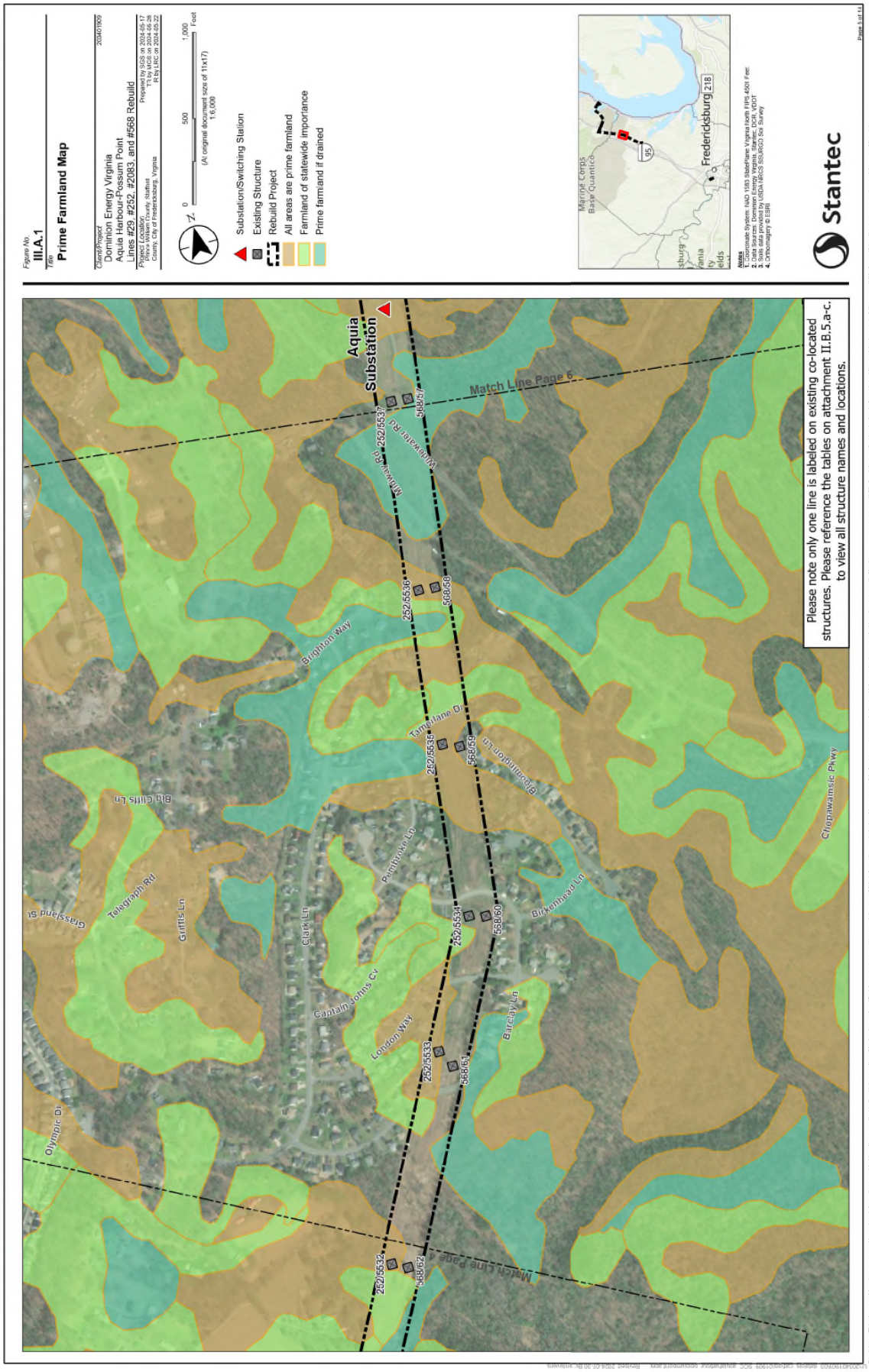
Figure No.
III.A.1
Title
Prime Farmland Map
Client/Project
Dominion Energy Virginia
Aquia Harbour-Possum Point
Lines #29, #252, #2083, and #568 Rebuild
20240909
Project Location
Prince William County, Stafford County, City of Fredericksburg, Virginia
Prepared by SGS on 2024-09-17
TR by MDB on 2024-09-26
RTM by LKC on 2024-09-27
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
Substation/Switching Station
Existing Structure
Rebuild Project
All areas are prime farmland
Farmland of statewide importance
Prime farmland if drained
Aquia Substation
Match Line Page 6
Match Line Page 8
252/5537
568/57
252/5536
568/58
252/5535
568/59
252/5534
568/60
252/5533
568/61
252/5532
568/62
Mildewater Rd
Brighton Way
Tamplane Dr
Bloomington Ln
Chopawamsic Pkwy
Birkenhead Ln
Barclay Ln
London Way
Captain Johns Cv
Clark Ln
Griffis Ln
Telegraph Rd
Olympic Dr
Pembroke Ln
Big Cliffs Ln
Please note only one line is labeled on existing co-located structures. Please reference the tables on attachment II.B.5.a-c. to view all structure names and locations.
Marine Corps Base Quantico
95
218
Fredericksburg
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data sources: Dominion Energy, Stantec, ESRI
3. Soils data provided by USDA NRCS SSURGO Soil Survey
4. Orthoimagery © ESRI
Stantec
Page 1 of 11
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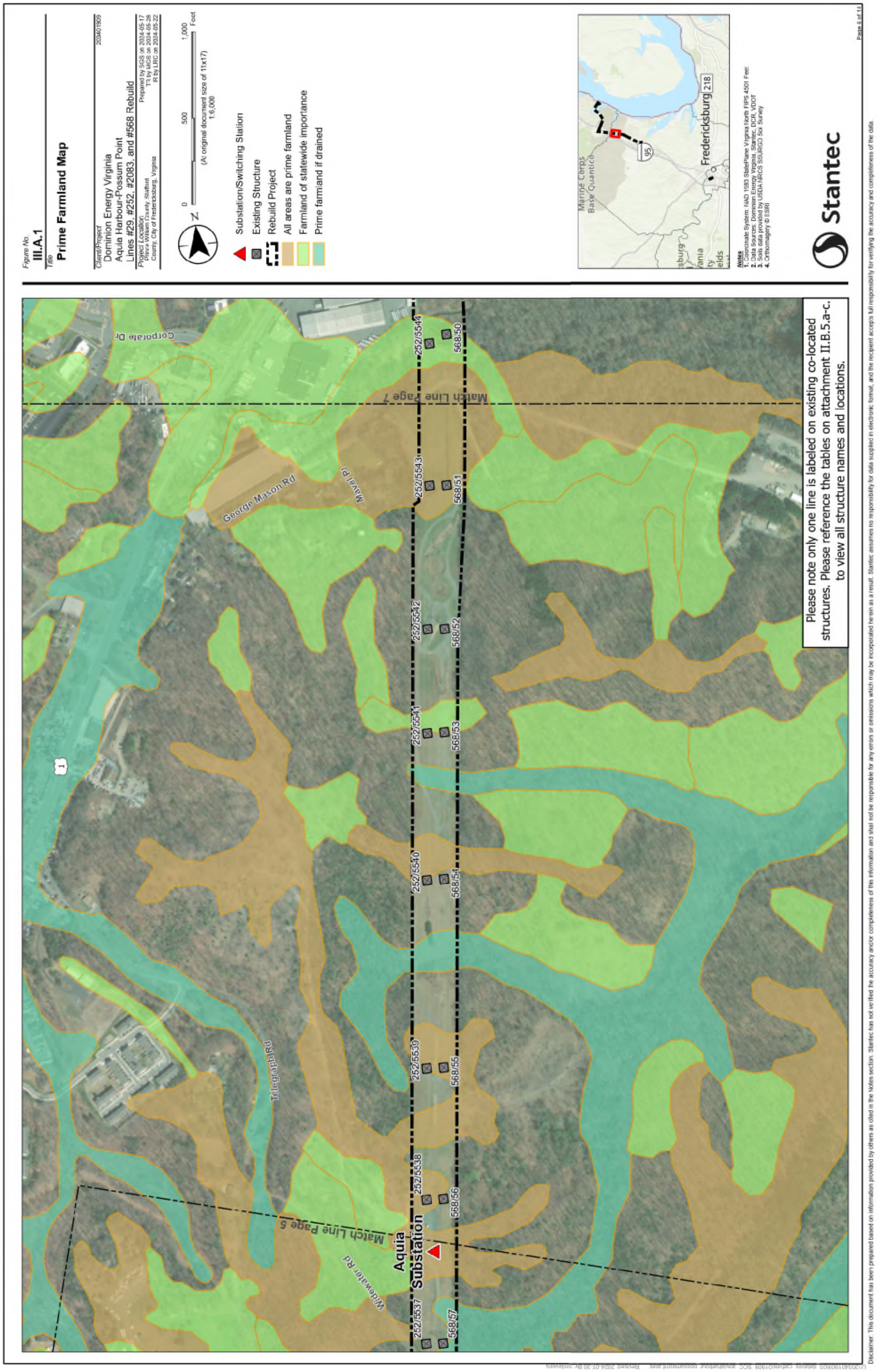

Figure No.
III.A.1
Title
Prime Farmland Map
Client/Project
Dominion Energy Virginia
Aquia Harbour-Possum Point
Lines #29, #252, #2083, and #568 Rebuild
203401909
Project Location
Prince William County, Stafford County, City of Fredericksburg, Virginia
Prepared by SGS on 2024-05-17
TR by MGS on 2024-05-28
IR by LRC on 2024-05-22
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
Substation/Switching Station
Existing Structure
Rebuild Project
All areas are prime farmland
Farmland of statewide importance
Prime farmland if drained
Marine Corps Base Quantico
Fredericksburg
95
218
Stantec
Please note only one line is labeled on existing co-located structures. Please reference the tables on attachment II.B.5.a-c. to view all structure names and locations.
Match Line Page 7
Match Line Page 5
Corporate Dr
George Mason Rd
Mauzi Pl
Telegraph Rd
Widewater Rd
Aquia Substation
252/5544
568/50
252/5543
568/51
252/5542
568/52
252/5541
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252/5540
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252/5538
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568/57

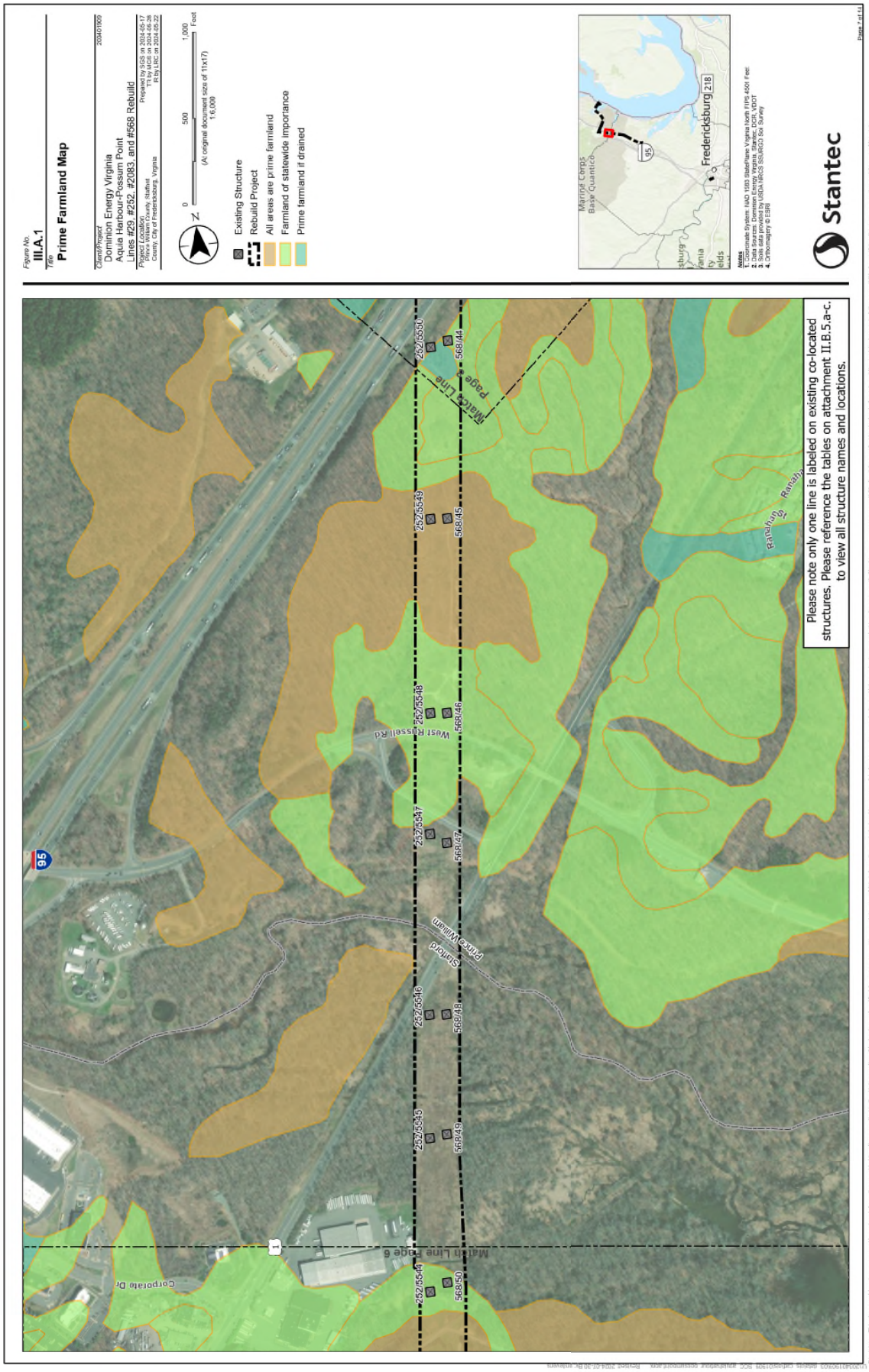
Figure No.
III.A.1
Title
Prime Farmland Map
Client/Project
Dominion Energy Virginia
Aquia Harbour-Possum Point
Lines #29, #252, #2083, and #568 Rebuild
Project Location
Prince William County, Stafford County, City of Fredericksburg, Virginia
Prepared by SGS on 2024-05-17
TR by MDB on 2024-06-26
IR by LKC on 2024-06-27
0
500
1,000 Feet
(At original document size of 11x17)
1:6,000
Existing Structure
Rebuild Project
All areas are prime farmland
Farmland of statewide importance
Prime farmland if drained
Marine Corps Base Quantico
Fredericksburg
95
218
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Basemap provided: ESRI Imagery Base Map Service
3. Soils data provided by USDA NRCS SSURGO Soil Survey
4. Orthoimagery © ESRI
Stantec
Please note only one line is labeled on existing co-located structures. Please reference the tables on attachment II.B.5.a-c. to view all structure names and locations.
Page 7 of 11
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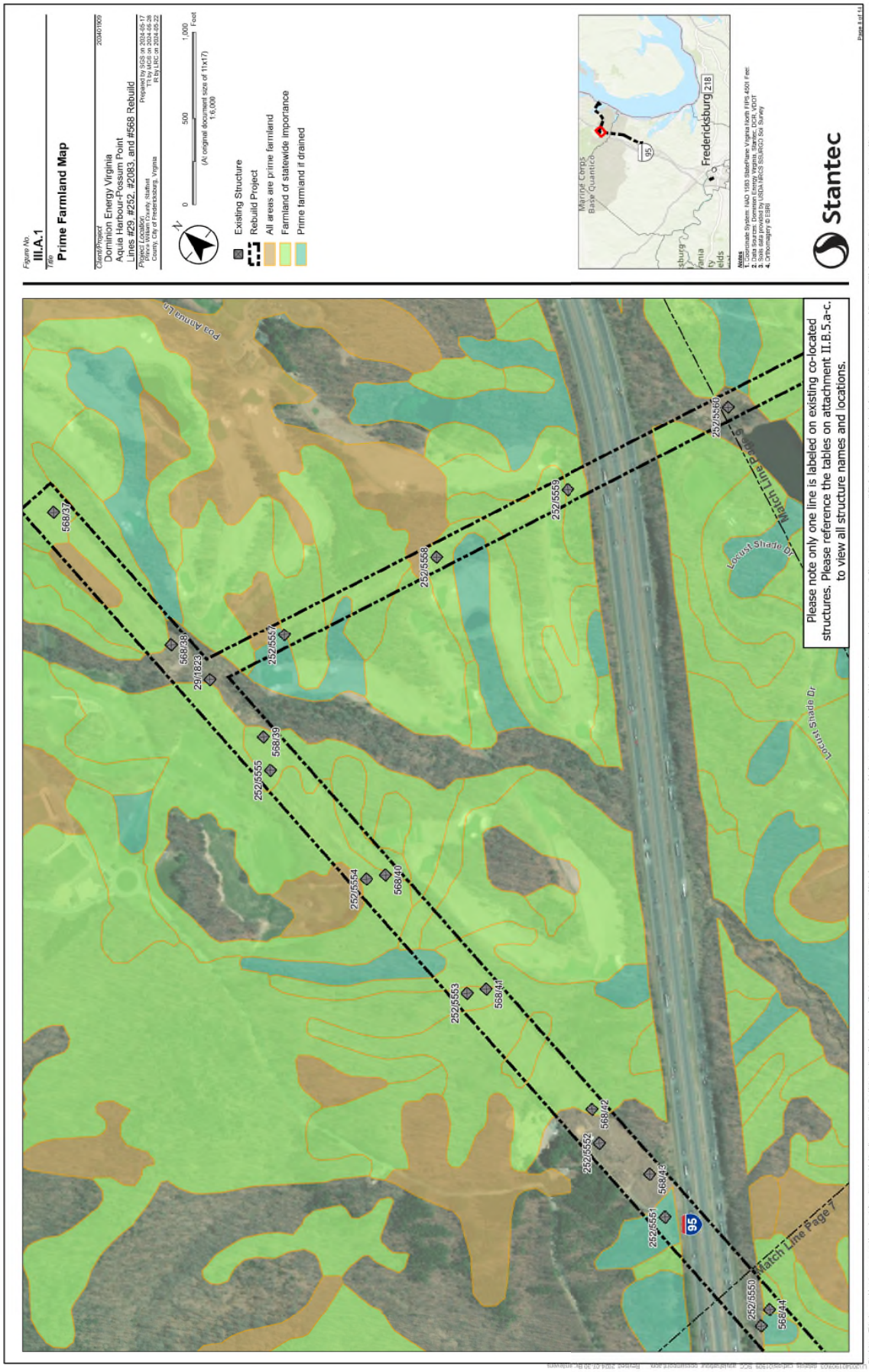
Figure No.
III.A.1
Title
Prime Farmland Map
Client/Project
Dominion Energy Virginia
Aquia Harbour-Possum Point
Lines #29, #252, #2083, and #568 Rebuild
Project Location
Prince William County, Stafford
County, City of Fredericksburg, Virginia
Prepared by SGS on 2024-08-17
TR by MCB on 2024-08-26
IR by LKC on 2024-09-22
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
Existing Structure
Rebuild Project
All areas are prime farmland
Farmland of statewide importance
Prime farmland if drained
Marine Corps Base Quantico
95
Fredericksburg
218
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia, ESRI, USGS
3. Soils data provided by USDA NRCS SSURGO Soil Survey
4. Orthoimagery © ESRI
Stantec
Please note only one line is labeled on existing co-located structures. Please reference the tables on attachment II.B.5.a-c. to view all structure names and locations.
Match Line Page 6
Match Line Page 7
Locust Shade Dr
Locust Shade Dr
Poa Annua Ln
568/37
568/38
29/1823
568/39
568/40
568/41
568/42
568/43
568/44
252/5550
252/5551
252/5552
252/5553
252/5554
252/5555
252/5556
252/5557
252/5558
252/5559
252/5560
Page 1 of 1
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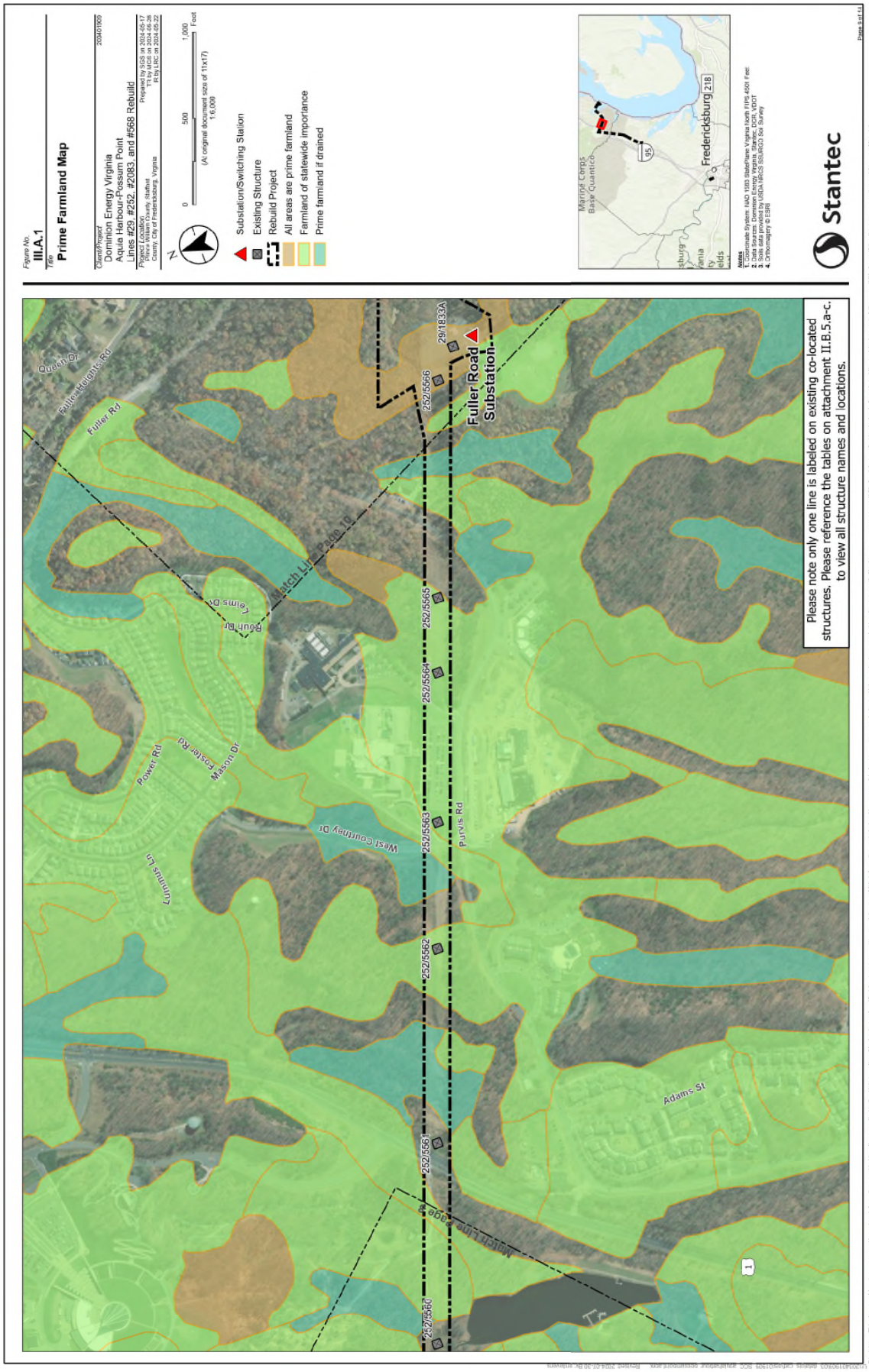
Figure No.
III.A.1
Title
Prime Farmland Map
Client/Project
Dominion Energy Virginia
Aquia Harbour-Possum Point
Lines #29, #252, #2083, and #568 Rebuild
Project Location
Prince William County, Stafford
County, City of Fredericksburg, Virginia
20240190G
Prepared by SGS on 2024-08-17
TR by MCB on 2024-08-26
IR by LKC on 2024-08-22
0
500
1,000 Feet
(At original document size of 11x17)
1:6,000
Substation/Switching Station
Existing Structure
Rebuild Project
All areas are prime farmland
Farmland of statewide importance
Prime farmland if drained
Fuller Road Substation
29/1833A
252/5566
252/5565
252/5564
252/5563
252/5562
252/5561
252/5560
Match Line Page 19
Match Line Page 18
Please note only one line is labeled on existing co-located structures. Please reference the tables on attachment II.B.5.a-c. to view all structure names and locations.
Fuller Rd
Queen Dr
Fuller Heights Rd
Rouh Dr
Elms Dr
Power Rd
Foster Rd
Mason Dr
West Courtney Dr
Courtney Ln
Purvis Rd
Adams St
Marine Corps Base Quantico
95
Fredericksburg
218
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Basemap sources: Esri, Maxar, Earthstar Geographics, and the GIS User Community
3. Soils data provided by USDA NRCS SSURGO Soil Survey
4. Orthoimagery © ESRI
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Page 9 of 11
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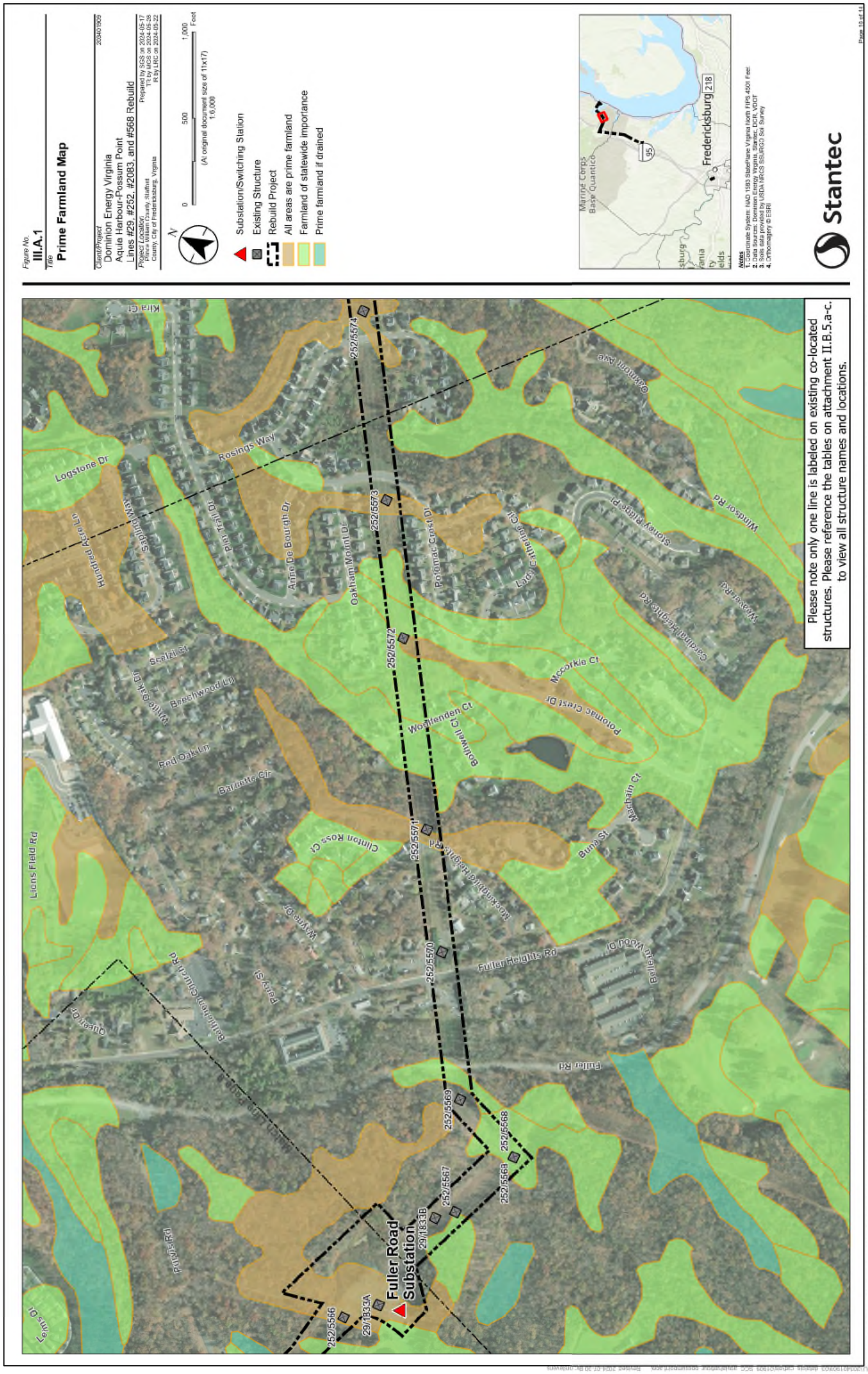
Figure No.
III.A.1
Title
Prime Farmland Map
Client/Project
203401909
Dominion Energy Virginia
Aquia Harbour-Possum Point
Lines #29, #252, #2083, and #568 Rebuild
Project Location
Prince William County, Stafford County, City of Fredericksburg, Virginia
Prepared by SGS on 2024-05-17
TR by MGS on 2024-05-28
IR by LRC on 2024-05-22
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
Substation/Switching Station
Existing Structure
Rebuild Project
All areas are prime farmland
Farmland of statewide importance
Prime farmland if drained
Marine Corps Base Quantico
Fredericksburg
95
218
Stantec
Please note only one line is labeled on existing co-located structures. Please reference the tables on attachment II.B.5.a-c. to view all structure names and locations.
Fuller Road Substation
252/5566
29/1833A
29/1833B
252/5567
252/5568
252/5569
252/5570
252/5571
252/5572
252/5573
252/5574
Fuller Rd
Fuller Heights Rd
Lions Field Rd
Logstone Dr
Rosings Way
Hundred Acre Ln
Pilot Trail Dr
Arrie De Bourgh Dr
Oakham Mount Dr
Potomac Crest Dr
Woolenden Ct
Mccorkie Ct
Beechwood Ln
Red Oak Ln
Clinton Ross Ct
Bunal St
Windsor Rd
Oakmont Ave
Purvis Rd

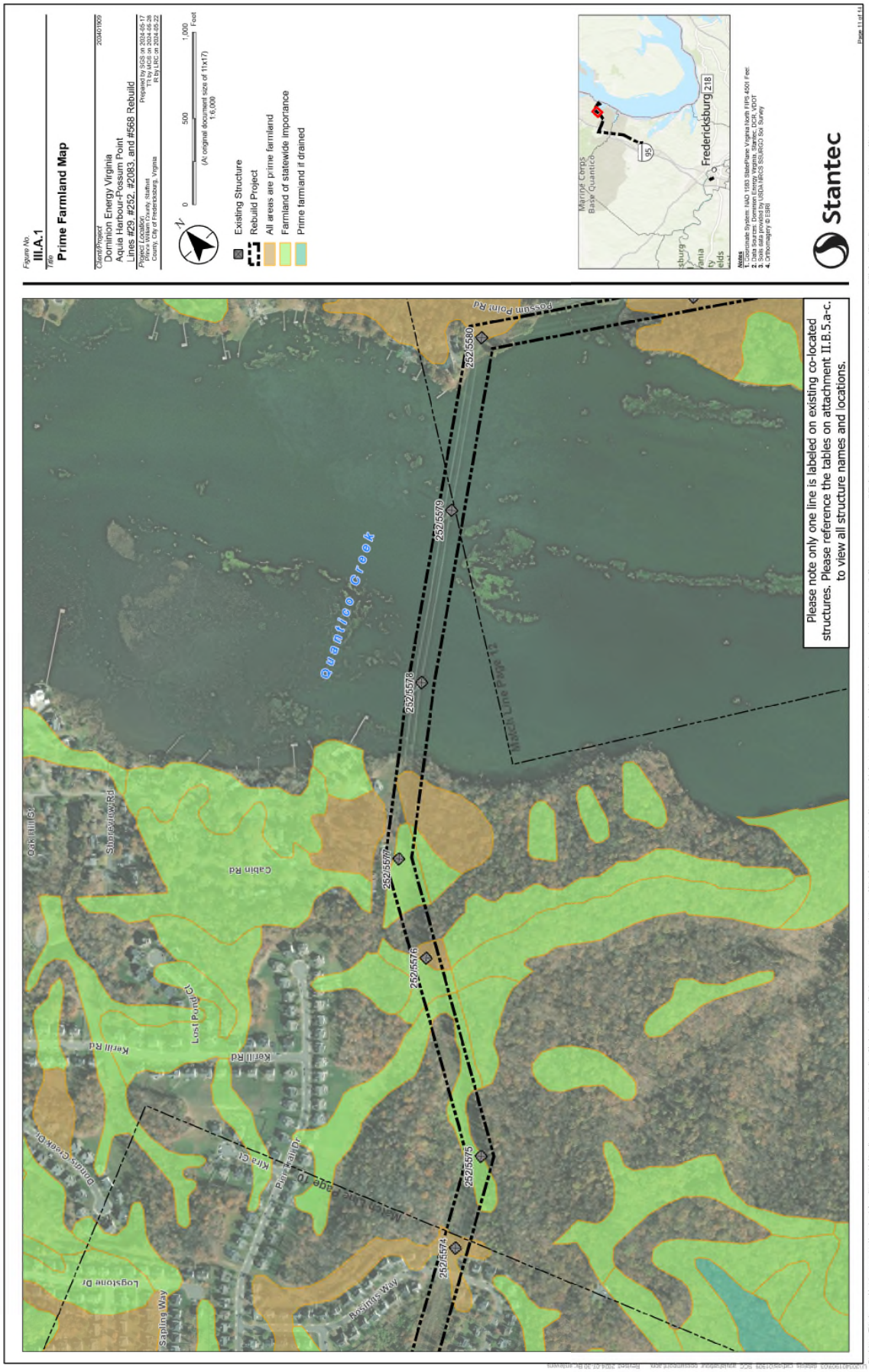
Figure No.
III.A.1
Title
Prime Farmland Map
Client/Project
Dominion Energy Virginia
Aquia Harbour-Possum Point
Lines #29, #252, #2083, and #568 Rebuild
Project Location
Prince William County, Stafford County, City of Fredericksburg, Virginia
Prepared by SGS on 2024-05-17
TR by MCB on 2024-06-26
IR by LKC on 2024-06-27
0
500
1,000 Feet
(At original document size of 11x17)
1:6,000
Existing Structure
Rebuild Project
All areas are prime farmland
Farmland of statewide importance
Prime farmland if drained
Marine Corps Base Quantico
95
218
Fredericksburg
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data was exported from ESRI ArcMap 10.8.2
3. Soils data provided by USDA NRCS SSURGO Soil Survey
4. Orthoimagery © ESRI
Stantec
Please note only one line is labeled on existing co-located structures. Please reference the tables on attachment II.B.5.a-c. to view all structure names and locations.
Quantico Creek
Possum Point Rd
Cabin Rd
Shipreview Rd
Oak Hill Dr
Kerrill Rd
Lost Pump Ct
Logstone Dr
Sapling Way
Boskins Way
Douglas Creek Dr
Kira Ct
Page 10
252/5574
252/5575
252/5576
252/5577
252/5578
252/5579
252/5580
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Page 11 of 11

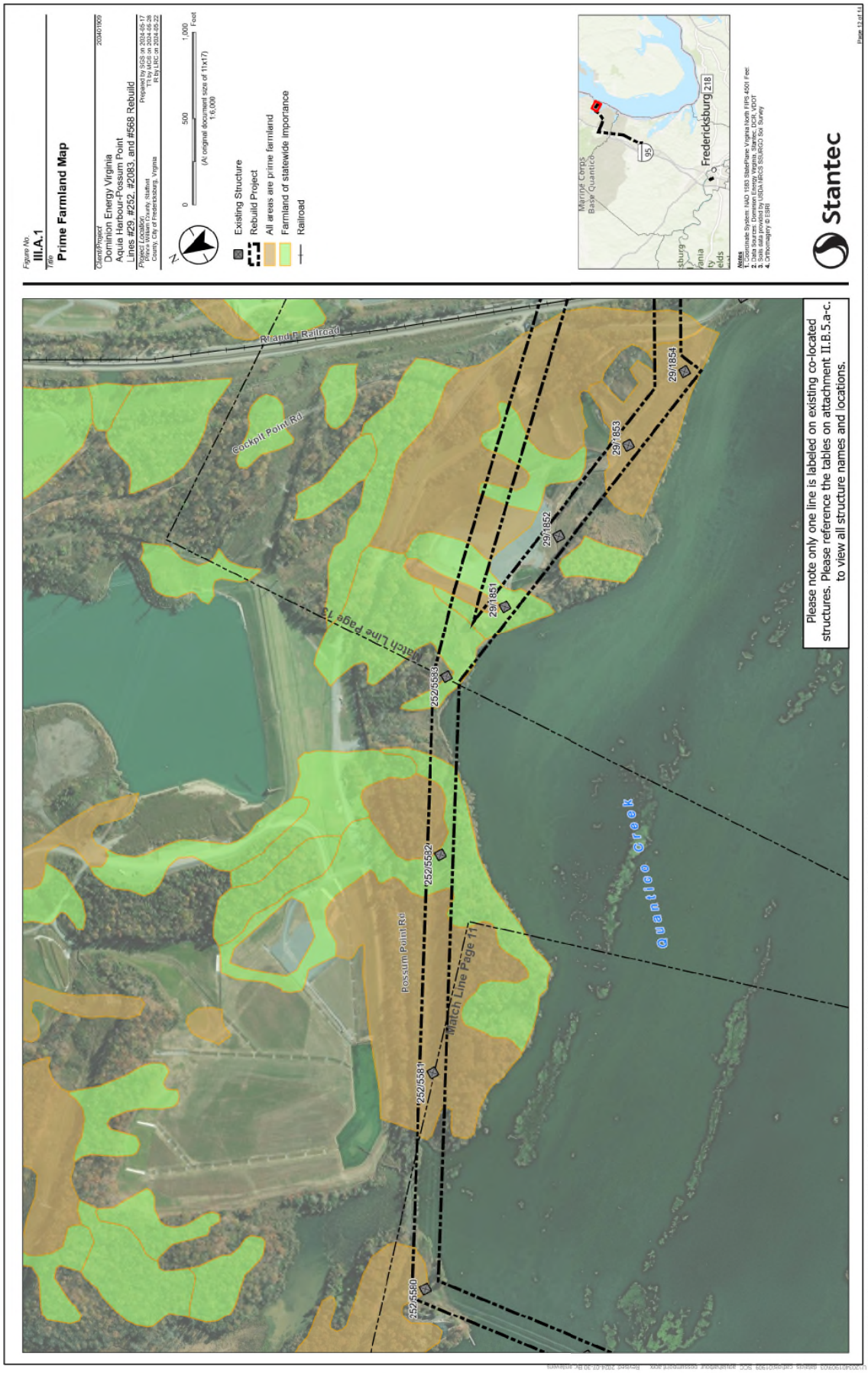
Figure No.
III.A.1
Title
Prime Farmland Map
Client/Project
Dominion Energy Virginia
Aquia Harbour-Possum Point
Lines #29, #252, #2083, and #568 Rebuild
Project Location
Prince William County, Stafford
County, City of Fredericksburg, Virginia
Prepared by SGS on 2024-05-17
TR by MCB on 2024-06-26
KTM by LMC on 2024-06-27
0
500
1,000 Feet
(At original document size of 11x17)
1:6,000
Existing Structure
Rebuild Project
All areas are prime farmland
Farmland of statewide importance
Railroad
Marine Corps Base Quantico
95
Fredericksburg
218
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: ESRI, Virginia GIS Clearinghouse, Stantec GIS
3. Soils data provided by USDA NRCS SSURGO Soil Survey
4. Orthoimagery © ESRI
Stantec
Page 12 of 11
Cockpit Point Rd
R Rand P Railroad
Match Line Page 13
Match Line Page 11
Possum Point Rd
Quantico Creek
252/5580
252/5581
252/5582
252/5583
29/1851
29/1852
29/1853
29/1854
Please note only one line is labeled on existing co-located structures. Please reference the tables on attachment II.B.5.a-c. to view all structure names and locations.
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.

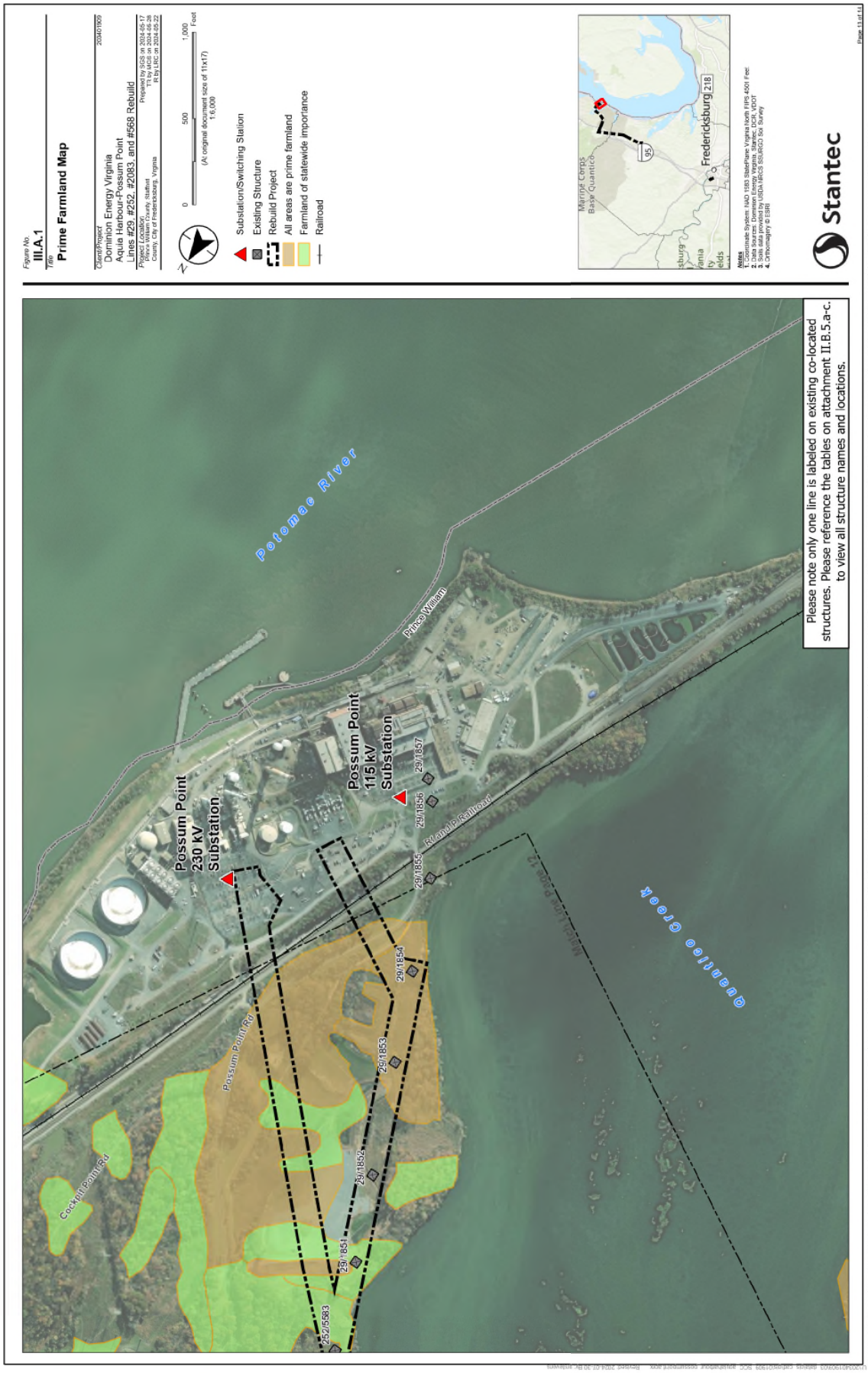
Figure No.
III.A.1
Title
Prime Farmland Map
Client/Project
Dominion Energy Virginia
Aquia Harbour-Possum Point
Lines #29, #252, #2083, and #568 Rebuild
20240169
Project Location
Prince William County, Stafford
County, City of Fredericksburg, Virginia
Prepared by SGS on 2024-08-17
TR by MCB on 2024-08-28
IR by LKC on 2024-09-22
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
N
Substation/Switching Station
Existing Structure
Rebuild Project
All areas are prime farmland
Farmland of statewide importance
Railroad
Possum Point 230 kV Substation
Possum Point 115 kV Substation
Potomac River
Prince William
Cockpit Point Rd
Possum Point Rd
RF and P Railroad
Neabsco Branch
Quantico Creek
252/5583
29/1851
29/1852
29/1853
29/1854
29/1855
29/1856
29/1857
Please note only one line is labeled on existing co-located structures. Please reference the tables on attachment II.B.5.a-c. to view all structure names and locations.
Marine Corps Base Quantico
95
Fredericksburg
218
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy, Stantec, ESRI
3. Soils data provided by USDA NRCS SSURGO Soil Survey
4. Orthoimagery © ESRI
Stantec
Page 11 of 11
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.

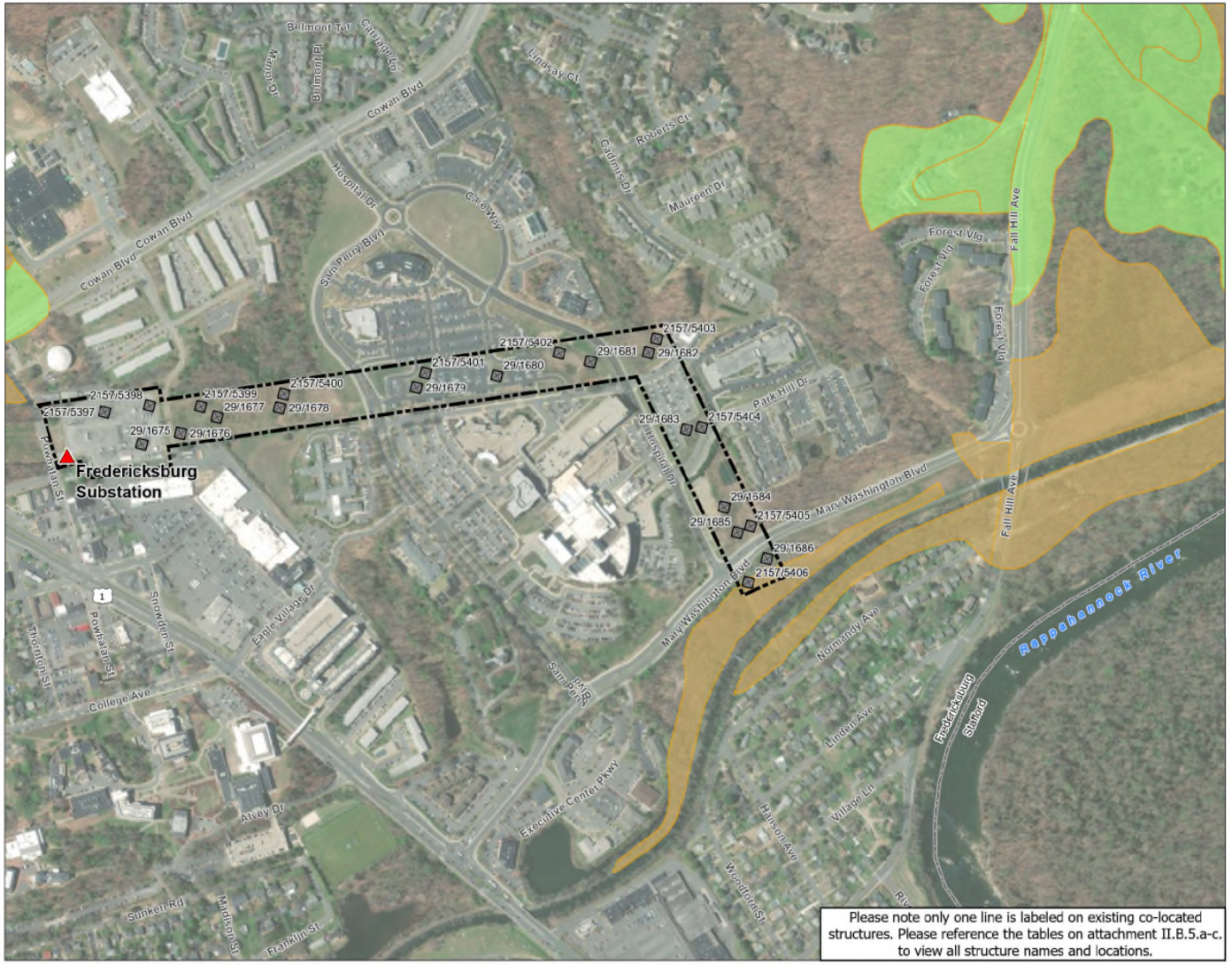

Figure No.
III.A.1

Title
Prime Farmland Map

Client/Project 203401909
Dominion Energy Virginia
Aquia Harbour-Possum Point
Lines #29, #252, #2083, and #568 Rebuild

Project Location
Prince William County, Stafford County, City of Fredericksburg, Virginia

Prepared by SGS on 2024-05-17
TR by MCS on 2024-06-28
R by LRC on 2024-05-22

N
0 500 1,000 Feet
(At original document size of 11x17)
1:6,000

- Substation/Switching Station
- Existing Structure
- Rebuild Project
- All areas are prime farmland
- Farmland of statewide importance

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, DCR, VDOT
3. Soils data provided by USDA NRCS SSURGO Soil Survey
4. Orthoimagery © ESRI

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Page 14 of 14

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: Information is provided to the public through an internet website dedicated to the Rebuild Project:[22]

www.dominionenergy.com/FredericksburgPossumPoint

The website includes route maps, an explanation of need, a description of the Rebuild Project and its benefits, information on the Commission review process, structure diagrams and simulations, and an interactive "backyard app" tool allowing users to input their address to see where they live in relation to the project and proposed transmission line engineering in the vicinity.

Save-the-date postcards were sent to 722 property owners and residents inviting them to attend two open house events to share specific details relating to the project and the Commission process, and to answer any questions. The postcards also included a map of the project along with a brief description. These notifications were also provided by a Company representative to officials from Stafford and Prince William Counties and the City of Fredericksburg. Exemplars of the postcards are included as Attachments III.B.1.

A variety of graphics were presented to the public at the open houses, including simulations of the proposed Rebuild Project from key locations. These key location simulations are included as Attachment III.B.2.

The postcard sent to property owners outlined the scope of the Rebuild Project, provided an overview map of the line, and invited recipients to visit www.dominionenergy.com/fredericksburgpossumpoint for more information regarding the Rebuild Project. Two open house events were held on June 18 and June 20, 2024, from 5 p.m. to 7 p.m. The June 18th open house was held at Shirley C. Heim Middle School, located at 320 Telegraph Road, Stafford, Virginia 22554, which was attended by seven people. The June 20th open house was held at First Mount Zion Baptist Church, located at 16622 Dumfries Road, Dumfries, Virginia 22025, which was attended by three people, including a representative from the office of Prince William County Supervisor Bailey. Prior to the community meetings, a company representative discussed the Rebuild Project via email with Stafford County Supervisors Gary and Allen.

[22] This website also provides information about the first phase of the work the Company plans to undertake as described in its Application filed on March 14, 2024, in Case No. PUR-2024-00035, *Application of Virginia Electric and Power Company for Approval and Certification of Electric Facilities: Fredericksburg-Aquia Harbour Lines #29, #2104, and #2157 Partial Rebuild*.

In addition to the postcards, print advertisements for the open house were placed in The Washington Post prior to the events. All newspaper print advertisement for The Washington Post ran on June 13, 2024.

Digital ads also ran on Facebook, Instagram, Google Video and NextDoor in both English and Spanish languages. A copy of the print advertisement placed in the newspapers is provided in Attachment III.B.3. Copies of digital advertising and related messaging are provided as Attachment III.B.4.

The Rebuild Project's pre-event digital and social media campaign ran from June 7, 2024 – June 20, 2024. The campaigns targeted audiences in Stafford County and Prince William County.

Pre-event digital ads generated over 872,000 impressions and over 15,000 link clicks. There were over 33,000 video views with a 33.78% average video completion rate and the digital ads had a 2.07% click thru rate.

All of the open house materials, including photograph renderings, have been posted on the website for the Rebuild Project.

As part of preparing for this Rebuild Project, the Company researched the demographics of the surrounding communities using the Environmental Protection Agency's environmental justice mapping and screening tool, EJScreen 2.2 and census data from the U.S. Census Bureau 2017-2021 American Community Survey. This information revealed that 52 Census Block Groups ("CBGs") are within one mile of the existing transmission lines to be rebuilt, and of those, 23 CBGs are crossed by these transmission lines. A review of ethnicity, income, age, and education data identified populations within the study area that meet the Virginia Environmental Justice Act ("VEJA") threshold to be defined as Environmental Justice Communities ("EJ Communities"). Among the CBGs crossed by the existing transmission lines, 13 CBGs are VEJA populations of color only, one CBG is a VEJA low income area only, and eight CBGs are both VEJA populations of color and low income areas.

Pursuant to Va. Code §§ 56-46.1 C and 56-259 C and FERC Guidelines, there is a strong preference for the use of existing utility rights-of-way whenever feasible. The Rebuild Project is primarily located within the existing right-of-way or on Company-owned property; only 0.2 mile of 50 feet of additional right-of-way will be required between Structure #252/5568 (#29/1835) and Fuller Road Substation and 0.1 mile will be required west of Fuller Road Substation. The structural height average will increase by 17.8 feet from approximately 113.9 feet to approximately 131.8 feet. Height differences will vary per structural location. Based on the analysis of the Rebuild 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 Rebuild Project in a manner that allows them to meaningfully participate in the Rebuild Project development and approval process so that their views and input can be taken into consideration. See Attachment III.B.5 for a copy of the Company's Environmental Justice Policy.

Investing in Our Communities

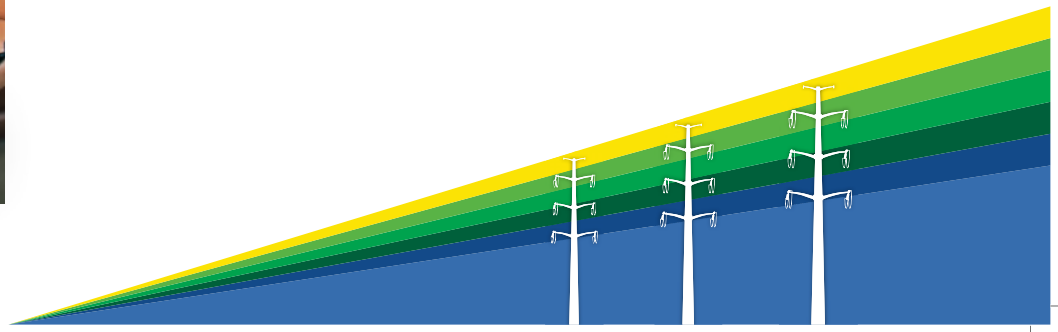
Dominion Energy image. Not project specific.

Dominion Energy®

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

Learn more about a transmission line rebuild project in Stafford County and Prince William County, Virginia.

SCAN HERE TO LEARN MORE



Join us at our Community Meetings

Fredericksburg-Possum Point 230 kV Electric Transmission Line Rebuild – Phase 2

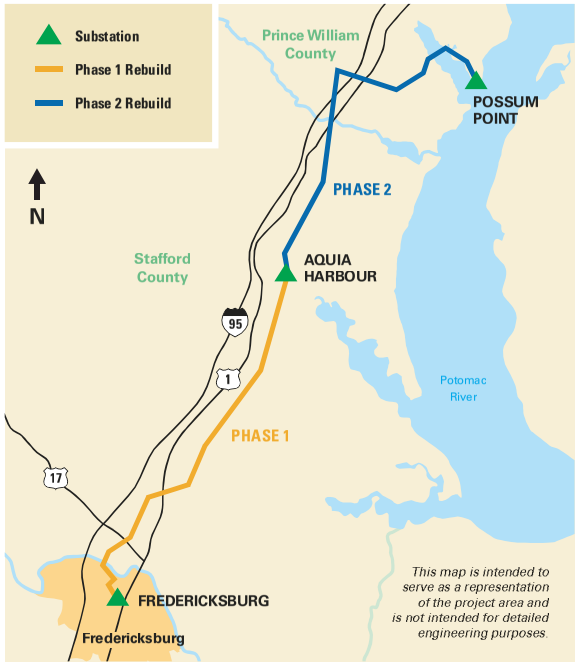
At Dominion Energy, we are committed to continually reviewing and analyzing our energy infrastructure to provide safe and reliable electric service to the communities we serve. You are receiving this notification as we prepare for Phase 2 of this project to upgrade and rebuild existing electric transmission lines between our Fredericksburg and Possum Point Substations within the City of Fredericksburg, Stafford County, and Prince William County. Phase 2 will consist of rebuilding transmission lines between Aquia Harbour substation in Stafford County and Possum Point substation in Prince William County, mostly within existing right of way. Please note, you may visit the project website for information on Phase 1, which was filed with the Virginia State Corporation Commission in March of this year.

SCAN HERE TO LEARN MORE

While well maintained over its lifespan, due to the age of the infrastructure, the lines and related components need to be replaced to ensure continued reliable operation and to accommodate increased energy demand on the system.

To learn more about Phase 2 of the project, please consider joining us at one of two in-person community meetings scheduled for June 18, 2024 and June 20, 2024, respectively. You will have the opportunity to speak to the project team directly and ask questions. No formal presentation will be provided, so please feel free to stop by any time during the meeting. Your continued involvement, participation, and input is essential to this process.

Protecting the grid against natural and man-made acts is a top priority. You can learn more about our commitment to safety at powerlines101.dominionenergy.com.



MEETINGS

Tuesday, June 18, 2024
5:00 p.m. to 7:00 p.m

Shirley C. Heim Middle School
320 Telegraph Road
Stafford, VA 22554

Thursday, June 20, 2024
5:00 p.m. to 7:00 p.m

First Mount Zion Baptist Church
16622 Dumfries Road
Dumfries, VA 22025

Save the date | Infrastructure upgrades | In person meetings

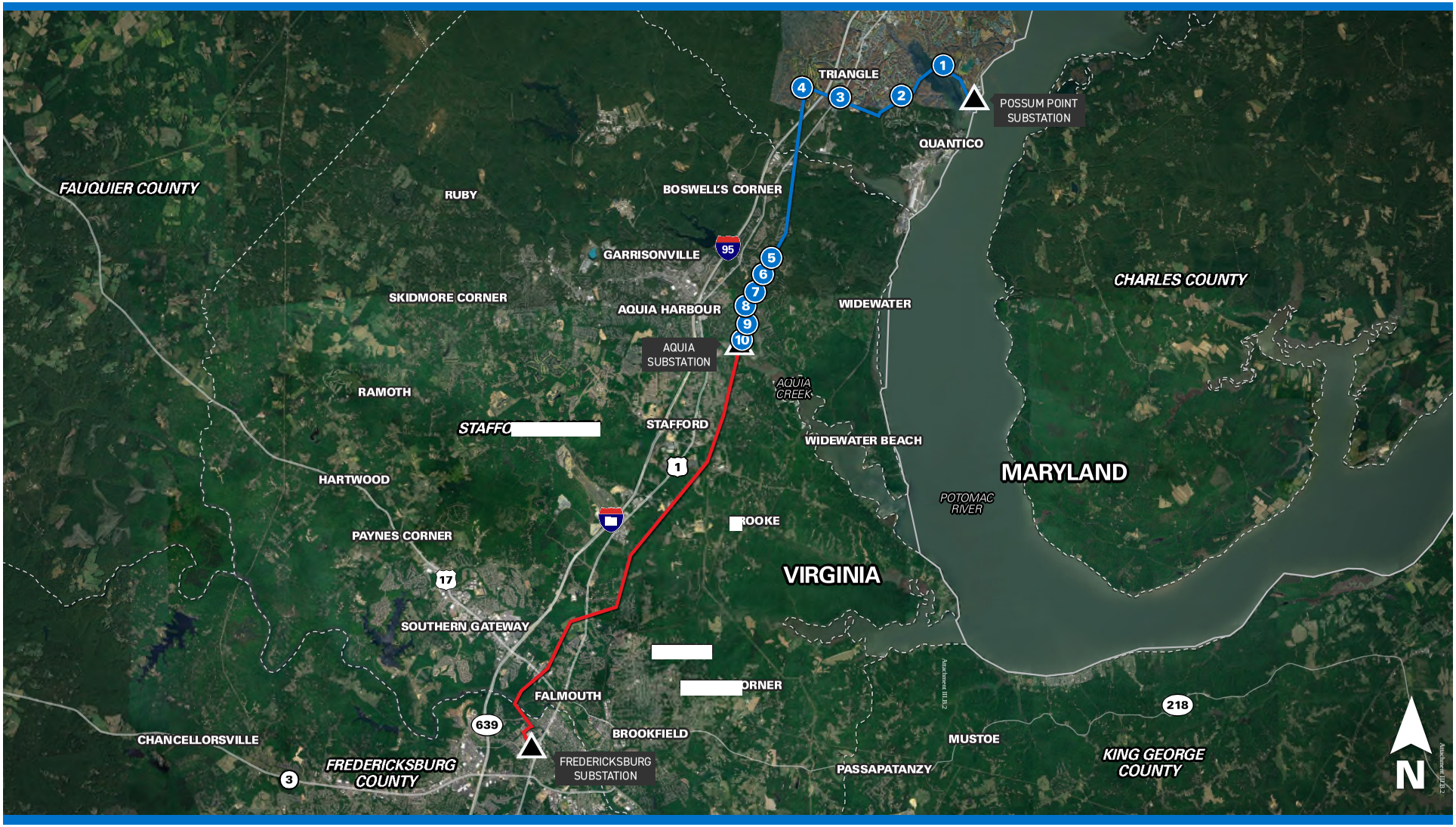
Email: powerline@dominionenergy.com
Phone: 888-291-0190

FREDERICKSBURG TO POSSUM POINT
Transmission Line Project

Photo Viewpoint Map

1 Photo Simulation Substation Fredericksburg - Aquia Harbour (Phase 1)
Aquia Harbour - Possum Point (Phase 2)

Dominion Energy®



Existing Conditions

Proposed Conditions

Visualization is for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

FREDERICKSBURG TO POSSUM POINT

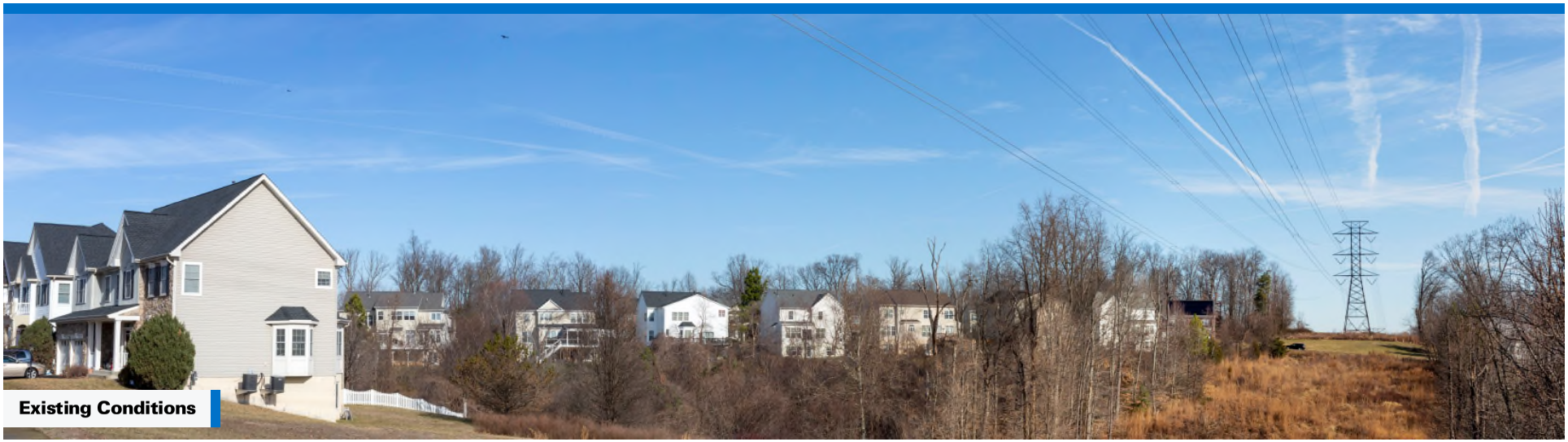
Transmission Line Project

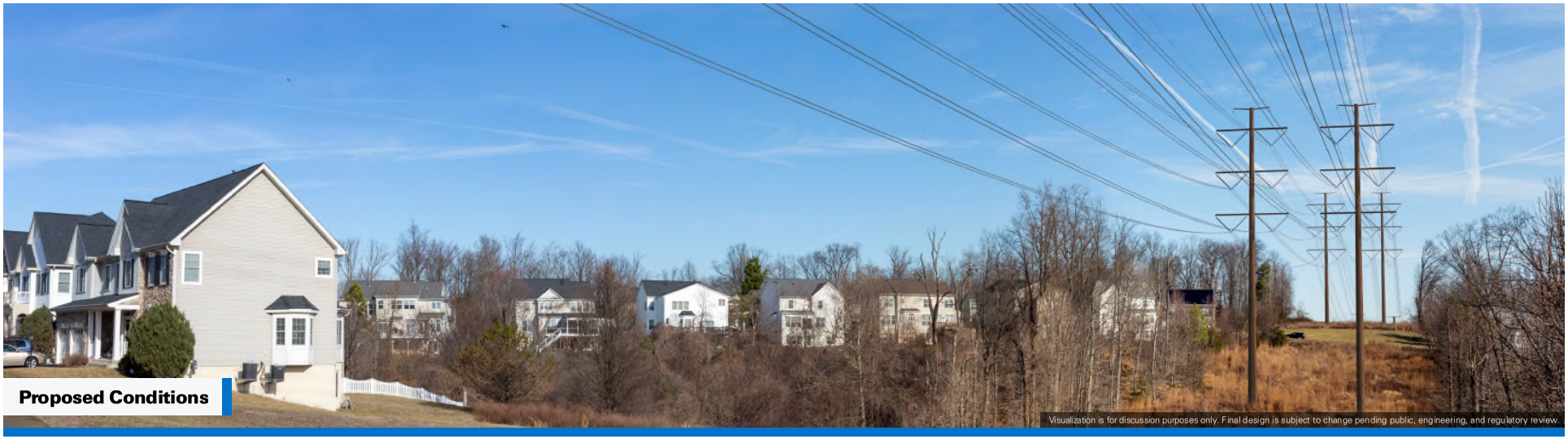
Phase 2 - Viewpoint 1

Date: 1/18/2023 **Time**: 10:06 am **Direction**: West

Aquia Harbour - Possum Point (Phase 2) 1 Photo Simulation

Dominion Energy®





FREDERICKSBURG TO POSSUM POINT
Transmission Line Project

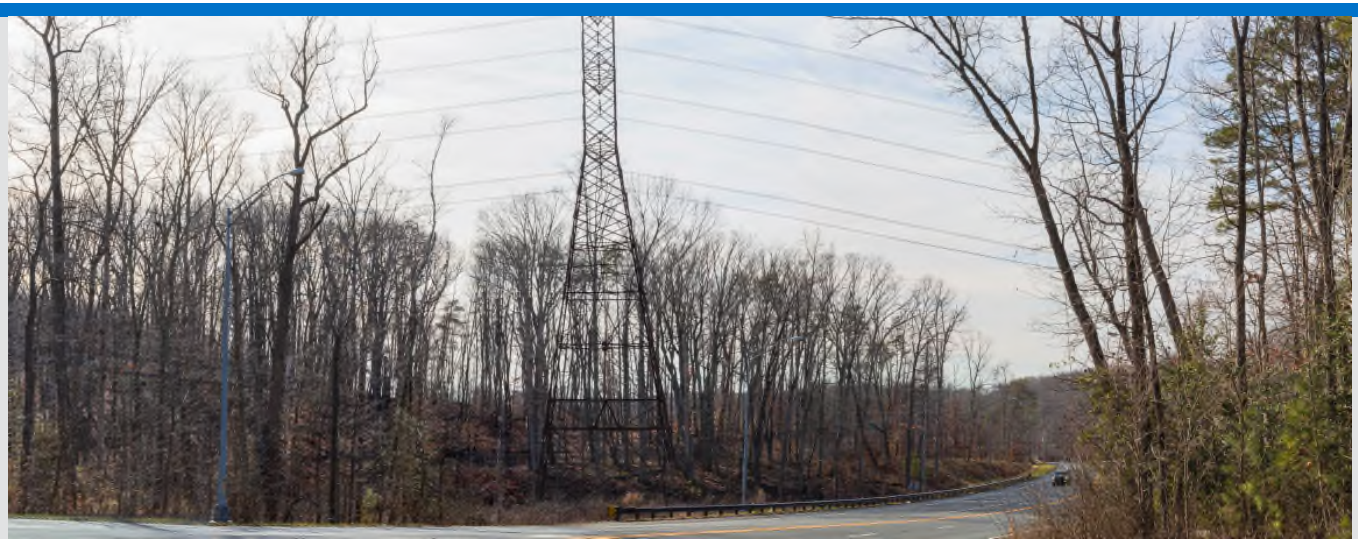
Phase 2 - Viewpoint 2

Date: 1/18/2023 **Time**: 10:54 am **Direction**: Northeast

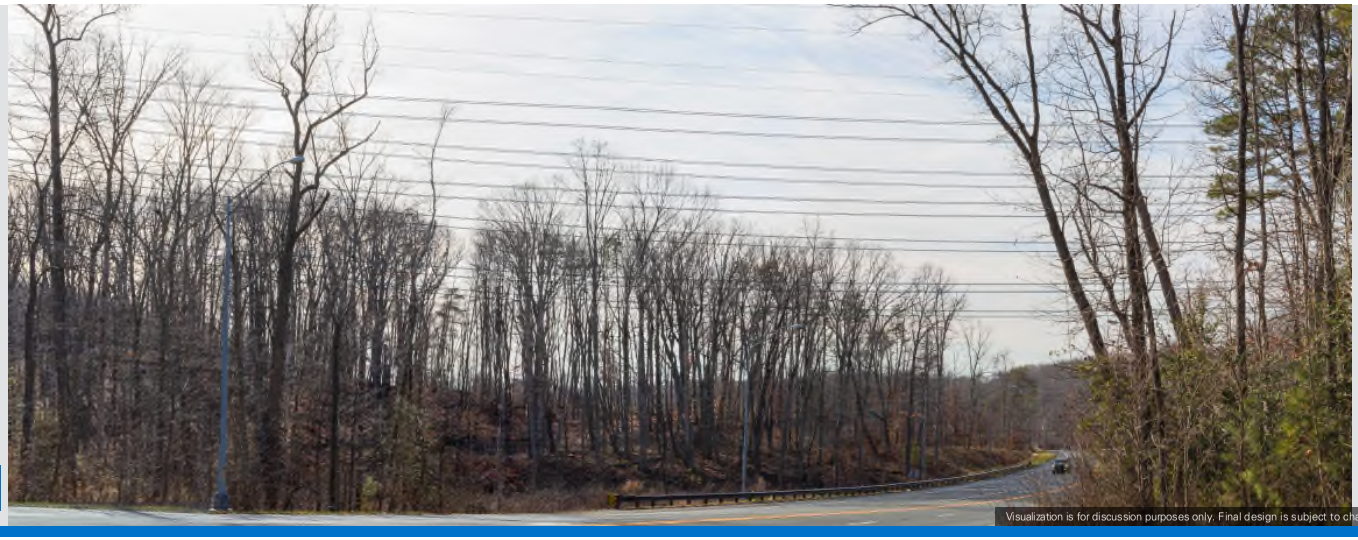
Aquia Harbour - Possum Point (Phase 2) (2) Photo Simulation

Dominion Energy®

Existing Conditions



Proposed Conditions



Visualization is for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

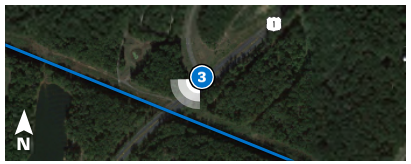
FREDERICKSBURG TO POSSUM POINT

Transmission Line Project

Phase 2 - Viewpoint 3

Date: 1/18/2023 **Time**: 11:39 am **Direction**: Southwest

Aquia Harbour - Possum Point (Phase 2) 3 Photo Simulation



Dominion Energy®

Existing Conditions

Proposed Conditions

Visualization is for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

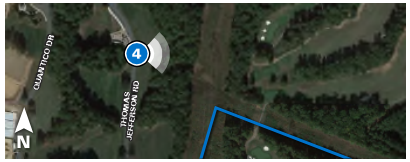
FREDERICKSBURG TO POSSUM POINT

Transmission Line Project

Phase 2 - Viewpoint 4

Date: 1/18/2023 **Time**: 12:32 pm **Direction**: East

Aquia Harbour - Possum Point (Phase 2) 4 Photo Simulation



Dominion Energy®

Existing Conditions

Proposed Conditions

Visualization is for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

FREDERICKSBURG TO POSSUM POINT

Transmission Line Project

Phase 2 - Viewpoint 5

Date: 1/18/2023 **Time**: 2:13 pm **Direction**: South

Aquia Harbour - Possum Point (Phase 2) 5 Photo Simulation

Dominion Energy®

Existing Conditions

Proposed Conditions

Visualization is for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

FREDERICKSBURG TO POSSUM POINT

Transmission Line Project

Phase 2 - Viewpoint 6

Date: 1/18/2023 **Time**: 2:38 pm **Direction**: Northwest

Aquia Harbour - Possum Point (Phase 2) 6 Photo Simulation

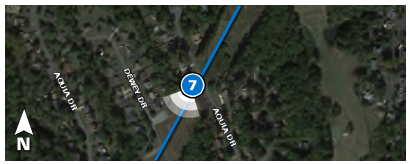
Dominion Energy®

FREDERICKSBURG TO POSSUM POINT
Transmission Line Project

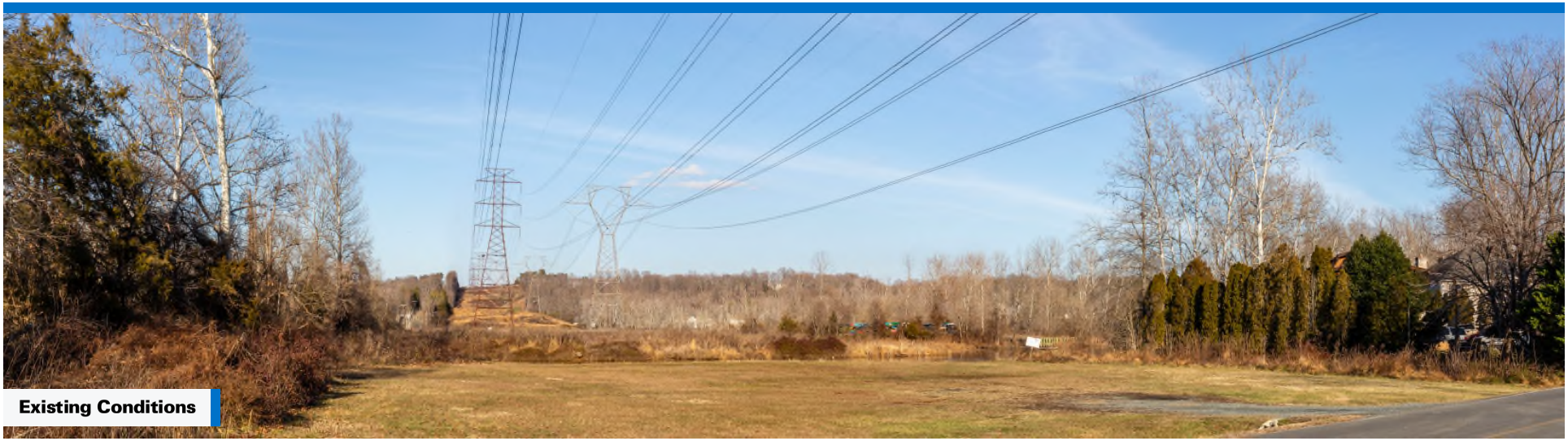
Phase 2 - Viewpoint 7

Date: 1/18/2023 **Time**: 3:00 pm **Direction**: Southwest

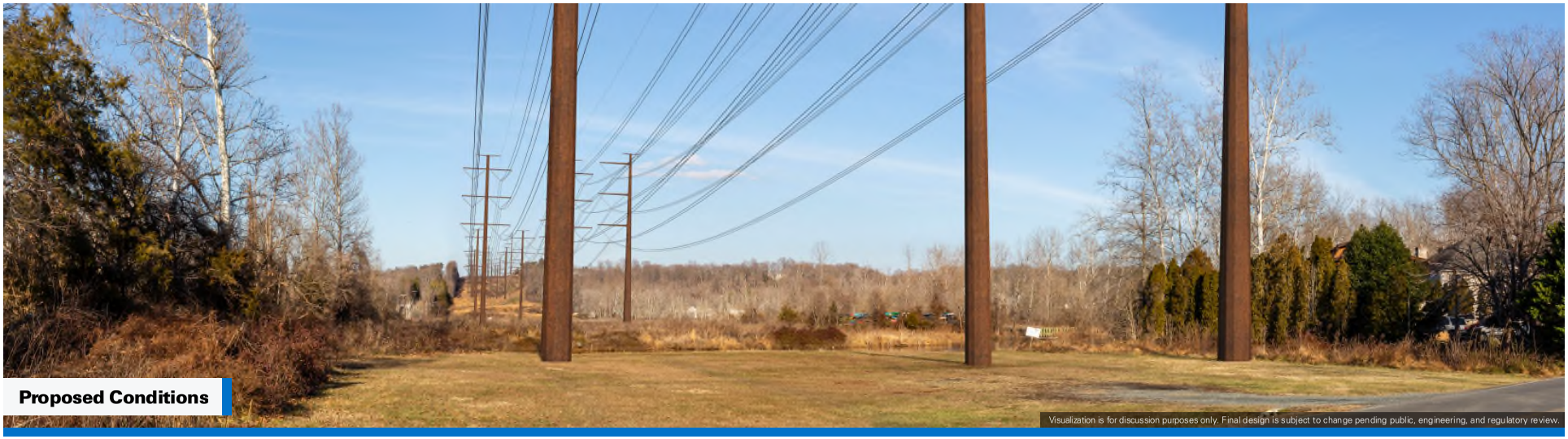
Aquia Harbour - Possum Point (Phase 2) 7 Photo Simulation



Dominion Energy®



Existing Conditions



Proposed Conditions

Visualization is for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

FREDERICKSBURG TO POSSUM POINT

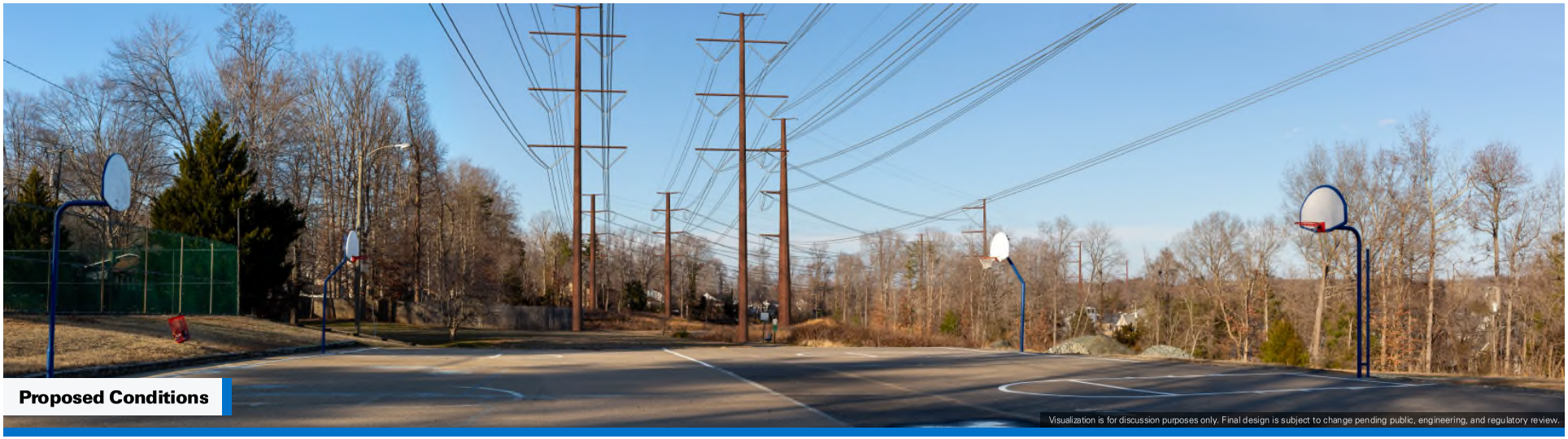
Transmission Line Project

Phase 2 - Viewpoint 8

Date: 1/18/2023 **Time**: 3:14 pm **Direction**: Northeast

Aquia Harbour - Possum Point (Phase 2) 8 Photo Simulation

Dominion Energy®

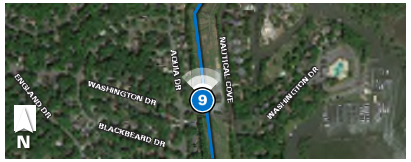


FREDERICKSBURG TO POSSUM POINT
Transmission Line Project

Phase 2 - Viewpoint 9

Date: 1/18/2023 **Time**: 3:34 pm **Direction**: North

Aquia Harbour - Possum Point (Phase 2) 9 Photo Simulation



Dominion Energy®

Existing Conditions

Proposed Conditions

Visualization is for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

FREDERICKSBURG TO POSSUM POINT

Transmission Line Project

Phase 2 - Viewpoint 10

Date: 1/18/2023 **Time**: 3:40 pm **Direction**: North

Aquia Harbour - Possum Point (Phase 2) 10 Photo Simulation

Substation Fredericksburg - Aquia Harbour (Phase 1)

Dominion Energy®

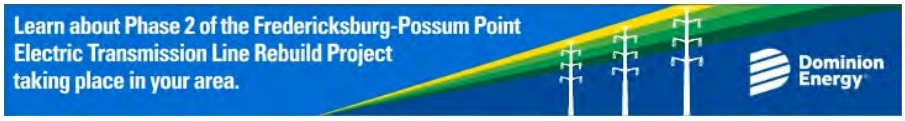

You are invited to our Community Meeting
Learn about Phase 2 of the Fredericksburg-Possum Point Electric Transmission Line Rebuild Project taking place in your area.
Attend the Community Meeting most convenient for you:
Tuesday, June 18 from 5-7 p.m.
Shirley C. Heim Middle School
320 Telegraph Road, Stafford, VA 22554
Thursday, June 20 from 5-7 p.m.
First Mount Zion Baptist Church
16622 Dumfries Road, Dumfries, VA 22025
Learn more at
DominionEnergy.com/FredericksburgPossumPoint
Use your phone's camera or QR reader app to visit the project page directly.
Dominion Energy
Powering Your Every Day.™

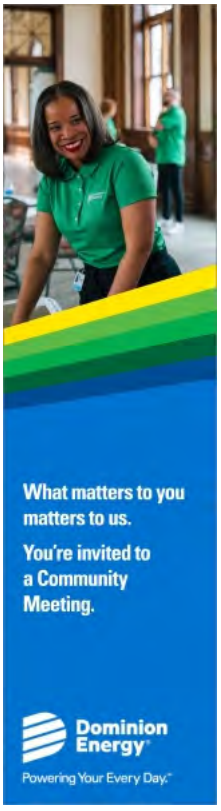
charles ryan associates

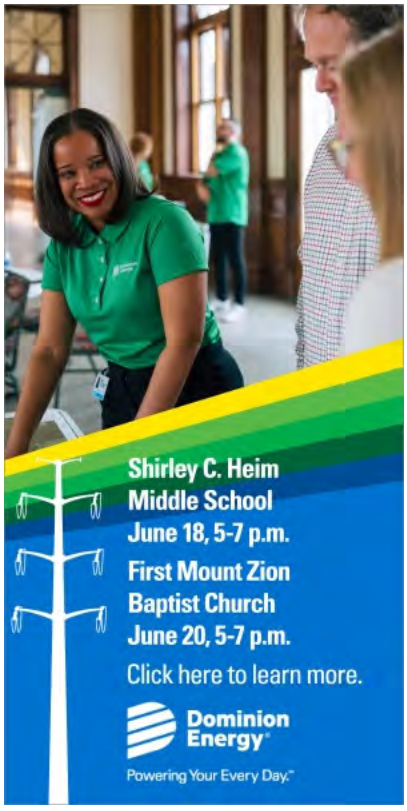
Dominion Energy Electric Transmission Contact:
Stephen S. Precker, stephen.s.precker@dominionenergy.com

Dominion Energy Electric Transmission

Fredericksburg-Possum Point
Phase 2 Pre-Event Display







charles ryan associates

Dominion Energy
Electric Transmission

Fredericksburg-Possum Point
Phase 2 Post-Event Display
Spanish

charles ryan associates

Dominion Energy Electric Transmission

Fredericksburg-Possum Point Phase 2 Event Nextdoor Imagery

Pre-Event Image:

charles ryan associates

Dominion Energy Electric Transmission

Fredericksburg-Possum Point Phase 2 Event Social Videos

Pre-event Video (Click to Play)

Pre-event Video Spanish (Click to Play)

charles ryan associates

Dominion Energy
Electric Transmission

Fredericksburg-Possum Point Phase 2 Pre-Event Newspaper

Environmental Justice: Ongoing Commitment to Our Communities

At Dominion Energy, we are committed to providing reliable, affordable, clean energy in accordance with our values of safety, ethics, excellence, embrace change and team work. This includes listening to and learning all we can from the communities we are privileged to serve.

Our values also recognize that environmental justice considerations must be part of our everyday decisions, community outreach and evaluations as we move forward with projects to modernize the generation and delivery of energy.

To that end, communities should have a meaningful voice in our planning and development process, regardless of race, color, national origin, or income. Our neighbors should have early and continuing opportunities to work with us. We pledge to undertake collaborative efforts to work to resolve issues. We will advance purposeful inclusion to ensure a diversity of views in our public engagement processes.

Dominion Energy will be guided in meeting environmental justice expectations of fair treatment and sincere involvement by being inclusive, understanding, dedicated to finding solutions, and effectively communicating with our customers and our neighbors. We pledge to be a positive catalyst in our communities.

November 2018

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 review of the existing corridor, it identified 21 unauthorized encroachments within the Rebuild Project corridor. The encroachments will need to be addressed with the respective property owners as the Company continues to investigate the right-of-way.

The Company is aware of one residence that encroaches slightly on the existing corridor, but anticipates designing and siting the proposed Rebuild Project structures in a manner that should not impact the residence.

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: Construction of Line #29 was completed in 1957. Construction of Line #252 was completed in 1978. Construction of Line #2083 was completed in 1981. Construction of Line #568 was completed in 1993. The right-of-way has been in continuous use since that time.

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 Comprehensive Plans for Stafford County, Prince William County, and the City of Fredericksburg to evaluate the potential effect the Rebuild Project could have on future development. *The Stafford County Comprehensive Plan 2016-2036* and *The Fredericksburg Virginia Comprehensive Plan 2015 edition* do not address the placement and construction of electric transmission lines within the plans.

The *Prince William County 2040 Comprehensive Plan* ("2040 Comprehensive Plan") explicitly addresses electric transmission lines within their land use policies and strategies. Prince William County's electrical utility services plan recognizes that the need for electric utilities accelerates with development. The 2040 Comprehensive Plan includes three electric utility policies. Policy EU-1 aims to locate electric utility facilities to provide maximum service levels as unobtrusively as possible, including locating electric transmission lines in existing corridors. Policy EU-2 aims to design electrical facilities to minimize negative impacts on existing and future communities, also referencing the co-location of electric transmission lines in existing corridors. Policy EU-3 supports and encourages alternative green energy infrastructure. The 2040 Comprehensive Plan shows diverse land uses for the area in proximity to the Rebuild Project corridor including MCBQ, parks and open space, residential neighborhood, industrial, and public right-of-way.

The Rebuild Project is located within existing right-of-way or on Company-owned property and would not affect any proposed land use in that area, with the exception of small areas (0.2 and 0.1 mile) near the Fuller Road Substation. The Rebuild Project is not expected to impact the character of the localities as the transmission corridor has been in use since the 1950s.

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. Stafford County and the City of Fredericksburg have not designated important farmlands within their jurisdiction under Va. Code § 3.2-205 B. Prince William County designates important farmlands based on soil type; however, based on the *Prince William County Rural Preservation Study: Rural Area Prime Agricultural Soils and Wooded Areas Draft Map* published July 31, 2013, there are no areas designated as important farmland within the Rebuild Project right-of-way in Prince William County.

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. NRHP-listed resources that are within and adjacent to the Rebuild Project are provided in Table 4 of the DEQ Supplement. Section 2.I of the DEQ Supplement provides additional discussion.

2. Resources that are eligible or potentially eligible for listing in the NRHP that are within and adjacent to the Rebuild Project are provided in Table 4 of the DEQ Supplement. Section 2.I of the DEQ Supplement provides additional discussion.

3. The City of Fredericksburg has designated a historic district, but the district is over 0.5 mile from Line 2083 and the Rebuild Project. Stafford County has designated Government Island as a historic overlay district, approximately 0.3 mile east of Aquia Harbour Station. Stafford County has also designated Aquia Church, Brent Cemetery, and the Crucifix as historic resource overlay districts 0.8 mile west, 0.3 mile west, and 0.6 mile west, respectively, of the Rebuild Project. Quantico Marine Base Historic District is located approximately 0.7 mile southeast of the Rebuild Project in Prince William County. The Richmond, Fredericksburg and Potomac Railroad Historic District is located in Prince William County and crosses the Rebuild Project adjacent to Possum Point Substation.

4. Archaeological Sites within the Rebuild Project existing and proposed right-of-way are provided in Table 4, Section 2.I of the DEQ Supplement. There are no known archaeological sites within or immediately adjacent to the proposed right-of-way. There are 13 previously recorded archaeological resources within the existing Rebuild Project right-of-way or within 200 feet of the right-of-way and considered adjacent. Of these 13 resources, 1 is considered eligible, 2 are not eligible, and 10 have not been evaluated for listing.

5. None.

6. None.

7. None.

8. None.

9. Northern Virginia Conservation Trust holds easements on Locust Shade Park and Forest Greens Golf Club land adjacent to the Rebuild Project's existing right-of-way.

10. None.

11. The Rebuild Project crosses properties owned by Stafford County Public Schools south of MCBQ. These properties consist of Shirley C. Heim

Middle School and Widewater Elementary School. North of MCBQ, Prince William County also owns the land associated with the Forest Greens Golf Club and Locust Shade Park, which are crossed by the Rebuild Project's existing right-of-way.

12. The Rebuild Project traverses sections of MCBQ and intersects the southeast boundary of the federally-managed Quantico National Cemetery. The National Museum of the Marine Corps and the Medal of Honor Golf Course are located on MCBQ and on parcels adjacent to the Rebuild Project's existing right-of-way. The museum itself is located approximately 0.2 mile north of the Rebuild Project right-of-way; however, several trails associated with the museum are adjacent to the right-of-way, including a section of the Potomac Heritage National Scenic Trail, which crosses the right-of-way into the Prince William County managed Locust Shade Park.

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[23] to identify airports within 10 miles of the proposed Rebuild Project. Based on this review, there are three airports located within 10 miles of the Rebuild Project.

- Marine Corps Air Facility Quantico (NYG): 2.0 miles southeast of Fuller Road Substation.
- Stafford Regional Airport (RMN): 5.0 miles southwest of Aquia Harbour Station.
- Shannon Airport (EZF): 3.2 miles southeast of Fredericksburg Substation.

The Company will submit Form 7460 to the FAA prior to construction to initiate aeronautical studies and will design the proposed structures to avoid interference with air navigation.

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

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 Rebuild Project corridor does not cross nor is it in close proximity to any scenic Virginia byways. Use of the existing right-of-way minimizes additional impacts at any road crossings. Perpendicular road crossings, which are preferred by VDOT, will be utilized at all road crossings where applicable.

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

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

Response: The Company solicited feedback from Stafford and Prince William Counties and the City of Fredericksburg administrators regarding the proposed Rebuild Project. Below is a list of coordination efforts that have occurred with municipal, state, and federal agencies:

- A Wetland and Waters Review has been completed and sent to DEQ's Office of Wetlands and Stream Protection to initiate the wetlands impact consultation. See Attachments 2.1 and 2.D.2 of the DEQ Supplement.

- A Stage I Pre-Application Analysis has been prepared and submitted to VDHR. See Attachment 2.I.2 of the DEQ Supplement.

- The Company solicited comments from the Virginia Marine Resources Commission ("VMRC") and the Corps regarding the proposed Rebuild Project. See Attachments 2.1 and 2.B.1 of the DEQ Supplement.

- The Company requested comments from the USFWS, DWR, and DCR regarding the proposed Rebuild Project. See Attachments 2.1 and 2.G.2 of the DEQ Supplement.

- Letters were submitted to Stafford and Prince William Counties and the City of Fredericksburg pursuant to Va. Code § 15.2-2202 E to describe the Rebuild Project and request comment. See Section V.D of this Appendix.

- The Company solicited comments from the DOAv regarding the proposed Rebuild Project. See Attachment 2.1 of the DEQ Supplement.

- Letters were submitted to the agencies listed in Section V.C on July 2, 2024, describing the Rebuild Project and requesting comment.

- On June 27, 2024, the Company solicited comments via letter from several federally and state recognized Native American tribes, including the Cheroenhaka (Nottoway), Chickahominy, Chickahominy Indian Tribe Eastern Division, Mattaponi, Monacan, Nansemond, Nottoway, Pamunkey, Patawomeck, Rappahannock, Upper Mattaponi, Catawba Indian Nation, and Delaware Nation, Oklahoma.

A copy of the letter template is included as Attachment III.J.1. On July 25, 2024, the Company received a response from the Catawba Indian Nation, indicating no immediate concerns regarding the Rebuild Project, and asking to be notified if Native American artifacts or human remains are located during the ground disturbance. This response is included in Attachment III.J.2.

Dominion Energy Virginia
Electric Transmission
P.O. Box 26666, Richmond, VA 23261
DominionEnergy.com

June 27, 2024

Fredericksburg-Possum Point 230 kV Electric Transmission Upgrade and Rebuild Project – Phase 2

Dear Chief Red Hawk:

At Dominion Energy, we are dedicated to maintaining reliable and secure electric service in the communities we serve. As a valued stakeholder with a vested interest in the community, we would like to provide an update on the need for an electric transmission line infrastructure project in the City of Fredericksburg, Stafford County, and Prince William County, VA. This letter pertains to Phase 2 of the project which will take place in Stafford County, VA and Prince William County, VA, between our Aquia Harbour and Possum Point substations. We previously communicated to you about Phase 1 of the project in a letter dated February 1, 2024. Phase 1 was filed with Virginia's State Corporation Commission (SCC) in March 2024.

Phase 2 of the Fredericksburg-Possum Point 230 kilovolt (kV) Electric Transmission Upgrade and Rebuild project will include the rebuild of an existing transmission line corridor that runs from our Aquia Harbour substation at the intersection of Aquia Drive and Channel Cove in Stafford County to our Possum Point substation off Possum Point Road in Prince William County. While well maintained over its lifespan, due to the age of the infrastructure, the lines and related components need to be replaced to ensure continued reliable operation and to accommodate increased energy demand on the system. Some of the existing structures and components along this approximately 12-mile portion of the transmission line corridor have been in service since the 1950's. The lines were built primarily with wooden H-frame structures and weathering steel lattice structures. We are proposing to rebuild these mostly with brown, weathering steel monopole structures, mostly within the existing right of way.

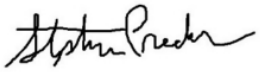
The project will also upgrade 115 kilovolt (kV) transmission lines to 230 kV to increase the current capacity and relocate the existing 500 kV transmission line in the corridor to accommodate the addition of two additional 230 kV circuits. This will include reconductoring, or replacing the wires, and replacing existing structures. To comply with the latest safety standards and to fit all new structures mostly within the existing right of way, the new structures would be approximately twenty feet taller on average.

Enclosed is a project overview map for your reference. This project does require review by the Virginia State Corporation Commission (SCC). We are currently in the conceptual phase and are seeking input as we prepare to submit an application with the SCC later this summer. Providing your input now allows us to consider any concerns you may have as we work to meet the project's needs. Please feel free to notify other relevant organizations that may have an interest in the project area. For reference, other recipients of this letter include county and state historic, cultural, and scenic organizations, as well as Tribal Nations.

For additional information on the project, please visit the project webpage at www.DominionEnergy.com/fredericksburgpossumpoint.

If you would like to meet to discuss, or if you have any initial questions, please do not hesitate to contact us by sending an email to Stephen.S.Precker@dominionenergy.com or calling 888-291-0190. You may also contact Tribal Relations Manager Ken Custalow by sending an email to Ken.Custalow@dominionenergy.com.

Sincerely,



Steve Precker
The Electric Transmission Project Team

Enclosure: Project Overview Map

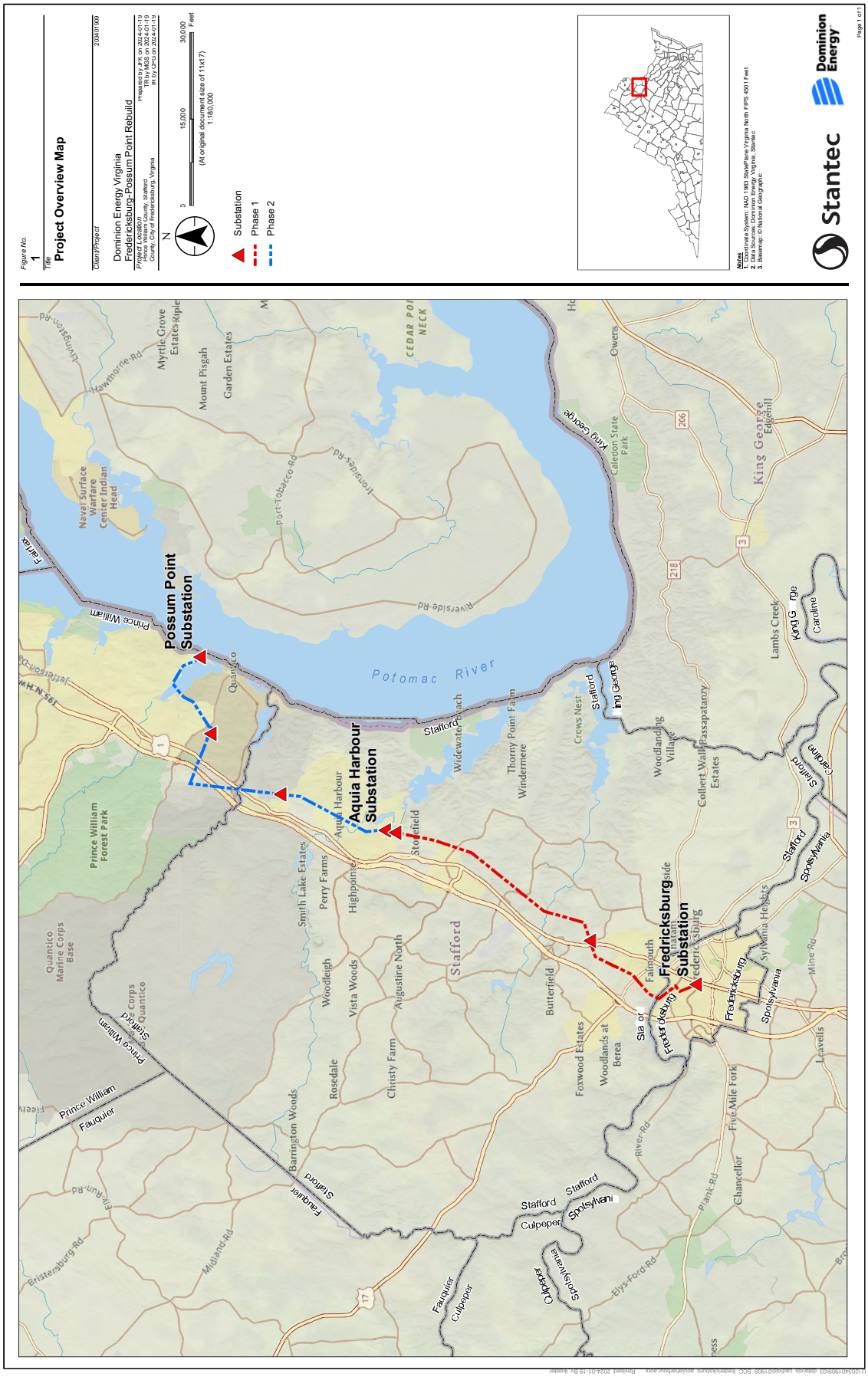


Figure No.
1
Title
Project Overview Map
Client/Project
203401909
Dominion Energy Virginia
Fredericksburg-Possum Point Rebuild
Project Location
Prince William County, Stafford County, City of Fredericksburg, Virginia
Prepared by JK on 2024-01-19
TR by MGB on 2024-01-19
IR by CAH on 2024-01-19
N
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15,000
30,000
Feet
(At original document size of 11x17)
1:180,000
Substation
Phase 1
Phase 2
Possum Point Substation
Aquia Harbour Substation
Fredericksburg Substation
Potomac River
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia; Stantec
3. Basemap: © National Geographic
Stantec
Dominion Energy
Page 1 of 1

Office 803-328-2427
Fax 803-328-5791

July 25, 2024

Attention: Steve Precker
Dominion Energy Virginia
P.O. Box 26666
Richmond, VA 23261

Re. THPO #	TCNS #	Project Description
2024-1108-13		Fredericksburg-Possum Point 230 kV Electric Transmission Upgrade and Rebuild Project – Phase 2

Dear Mr. Precker,

The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas. **However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.**

If you have questions please contact Caitlin Rogers at 803-328-2427 ext. 226, or e-mail Caitlin.Rogers@catawba.com.

Sincerely,

Caitlin Rogers for

Wenonah G. Haire
Tribal Historic Preservation Officer

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

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

Response: On June 27, 2024, the Company solicited comments via letter from the nongovernmental organizations and private citizen groups identified 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	American Battlefield Trust
Mr. Jim Campi	American Battlefield Trust
Mr. Max Hokit	American Battlefield Trust
Mr. Steven Williams	Colonial National Historical Park
Ms. Eleanor Breen, PhD, RPA	Council of Virginia Archaeologists
Ms. Elaine Chang	National Trust for Historic Preservation
Ms. Leighton Powell	Scenic Virginia
Ms. Julie Bolthouse	Piedmont Environmental Council
Mr. John McCarthy	Piedmont Environmental Council
Dr. Cassandra Newby-Alexander, Dean	Norfolk State University
Mr. Roger Kirchen, Archaeologist	Virginia Department of Historic Resources
Ms. Adrienne Birge-Wilson	Virginia Department of Historic Resources
Mr. Dave Dutton	Dutton + Associates, LLC

Dominion Energy Virginia
Electric Transmission
P.O. Box 26666, Richmond, VA 23261
DominionEnergy.com

June 27, 2024

Fredericksburg-Possum Point 230 kV Electric Transmission Upgrade and Rebuild Project – Phase 2

Dear Ms. Kostelny:

At Dominion Energy, we are dedicated to maintaining reliable and secure electric service in the communities we serve. As a valued stakeholder with a vested interest in the community, we would like to provide an update on the need for an electric transmission line infrastructure project in the City of Fredericksburg, Stafford County, and Prince William County, VA. This letter pertains to Phase 2 of the project which will take place in Stafford County, VA and Prince William County, VA, between our Aquia Harbour and Possum Point substations. We previously communicated to you about Phase 1 of the project in a letter dated February 1, 2024. Phase 1 was filed with Virginia's State Corporation Commission (SCC) in March 2024.

Phase 2 of the Fredericksburg-Possum Point 230 kilovolt (kV) Electric Transmission Upgrade and Rebuild project will include the rebuild of an existing transmission line corridor that runs from our Aquia Harbour substation at the intersection of Aquia Drive and Channel Cove in Stafford County to our Possum Point substation off Possum Point Road in Prince William County. While well maintained over its lifespan, due to the age of the infrastructure, the lines and related components need to be replaced to ensure continued reliable operation and to accommodate increased energy demand on the system. Some of the existing structures and components along this approximately 12-mile portion of the transmission line corridor have been in service since the 1950's. The lines were built primarily with wooden H-frame structures and weathering steel lattice structures. We are proposing to rebuild these mostly with brown, weathering steel monopole structures, mostly within the existing right of way.

The project will also upgrade 115 kilovolt (kV) transmission lines to 230 kV to increase the current capacity and relocate the existing 500 kV transmission line in the corridor to accommodate the addition of two additional 230 kV circuits. This will include reconductoring, or replacing the wires, and replacing existing structures. To comply with the latest safety standards and to fit all new structures mostly within the existing right of way, the new structures would be approximately twenty feet taller on average.

Enclosed is a project overview map for your reference. This project does require review by the Virginia State Corporation Commission (SCC). We are currently in the conceptual phase and are seeking input as we prepare to submit an application with the SCC later this summer. Providing your input now allows us to consider any concerns you may have as we work to meet the project's needs. Please feel free to notify other relevant organizations that may have an interest in the project area. For reference, other recipients of this letter include county and state historic, cultural, and scenic organizations, as well as Tribal Nations.

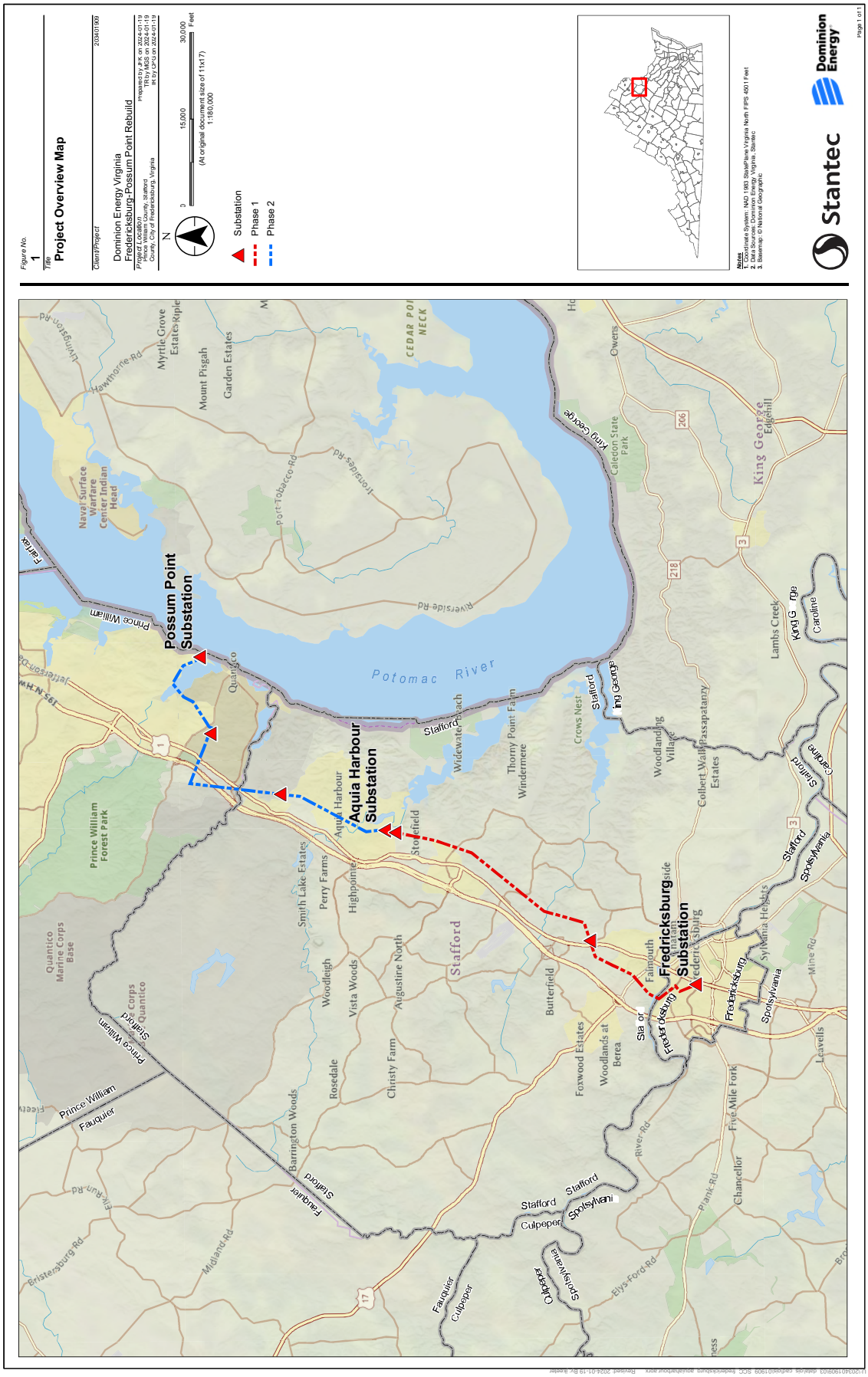
For additional information on the project, please visit the project webpage at www.DominionEnergy.com/fredericksburgpossumpoint.

If you would like to schedule a small group or one on one meeting to discuss the project, please reach out to us at Powerline@dominionenergy.com or call 888-291-0190. Please do not hesitate to reach out with any questions.

Sincerely,

The Electric Transmission Project Team

Enclosure: Project Overview Map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(At original document size of 11x17)
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Substation
Phase 1
Phase 2
Possum Point Substation
Aquia Harbour Substation
Fredericksburg Substation
Potomac River
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia; Stantec
3. Basemap: © National Geographic
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Dominion Energy
Page 1 of 1
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III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL, AND HISTORIC FEATURES

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

Response: The permits or special permissions that are likely to be required for the Rebuild Project are listed below.

Potential Permits

Activity	Permit	Agency
Impacts to wetlands and waters of the U.S.	Nationwide Permit	U.S. Army Corps of Engineers
Impacts to wetlands and State surface waters	Virginia Water Protection Permit	Virginia Department of Environmental Quality
Work within, over or under state subaqueous bottom	Subaqueous Bottom Permit	Virginia Marine Resources Commission
Discharges of Stormwater from Construction Activities	Construction General Permit	Virginia Department of Environmental Quality
Work within VDOT right-of-way	Land Use Permit	Virginia Department of Transportation
Airspace obstruction evaluation	FAA 7460-1	Federal Aviation Administration
Encroachment within tidal wetlands	Tidal Wetlands Permit	Stafford County Wetlands Board
Encroachment within tidal wetlands	Tidal Wetlands Permit	Prince William County Wetlands Board
Work within MCBQ	Special Use Permit	U.S. Marine Corps
Work within Quantico National Cemetery	Special Use Permit	U.S. Department of Veterans Affairs

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 associated with high voltage power lines is best estimated by field levels 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 and proposed transmission line. EMF levels are provided for both historical (2022) and future (2028) annual average and maximum (peak) loading conditions.

Existing lines – Historical average loading

EMF levels were calculated for the existing line at the ***historical average*** load condition of 125.5 A for Line #29 at an operating voltage of 115 kV, 285.9 A for Line #252 at an operating voltage of 230 kV, 158.6 A for Line #2083 at an operating voltage of 230 kV, and 711.3 A for Line #568 at an operating voltage of 500 kV, when supported on the existing structures. See Attachments II.A.5.a, II.A.5.b, II.A.5.c and II.A.5.d.

These field levels were calculated at mid-span where the conductors are closest to the ground and the conductors are at an historical average load operating temperature.

EMF levels at the edge of the maintenance limits for the existing lines at the historical average loading:

	West Edge		**East Edge**	
	Electric Field	Magnetic Field	Electric Field	Magnetic Field
	(kV/m)	(mG)	(kV/m)	(mG)
Attachment II.A.5.a	0.318	12.217	3.341	23.277
Attachment II.A.5.b	0.085	5.624	0.115	2.569

	West Edge		East Edge	
Attachment II.A.5.c	0.086	6.009	0.105	2.638
Attachment II.A.5.d	0.159	16.827	0.266	2.214

Existing lines – Historical peak loading

EMF levels were calculated for the existing line at the ***historical peak*** load condition of 640.1 A for Line #29 at an operating voltage of 115 kV, 972.7 A for Line #252 at an operating voltage of 230 kV, 486 A for Line #2083 at an operating voltage of 230 kV, and 811.6 A for Line #568 at an operating voltage of 500 kV, when supported on the existing structures. See Attachments II.A.5.a, II.A.5.b, II.A.5.c and II.A.5.d.

These field levels were calculated at mid-span where the conductors are closest to the ground and the conductors are at an historical peak load operating temperature.

EMF levels at the edge of the maintenance limits for the existing lines at the historical peak loading:

	West Edge		East Edge	
	Electric Field	Magnetic Field	Electric Field	Magnetic Field
	(kV/m)	(mG)	(kV/m)	(mG)
Attachment II.A.5.a	0.28	40.999	3.347	60.256
Attachment II.A.5.b	0.079	19.426	0.114	11.637
Attachment II.A.5.c	0.093	20.55	0.104	12.22
Attachment II.A.5.d	0.162	41.991	0.265	7.335

Proposed Rebuild Project – Projected Average Loading in 2028

EMF levels were calculated for the proposed Rebuild Project at the ***projected***

average load condition of 363.3 A for Line #29 at an operating voltage of 230 kV, 247.2 A for Line #252 at an operating voltage of 230 kV, 231.7 A for Line #2083 at an operating voltage of 230 kV, and 811.6 A for Line #568 at an operating voltage of 500 kV, when supported on the proposed Rebuild Project structures. See Attachments II.A.5.a, II.A.5.b, II.A.5.c and II.A.5.d.

These field levels were calculated at mid-span where the conductors are closest to the ground and the conductors are at a projected average load operating temperature.

EMF levels at the edge of the maintenance limits for the proposed Rebuild Project at the projected average loading:

	West Edge		**East Edge**	
	Electric Field	Magnetic Field	Electric Field	Magnetic Field
	(kV/m)	(mG)	(kV/m)	(mG)
Attachment II.A.5.a	0.173	18.614	2.235	21.843
Attachment II.A.5.b	0.561	20.301	0.126	19.062
Attachment II.A.5.c	0.626	19.479	0.625	17.535
Attachment II.A.5.d	0.570	7.607	0.427	1.413

Proposed Rebuild Project – Projected Peak Loading in 2028

EMF levels were calculated for the proposed Rebuild Project at the projected ***peak*** load condition of 712 A for Line #29 at an operating voltage of 230 kV, 475 A for Line #252 at an operating voltage of 230 kV, 297 A for Line #2083 at an operating voltage of 230 kV, and 2,035 A for Line #568 at an operating voltage of 500 kV, when supported on the proposed Rebuild Project structures. See Attachments II.A.5.a, II.A.5.b, II.A.5.c and II.A.5.d.

These field levels were calculated at mid-span where the conductors are closest to the ground and the conductors are at the projected peak load operating temperature.

EMF levels at the edge of the maintenance limits for the proposed Rebuild Project at the projected peak loading:

	West Edge		East Edge	
	Electric Field (kV/m)	Magnetic Field (mG)	Electric Field (kV/m)	Magnetic Field (mG)
Attachment II.A.5.a	0.168	37.155	2.227	53.571
Attachment II.A.5.b	0.516	39.467	0.523	36.872
Attachment II.A.5.c	0.624	37.975	0.624	33.991
Attachment II.A.5.d	0.570	15.515	0.427	2.806

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 few decades are the foundation of the Company's opinion that no adverse health effects are anticipated to result from the operation of the proposed Project. Each of these panels has evaluated the scientific research related to health and extremely low frequency ("ELF") EMF, also referred to as power-frequency (50/60 Hertz ("Hz")) 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 on biological responses of high, short-term EMF exposure not typically found in people's day-to-day lives, while others evaluate the effects of common, low EMF exposures found throughout communities. Studies also have evaluated the possibility of effects (*e.g.*, cancer, neurodegenerative diseases, and reproductive effects) of long-term exposure. Altogether, this research includes well over 100 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 scientific agencies to identify, review, and summarize the results of this large and diverse research.

The reviews of ELF EMF-related biological and health research have been conducted by numerous scientific and health agencies, including, for example, 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 IEEE's International Committee on Electromagnetic Safety ("ICES"), the Scientific Committee on Health, Environmental and Emerging Risks ("SCHEER") (formerly 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"]) (WHO, 2007; SCENIHR, 2009, 2015; EFHRAN, 2010, 2012; ICNIRP, 2010; SSM, 2015, 2016, 2018, 2019, 2020, 2021, 2022; ICES, 2019; SCHEER, 2023). 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 confirm 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 most recent reviews on this topic include the 2015 and 2023 reports by SCENIHR and SCHEER, respectively, and annual reviews published by SSM (i.e., for the years 2015 through 2022). 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.

WHO has recommended that countries adopt recognized international standards published by ICNIRP and ICES. Typical levels of EMF from Dominion Energy Virginia's high voltage 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.

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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."[24]

The continuing scientific research on ELF 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, including most notably:

- WHO, which published one of the most comprehensive and detailed reviews of the relevant scientific peer-reviewed literature in 2007;
- SCHEER (formerly SCENIHR), a committee of the European Commission, which published its assessments in 2009, 2015 and 2023;
- The SSM, which has published annual reviews of the relevant peer-reviewed scientific literature since 2003, with its most recent review published in 2022; and,
- EFHRAN, which 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 below scientifically established guideline values are consistent with the conclusions of the VDH report. With respect to the statistical association

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

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). In their 2023 Preliminary Opinion providing an update on the potential health effects of exposure to electromagnetic fields in the 1 Hz to 100 kilohertz ("kHz") range, SCHEER concluded that "overall, there is weak evidence concerning the association of ELF-MF [magnetic field] exposure with childhood leukaemia" (SCHEER 2023, p. 2).

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 EMF exposure and neurodegenerative diseases. Of these, the following recent publications, published following the inclusion date (June 2014) for the SCENIHR (2015) report through March 2024, provide additional evidence and contribute to clarification of previous findings. Overall, new research studies have not provided evidence to alter the previous conclusions of scientific and health organizations, including WHO and SCENIHR.

Epidemiologic studies of EMF and childhood leukemia published during the above referenced period 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 tumors, 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 and after) and reported no overall associations between exposure categories and childhood leukemia for the later periods (1980 and after), and consistent pattern for the 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 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) examined 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). Amoon et al. (2018a) concluded that changing residences was not associated with either calculated magnetic-field levels or proximity to the power lines, while 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 in Crespi et al. (2016) and Kheifets et al. (2017).

- 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 Quebec. 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 exposure to high calculated magnetic fields (≥ 0.4 microtesla ["μT"]) (i.e., ≥ 4 milligauss ["mG"]). No associations were observed with low-voltage power lines (< 200 kV). In a subsequent study, Amoon et al. (2020) examined the potential impact of dwelling type on the associations reported in Crespi et al. (2019). Amoon et al. (2020) concluded that while the type of dwelling at which a child resides (*e.g.*, single-family home, apartment, duplex, mobile home) was associated with socioeconomic status and race or ethnicity, it was not associated with childhood leukemia and did not appear to be a potential confounder in the relationship between childhood leukemia and magnetic-field exposure in this study population.

- Swanson et al. (2019) conducted a meta-analysis of 41 epidemiologic studies of childhood leukemia and magnetic-field exposure published between 1979 and 2017 to examine trends in childhood leukemia development over time. The authors reported that while the estimated risk of childhood leukemia initially increased during the earlier period, a statistically non-significant decline in estimated risk has been observed from the mid-1990s until the present (i.e., 2019).

- 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.

- Núñez-Enríquez et al. (2020) assessed the relationship between residential magnetic-field exposure and B-lineage acute lymphoblastic leukemia ("B-ALL") in children under 16 years of age in Mexico. The study included 290 cases and 407 controls matched on age, gender, and health institution; magnetic-field exposure was assessed through the collection of 24-hour measurements in the participants' bedrooms. While the authors reported some statistically significant associations between elevated magnetic-field levels and development of B-ALL, the results were dependent on the chosen cut-points.

- Seomun et al. (2021) performed a meta-analysis based on 33 previously published epidemiologic studies investigating the potential relationship between magnetic-field exposure and childhood cancers, including leukemia and brain cancer. For childhood leukemia, the authors reported statistically significant associations with some, but not all, of the chosen cut-points for magnetic-field exposure. The associations between magnetic-field exposure and childhood brain cancer were statistically non-significant. The study provided limited new insight as most of the studies included in the current meta-analysis, were included in previously conducted meta- and pooled analyses.

- Amoon et al. (2022) conducted a pooled analysis of four studies of residential exposure to magnetic fields and childhood leukemia published following a 2010 pooled analysis by Kheifets et al. (2010). The study by Amoon et al. (2022) compared the exposures of 24,994 children with leukemia to the exposures of 30,769 controls without leukemia in California, Denmark, Italy, and the United Kingdom. Exposure was assessed by measured or calculated magnetic fields at their residences. The exposure of these two groups to magnetic fields were found not to significantly differ. A decrease in the combined effect estimates in epidemiologic studies was observed over time, and the authors concluded that their findings, based on the most recent studies, were "not in line" with previous pooled analyses that reported an increased risk of childhood leukemia.

- Brabant et al. (2022) performed a literature review and meta-analysis of studies of childhood leukemia and magnetic-field exposure. The overall analysis included 21 epidemiologic studies published from 1979 to 2020. The authors reported a statistically significant association, which they noted was "mainly explained by the studies conducted before 2000." The authors reported a statistically significant association between childhood leukemia and measured or calculated magnetic-field exposures > 0.4 μT (4 mG); no statistically significant overall associations were reported between childhood leukemia and lower magnetic-field exposure (< 0.4 μT [4 mG]), residential distance from power lines, or wire coding configuration. An association between childhood

leukemia and electric blanket use was also reported. The overall results were likely influenced by the inclusion of a large number of earlier studies; 10 of the 21 studies in the main analysis were published prior to 2000. Studies published prior to 2000 included fewer studies deemed to be of higher study quality, as determined by the authors, compared to studies published after 2000.

- Nguyen et al. (2022) investigated whether potential pesticide exposure from living in close proximity to commercial plant nurseries confounds the association between magnetic-field exposure and childhood leukemia development reported within the California study population previously analyzed in Crespi et al. (2016) and Kheifets et al. (2017). The authors in Nguyen et al. (2022) noted that while the association between childhood leukemia and magnetic-field exposure was "slightly attenuated" after adjusting for nursery proximity or when restricting to subjects living > 300 meters from nurseries, their results "do not support plant nurseries as an explanation for observed childhood leukemia risks." The authors further noted that close residential proximity to nurseries may be an independent risk factor for childhood leukemia.

- Guo et al. (2023) reported conducting a systematic review and meta-analysis of studies published from 2015 to 2022 that evaluated associations between magnetic-field exposure and childhood leukemia development. Three meta-analyses were conducted to evaluate the relationship using different exposure metrics. In the first meta-analysis, magnetic-field levels ranging from 0.4 μT (4 mG) to 0.2 μT (2 mG) were associated with a statistically significant reduced risk of childhood leukemia development (i.e., a protective association). In the second meta-analysis, exposure was based on wiring configuration codes, and the reported pooled relative risk estimates demonstrated a statistically significant increased association with childhood leukemia. In the third meta-analysis, exposure was categorized into groupings of magnetic-field strength; no statistically significant associations with childhood leukemia were reported for any of the groupings, including for magnetic-field levels ≥ 0.4 μT (4 mG). There are significant limitations of this study that prevent meaningful interpretations of the results. Most of the analyses of magnetic fields did not state whether measurements and calculations were included, and the authors provided no description of the methods used for their analyses, no data tables to support their findings, and no references to the number and type of studies included. In fact, much of the article's introduction discusses ionized radiation. The authors also do not report relevant metrics for evaluating meta-analyses such as study heterogeneity.

- Malagoli et al. (2023) examined associations between exposure to magnetic fields from high voltage power lines (≥ 132 kV) and childhood leukemia development in a case-control study of children in Italy. The study included 182 cases diagnosed with childhood leukemia between 1998 and 2019 and 726 controls matched based on age, sex, and Italian province. The authors assessed magnetic-field exposure by calculating the distance from each participant's

residence to the nearest high voltage power line and classifying that distance into one of three exposed categories (participants living < 100 meters, 100 to < 200 meters, or 200 to < 400 meters from the power lines) or as unexposed (participants living ≥ 400 meters from the power lines). The authors reported a non-statistically significant association between childhood leukemia and a residence distance of <100 meters; no statistically significant associations were reported for any distance, including when stratifying by age (< 5 or ≥ 5 years) or when restricting to acute lymphoblastic leukemia (ALL).

- Nguyen et al. (2023) extended their previous investigation (Nguyen et al., 2022) into whether pesticide exposure was an independent risk factor or confounder for childhood leukemia in the presence of magnetic-field exposure from high voltage power lines by examining the potential impact of specific pesticide exposure factors (*e.g.*, intended use, chemical class, active ingredient). The authors found no statistically significant associations between distance to high voltage power lines or magnetic-field exposure and childhood leukemia, including when adjusting for pesticide exposures. Several of the examined pesticides were determined by the authors to be potential independent risk factors for childhood leukemia.

- Zagar et al. (2023) examined the relationship between magnetic fields and childhood cancers, including childhood leukemia, in Slovenia. Cancer cases, including 194 cases of leukemia, were identified from the Slovenian Cancer Registry; cases were then classified into one of five calculated magnetic-field exposure levels (ranging from < 0.1 μT [< 1 mG] to ≥ 0.4 μT [≥ 4 mG]) based on residential distance to high voltage (*e.g.*, 110-kV, 220-kV, and 400-kV) power lines. The authors reported that less than 1% of Slovenian children and adolescents lived in an area near high voltage power lines. No differences in the development of childhood cancers, including leukemia, brain tumors, or all cancers combined, were reported across the five exposure categories.

- Crespi et al. (2024) assessed the association between residential proximity to electricity transformers in multi-story residential buildings and childhood leukemia development in the International Transformer Exposure study. Participants were required to live in an apartment building that contained a built-in transformer; exposure was estimated using the participants' apartment location relative to the transformer and categorized as high exposure (located above or adjacent to the transformer), intermediate exposure (located on the same floor as apartments in the high exposure category), or unexposed (all other apartments). In the pooled analyses of five countries' data, a total of 74 cases and 20,443 controls were included; 18 of the 74 cases were identified in the intermediate or high exposure categories. No significant associations were reported between proximity to residential transformers and childhood leukemia. Sensitivity analyses performed using the data from one of the five countries (Finland) where a cohort study design was used, also reported no significant associations. The authors concluded that the evidence for an elevated risk of childhood leukemia from proximity to residential transformers was "weak."

- Duarte-Rodríguez et al. (2024) conducted a population-based case-control study to examine the geographical distribution of childhood ALL cases in Mexico City, Mexico. Cases and controls were geolocated using the most recent residential address, and a spatial scan statistic was used to detect spatial clusters of cancer cases. The authors identified eight spatial clusters of cases, representing nearly 40% of all cases included in the study (n=1,054 cases). The authors noted that six of the eight spatial clusters were located in proximity to high voltage power lines and high voltage electric installations (distances not specified), and that the remaining two clusters were located near former petrochemical industrial facility sites. Since the study did not directly assess magnetic-field exposure and made no conclusions about magnetic-field exposure and cancer development, this study adds little value to the existing literature regarding a potential association between exposure to ELF EMF and childhood leukemia development.

- Malavolti et al. (2024) examined the association between magnetic-field exposure from transformer stations and childhood leukemia in the same Italian study population as Malagoli et al. (2023). Magnetic-field exposure was estimated based on residential distance to the nearest transformer station, and participants were then categorized as exposed or unexposed using two different distance cut-points: residing within a radius of 15 or 25 meters from the transformer station (exposed); residing ≥ 15 meters or ≥ 25 meters from the transformer station (unexposed). No significant associations were reported for all leukemias, or ALL specifically, when either distance cut-point was used, and in fact no association at all (an odds ratio = 1.0) was observed when the more stringent cut-point of 15 meters was used. In sub-analyses that stratified by participant age (< 5 years vs. ≥ 5 years), no significant associations were reported for either age category.

Epidemiologic studies of EMF and neurodegenerative diseases published during the above referenced period 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 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[25] 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.

- Gunnarsson and Bodin (2018) conducted a meta-analysis of occupational risk factors for ALS. The authors reported a statistically significant association between occupational exposures to EMF, estimated using a job-exposure matrix, and ALS among the 11 studies included. Statistically significant associations were also reported between ALS and jobs that involve working with electricity, heavy physical work, exposure to metals (including lead) and chemicals (including pesticides), and working as a nurse or physician. The authors reported some evidence for publication bias. In a subsequent publication, Gunnarsson and Bodin (2019) updated their previous meta-analysis to also include Parkinson's disease and Alzheimer's disease. A slight, statistically significant association was reported between occupational exposure to EMF and Alzheimer's disease; no association was observed for Parkinson's disease.

- 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

[25] 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).

bias, and a lack of a clear exposure-response relationship between exposure and ALS.

- 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.

- 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.

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

- Filippini et al. (2020) investigated the associations between ALS and several environmental and occupational exposures, including electromagnetic fields, within a case-control study in Italy. The study included 95 cases and 135 controls matched on age, gender, and residential province; exposure to electromagnetic fields was assessed using the participants' responses to questions related to occupational use of electric and electronic equipment, occupational EMF exposure, and residential distance to overhead power lines. The authors reported a statistically significant association between ALS and residential proximity to overhead power lines and a statistically non-significant association between ALS and occupational exposure to EMF; occupational use of electric and electronic equipment was associated with a statistically non-significant decrease in ALS development.

- Huang et al. (2020) conducted a meta-analysis of 43 epidemiologic studies examining potential occupational risk factors for dementia or mild cognitive impairment. The authors included five cohort studies and seven case-control studies related to magnetic-field exposure. For both study types, the authors reported positive associations between dementia and work-related magnetic-field exposures. The paper, however, provided no information on the occupations held by the study participants, their magnetic-field exposure levels, or how magnetic-field levels were assessed; therefore, the results are difficult to interpret. The authors also reported a high level of heterogeneity among studies. Thus, this analysis adds little, if any, to the overall weight of evidence on a potential association between dementia and magnetic fields.

- Jalilian et al. (2020) conducted a meta-analysis of ALS and occupational exposure to both magnetic fields and electric shocks within 27 studies from Europe, the United States, and New Zealand. A weak, statistically significant association was reported between magnetic-field exposure and ALS; however, the authors noted evidence of study heterogeneity and publication bias. No association was observed between ALS and electric shocks.

- Chen et al. (2021) conducted a case-control study to examine the association between occupational exposure to electric shocks, magnetic fields, and motor neuron disease ("MND") in New Zealand. The study included 319 cases with a MND diagnosis (including ALS) and 604 controls, matched on age and gender; exposure was assessed using the participants' occupational history questionnaire responses and previously developed job-exposure matrices for electric shocks and magnetic fields. The authors reported no associations between MND and exposure to magnetic fields; positive associations were reported between MND and working at a job with the potential for electric shock exposure.

- Grebeneva et al. (2021) evaluated disease rates among electric power company workers in the Republic of Kazakhstan. The authors included three groups of "exposed" workers who "were in contact with equipment generating [industrial frequency EMF]" (a total of 161 workers), as well as 114 controls "who were not associated with exposure to electromagnetic fields." Disease rates were assessed "based on analyzing the sick leaves of employees" from 2010 to 2014 and expressed as "incidence rate per 100 employees." The authors reported a higher "incidence rate" of "diseases of the nervous system" in two of the exposed categories compared to the non-exposed group. No meaningful conclusions from the study could be drawn, however, because no specific diagnoses within "diseases of the nervous system" were identified in the paper and no clear description was provided on how the authors defined and calculated "incidence rate" for the evaluated conditions. In addition, no measured or calculated magnetic-field levels were presented by the authors.

- Filippini et al. (2021) conducted a meta-analysis to assess the dose-response relationship between residential exposure to magnetic fields and ALS. The

authors identified six ALS epidemiologic studies, published between 2009 and 2020, that assessed exposure to residential magnetic fields by either distance from overhead power lines or magnetic-field modeling. They reported a decrease in risk of ALS in the highest exposure categories for both distance-based and modeling-based exposure estimates. The authors also reported that their dose-response analyses "showed little association between distance from power lines and ALS"; the data were too sparse to conduct a dose-response analysis for modeled magnetic-field estimates. The authors noted that their study was limited by small sample size, "imprecise" exposure categories, the potential for residual confounding, and by "some publication bias."

- Jalilian et al. (2021) conducted a meta-analysis of occupational exposure to ELF magnetic fields and electric shocks and development of ALS. The authors included 27 studies from Europe, the United States, and New Zealand that were published between 1983 and 2019. A weak, statistically significant association was reported between magnetic-field exposure and ALS, and no association was observed between electric shocks and ALS. Indications of publication bias and "moderate to high" heterogeneity were identified for the studies of magnetic-field exposure and ALS, and the authors noted that "the results should be interpreted with caution."

- Goutman et al. (2022) examined occupational exposures, including "electromagnetic radiation" exposure, and associations with ALS in a case-control study of Michigan workers across various industries. The study included 381 cases diagnosed with ALS, all patients at the University of Michigan's Pranger ALS clinic, and 272 controls recruited from an online database for the University of Michigan. Participants were enrolled from 2010 to 2020 and completed a written survey of their work history and occupational exposures to nine exposure categories, including electromagnetic fields, particulate matter (PM), and pesticides. Exposure to electromagnetic fields was ascertained with a binary question asking whether they were "[e]xposed to power lines, transformation [*sic*] stations or other EM [electromagnetic radiation]?" The analysis was adjusted for age, sex, and military service. No association was observed between electromagnetic field exposure and ALS, while exposure to PM, pesticides, and metals, among others, were determined by the authors to be "associated with an increased ALS risk in this cohort."

- Sorahan and Nichols (2022) investigated magnetic-field exposure and mortality from MND in a large cohort of employees of the former Central Electricity Generating Board of England and Wales. The study included nearly 38,000 employees first hired between 1942 and 1982 and still employed in 1987. Estimates of exposure magnitude, frequency, and duration were calculated using data from the power stations and the employees' job histories, and were described in detail in a previous publication (Renew et al., 2003). Mortality from MND in the total cohort was observed to be similar to national rates. No statistically significant dose-response trends were observed with lifetime, recent, or distant magnetic-field exposure; statistically significant associations

were observed for some categories of recent exposure, but not for the highest exposure category.

- Duan et al. (2023) conducted a meta-summary of ALS and exposure to magnetic fields, which was 1 of 22 non-genetic risk factors evaluated across 67 studies for its association with ALS. Six of the 67 studies examined magnetic-field exposure and associations with ALS; of the six studies identified, the authors included four case-control studies and one cohort study in their meta-analysis. Pooling results from these studies resulted in significant increased odds of ALS among individuals with higher (but undefined) exposure to magnetic fields. However, this pooled odds ratio for magnetic-field exposure (1.22) was below the minimum odds ratio threshold of 1.3 set by the authors as the criterion for defining an exposure as an ALS risk factor. In addition, the authors identified "substantial" heterogeneity between studies evaluating magnetic-field exposure and ALS.

- In a subsequent publication of the same study as Goutman et al. (2022), Goutman et al. (2023) assessed the potential for the same nine exposure categories, including "electromagnetic radiation" exposure, to be risk factors for ALS progression, including survival and onset segment (bulbar, cervical, lumbar). Electromagnetic field exposure was not significantly associated with ALS survival or with bulbar onset compared to lumbar, but was significantly associated with cervical onset compared to lumbar. It is worth noting that an association with cervical onset compared to lumbar was observed in the majority (7/9) of the exposure categories. The authors make no concluding statements on electromagnetic field exposure and ALS and instead emphasize that occupational pesticide exposure and working in military operations were significantly associated with worse ALS survival.

- Saucier et al. (2023) carried out three systematic reviews of studies that evaluated relationships between urbanization, air pollution, and water pollution, and ALS development. The authors identified five studies that assessed whether electromagnetic fields (of varying frequencies) and high voltage infrastructure were significant urbanization risk factors for ALS, but make no conclusion about magnetic-field exposure and ALS development based on these studies, therefore adding little value to the existing literature.

- Vasta et al. (2023) examined the relationship between residential distance to power lines and ALS development in a cohort study of 1,098 participants in Italy. The authors reported no differences in the age of ALS onset or ALS progression rate between low-exposed and high-exposed participants based on residential distance to power lines at the time of the participants' diagnosis. Similarly, no differences were observed when exposure was based on residential distance to repeater antennas.

- Vitturi et al. (2023) conducted a systematic review and meta-analysis of case-control studies examining potential occupational risk factors related to multiple

sclerosis, including solvents, mercury, pesticides, and low-frequency magnetic fields. The authors included 24 studies in their review, but only one of the included studies investigated exposure to magnetic fields (Pedersen et al., 2017, discussed above), thereby adding little new information to the existing body of research.

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Zagar T, Valic B, Kotnik T, Korat S, Tomsic S, Zadnik V, Gajsek P. Estimating exposure to extremely low frequency magnetic fields near high voltage power lines and assessment of possible increased cancer risk among Slovenian children and adolescents. Radiol Oncol 57(1):59-69, 2023.

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 Rebuild Project is provided as Attachment V.A. A written description of the route is as follows:

From the Company's Fredericksburg Substation in the City of Fredericksburg, Line #2083 travels roughly northwest for approximately 0.7 mile to Hospital Junction within the City of Fredericksburg.

Line #568 begins at Structure #568/75 near Aquia Harbour Station in Stafford County and continues north for approximately 6.8 miles to existing Structure #568/37 in Prince William County.

Lines #29 and #252 extend approximately 11.4 miles northeast from Aquia Harbour Station to Structure #252/5583 (#29/1850), at which point both lines will continue in separate structures towards Possum Point Station in Prince William County. Continuing southeast, Line #29 travels for 0.6 mile between Structure #252/5583 (#29/1850) and Possum Point Station 115 kV switchyard, while Line #252 travels for 0.5 mile between Structure #252/5583 (#29/1850) and Possum Point Station 230 kV switchyard.

The Rebuild Project is entirely located within existing transmission line right-of-way or on Company-owned property with the exception of 0.2 mile of 50 feet of additional right-of-way required between existing Structure #252/5568 (#29/1835) and Fuller Road Substation. Additionally, for the segment approximately 0.1 mile west of Fuller Road Substation, the Company will need up to an additional 67 feet of width at the eastern edge of Mars Station Road.

Additionally, approximately 65 feet of the Company's western edge of the right-of-way is unmaintained between Aquia Harbour Station and Aquia Substation but will be required for the Rebuild Project. Therefore, approximately 1.6 acres of forestland is present within the existing right-of-way. The Company intends to clear this forestland as part of the Rebuild Project. Any trees encroaching into the right-of-way will be removed.

For the Rebuild Project, the minimum structure height is approximately 85 feet, the maximum structure height is approximately 195 feet, and the average height is of the proposed structures is approximately 131.7 feet, based on preliminary conceptual design, not including foundation reveal and subject to change based on final engineering design.

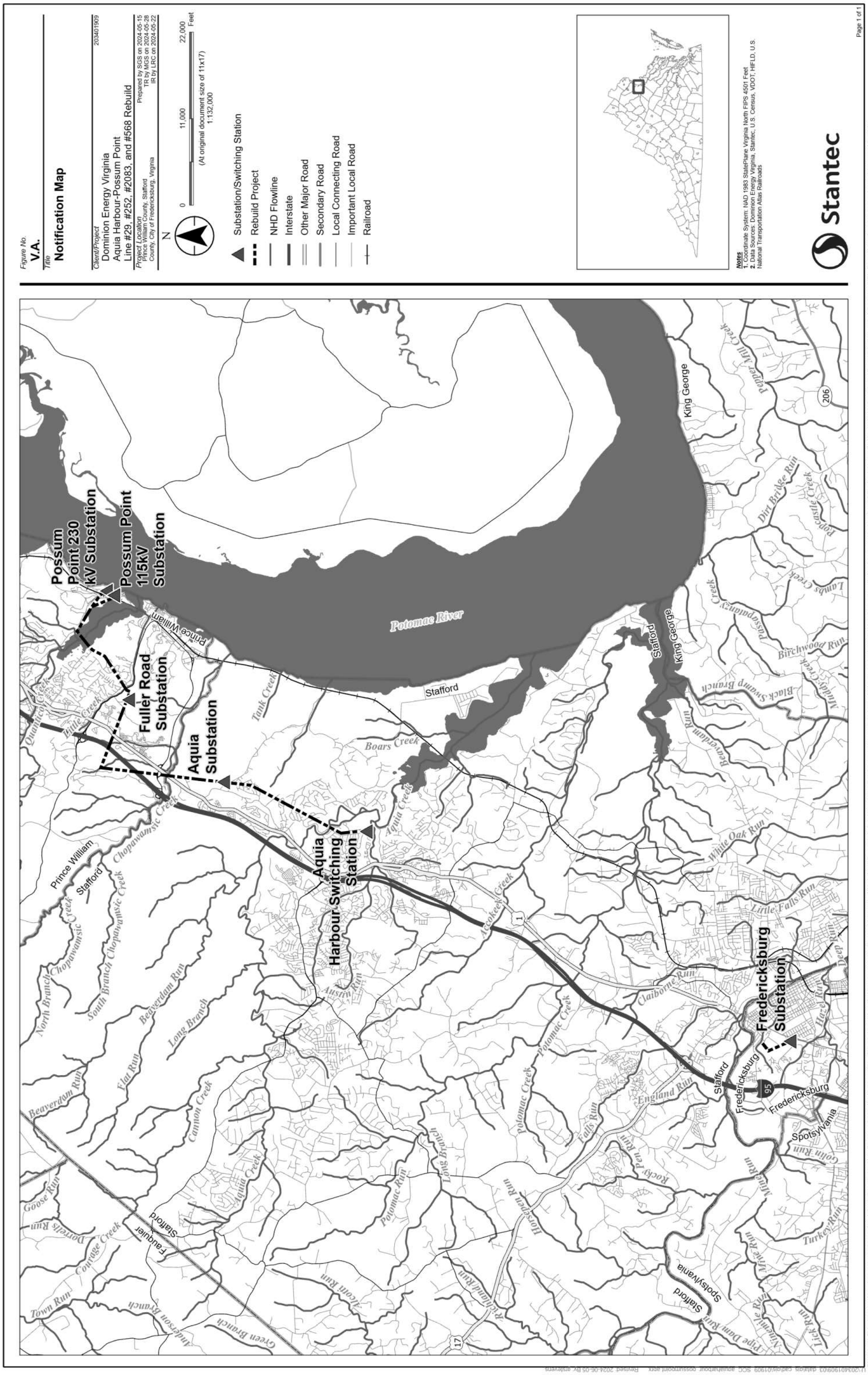
Figure No.
V.A.
Title
Notification Map
Client/Project
Dominion Energy Virginia
Aquia Harbour-Possum Point
Line #29, #252, #2083, and #568 Rebuild
203401909
Project Location
Prince William County, Stafford County, City of Fredericksburg, Virginia
Prepared by SGS on 2024-05-15
TR by MGS on 2024-05-28
IR by LRC on 2024-05-22
0
11,000
22,000
Feet
(At original document size of 11x17)
1:132,000
Substation/Switching Station
Rebuild Project
NHD Flowline
Interstate
Other Major Road
Secondary Road
Local Connecting Road
Important Local Road
Railroad
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, U.S. Census, VDOT, HIFLD, U.S. National Transportation Atlas Railroads
Stantec
Page 1 of 1
Possum Point 230 kV Substation
Possum Point 115kV Substation
Fuller Road Substation
Aquia Substation
Aquia Harbour Switching Station
Fredericksburg Substation
Potomac River
Prince William
Stafford
King George
Fredericksburg
Spotsylvania
Fauquier
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.

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: Shortly after filing, the application will be available electronically for public inspection at the following website: https://www.dominionenergy.com/fredericksburgpossumpoint.

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 proposed Rebuild 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 proposed Rebuild Project on the Company's website.[26]

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

Ms. Michelle Henicheck
Department of Environmental Quality
Office of Wetlands and Streams
1111 East Main Street, Suite 1400
Richmond, Virginia 23219

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

Environmental Reviewer
Virginia Department of Conservation and Recreation
Planning & Recreation Bureau
600 East Main Street, 17th Floor
Richmond, Virginia 23219

Ms. Amy Martin
Environmental Services Biologist Manager
Virginia Department of Wildlife Resources
P.O. Box 90778
Henrico, Virginia 23228

[26] The Virginia Department of Conservation and Recreation ("DCR") asked to be removed from the Company's post-filing mailing list. Accordingly, DCR will not receive post-filing mailings.

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

Mr. Clint Folks
Forestland Conservation Coordinator
Virginia Department of Forestry
900 Natural Resources Drive, Suite 800
Charlottesville, Virginia 22903

Scoping at VMRC
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

Ms. Regena Bronson
U.S. Army Corps of Engineers
Fredericksburg Field Office
1420 Central Park Boulevard
Fredericksburg, Virginia 22401

Mr. Lewis Rogers
Superintendent
Fredericksburg and Spotsylvania National Military Park
120 Chatham Lane
Fredericksburg, Virginia 22405

Ms. Arlene Fields Warren
Office of Drinking Water
Virginia Department of Health
109 Governor Street
Richmond, Virginia 23219

Ms. Martha Little
Virginia Outdoors Foundation
P.O. Box 85073, PMB 38979
Richmond, Virginia 23285-5073

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

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

Ms. Marcie Parker, P.E.
Fredericksburg District Engineer
Virginia Department of Transportation
87 Deacon Road
Fredericksburg, Virginia 22405

Mr. Bill Cuttler, P.E.
Northern Virginia District Engineer
Virginia Department of Transportation
4975 Alliance Drive
Fairfax, Virginia 22030

Mr. F. Craig Meadows
Stafford County, Interim County Administrator
1300 Courthouse Road
3rd Floor
Stafford, Virginia 22554

Mr. Timothy J. Baroody
City of Fredericksburg, City Manager
715 Princess Anne Street
Fredericksburg, Virginia 22401

Mr. Christopher Shorter
Prince William County Executive
1 County Complex Court
Prince William, Virginia 22192

Ms. Deshundra Jefferson
Chair-at-Large - Prince William County Board of Supervisors
1 County Complex Court
Prince William, Virginia 22192

Dr. Hunho Kim
Energy Manager
Quantico Marine Corps Base
2004 Barnett Avenue
Quantico, Virginia 22134

Commander Calvin Warren
Public Works Officer
Quantico Marine Corps Base
2004 Barnett Avenue
Quantico, Virginia 22134

Damion M. Jacobs
Assistant Director
National Memorial Cemetery at Quantico &
Alexandria National Cemetery
18424 Joplin Road
Triangle, VA 22172

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 July 2, 2024, were sent to Mr. Christopher Shorter, County Executive in Prince William County; Mr. F. Craig Meadows, Interim County Administrator in Stafford County; and Mr. Timothy J. Baroody, City Manager in the City of Fredericksburg, advising of the Company's intention to file this Application and inviting the localities to consult with the Company about the proposed Rebuild Project. See Attachment V.D.

Dominion Energy Services, Inc.
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
DominionEnergy.com

Mr. Christopher Shorter
Prince William County Executive
1 County Complex Court
Prince William, Virginia 22192

July 2, 2024

SCC ELECTRIC TRANSMISSION PROJECT NOTIFICATION

Project: Dominion Energy Virginia's Proposed Aquia Harbour – Possum Point Lines #29, #252, #2083 and #568 Rebuild Project

Dear Mr. Shorter,

Dominion Energy Virginia (the "Company") is proposing to wreck and rebuild approximately 11.4 miles of existing transmission lines, Lines #29, #252, and #568, primarily within existing right-of-way, between our Aquia Harbour Switching Station and Possum Point Substation in Stafford County and Prince William County. Line #29, which currently operates at 115 kV, will be uprated to 230 kV standards. Lines #29 and #252 will be primarily rebuilt on double circuit monopole structures utilizing current 230 kV standards. Line #568 is a 500 kV line that will be rebuilt on single circuit monopole structures. Additionally, the Company proposes to wreck and rebuild 0.7 mile of 230 kV Line #2083, on double circuit monopole structures (with vacant arms for future circuits) between the Fredericksburg Substation and Hospital Junction in the City of Fredericksburg. A small section of new right-of-way will be required near the Fuller Road substation which is located entirely within Marine Corps Base Quantico. Collectively this work is referred to as the "Rebuild Project." The Rebuild Project is needed to maintain the structural integrity and reliability of the networked transmission system, comply with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards, and to provide for future load growth in the area.

The Company is preparing to file an application for a Certificate of Public Convenience and Necessity ("CPCN") with the State Corporation Commission ("SCC"). We respectfully request that you submit any comments or additional information you feel would have bearing on the Rebuild Project within 30 days of the date of this letter. Once filed, the application will be available for review on the Company's website at http://www.dominionenergy.com/fredericksburgpossumpoint.

Dominion Energy Services, Inc.
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
DominionEnergy.com

Enclosed is a Project Overview Map depicting the route for the Rebuild Project and its general location. If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact me directly at 804-658-7316 or blair.parks@dominionenergy.com.

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

Regards,

Blair Parks

Blair Parks
Senior Siting and Permitting Specialist
Electric Transmission
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
804-658-7316

Dominion Energy Services, Inc.
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
DominionEnergy.com

Mr. F. Craig Meadows
County Administrator, Stafford County
1300 Courthouse Road, 3rd Floor
Stafford, Virginia 22554

July 2, 2024

SCC ELECTRIC TRANSMISSION PROJECT NOTIFICATION

Project: Dominion Energy Virginia's Proposed Aquia Harbour – Possum Point Lines #29, #252, #2083 and #568 Rebuild Project

Dear Mr. Meadows,

Dominion Energy Virginia (the "Company") is proposing to wreck and rebuild approximately 11.4 miles of existing transmission lines, Lines #29, #252, and #568, primarily within existing right-of-way, between our Aquia Harbour Switching Station and Possum Point Substation in Stafford County and Prince William County. Line #29, which currently operates at 115 kV, will be uprated to 230 kV standards. Lines #29 and #252 will be primarily rebuilt on double circuit monopole structures utilizing current 230 kV standards. Line #568 is a 500 kV line that will be rebuilt on single circuit monopole structures. Additionally, the Company proposes to wreck and rebuild 0.7 mile of 230 kV Line #2083, on double circuit monopole structures (with vacant arms for future circuits) between the Fredericksburg Substation and Hospital Junction in the City of Fredericksburg. A small section of new right-of-way will be required near the Fuller Road substation which is located entirely within Marine Corps Base Quantico. Collectively this work is referred to as the "Rebuild Project." The Rebuild Project is needed to maintain the structural integrity and reliability of the networked transmission system, comply with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards, and to provide for future load growth in the area.

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Dominion Energy Services, Inc.
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
DominionEnergy.com

Enclosed is a Project Overview Map depicting the route for the Rebuild Project and its general location. If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact me directly at 804-658-7316 or blair.parks@dominionenergy.com.

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

Regards,

Blair Parks

Blair Parks
Senior Siting and Permitting Specialist
Electric Transmission
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
804-658-7316

Dominion Energy Services, Inc.
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
DominionEnergy.com

Mr. Timothy J. Baroody
City Manager, City of Fredericksburg
715 Princess Anne Street
Fredericksburg, Virginia 22401

July 2, 2024

SCC ELECTRIC TRANSMISSION PROJECT NOTIFICATION

Project: Dominion Energy Virginia's Proposed Aquia Harbour – Possum Point Lines #29, #252, #2083 and #568 Rebuild Project

Dear Mr. Baroody,

Dominion Energy Virginia (the "Company") is proposing to wreck and rebuild approximately 11.4 miles of existing transmission lines, Lines #29, #252, and #568, primarily within existing right-of-way, between our Aquia Harbour Switching Station and Possum Point Substation in Stafford County and Prince William County. Line #29, which currently operates at 115 kV, will be uprated to 230 kV standards. Lines #29 and #252 will be primarily rebuilt on double circuit monopole structures utilizing current 230 kV standards. Line #568 is a 500 kV line that will be rebuilt on single circuit monopole structures. Additionally, the Company proposes to wreck and rebuild 0.7 mile of 230 kV Line #2083, on double circuit monopole structures (with vacant arms for future circuits) between the Fredericksburg Substation and Hospital Junction in the City of Fredericksburg. A small section of new right-of-way will be required near the Fuller Road substation which is located entirely within Marine Corps Base Quantico. Collectively this work is referred to as the "Rebuild Project." The Rebuild Project is needed to maintain the structural integrity and reliability of the networked transmission system, comply with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards, and to provide for future load growth in the area.

The Company is preparing to file an application for a Certificate of Public Convenience and Necessity ("CPCN") with the State Corporation Commission ("SCC"). We respectfully request that you submit any comments or additional information you feel would have bearing on the Rebuild Project within 30 days of the date of this letter. Once filed, the application will be available for review on the Company's website at http://www.dominionenergy.com/fredericksburgpossumpoint.

Dominion Energy Services, Inc.
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
DominionEnergy.com

Enclosed is a Project Overview Map depicting the route for the Rebuild Project and its general location. If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact me directly at 804-658-7316 or blair.parks@dominionenergy.com.

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

Regards,

Blair Parks

Blair Parks
Senior Siting and Permitting Specialist
Electric Transmission
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
804-658-7316

COMMONWEALTH OF VIRGINIA

STATE CORPORATION COMMISSION

APPLICATION OF	)	
	)	
VIRGINIA ELECTRIC AND POWER COMPANY	)	Case No. PUR-2024-00142
	)	
	)	
For approval and certification of electric transmission facilities: Aquia Harbour – Possum Point Lines #29, #252, #2083, and #568 Rebuild	)	

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

Mark Gill

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

Rebecca A. O'Neal

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

Brian Obermeier

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

Blair Parks

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 sections of the Appendix describing the Company's electric transmission system and the need for, and benefits of, the proposed Rebuild Project, as follows:

- Section I.B: This section details the engineering justifications for the proposed Rebuild Project.
- Section I.C: This section describes the present system and details how the proposed Rebuild 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.G: This section provides a system map for the affected area.
- Section I.H: This section provides the desired in-service date of the proposed Rebuild Project and the estimated construction time.
- Section I.J: This section provides information about the project if approved by the RTO.
- Section I.K: 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: This section contains information for transmission lines interconnecting a non-utility generator.
- Section I.N: This section 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 Rebuild Project, including requested and approved line outage schedules.

Additionally, Mr. Gill co-sponsors the following portions of the Appendix:

- Executive Summary (co-sponsored with Company Witnesses Rebecca A. O'Neal, Brian Obermeier, and Blair Parks): The Executive Summary provides a brief summary of the Project.
- Section I.A (co-sponsored with Company Witness Rebecca A. O'Neal): This section details the primary justifications for the proposed Rebuild Project.
- Section I.F (co-sponsored with Company Witness Rebecca A. O'Neal): This section describes any lines or facilities that will be removed, replaced or taken out of service upon completion of the proposed Rebuild Project and normal and emergency ratings of the facilities.
- Section II.A.3 (co-sponsored with Company Witness Blair Parks): This section provides color maps of existing or proposed rights-of-way in the vicinity of the proposed Rebuild 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
VIRGINIA STATE CORPORATION COMMISSION
CASE NO. PUR-2024-00142

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 of the Company. My business address is 5000 Dominion Boulevard, 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 kilovolts ("kV") through 500 kV.

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

A. In order to: (a) maintain the structural integrity and reliability of the networked transmission system; (b) resolve identified violations of the mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards; and (c) provide for future load growth in the Woodbridge Load Area, the Company proposes, in Stafford County, Prince William County, and the City of Fredericksburg, to rebuild its existing transmission corridor between Fredericksburg Substation and Possum Point Switching Station[1] by: (i) Rebuilding, primarily within existing right-of-way or on Company-owned property,

[1] The Possum Point Switching Station is located on the Company's Possum Point Power Station parcel and contains the 115 kV and 230 kV switchyards (the "Possum Point Switching Station" or "Possum Point Station").

approximately 11.4 miles of the existing Fredericksburg-Possum Point 115 kilovolt ("kV") Line #29[2] on double circuit monopole structures utilizing current 230 kV standards, from the Company's existing Aquia Harbour Switching Station[3] ("Aquia Harbour Station") to Structure #29/1850, and then 0.5 mile from Structure #29/1850 to the Company's existing Possum Point Station 230 kV switchyard; (ii) Removing approximately 0.6 mile of 115 kV Line #29 from Structure #29/1850 to the Possum Point Station 115 kV switchyard; (iii) Rebuilding a 0.2 mile segment of Line #29, between Structure #29/1835 and the Company's existing Fuller Road Substation, using an additional 50 feet of right-of-way; (iv) Rebuilding, primarily within existing right-of-way or on Company-owned property, approximately 11.4 miles of the existing Aquia Harbour-Possum Point 230 kV Line #252, on double circuit monopole structures utilizing current 230 kV standards, from Aquia Harbour Station to Structure #252/5583, and then 0.5 mile from Structure #252/5583 to the Company's Possum Point Station 230 kV switchyard; (v) Rebuilding a 0.2 mile segment of Line #252 between Structure #252/5568 and Fuller Road Substation using an additional 50 feet of right-of-way; [4] (vi) Relocating and rebuilding, entirely within existing right-of-way or on Company-owned property, approximately 6.8 miles of the existing Ladysmith-Possum Point 500 kV Line #568 on single circuit monopole structures, between Aquia Harbour Station and Possum Point Station; (vii) Rebuilding, entirely within existing right-

[2] The segments of Line #29 that will be rebuilt as part of the Rebuild Project will be renamed to Line #2309.

[3] This Appendix discusses two different facilities with similar names: the Aquia Harbour Switching Station and the Aquia Substation. Both are discussed in detail in Section I.C.

[4] The Company further proposes to rebuild the existing 0.1 mile segment of Lines #252 and #29 northwest of Fuller Road Substation using additional right-of-way that increases linearly to form a triangular area of additional right-of-way. Starting at Structure #252/5566 (#29/1833), there is no additional right-of-way. As Lines #252 and #29 travel east, the right-of-way will expand to include up to an additional 67 feet of width at the eastern edge of Mars Station Road.

of-way or on Company-owned property, approximately 0.7 mile of 230 kV Fredericksburg-Birchwood Non-Utility Generator ("NUG") Line #2083 on double circuit monopole structures (with vacant arms) between the Company's Fredericksburg Substation and Mary Washington Boulevard and Hospital Drive ("Hospital Junction"), located within the City of Fredericksburg. (collectively, the "Rebuild Project").[5]

The purpose of my testimony is to describe the Company's electric transmission system and the need for, and benefits of, the proposed Rebuild Project. I am sponsoring Sections I.B, I.C, I.D, I.E, I.G, I.H, I.J, I.K, I.M, I.N, and II.A.10 of the Appendix. Additionally, I also co-sponsor Sections I.A and I.F of the Appendix with Company Witness Rebecca A. O'Neal, and Section II.A.3 with Company Witness Blair Parks. Lastly, I co-sponsor the Executive Summary with Company Witnesses Rebecca A. O'Neal, Brian Obermeier, and Blair Parks.

Q. Does this conclude your testimony?

A. Yes, it does.

[5] The Rebuild Project is the second phase of the work the Company plans to undertake as described in its Application filed on March 14, 2024, in Case No. PUR-2024-00035, *Application of Virginia Electric and Power Company for Approval and Certification of Electric Facilities: Fredericksburg-Aquia Harbour Lines #29, #2104, and #2157 Partial Rebuild*.
The Company will also perform work associated with the Rebuild Project at the Fredericksburg, Cranes Corner, Aquia, Ladysmith, and Fuller Road Substations, and Possum Point and Aquia Harbour Stations. This work, while not included as part of the Rebuild Project, is discussed in Section II.C (the Cranes Corner work is discussed immediately below).
Additionally, the Company intends to add one backbone structure outside of the Company's Cranes Corner Substation in the existing right-of-way to maximize capacity and minimize line crossings in the corridor. Finally, the Company intends to install approximately 0.3 mile of a new 115 kV line starting at the Fuller Road Substation to feed Marine Corps Base Quantico ("MCBQ") once the entire corridor has been uprated to 230 kV. The Company's work associated with the relocation of the backbone structure at Cranes Corner Substation and the new 0.3 mile 115 kV line to feed MCBQ are not components of the Rebuild Project. The Company considers this work to qualify as an "ordinary extension[] or improvement[] in the usual course of business (*i.e.*, "ordinary course") pursuant to § 56-265.2 A 1 of the Code of Virginia ("Va. Code") and, therefore, does not require approval pursuant to Va. Code § 56-46.1 B or a CPCN from the Commission. Because this work is not a component of the proposed Rebuild Project, the costs associated with this work are not included in the total Rebuild Project costs.

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 36 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. O'Neal

Title: Supervisor – Conceptual Overhead Transmission Line Engineering

Summary:

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

- Section I.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.3: These sections provide the line design and operational features of the proposed Rebuild Project.
- Section II.B.4: This section provides the line design and operational features of a proposed project.
- Section IV: This section provides analysis on the health aspects of electric and magnetic field levels.

Additionally, Ms. O'Neal co-sponsors the following portions of the Appendix:

- Executive Summary (co-sponsored with Company Witnesses Mark R. Gill, Brian Obermeier, and Blair Parks): The Executive Summary provides a brief summary of the Rebuild Project.
- Section I.A (co-sponsored with Company Witness Mark R. Gill): This section details the primary justifications for the proposed Rebuild Project.
- Section I.I (co-sponsored with Company Witness Brian Obermeier): This section provides the estimated total cost of the proposed Rebuild 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 Rebuild Project and normal and emergency ratings of the facilities.
- Section II.B.5 (co-sponsored with Company Witness Blair Parks): This section provides the mapping and structure heights for the existing and proposed overhead structures.
- Section II.C (co-sponsored with Company Witness Brian Obermeier): This section describes and furnishes a one-line diagram of the substation associated with the proposed Rebuild Project, if needed.

A statement of Mrs. O'Neal's background and qualifications is attached to his testimony as Appendix A.

DIRECT TESTIMONY
OF
REBECCA A. O'NEAL
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
VIRGINIA STATE CORPORATION COMMISSION
CASE NO. PUR-2024-00142

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. O'Neal, and I am a Supervisor of Conceptual Overhead Transmission Line Engineering in the Electric Transmission Line Engineering Department at the Company. My business address is 5000 Dominion Boulevard, 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 overseeing the engineers that perform the estimating, conceptual and final design of high voltage transmission line projects from voltages of 69 kilovolts ("kV") to 500 kV.

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

A. In order to: (a) maintain the structural integrity and reliability of the networked transmission system; (b) resolve identified violations of the mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards; and (c) provide for future load growth in the Woodbridge Load Area, the Company proposes, in Stafford County, Prince William County, and the City of Fredericksburg, to rebuild its existing transmission corridor between Fredericksburg Substation and Possum Point Switching Station[1] by:

[1] The Possum Point Switching Station is located on the Company's Possum Point Power Station parcel and contains the 115 kV and 230 kV switchyards (the "Possum Point Switching Station" or "Possum Point Station").

(i) Rebuilding, primarily within existing right-of-way or on Company-owned property, approximately 11.4 miles of the existing Fredericksburg-Possum Point 115 kilovolt ("kV") Line #29[2] on double circuit monopole structures utilizing current 230 kV standards, from the Company's existing Aquia Harbour Switching Station[3] ("Aquia Harbour Station") to Structure #29/1850, and then 0.5 mile from Structure #29/1850 to the Company's existing Possum Point Station 230 kV switchyard; (ii) Removing approximately 0.6 mile of 115 kV Line #29 from Structure #29/1850 to the Possum Point Station 115 kV switchyard; (iii) Rebuilding a 0.2 mile segment of Line #29, between Structure #29/1835 and the Company's existing Fuller Road Substation, using an additional 50 feet of right-of-way; (iv) Rebuilding, primarily within existing right-of-way or on Company-owned property, approximately 11.4 miles of the existing Aquia Harbour-Possum Point 230 kV Line #252, on double circuit monopole structures utilizing current 230 kV standards, from Aquia Harbour Station to Structure #252/5583, and then 0.5 mile from Structure #252/5583 to the Company's Possum Point Station 230 kV switchyard; (v) Rebuilding a 0.2 mile segment of Line #252 between Structure #252/5568 and Fuller Road Substation using an additional 50 feet of right-of-way; [4] (vi) Relocating and rebuilding, entirely within existing right-of-way or on Company-owned property, approximately 6.8 miles of the existing Ladysmith-Possum Point 500 kV Line #568 on single circuit monopole structures, between Aquia

[2] The segments of Line #29 that will be rebuilt as part of the Rebuild Project will be renamed to Line #2309.

[3] This Appendix discusses two different facilities with similar names: the Aquia Harbour Switching Station and the Aquia Substation. Both are discussed in detail in Section I.C.

[4] The Company further proposes to rebuild the existing 0.1 mile segment of Lines #252 and #29 northwest of Fuller Road Substation using additional right-of-way that increases linearly to form a triangular area of additional right-of-way. Starting at Structure #252/5566 (#29/1833), there is no additional right-of-way. As Lines #252 and #29 travel east, the right-of-way will expand to include up to an additional 67 feet of width at the eastern edge of Mars Station Road.

Harbour Station and Possum Point Station; (vii) Rebuilding, entirely within existing right-of-way or on Company-owned property, approximately 0.7 mile of 230 kV Fredericksburg-Birchwood Non-Utility Generator ("NUG") Line #2083 on double circuit monopole structures (with vacant arms) between the Company's Fredericksburg Substation and Mary Washington Boulevard and Hospital Drive ("Hospital Junction"), located within the City of Fredericksburg. (collectively, the "Rebuild Project").[5]

The purpose of my testimony is to describe the design characteristics of the transmission facilities for the proposed Rebuild 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 Section I.A and Section I.F of the Appendix with Company Witness Mark R. Gill; Section I.I and Section II.C with Company Witness Brian Obermeier; and Section II.B.5 with Company Witness Blair Parks. Lastly, I co-sponsor the Executive Summary with Company Witnesses Mark R. Gill, Brian Obermeier, and Blair Parks.

Q. Does this conclude your testimony?

A. Yes, it does.

[5] The Rebuild Project is the second phase of the work the Company plans to undertake as described in its Application filed on March 14, 2024, in Case No. PUR-2024-00035, *Application of Virginia Electric and Power Company for Approval and Certification of Electric Facilities: Fredericksburg-Aquia Harbour Lines #29, #2104, and #2157 Partial Rebuild*.
The Company will also perform work associated with the Rebuild Project at the Fredericksburg, Cranes Corner, Aquia, Ladysmith, and Fuller Road Substations, and Possum Point and Aquia Harbour Stations. This work, while not included as part of the Rebuild Project, is discussed in Section II.C (the Cranes Corner work is discussed immediately below).
Additionally, the Company intends to add one backbone structure outside of the Company's Cranes Corner Substation in the existing right-of-way to maximize capacity and minimize line crossings in the corridor. Finally, the Company intends to install approximately 0.3 mile of a new 115 kV line starting at the Fuller Road Substation to feed Marine Corps Base Quantico ("MCBQ") once the entire corridor has been uprated to 230 kV. The Company's work associated with the relocation of the backbone structure at Cranes Corner Substation and the new 0.3 mile 115 kV line to feed MCBQ are not components of the Rebuild Project. The Company considers this work to qualify as an "ordinary extension[] or improvement[] in the usual course of business (*i.e.*, "ordinary course") pursuant to § 56-265.2 A 1 of the Code of Virginia ("Va. Code") and, therefore, does not require approval pursuant to Va. Code § 56-46.1 B or a CPCN from the Commission. Because this work is not a component of the proposed Rebuild Project, the costs associated with this work are not included in the total Rebuild Project costs.

APPENDIX A

BACKGROUND AND QUALIFICATIONS
OF
REBECCA A. O'NEAL

Rebecca A. O'Neal graduated from Virginia Polytechnic Institute and State University in 2007 with a Bachelor of Science in Civil Engineering. She joined the Company in 2011 and has held positions of Engineer I, Engineer II, Engineer III, and Project Manager within the Electric Transmission Engineering department, where she currently works as a Supervisor of Conceptual Overhead Transmission Line Engineering.

Ms. O'Neal has not previously testified before the Virginia State Corporation Commission.

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Brian Obermeier

Title: Consulting Engineer - Substation Engineering

Summary:

Company Witness Brian Obermeier sponsors or co-sponsors the following portions of the Appendix describing the work to be performed at the existing substations for the Project, as follows:

- Section I.I (co-sponsored with Company Witness Rebecca A. O'Neal): This section provides the estimated total cost of the proposed Project.

- Section II.A.4 (co-sponsored with Company Witness Blair Parks): This section explains why the existing right-of-way is not adequate to serve the need, to the extent applicable.

- Section II.C (co-sponsored with Company Witness Rebecca A. O'Neal): This section describes and furnishes a one-line diagram of the substation(s) associated with the proposed Project, if needed.

Additionally, Mr. Obermeier co-sponsors the following portions of the Appendix:

- Executive Summary (co-sponsored with Company Witnesses Mark R. Gill, Rebecca A. O'Neal, and Blair Parks): The Executive Summary provides a brief summary of the Rebuild Project.

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

DIRECT TESTIMONY
OF
BRIAN OBERMEIER
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
VIRGINIA STATE CORPORATION COMMISSION
CASE NO. PUR-2024-00142

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 Brian Obermeier, and I am a Consulting Engineer in the Substation Engineering section of the Electric Transmission group of the Company. My business address is 5000 Dominion Boulevard, 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 evaluation of the substation project requirements, feasibility studies, 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: (a) maintain the structural integrity and reliability of the networked transmission system; (b) resolve identified violations of the mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards; and (c) provide for future load growth in the Woodbridge Load Area, the Company proposes, in Stafford County, Prince William County, and the City of Fredericksburg, to rebuild its existing transmission corridor between Fredericksburg Substation and Possum Point Switching Station[1] by:

[1] The Possum Point Switching Station is located on the Company's Possum Point Power Station parcel and contains the 115 kV and 230 kV switchyards (the "Possum Point Switching Station" or "Possum Point Station").

(i) Rebuilding, primarily within existing right-of-way or on Company-owned property, approximately 11.4 miles of the existing Fredericksburg-Possum Point 115 kilovolt ("kV") Line #29[2] on double circuit monopole structures utilizing current 230 kV standards, from the Company's existing Aquia Harbour Switching Station[3] ("Aquia Harbour Station") to Structure #29/1850, and then 0.5 mile from Structure #29/1850 to the Company's existing Possum Point Station 230 kV switchyard; (ii) Removing approximately 0.6 mile of 115 kV Line #29 from Structure #29/1850 to the Possum Point Station 115 kV switchyard; (iii) Rebuilding a 0.2 mile segment of Line #29, between Structure #29/1835 and the Company's existing Fuller Road Substation, using an additional 50 feet of right-of-way; (iv) Rebuilding, primarily within existing right-of-way or on Company-owned property, approximately 11.4 miles of the existing Aquia Harbour-Possum Point 230 kV Line #252, on double circuit monopole structures utilizing current 230 kV standards, from Aquia Harbour Station to Structure #252/5583, and then 0.5 mile from Structure #252/5583 to the Company's Possum Point Station 230 kV switchyard; (v) Rebuilding a 0.2 mile segment of Line #252 between Structure #252/5568 and Fuller Road Substation using an additional 50 feet of right-of-way; [4] (vi) Relocating and rebuilding, entirely within existing right-of-way or on Company-owned property, approximately 6.8 miles of the existing Ladysmith-Possum Point 500 kV Line #568 on single circuit monopole structures, between Aquia

[2] The segments of Line #29 that will be rebuilt as part of the Rebuild Project will be renamed to Line #2309.

[3] This Appendix discusses two different facilities with similar names: the Aquia Harbour Switching Station and the Aquia Substation. Both are discussed in detail in Section I.C.

[4] The Company further proposes to rebuild the existing 0.1 mile segment of Lines #252 and #29 northwest of Fuller Road Substation using additional right-of-way that increases linearly to form a triangular area of additional right-of-way. Starting at Structure #252/5566 (#29/1833), there is no additional right-of-way. As Lines #252 and #29 travel east, the right-of-way will expand to include up to an additional 67 feet of width at the eastern edge of Mars Station Road.

Harbour Station and Possum Point Station; (vii) Rebuilding, entirely within existing right-of-way or on Company-owned property, approximately 0.7 mile of 230 kV Fredericksburg-Birchwood Non-Utility Generator ("NUG") Line #2083 on double circuit monopole structures (with vacant arms) between the Company's Fredericksburg Substation and Mary Washington Boulevard and Hospital Drive ("Hospital Junction"), located within the City of Fredericksburg. (collectively, the "Rebuild Project").[5]

The purpose of my testimony is to describe the station work to be performed as part of the Rebuild Project. As it pertains to station work, I co-sponsor the Executive Summary with Company Witnesses Mark R. Gill, Rebecca A. O'Neal, and Blair Parks; and Sections I.I and II.C of the Appendix with Company Witness Rebecca A. O'Neal.

Q. Does this conclude your testimony?

A. Yes, it does.

[5] The Rebuild Project is the second phase of the work the Company plans to undertake as described in its Application filed on March 14, 2024, in Case No. PUR-2024-00035, *Application of Virginia Electric and Power Company for Approval and Certification of Electric Facilities: Fredericksburg-Aquia Harbour Lines #29, #2104, and #2157 Partial Rebuild*.
The Company will also perform work associated with the Rebuild Project at the Fredericksburg, Cranes Corner, Aquia, Ladysmith, and Fuller Road Substations, and Possum Point and Aquia Harbour Stations. This work, while not included as part of the Rebuild Project, is discussed in Section II.C (the Cranes Corner work is discussed immediately below).
Additionally, the Company intends to add one backbone structure outside of the Company's Cranes Corner Substation in the existing right-of-way to maximize capacity and minimize line crossings in the corridor. Finally, the Company intends to install approximately 0.3 mile of a new 115 kV line starting at the Fuller Road Substation to feed Marine Corps Base Quantico ("MCBQ") once the entire corridor has been uprated to 230 kV. The Company's work associated with the relocation of the backbone structure at Cranes Corner Substation and the new 0.3 mile 115 kV line to feed MCBQ are not components of the Rebuild Project. The Company considers this work to qualify as an "ordinary extension[] or improvement[] in the usual course of business (*i.e.*, "ordinary course") pursuant to § 56-265.2 A 1 of the Code of Virginia ("Va. Code") and, therefore, does not require approval pursuant to Va. Code § 56-46.1 B or a CPCN from the Commission. Because this work is not a component of the proposed Rebuild Project, the costs associated with this work are not included in the total Rebuild Project costs.

APPENDIX A

BACKGROUND AND QUALIFICATIONS
OF
BRIAN OBERMEIER

Brian Obermeier received a Bachelor of Science in Electrical Engineering from the University of Nebraska-Lincoln in 2012, and a Master of Engineering Management from the University of Kansas in 2019. He has been employed by Burns & McDonnell as an Electrical Engineer since 2013. In Mr. Obermeier's current position, he is responsible for the evaluation of substation project requirements, feasibility study, conceptual physical design, scope project development, preliminary engineering and cost estimating for high voltage transmission and distribution Dominion Substations. He is a licensed electrical engineer in the state of Virginia.

Mr. Obermeier has not previously testified before the Virginia State Corporation Commission.

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Blair Parks

Title: Senior Siting and Permitting Specialist

Summary:

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

- Section II.A.1: This section provides the length of the proposed corridor and viable alternatives to the proposed Rebuild Project.
- Section II.A.2: This section provides a map showing the route of the proposed Rebuild Project in relation to notable points close to the proposed Rebuild Project.
- Sections II.A.6 to II.A.8: These sections provide detail regarding the right-of-way for the proposed Rebuild 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 Rebuild 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 Rebuild 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 Rebuild Project on scenic, environmental, and historic features.
- Section V: This section provides information related to public notice of the proposed Rebuild Project.

Additionally, Ms. Parks co-sponsors the following portions of the Appendix:

- Executive Summary (co-sponsored with Company Witnesses Mark R. Gill, Rebecca A. O'Neal, and Brian Obermeier): The Executive Summary provides a brief summary of the Rebuild Project.
- 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 Rebuild Project.
- Section II.A.4 (co-sponsored with Company Witness Brian Obermeier): This section explains why the existing right-of-way is not adequate to serve the need, to the extent applicable.
- Section II.B.5 (co-sponsored with Company Witness Rebecca A. O'Neal): This section provides the mapping and structure heights for the existing and proposed overhead structures.

Finally, Ms. Parks sponsors the DEQ Supplement filed with the Application. A statement of Ms. Parks' background and qualifications is attached to her testimony as Appendix A.

DIRECT TESTIMONY
OF
BLAIR PARKS
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2024-00142

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 Blair Parks, and I am a Senior Siting and Permitting Specialist for Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company") supporting Electric Transmission. My business address is 5000 Dominion Boulevard, 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 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 and maintain 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: (a) maintain the structural integrity and reliability of the networked transmission system; (b) resolve identified violations of the mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards; and (c) provide for future load growth in the Woodbridge Load Area, the Company proposes, in Stafford County,

Prince William County, and the City of Fredericksburg, to rebuild its existing transmission corridor between Fredericksburg Substation and Possum Point Switching Station[1] by: (i) Rebuilding, primarily within existing right-of-way or on Company-owned property, approximately 11.4 miles of the existing Fredericksburg-Possum Point 115 kilovolt ("kV") Line #29[2] on double circuit monopole structures utilizing current 230 kV standards, from the Company's existing Aquia Harbour Switching Station[3] ("Aquia Harbour Station") to Structure #29/1850, and then 0.5 mile from Structure #29/1850 to the Company's existing Possum Point Station 230 kV switchyard; (ii) Removing approximately 0.6 mile of 115 kV Line #29 from Structure #29/1850 to the Possum Point Station 115 kV switchyard; (iii) Rebuilding a 0.2 mile segment of Line #29, between Structure #29/1835 and the Company's existing Fuller Road Substation, using an additional 50 feet of right-of-way; (iv) Rebuilding, primarily within existing right-of-way or on Company-owned property, approximately 11.4 miles of the existing Aquia Harbour-Possum Point 230 kV Line #252, on double circuit monopole structures utilizing current 230 kV standards, from Aquia Harbour Station to Structure #252/5583, and then 0.5 mile from Structure #252/5583 to the Company's Possum Point Station 230 kV switchyard; (v) Rebuilding a 0.2 mile segment of Line #252 between Structure #252/5568 and Fuller Road Substation using an additional 50 feet of right-of-way; [4] (vi) Relocating and rebuilding, entirely within existing right-of-

[1] The Possum Point Switching Station is located on the Company's Possum Point Power Station parcel and contains the 115 kV and 230 kV switchyards (the "Possum Point Switching Station" or "Possum Point Station").

[2] The segments of Line #29 that will be rebuilt as part of the Rebuild Project will be renamed to Line #2309.

[3] This Appendix discusses two different facilities with similar names: the Aquia Harbour Switching Station and the Aquia Substation. Both are discussed in detail in Section I.C.

[4] The Company further proposes to rebuild the existing 0.1 mile segment of Lines #252 and #29 northwest of Fuller Road Substation using additional right-of-way that increases linearly to form a triangular area of additional right-of-way. Starting at Structure #252/5566 (#29/1833), there is no additional right-of-way. As Lines #252 and #29 travel

way or on Company-owned property, approximately 6.8 miles of the existing Ladysmith-Possum Point 500 kV Line #568 on single circuit monopole structures, between Aquia Harbour Station and Possum Point Station; (vii) Rebuilding, entirely within existing right-of-way or on Company-owned property, approximately 0.7 mile of 230 kV Fredericksburg-Birchwood Non-Utility Generator ("NUG") Line #2083 on double circuit monopole structures (with vacant arms) between the Company's Fredericksburg Substation and Mary Washington Boulevard and Hospital Drive ("Hospital Junction"), located within the City of Fredericksburg. (collectively, the "Rebuild Project").[5]

The purpose of my testimony is to provide an overview of the route and permitting for the proposed Rebuild Project. As it pertains to routing and permitting, I sponsor Sections II.A.1, II.A.2, II.A.6 to 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 Section II.A.3 of the Appendix with Company Witness Mark R. Gill; Section II.A.4 with Company Witness

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east, the right-of-way will expand to include up to an additional 67 feet of width at the eastern edge of Mars Station Road.

[5] The Rebuild Project is the second phase of the work the Company plans to undertake as described in its Application filed on March 14, 2024, in Case No. PUR-2024-00035, *Application of Virginia Electric and Power Company for Approval and Certification of Electric Facilities: Fredericksburg-Aquia Harbour Lines #29, #2104, and #2157 Partial Rebuild*.
The Company will also perform work associated with the Rebuild Project at the Fredericksburg, Cranes Corner, Aquia, Ladysmith, and Fuller Road Substations, and Possum Point and Aquia Harbour Stations. This work, while not included as part of the Rebuild Project, is discussed in Section II.C (the Cranes Corner work is discussed immediately below).
Additionally, the Company intends to add one backbone structure outside of the Company's Cranes Corner Substation in the existing right-of-way to maximize capacity and minimize line crossings in the corridor. Finally, the Company intends to install approximately 0.3 mile of a new 115 kV line starting at the Fuller Road Substation to feed Marine Corps Base Quantico ("MCBQ") once the entire corridor has been uprated to 230 kV. The Company's work associated with the relocation of the backbone structure at Cranes Corner Substation and the new 0.3 mile 115 kV line to feed MCBQ are not components of the Rebuild Project. The Company considers this work to qualify as an "ordinary extension[] or improvement[] in the usual course of business (*i.e.*, "ordinary course") pursuant to § 56-265.2 A 1 of the Code of Virginia ("Va. Code") and, therefore, does not require approval pursuant to Va. Code § 56-46.1 B or a CPCN from the Commission. Because this work is not a component of the proposed Rebuild Project, the costs associated with this work are not included in the total Rebuild Project costs.

Brian Obermeier; and Section II.B.5 with Company Witness Rebecca A. O'Neal. Lastly, I co-sponsor the Executive Summary with Company Witnesses Mark R. Gill, Rebecca A. O'Neal, and Brian Obermeier.

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

A. In accordance with Va. Code § 15.2-2202 E, letters dated June 27, 2024, were sent to (1) Mr. Christopher Shorter, County Executive in Prince William County; (2) F. Craig Meadows, Interim County Administrator in Stafford County; and (3) Mr. Timothy J. Baroody, City Manager in the City of Fredericksburg, advising of the Company's intention to file this Application and inviting the localities to consult with the Company about the Rebuild Project. Copies of these letters are included as Appendix Attachment V.D.

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

A. Yes, it does.

APPENDIX A

BACKGROUND AND QUALIFICATIONS OF BLAIR PARKS

Blair Parks graduated from Virginia Commonwealth University in 2017 with a Bachelor of Science in Environmental Studies. She was previously a Regulatory Specialist for Stantec Consulting Services, Inc., where she was responsible for permitting electric distribution and transportation projects. Ms. Parks joined Dominion Energy Virginia's Siting and Permitting Group in 2022 where she currently works as a Siting and Permitting Specialist.