



# **Dominion<sup>®</sup>**

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

**Before the State Corporation  
Commission of Virginia**

**Surry-Skiffes Creek 500 kV  
Transmission Line**

**Skiffes Creek-Wheaton 230 kV  
Transmission Line**

**Skiffes Creek 500kV-230kV-115 kV  
Switching Station**

**Application No. 257**

**Case No. PUE-2012-00029**

**Filed: June 11, 2012**

**Volume IV of VI**

## **DOMINION VIRGINIA POWER**

**Surry-Skiffes Creek 500 kV Transmission Line,  
Skiffes Creek-Whealton 230 kV Transmission Line, and  
Skiffes Creek 500 kV-230 kV-115 kV Switching Station**

## **APPENDIX G**

### **Cultural Resource Assessments**

- **Surry-Skiffes Creek 500kV Transmission Line Project and Skiffes Creek Switching Station**
- **Skiffes Creek-Whealton 230 kV Transmission Line Project**





**STAGE I PRE-APPLICATION ANALYSIS FOR  
THE PROPOSED DOMINION VIRGINIA POWER SURRY TO SKIFFES  
CREEK 500 kV TRANSMISSION LINE PROJECT AND  
SKIFFES CREEK 500-230-115 kV SWITCHING STATION  
CHARLES CITY, JAMES CITY, AND YORK COUNTIES AND CITY OF  
WILLIAMSBURG, VIRGINIA**

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**May 2012**

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## ABSTRACT

### Overview

Cultural Resources, Inc. (CRI) was retained by Dominion Virginia Power (Dominion) to conduct a Stage I Pre-Application Analysis for the proposed Chickahominy Alternative and the Surry Alternative. This analysis was completed during October and November 2011 and January 2012. CRI conducted preliminary background research and a field study pursuant to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008) for proposed transmission line improvements in Charles City, Surry, James City and York Counties, and the City of Williamsburg, Virginia. Two alternatives were investigated and associated with this project. The first alternative, from the existing Chickahominy Substation to the proposed Skiffes Creek Switching Station (Chickahominy Alternative), will be placed primarily within existing easement that has not been previously cleared or constructed upon and within an existing, maintained right-of-way (ROW) corridor, which contains previously constructed tower structures and associated transmission lines. The second and preferred alternative, located between the Skiffes Creek Switching Station and the Surry Power Station (Surry Alternative) would also be placed primarily on new location and incorporate the Surry Power Station and an existing 115 kV line for almost half its length. Also included in the study are three variations to the Surry Alternative as it crosses the James River. These variations were developed to avoid potential impacts from the proposed crossing of the James River by the Surry Alternative to the airspace associated with Felker Army Airfield at Fort Eustis (Felker Airfield) (James River Crossing Variations 1 and 3) and/or to take advantage of a routing opportunity presented by a pipeline corridor that crosses the James River to the north of the Surry Alternative and continues east across James City County (James River Crossing Variations 2 and 3). The Skiffes Creek Switching Station will be sited within a 51-acre parcel adjacent to Route 143 in James City County.

As detailed by VDHR guidance, consideration was given to: NHL properties located within a 1.5-mile radius of the project centerline; NRHP-listed properties, battlefields, and historic landscapes located within a 1.0-mile radius of the project centerline; NRHP-eligible sites located within a 0.5-mile radius of the project centerline; and archaeological sites located within the project ROW corridor. Twenty-one previously identified architectural and thirteen previously recorded archaeological resources were identified that matched the criteria for consideration detailed in VDHR's guidelines. Since the study was completed prior to filing an SCC application, all digital images were taken from public right-of-way and/or Dominion Virginia Power property.

### Chickahominy Alternative and Skiffes Creek Switching Station

#### *Previously Recorded Architectural Resources*

Of the 20 architectural resources considered under the Stage I pre-application process (Table 5) eight resources, Eagles Nest (VDHR #018-0037), Piney Grove (VDHR #018-0063), Moss Side (VDHR #018-0066), Carter's Grove (VDHR #047-0001), Colonial National Parkway (VDHR #047-0002), the Bryan Manor Plantation Site (VDHR #099-0065), the Burwell's Mill/Whittaker's Mill Archaeology Site (VDHR #099-5275), and the Williamsburg Battlefield (VDHR #099-5282), will be minimally impacted by the proposed transmission line project. Three resources Poplar Springs (VDHR #018-0018), St. Mary's Church Battlefield (VDHR #018-5004), and the Old Main Road Rural Historic District (VDHR #018-5101) will be moderately impacted by the proposed transmission line project. Seven architectural resources will be unaffected by the proposed transmission line project and include Confederate Peninsula Defenses/Redoubt #9 (VDHR #099-0040; Demolished), Bruton Parish Church (VDHR #137-0007), Sir Christopher Wren Building (VDHR #137-0013), the Peyton Randolph House (VDHR #137-0032), the

James Semple House (VDHR #137-0033), the Williamsburg Historic District (VDHR #137-0050), and the George Wythe House, (VDHR #137-0058). The remaining two resources, the Bruton Parish Poorhouse Archaeological Site (VDHR #099-0070) and the Capitol Landing/Queen Mary's Port (VDHR #137-0056), although given architectural resource numbers, were originally recorded as archaeological sites. None contain any standing historic structures. The resources also do not fall within the transmission line ROW corridor and as such were not studied during the Stage 1 process. These recommendations stated above only pertain to previously identified resources, and do not address potential effects to unidentified and unrecorded architectural resources. One additional unevaluated resource, the Motel Rochambeau (VDHR #137-0088), is located in the corridor and would require evaluation with respect to NRHP criteria in order to determine if an assessment of visual and/or direct impacts would be required.

Previously Recorded Architectural Resources Considered within the Stage I Pre-Application Process.					
VDHR #	Resource	Date	Reference	VDHR/NRHP Status	CRI Recommendations
018-0018	Poplar Springs	1809	Gordineer 1994	NRHP Listed 1994	Visual Effect Assessment as Required under Guidelines
018-0037	Eagle's Nest (Eagle Lodge/Margots/Claybancke)	Post 1700	None Listed	NRHP Listed 1973	Visual Effect Assessment as Required under Guidelines
018-0063	Piney Grove	1800	Gordineer 1985	NRHP Listed 1985	Visual Effect Assessment as Required under Guidelines
018-0066	Moss Side	1850	Edwards 1987	Eligible VDHR 1991	Visual Effect Assessment as Required under Guidelines
018-5004	Saint Mary's Church Battlefield (Samaria Church)	1864	CWSAC 1993	Eligible ABBP-2007	Visual Effect Assessment as Required under Guidelines
018-5101	Old Main Road Rural Historic District	Post 1800	Edwards 1989	Not Evaluated	Visual Effect Assessment as Required under Guidelines
047-0001	Carter's Grove	c. 1750	VHLC 1969	NRHP-Listed 1969; NHL-Listed 1970	Visual Effect Assessment as Required under Guidelines
047-0002	Colonial National Historic Park/Colonial Parkway	Post 1931	Not Listed	NRHP-Listed 1966	Visual Effect Assessment as Required under Guidelines
099-0040	Confederate Peninsula Defenses/Redoubt #9	c. 1862	Chappell 1971	NRHP-Eligible 2009	Demolished; No Further Work
099-0065	Bryan Manor Plantation Site	c. 1757	WMCAR 1977	NRHP-Listed 1978	Visual Effect Assessment as Required under Guidelines
099-0070	Bruton Parish Poorhouse Archaeology Site, Route 132	Pre 1781	Chappell 1972	NRHP-Listed 1982	Archaeology Site Only; Visual Assessment not Applicable
099-5275	Burwell's Mill/Whittaker's Mill Archaeological Site	c. 1720	Quarstein 2007	NRHP-Listed 2008	Archaeology Site Only; Visual Assessment not Applicable

Previously Recorded Architectural Resources Considered within the Stage I Pre-Application Process.					
VDHR #	Resource	Date	Reference	VDHR/NRHP Status	CRI Recommendations
099-5282	Battle of Williamsburg (Civil War)	1862	NPS 1993 and 2009; Tyrer 2011	Not Evaluated	Visual Effect Assessment as Required under Guidelines
137-0007	Bruton Parish Church, Duke of Gloucester Street	1711	Dillon 1974	NRHP-Listed 1970; NHL-Listed 1970	Visual Effect Assessment as Required under Guidelines
137-0013	Sir Christopher Wren Building, Duke of Gloucester Street	c. 1695	Sarles 1961; Melvin 1972; Selig 2008	NRHP-Listed 1966; NHL-Listed 1960	Visual Effect Assessment as Required under Guidelines
137-0032	Peyton Randolph House, Nicholson & North England Streets	c. 1715	Dillon 1974; Selig 2008	NRHP-Listed 1970; NHL-Listed 1970	Visual Effect Assessment as Required under Guidelines
137-0033	James Semple House, Francis Street	c. 1770	Dillon 1974	NRHP-Listed 1970; NHL-Listed 1970	Visual Effect Assessment as Required under Guidelines
137-0050	Williamsburg Historic District	c. 1695	HABS 1958; Melvin 1972	NRHP-Listed 1966; NHL-Listed 1960	Visual Effect Assessment as Required under Guidelines
137-0056	Capitol Landing/ Queen Mary's Port, Capitol Landing Rd.	c. 1699	Hudgins 1977	VLR-Listed 1977	Archaeology Site Only; Visual Assessment not Applicable
137-0058	George Wythe House, Palace Green	c. 1755	Snell 1971; Sleig 2008	NRHP-Listed 1970; NHL-Listed 1970	Visual Effect Assessment as Required under Guidelines

Summary of visual impacts to previously identified architectural resources.					
VDHR #	Resource	No Impact	Minimal Impact	Moderate Impact	Significant Impact
018-0018	Poplar Springs			X	
018-0037	Eagle's Nest (Eagle Lodge/Margots/Claybancke)		X		
018-0063	Piney Grove		X		
018-0066	Moss Side		X		
018-5004	Saint Mary's Church Battlefield (Samaria Church)			X	
018-5101	Old Main Road Rural Historic District			X	
047-0001	Carters Grove		X		
047-0002	Colonial National Historic Park/ Colonial Parkway		X		
099-0040	Confederate Peninsula Defenses/ Redoubt #9	X			
099-0065	Bryan Manor Plantation Site		X		
099-0070	Bruton Parish Poorhouse Archaeology Site	N/A	N/A	N/A	N/A
099-5275	Burwell's Mill/ Whittaker's Mill Archaeological Site		X		

Summary of visual impacts to previously identified architectural resources.					
VDHR #	Resource	No Impact	Minimal Impact	Moderate Impact	Significant Impact
099-5282	Battle of Williamsburg (Civil War)		X		
137-0007	Bruton Parish Church	X			
137-0013	Sir Christopher Wren Building	X			
137-0032	Peyton Randolph House	X			
137-0033	James Semple House	X			
137-0050	Williamsburg Historic District	X			
137-0056	Capitol Landing/ Queen Mary's Port	N/A	N/A	N/A	N/A
137-0058	George Wythe House	X			

### *Archaeological Resources*

Thirteen previously identified archaeological resources (Sites 44CC0350, 44CC0369, 44JC0194, 44JC0195, 44JC0662, 44JC1044, 44JC1175, 44WB0066, 44WB0133-0001, 44WB0133-0002, 44YO0220, 44YO0524 and 44YO0757) are located either within or immediately adjacent to the project ROW corridor. Ten of the resources are unevaluated in terms of NRHP eligibility. Martha McCartney map projected two 19<sup>th</sup> century dwellings based on Civil War period maps including 44JC0194 and 44JC0195. Neither of these sites has been archaeological verified. A 20<sup>th</sup> century dwelling and trash scatter (44CC0369) was identified by Jenkins in 2001. Circa-CRM recorded a road trace (44JC1175) in 2007. Site 44CC0350 was identified by Garrow and Associates in 1991. The site was defined by the presence of 143 brick fragments in a total of 7 shovel tests. The site has not been evaluated for listing on the NRHP. One site, 44JC0662, has been determined not eligible for listing on the NRHP according to the VDHR DSS forms. However, 44JC0662 appears to be potentially eligible for listing on the NRHP. Site 44JC0662 is located within the parcel boundaries for the Skiffes Creek Switching Station. A Phase I survey has already been completed for the Switching Station Parcel and identified that Site 44JC0662 may be potentially eligible for listing on the NRHP. Site 44JC0662 is currently under investigation at the Phase II evaluation level of effort.

44JC1044 was determined potentially eligible and 44WB0066 was determined eligible. All of the previously recorded sites except 44JC0663 which has been previously determined not eligible will require further study if it is a project impact area, such as a new structure pad site or other project activity area associated with ground disturbing activities. These recommendations only pertain to previously identified resources, and do not address potential effects to unidentified and unrecorded archaeological resources.

Archaeological Resources Within the Dominion Virginia Power Chickahominy-Skiffes Creek Transmission Line ROW Corridor.					
Resource	Resource Type	Association	Reference	NRHP Recommendation	CRI Recommendation
44CC0350	Domestic	19 <sup>th</sup> century	Garrow 1991	Not Evaluated	Investigate During Archaeological Survey
44CC0369	Dwelling & Trash Scatter	20 <sup>th</sup> Century	Jenkins 2001	Not Evaluated	Investigate During Archaeological Survey
44JC0194	Domestic	19 <sup>th</sup> Century	McCartney 1983	Not Evaluated	Investigate During Archaeological Survey

Archaeological Resources Within the Dominion Virginia Power Chickahominy-Skiffes Creek Transmission Line ROW Corridor.					
Resource	Resource Type	Association	Reference	NRHP Recommendation	CRI Recommendation
44JC0195	Domestic	19 <sup>th</sup> Century	McCartney 1983	Not Evaluated	Investigate During Archaeological Survey
44JC0662	Trash Pit	19 <sup>th</sup> Century	VCU 1991; Goodwin 1994	Eligible VDHR 1991 Not Eligible VDHR 1994	Investigate During Archaeological Survey
44JC1044	Camp Domestic	Middle Woodland; Mid 19 <sup>th</sup> to Early 20 <sup>th</sup> Century	WMCAR	Potentially Eligible VDHR 2001	Investigate During Archaeological Survey
44JC1175	Road Trace	19 <sup>th</sup> Century	Circa-CRM 2007	Not Evaluated	Investigate During Archaeological Survey
44WB0066	Palisade	Early 17 <sup>th</sup> Century	Huston & Associates	Eligible VDHR 1992	Investigate During Archaeological Survey
44WB0133-0001	Military Camp	18 <sup>th</sup> Century:4 <sup>th</sup> Qtr	W3R Consultants 2008	Not Evaluated	Investigate During Archaeological Survey
44WB0133-0002	Military Camp	18 <sup>th</sup> Century:4 <sup>th</sup> Qtr	W3R Consultants 2008	Not Evaluated	Investigate During Archaeological Survey
44YO0220	Yorktown Battlefield	Mid 18 <sup>th</sup> to 20 <sup>th</sup> Century		Not Evaluated	Investigate During Archaeological Survey
44YO0524	Dwelling	Historic	Huston & Associates 1990	Not Evaluated	Investigate During Archaeological Survey
44YO0757	Domestic	19 <sup>th</sup> Century	CWF 1988	Not Evaluated	Investigate During Archaeological Survey

### *Captain John Smith National Historic Water Trail*

In addition to the traditional architectural resources identified within the corridor, an additional resource has been identified within the ROW corridor where it crosses the Chickahominy River. This resource, the Captain John Smith National Historic Water Trail, has not been recorded as a resource in the VDHR database. However, it has been recommended by the VDHR to be considered as a NRHP-eligible resource for purposes of this study.

In December 2006 the U.S. Congress designated the routes of Smith's explorations of the Chesapeake as the first national historic water trail. The current project area and proposed transmission line corridor crosses the Chickahominy River in an area that has been noted as one of the most pristine sections of the this part of the Trail. The landscape is described as an evocative landscape and one that has been largely unaltered since historic times.

While it is certain that the proposed transmission line corridor will have an impact to the Trail in this location the full breadth of the impacts should be determined via discussion with the National Park Service and other identified agencies. This Trail has not been identified as a historic resource with respect to the VDHR database of historic resources, but it has been recommended by the VDHR that the Trail be considered as a NRHP-eligible resource. The guidance from the DHR indicates that the resource should be considered for visual effects, however, an assessment of direct effects to the recreational aspect of the Trail should also be considered.

### ***Recommendations for Additional Study***

#### ***Architectural Resources***

There are two defined alternatives for the proposed transmission line improvements. The first is the Chickahominy Alternative and the second is the Surry Alternative and both are discussed in this report. The recommendations for additional study are also based entirely upon the standards set forth by VDHR (2008) for proposed electric transmission line projects, and vary depending upon the nature of the changes in height and current conditions associated with the specific sections of the transmission line corridor. According the VDHR (2008:3-4), sections of the proposed project that are equal to or exceed a 10 percent or 20 foot increase in height will require survey of all architectural resources, previously identified and undocumented, that are located within a 0.5-mile radius of the ROW corridor. If the changes in height fall beneath that standard, the study area for architectural survey is reduced to adjacent parcels only.

In two portions of the proposed ROW corridor is there a dramatic increase in structure height that exceeds current structure height by the 10 percent/20 foot threshold and are described below. Approximately 24.1 miles of the proposed alignment will consist of new towers, much of the remaining proposed alignment, contains single or multiple existing transmission line structures of similar height to the proposed new structure build heights.

The 24.1-mile-long portion of the Chickahominy Alternative between MP 0.78 and MP 24.93 is within existing but undeveloped easement would require full architectural survey of the 0.5 mile buffer on either side of the proposed centerline. The 2.11-mile-long portion of the proposed alignment between MP 35.78 and MP 37.89 would require architectural survey within a 0.5-mile radius of the project centerline (ROW is less than 500 feet wide) due to the change in structure height. The 73 foot proposed increase in tower height represents a 140 percent increase over current conditions within the ROW corridor. There is currently a single line at 52 feet that will be subject to wreck and rebuild.

The remainder of the proposed improvement area will only require architectural survey of adjacent parcels. While the changes in structure height are marked within certain sections of the proposed improvement area they do not exceed the 10 percent/20 foot threshold. In terms of visual effects, this represents a minimal change over current conditions, in an area associated with existing power lines, and survey should be reduced to adjacent parcels for the remainder of the proposed project area. It is anticipated that a substantial number of new resources will be identified as part of this effort.

#### ***Archaeological Resources***

As noted, 14 previously identified archaeological resources (Sites 44CC0350, 44CC0369, 44JC0194, 44JC0195, 44JC0662, 44JC0663, 44JC1044, 44JC1175, 44WB0066, 44WB0133-0001, 44WB0133-0002, 44YO0220, 44YO0524 and 44YO0757) are located either within or immediately adjacent to the project ROW corridor and/or switching station parcel. Ten of the resources are unevaluated in terms of NRHP eligibility. Martha McCartney map projected two 19<sup>th</sup> century dwellings based on Civil War period maps including 44JC0194 and 44JC0195. Neither of these sites has been archaeological verified. A 20<sup>th</sup>



century dwelling and trash scatter (44CC0369) was identified by Jenkins in 2001. Circa~CRM recorded a road trace (44JC1175) in 2007. Site 44CC0350 was identified by Garrow and Associates in 1991. The site was defined by the presence of 143 brick fragments in a total of 7 shovel tests. The site has not been evaluated for listing on the NRHP.

Site 44JC1044 was determined potentially eligible and 44WB0066 was determined eligible. All of the previously recorded sites except 44JC0663 which has been previously determined not eligible will require further study if it is a project impact area, such as a new structure pad site or other project activity area associated with ground disturbing activities.

Archaeological survey should be performed on all areas that will be directly impacted by construction, including proposed ROW, pole structure locations, staging areas, and access roads. The Chickahominy Alternative is located within existing easement that has not been previously cleared or constructed upon and within an existing, maintained right-of-way (ROW) corridor, which contains previously constructed tower structures and associated transmission lines. The ROW ranges from 100 feet to 250 feet. Within the existing cleared and constructed ROW, the larger ROW contains multiple lines and only one line will be wrecked and rebuilt, resulting in an impact area less than the full width of the existing corridor. The ROW does not require any clearing so a comprehensive archaeological survey of the entire ROW may not be necessary. However, at a minimum a survey of tower locations and any other areas of impact would need to be performed. It is recommended that the portion of the existing cleared ROW associated with this project be subject to full systematic archaeological survey to facilitate avoidance of archaeological sites when possible and to allow for changes to design plans. In the proposed new alignment in Charles City and James City Counties it is recommended that the full easement be subject to full archaeological survey. It is estimated that a number of new archaeological resources could be identified during this effort, associated with the general occupation of the project vicinity during both the prehistoric and historic periods.

The Skiffes Creek Switching Station which will be sited on 51 acres that are primarily wooded would also require a full archaeological survey prior to tree removal and construction of the switching station. One archaeological site is located within the switching station property, 44JC0662. Site 44JC0662 was reported in 1991 as a late-eighteenth to late-nineteenth century domestic site identified within and adjacent to Dominion's existing transmission line corridor. Phase II evaluation of site 44JC0662 began in 1991, but was not completed. This excavation resulted in the identification of cellar features, post holes and post molds, and grave shafts. The VDHR considered the site eligible at that time. In 1994, a single transect of shovel tests was excavated across the site and resulted in the identification of a single piece of bottle glass. Based on the archaeological inventory in 1994, the site was recommended not eligible for listing in the NRHP and the SHPO concurred with this recommendation. Site 44JC0662 likely retains archaeological potential and requires further assessment to determine the integrity of archaeological deposits. A Phase I survey has already been completed for the Switching Station Parcel and identified that Site 44JC0662 may be potentially eligible for listing on the NRHP. Site 44JC0662 is currently under investigation at the Phase II evaluation level of effort.

## **Surry Alternative and James River Crossing Variations**

### *Previously Identified Architectural Resources*

Two resources, Carter's Grove (VDHR #047-0001) and the Yorktown Battlefield (099-5283), met the requirements for consideration at the Stage I level for the Surry Alternative and also the James River Crossing Variations. Background research indicated that the resources considered during this Stage I analysis were identical for both the Surry Alternative and all three of the James River Crossing Variations therefore the results of the Stage I for the Surry Alternative and the James River Crossing Variations are

largely discussed together. Only a small portion of the Yorktown Battlefield (VDHR # 099-5283) intersects with the study area and is in a location where access for photographs was not possible. However, it is unlikely that the proposed transmission line improvements would adversely affect this resource.

A site visit was made to Carter's Grove on May 11, 2012 and all photographs were taken on that day. Also included in this discussion of visual effects are photo simulations prepared by TrueScape on behalf of Dominion as well as a line of sight analyses from the main dwelling prepared by NRG, for each alternative. Additional photo simulations and view points are also utilized for the visual effects analysis however line of sight graphics were not prepared for all; just for the view from the main house. The line of sight exhibits and photo simulations are located in Appendices B and C in order to facilitate viewing at full size. The Carter's Grove plantation house, as noted above sits on an elevated landform, at an elevation of approximately 50 feet above mean sea level (amsl) and approximately 2000 feet from the James River shoreline. The house is located approximately two miles to the northeast of the center point of the proposed transmission line as it crosses the James River. At its closest point to the transmission line as it crosses the river, the edge of the property is approximately 4300 feet to the north. This portion of the property is heavily wooded and would provide buffering between the proposed transmission line and the plantation house. However, visibility will increase as the towers get larger at the center of the river crossing. A combination of methods determined that each of the four alternatives associated with the Surry Alternative would visually effect Carter's Grove, however at varying degrees. The table below summarizes the recommendations for each alternative.

Previously Recorded Architectural Resources Considered within the Stage I Pre-Application Process.					
VDHR #	Resource	Date	Reference	VDHR/NRHP Status	CRI Recommendations
047-0001	Carter's Grove	c. 1750	VHLC 1969	NRHP-Listed 1969; NHL-Listed 1970	Visual Effect Assessment as Required under Guidelines
099-5283	Battle of Yorktown	1862	NPS 1993 and 2009	NRHP-Listed Date Unknown	Visual Effect Assessment as Required under Guidelines

Summary of visual impacts to previously identified architectural resources.					
VDHR #	Resource	No Impact	Minimal Impact	Moderate Impact	Potentially Significant Impact
047-0001	Carters Grove – Surry Alternative		X		
047-0001	Carters Grove – JRV 1			X	
047-0001	Carters Grove – JRV 2			X	
047-0001	Carters Grove – JRV 3				X
099-5283	Battle of Yorktown		X		

### *Captain John Smith National Historic Water Trail*

In addition to the traditional architectural resources identified within the corridor, an additional resource has been identified within the Surry Alternative where it crosses the James River. This resource, the Captain John Smith National Historic Water Trail, has not been recorded as a resource in the VDHR database. However, it has been recommended by the VDHR to be considered as a NRHP-eligible resource for purposes of this study. The guidance from the VDHR indicates that the resource should be

considered for visual effects, however, an assessment of direct effects to the recreational aspect of the Trail should also be considered.

The proposed transmission line and the three variations to the river crossing, crosses the James River and thus the Trail just north of a heavily industrialized area within James City County and enters the Surry Power Station north of south of Hog Island. While it is certain that the proposed transmission line corridor will have an impact to the Trail in this location, the full breadth of the impacts should be determined via discussion with the National Park Service. This section of the James River is a commercial shipping channel and the river bank to the east, heavily industrialized. The Surry Power Station is located immediately adjacent to Hog Island and within the vicinity of the Chippokes Plantation/Hog Island Wildlife Management Area.

### *Archaeological Resources*

Five previously identified archaeological resources (Sites 44JC0662, 44JC0663, 44JC0649, 44JC0650, 44JC0840) are located either within or immediately adjacent to the project ROW corridor. Two sites (44JC0649, 44JC0650) are unevaluated in terms of NRHP eligibility. Two sites, 44JC0662 and 44JC0663, have been determined not eligible for listing on the NRHP according to the VDHR DSS forms. However, 44JC0662 appears to be potentially eligible for listing on the NRHP. A Phase I survey has already been completed for the Switching Station Parcel and identified that Site 44JC0662 may be potentially eligible for listing on the NRHP. Site 44JC0662 is currently under investigation at the Phase II evaluation level of effort. All of the previously recorded sites except 44JC0663, which has been previously determined not eligible for listing on the NRHP, will require further study if it is a project impact area, such as a new structure pad site or other project activity area associated with ground disturbing activities. These recommendations only pertain to previously identified resources, and do not address potential effects to unidentified and unrecorded archaeological resources.

Site 44JC0840 is a shipwreck likely dating to the nineteenth century that was identified during underwater survey conducted for the US Army Corps of Engineers by Tidewater Atlantic Research (TAR) in 1995 for planned work on the Tribell Shoals Channel. The shipwreck was subject to a Phase II evaluation and was subsequently determined eligible for listing on the NRHP. While the shipwreck does not appear to be within the footprint for the proposed Surry Alternative or the three river crossing variations, it is nearby.

Archaeological Resources Within the Surry to Skiffes Creek Alternative Transmission Line ROW Corridor.					
Resource	Resource Type	Association	Reference	NRHP Recommendation	CRI Recommendation
44JC0662	Trash Pit	19 <sup>th</sup> Century	VCU 1991; Goodwin 1994	Eligible VDHR 1991 Not Eligible VDHR 1994	Investigate During Archaeological Survey
44JC0663	Trash Scatter	Late 19 <sup>th</sup> to 20 <sup>th</sup> Century	VCU 1991; Goodwin 1994	Not Eligible VDHR 1994, 1995, 2001	No further work.
44JC0649	Indeterminate	Historic	CWF 1991	Not Evaluated	Investigate During Archaeological Survey
44JC0650	Indeterminate	18 <sup>th</sup> Century	CWF 1991	Not Evaluated	Investigate During Archaeological Survey
44JC0840	Shipwreck	19 <sup>th</sup> Century	TAR 1995	Potentially Eligible	Underwater Survey if Impacted

### *Recommendations for Additional Study*

The recommendations for additional study are based entirely upon the standards set forth by VDHR (2008) for proposed electric transmission line projects, and vary depending upon the nature of the changes

in height and current conditions associated with the specific sections of the transmission line corridor. According the VDHR (2008:3-4), sections of the proposed project that are equal to or exceed a 10 percent or 20 foot increase in height will require survey of all architectural resources, previously identified and undocumented, that are located within a 0.5-mile radius of the ROW corridor. If the changes in height fall beneath that standard, the study area for architectural survey is reduced to adjacent parcels only.

### *Architectural Resources*

The majority of the proposed Surry to Skiffes Creek alternative consists of the construction of new towers ranging in height from 130 feet to 295 feet in the channel of the James River. In only one section of the proposed line are existing towers present. The existing towers average 52 feet in height and will be replaced by 130 foot towers, surpassing the 10 percent/20 foot threshold for survey of adjacent parcels only. Therefore any additional architectural survey conducted for this alternative should be conducted within a half mile radius of the project centerline.

### *Archaeological Resources*

Five previously identified archaeological resources (Sites 44JC0662, 44JC0663, 44JC0649, 44JC0650, 44JC0840) are located either within or immediately adjacent to the project ROW corridor. Two sites (44JC0649, 44JC0650) are unevaluated in terms of NRHP eligibility. Two sites, 44JC0662 and 44JC0663, have been determined not eligible for listing on the NRHP according to the VDHR DSS forms. However, 44JC0662 appears to be potentially eligible for listing on the NRHP and requires additional investigation to determine the site boundaries and integrity. This site is also located in the Skiffes Creek Switching Station parcel. A Phase I survey has already been completed for the Switching Station Parcel and identified that Site 44JC0662 may be potentially eligible for listing on the NRHP. Site 44JC0662 is currently under investigation at the Phase II evaluation level of effort.

Archaeological survey should be performed on all areas that will be directly impacted by construction, including proposed ROW, pole structure locations, staging areas, and access roads. The project area as proposed utilizes cleared right-of-way that ranges from 100 feet to 150 feet and is also planned on new location adjacent to the existing ROW. If the ROW can be cleared without ground disturbance, such as stump grubbing, comprehensive archaeological survey of the entire ROW will not be necessary. Archaeological resources could be identified during this effort, associated with the general occupation of the project vicinity during both the prehistoric and historic periods, however the general area has been disturbed by modern development, an existing power line easement and a railroad corridor.

In addition to terrestrial survey, underwater archaeological survey is recommended. A shipwreck site, 44JC0840 is in close proximity but not within the footprint for the Surry Alternative and its variations indicating that underwater resources may be present. While some underwater archaeological studies have taken place within the project area, these studies were conducted over 20 years ago and the exact extent of the coverage is unknown. The underwater survey conducted in 1982 for the Colonial Gas pipeline appears to have been limited to 200 feet either side of the pipeline route. It is also unclear if follow up investigations of identified targets was completed as a result of this survey. While a portion of this survey certainly overlaps with the current ROW for both the Surry Alternative and the James River Crossing Variations, the exact level of previous survey coverage is uncertain. Underwater archaeological survey is also recommended because of advances in technology as well as changes/updates to the requirements for underwater archaeological survey coverage suggested by the VDHR. However, it is also recommended that if targets are identified during underwater archaeological survey, that only those targets that cannot be avoided by construction activities be investigated further.

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## I. INTRODUCTION

Cultural Resources, Inc. (CRI) was retained by Dominion Virginia Power (Dominion) to conduct a Stage I Pre-Application Analysis for the proposed Chickahominy Alternative and the Surry Alternative. This analysis was completed during October and November 2011 and January 2012. CRI conducted preliminary background research and a field study pursuant to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008) for proposed transmission line improvements in Charles City, Surry, James City and York Counties, and the City of Williamsburg, Virginia. Two alternatives were investigated and associated with this project. The first alternative, from the existing Chickahominy Substation to the proposed Skiffes Creek Switching Station (Chickahominy Alternative), will be placed primarily within existing easement that has not been previously cleared or constructed upon and within an existing, maintained right-of-way (ROW) corridor, which contains previously constructed tower structures and associated transmission lines. The second and preferred alternative, located between the Skiffes Creek Switching Station and the Surry Power Station (Surry Alternative) would also be placed primarily on new location and incorporate the Surry Power Station and an existing 115 kV line for almost half its length. These variations were developed to avoid potential impacts from the proposed crossing of the James River by the Surry Alternative to the airspace associated with Felker Army Airfield at Fort Eustis (Felker Airfield) (James River Crossing Variations 1 and 3) and/or to take advantage of a routing opportunity presented by a pipeline corridor that crosses the James River to the north of the Surry Alternative and continues east across James City County (James River Crossing Variations 2 and 3). The Skiffes Creek Switching Station will be sited within a 51-acre parcel adjacent to Route 143 in James City County.

### **The Chickahominy Alternative**

The Chickahominy Alternative consists of two sections and is 37.89 miles long. The first section, the Chickahominy to Lightfoot Junction Section, is 24.93 miles long, with 0.78 miles adjacent to Dominion's existing 500 kV transmission Line #557 corridor and 24.15 miles located on existing but undeveloped easement owned by Dominion. The remaining approximately 12.96 miles is located on Dominion's existing 230/115 kV transmission line corridor that extends between the Lightfoot Junction and the Skiffes Creek Switching Station. The Lightfoot Junction does not represent a facility, but rather denotes the point of convergence between the undeveloped existing right-of-way portion of the route and an existing, developed Dominion right-of-way (Table 1; Figures 1-6).

The Chickahominy to Lightfoot Junction Section of the Chickahominy Alternative would utilize an easement obtained by Dominion in the early 1970s that has not yet been cleared of vegetation or developed. The easement was purchased for a potential 500 kV line between the Chickahominy Substation and the site of the proposed Skiffes Creek Switching Station. This alternative would begin at the existing Chickahominy Substation and would extend for a distance of 24.93 miles through Charles City and James City Counties before intersecting with Dominion's existing transmission line corridor at Lightfoot Junction. The existing easement varies between 150 and 250 feet in width.



Starting at the Chickahominy Substation, it extends south for a distance of 0.78 mile adjacent to Dominion's existing Line #557. The route then turns southeast for approximately 2.39 miles across pasture and forested land, crossing Barnetts Road (State Route (SR) 609) and Samaria Lane. After crossing Samaria Lane the route pivots to the southeast and continues for approximately 5.37 miles, crossing Adkins Road, Courthouse Road (SR 155), and Sturgeons Point Road. This portion of the route predominantly consists of undeveloped forested land with some open pasture and a few agricultural tracts. After crossing Sturgeon Point Road the route again turns southeast and continues for approximately 2.30 miles across undeveloped forested land, crosses The Glebe Lane, and continues in a southeasterly direction for approximately 1.49 miles across a mixture of farms and undeveloped forested lands.

From here, the route turns further to the southeast for 8.39 miles, crossing Barrows Creek, Wilcox Neck Road, the Chickahominy River, Blackstump Creek, and Jolly Pond Road (SR 611). This portion of the route predominantly consists of undeveloped forested land consisting of a state Wildlife Management Area (WMA) with some parcels of farm and pasture lands. The Chickahominy River is about 1,850 feet wide at the crossing location. After crossing Jolly Pond Road (SR 611), this alternative route continues to the east for approximately 0.44 mile across undeveloped forested land. From this point the route turns to the northeast for approximately 3.77 miles across undeveloped forested land, crosses Jolly Pond Road (SR 611) for a second time, and intersects with Dominion's existing transmission corridor near the Colonial Heritage Golf Club and residential development.

The Lightfoot Junction to Skiffes Creek Section of the Chickahominy Alternative is approximately 12.96 miles long. This portion of the route is located in the vicinity of the City of Williamsburg, Virginia and traverses residential and commercial areas. The route initially proceeds 3.39 miles to the southeast from Lightfoot Junction, crossing Highway 199, Old Towne Road (SR 658), and Waltz Farm Drive. The route then turns to the southeast for 5.47 miles and crosses Highway 60, Route 132, and the Colonial Parkway before reaching Interstate 64. The route then pivots slightly to the southeast and proceeds adjacent to Interstate 64 for approximately 1.98 miles.

Before crossing Interstate 64 and reaching the existing Kingsmill Substation, the route splits into two subsections, one to the north and one to the south, with each subsection following an existing transmission right-of-way. To the north, the existing right-of-way is 150 feet wide and currently contains 230/115 kV wood pole structures (Lines #209 and #58). The existing structures would be removed and replaced with steel single pole structures carrying a single circuit 500 kV line, which would be placed within the center of the right-of-way. To the south, the existing right-of-way is 100 feet wide and contains double circuit, steel-pole structures with 230 and 115 kV lines (Lines #285 and #34). The 115 kV line would be replaced with the second 230 kV line relocated from the northern side of the right-of-way. The route of the new double circuit 230 kV line would also require relocation into the Kingsmill Substation, which would require approximately 4.0 acres of new 100-foot-wide right-of-way.

From the Kingsmill Substation, the two routes continue to the east for about 1.82 miles, running parallel to Interstate 64, before converging at Tadich Drive after crossing a mobile home

development. The route then continues for an additional 0.30 mile and terminates at the site of the proposed Skiffes Creek Switching Station.

The Skiffes Creek Switching Station will be constructed on a 51-acre parcel in James City County. The parcel is located in a forested area Dominion's existing right-of-way. The parcel is bounded to the north by forested land, to the west by Dominion's right-of-way, to the east by a railroad and Route 143 (Merrimac Trail), and to the south by more forested land.

**Table 1. Table of Proposed Height Changes Associated with the Chickahominy Alternative.**

<b>Starting Point</b>	<b>End Point</b>	<b>Distance</b>	<b>Current Height</b>	<b>Proposed Height</b>	<b>Proposed Structure Type</b>	<b>Number of Other Lines in ROW Corridor</b>	<b>Maximum Existing Height in ROW Corridor</b>	<b>Change in Height to Current ROW Conditions</b>
MP -0.07	MP 0.79	0.86 Mile	New Line	111 Feet	Tower	1 Line	121 Feet	-11 Feet Decrease
MP 0.79	MP 21.15	18.27 Miles	New Line	111 Feet	Tower	None	New Line	+ 111 Feet Increase
MP 18.1	MP 18.8	0.9 mile	New Line	195 Feet	Tower	None	Chickahominy River Crossing	+ 195 feet
MP 21.15	MP 24.94	3.25 Miles	New Line	135 Feet	Monopole	None	New Line	+ 135 Feet Increase
MP 24.94	MP 29.95	5.01 Miles	56.5 Feet	125 Feet	Monopole	1 Line	105 Feet	+ 10 Feet Increase
MP 29.95	MP 35.17	5.22 Miles	56.5 Feet	125 Feet	Monopole	1 Line	105 Feet	+ 10 Feet Increase
MP 35.17	MP 35.78	0.61 Mile	120 Feet	125 Feet	Monopole	1 Line	120 Feet	+ 5 Feet Increase
MP 35.78	MP 37.89	2.11 Miles	52 Feet	125 Feet	Monopole	Single Line Only	52 Feet	+ 73 Feet Increase

### **The Surry Alternative and the James River Crossing Variations**

The Surry Alternative is 7.42 miles long. It extends in a northeasterly direction from Dominion's Surry Power Station in Surry County, crosses the James River, and terminates at the proposed Skiffes Creek Switching Station in James City County. The route originates at the Surry Switching Station and continues east for a distance of 1.38 miles paralleling an unnamed service road and a canal associated with the Surry Power Station. The route then pivots to the southeast for 0.23 mile, to a point just offshore in the James River, and then turns to the northeast for 3.48 miles and crosses the James River. After coming onshore in James City County, the route continues for 0.38 mile crossing a thin strip of beach, forested land, and a tidal stream channel feeding Wood Creek. The route then turns to the north for 0.30 mile crossing Utility Street and then reaches the Dow Chemical Substation. From the substation location to the proposed Skiffes Creek Switching Station, the route would utilize an existing Dominion right-of-way that currently contains a 115 kV line (a portion of Line #34). This existing right-of-way is 80 to 130 feet wide and would require expansion to a 150-foot width. It crosses through lightly developed and cleared forested land, and residential areas. The route then continues for 1.45

miles to the north, crossing Route 60. The route next pivots to the northwest for 0.19 mile to its terminus at the proposed Skiffes Creek Switching Station.

**Table 2. Proposed Height Changes Associated with the Surry Alternative.**

<b>Starting Point</b>	<b>End Point</b>	<b>Distance</b>	<b>Current Height</b>	<b>Proposed Height</b>	<b>Proposed Structure Type</b>	<b>Number of Other Lines in ROW Corridor</b>	<b>Maximum Existing Height in ROW Corridor</b>	<b>Change in Height to Current ROW Conditions</b>
MP 0	MP 1.60	1.60 Miles	New Line	155 Feet	Monopole	None	New Line	+ 155 Feet
MP 1.60	MP 2.72	1.12 Miles	New Line – James River Crossing	160 Feet	Lattice	None	New Line – James River Crossing	+ 160 Feet
MP 2.72	MP 3.20	0.48 Mile	New Line – James River Crossing	295 Feet	Lattice	None	New Line – James River Crossing	+295 Feet
MP 3.20	MP 3.90	0.70 Mile	New Line – James River Crossing	160 Feet	Lattice	None	New Line – James River Crossing	+ 160 Feet
MP 3.90	MP 4.40	0.50 Mile	New Line – James River Crossing	295 Feet	Lattice	None	New Line – James River Crossing	+295 Feet
MP 4.40	MP 5.07	0.67 Mile	New Line – James River Crossing	160 Feet	Lattice	None	New Line – James River Crossing	+ 160 Feet
MP 5.07	MP 5.73	0.66 Mile	New Line	150 Feet	Lattice	None	New Line	+ 150 Feet
MP 5.73	MP 6.70	0.97 Mile	52 Feet	128 Feet	Lattice	1 Line	52 Feet	+ 78 Feet
MP 6.70	MP 6.82	0.12 Mile	85 Feet	128 Feet	Lattice	1 Line	85 Feet	+45 Feet
MP 6.82	MP 7.08	0.26	85 Feet	128 Feet	Lattice	1 Line	85 Feet	+45 Feet
MP 7.08	MP 7.21	0.13	85 Feet	128 Feet	Lattice	1 Line	85 Feet	+45 Feet

### **The James River Crossing Variations**

Dominion also examined three route variations for crossing the James River along the Surry Alternative. These variations have been designated as the James River Crossing Variations 1, 2, and 3. As will be discussed in more detail below in Section 4.3, these variations were developed to avoid potential impacts from the proposed crossing of the James River by the Surry Alternative to the airspace associated with Felker Army Airfield at Fort Eustis (Felker Airfield) (James River Crossing Variations 1 and 3) and/or to take advantage of a routing opportunity presented by a pipeline corridor that crosses the James River to the north of the Surry Alternative and continues east across James City County (James River Crossing Variations 2 and 3). The

collocation of the proposed transmission corridor with this pipeline corridor also would avoid the bifurcation of a large tract currently owned by BASF on the eastern side of the James River.

*James River Crossing Variation 1.* The terrestrial portion of the James River Crossing Variation 1 is substantially the same as that of the Surry Alternative. There only is a minor deviation in James City County because the route comes onshore in James City County at a slightly different location. After leaving the shoreline in Surry County, the river crossing continues southeast for a distance of 0.1 mile. The river crossing then turns to the northeast across the James River for a distance of 0.55 mile. From this point, the river crossing pivots to the north for 1.02 miles adjacent to the shoreline of the Hog Island WMA. The river crossing then turns east for 2.46 miles, reaching the shoreline of the river in James City County. The total length of the Surry Alternative with the James River Crossing Variation 1 is 7.95 miles. Table 3 illustrates the tower structure and height information for the river crossing only as the land route does not change from the Surry Alternative.

*James River Crossing Variation 2.* The terrestrial portion of the James River Crossing Variation 2 in Surry County is the same as that of the Surry Alternative. After leaving the shoreline in Surry County, the river crossing continues southeast for a distance of 0.1 miles. The river crossing then turns to the northeast to parallel the southern edge of an existing pipeline corridor that contains three pipelines and crosses the James River for 3.72 miles. The mileposts referenced in Table 4 begin at the deviation of this route and do not begin with the land portion of the alternative. Upon coming onshore in James City County, the river crossing continues to follow the southernmost pipeline, which is owned by Colonial Pipeline Company, and extends for 0.80 mile crossing a thin strip of beach and forested land until it intersects with Dominion's existing right-of-way that currently contains a 115 kV line (a portion of Line #34). From this point, the route would be the same as that of the Surry Alternative, continuing for 0.85 miles to the north, crossing Route 60, and then pivoting to the northwest for 0.19 mile to its terminus at the proposed Skiffes Creek Switching Station. The total length of the Surry Alternative with the James River Crossing Variation 2 is 7.17 miles.

*James River Crossing Variation 3.* The terrestrial portion of the James River Crossing Variation 3 in Surry County is the same as that of the Surry Alternative. After leaving the shoreline in Surry County, the river crossing continues southeast for a distance of 0.1 mile. The river crossing then pivots to the northeast to follow the pipeline corridor across the James River for a distance of 0.55 miles. From this point, the river crossing pivots to the north for 0.64 miles adjacent to the shoreline of the Hog Island WMA. The river crossing then turns northeast east for 2.39 miles, crossing the James River, and then pivoting to the southeast for 0.45 mile to reach the shoreline of James City County. The river crossing then continues for 0.05 miles crossing a thin strand of beach, the corridor containing two Columbia Gas Transmission pipelines and a wooded area, and then intersects the existing Colonial Pipeline corridor. From this point, the James River Crossing Variation 3 follows the same route as the James River Crossing Variation 2. The total length of the Surry Alternative with the James River Crossing Variation 3 is 7.50 miles.

**Table 3. Proposed Height Changes Associated with the Surry Alternative; James River Crossing Variation 1**

<b>Starting Point</b>	<b>End Point</b>	<b>Distance</b>	<b>Current Height</b>	<b>Proposed Height</b>	<b>Proposed Structure Type</b>	<b>Number of Other Lines in ROW Corridor</b>	<b>Maximum Existing Height in ROW Corridor</b>	<b>Change in Height to Current ROW Conditions</b>
MP 0	MP 1.65	1.65 Miles	New Line – James River Crossing	160 Feet	Lattice	None	New Line	+ 160 Feet
MP 1.65	MP 2.14	0.49 Miles	New Line – James River Crossing	295 Feet	Lattice	None	New Line – James River Crossing	+ 295 Feet
MP 2.14	MP 2.95	0.81 Mile	New Line – James River Crossing	160 Feet	Lattice	None	New Line - James River Crossing	+ 160 Feet
MP 2.95	MP 3.35	0.40 Mile	New Line – James River Crossing	275 Feet	Lattice	None	New Line – James River Crossing	+ 275 Feet
MP 3.35	MP 4.00	0.65 Mile	New Line – James River Crossing	160 Feet	Lattice	None	New Line	+ 160 Feet
MP 4.00	MP 4.04	0.04 Mile	New Line – James River Crossing	150 Feet	Lattice	None	New Line	+ 150 Feet

**Table 4. Proposed Height Changes Associated with the Surry Alternative; James River Crossing Variation 2**

<b>Starting Point</b>	<b>End Point</b>	<b>Distance</b>	<b>Current Height</b>	<b>Proposed Height</b>	<b>Proposed Structure Type</b>	<b>Number of Other Lines in ROW Corridor</b>	<b>Maximum Existing Height in ROW Corridor</b>	<b>Change in Height to Current ROW Conditions</b>
MP 0	MP 1.17	1.17 Miles	New Line – James River Crossing	160 Feet	Lattice	None	New Line – James River Crossing	+ 160 Feet
MP 1.17	MP 1.66	0.49 Miles	New Line – James River Crossing	295 Feet	Lattice	None	New Line – James River Crossing	+ 295 Feet
MP 1.66	MP 2.55	0.89 Mile	New Line – James River Crossing	160 Feet	Lattice	None	New Line – James River Crossing	+ 160 Feet
MP 2.55	MP 3.00	0.45 Mile	New Line – James River Crossing	295 Feet	Lattice	None	New Line – James River Crossing	+ 295 Feet
MP 3.00	MP 3.72	0.72 Mile	New Line – James River Crossing	160 Feet	Lattice	None	New Line	+ 160 Feet
MP 3.72	MP 4.52	0.20 Mile	New Line – James River Crossing	111 Feet	Lattice	None	New Line	+ 111 Feet

**Table 5. Proposed Height Changes Associated with the Surry Alternative; James River Crossing Variation 3.**

<b>Starting Point</b>	<b>End Point</b>	<b>Distance</b>	<b>Current Height</b>	<b>Proposed Height</b>	<b>Proposed Structure Type</b>	<b>Number of Other Lines in ROW Corridor</b>	<b>Maximum Existing Height in ROW Corridor</b>	<b>Change in Height to Current ROW Conditions</b>
MP 0	MP 1.46	1.16 Miles	New Line – James River Crossing	160 Feet	Lattice	None	New Line – James River Crossing	+ 160 Feet
MP 1.46	MP 1.96	0.50 Miles	New Line – James River Crossing	295 Feet	Lattice	None	New Line – James River Crossing	+ 295 Feet
MP 1.96	MP 2.90	0.72 Mile	New Line – James River Crossing	160 Feet	Lattice	None	New Line – James River Crossing	+ 160 Feet
MP 2.90	MP 3.35	0.45 Mile	New Line – James River Crossing	275 Feet	Lattice	None	New Line – James River Crossing	+ 275 Feet
MP 3.35	MP 4.05	0.58 Mile	New Line – James River Crossing	160 Feet	Lattice	None	New Line	+ 160 Feet
MP 4.05	MP 4.85	0.80 Mile	New Line – James River Crossing	111 Feet	Lattice	None	New Line	+ 111 Feet

With consideration given to the general project design and other elements associated with the proposed undertaking, including current ROW conditions within the proposed project area, CRI designed the present study to identify all previously recorded architectural and archaeological resources requiring inclusion in a formal Stage I Pre-Application Analysis, as defined by the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008). The Stage I Pre-Application Analysis is intended to provide Dominion Virginia Power with information regarding the following select categories of previously identified architectural resources located within the general vicinity of the study area: all National Historic Landmarks located within a 1.5-mile radius of the corridor; all listed National Register properties, battlefields, and rural historic districts located within a 1.0-mile radius of the corridor; all National Register-eligible resources (as determined by VDHR) located within a 0.5-mile radius of the project corridor; and all previously identified archaeological sites located within the transmission line ROW corridor. This report presents the findings associated with this research effort and an assessment of impacts for the resources identified for consideration.

The following report is divided into two sections; the Chickahominy Alternative and Skiffes Creek Switching Station and the Surry Alternative (including the James River Crossing Variations) in order to define the resource considerations for each. Each section includes descriptions of resources considered under the Stage I guidance as provided by the VDHR as well as recommendations for potential visual effects and/or additional study. Included in the appendices is additional information provided for informational purposes and as a supplement to the information provided herein. Typically, a full listing of all the previously recorded resources

within the 1.5-mile study area is included, however, due to the extremely high number of previously recorded resources within that study area, only those within a 0.5-mile area were included. Also included are renderings of the proposed tower structures and a line of sight analyses for Carter's Grove, Moss Side, Piney Grove, and Eagle's Nest as well as photo simulations where appropriate and feasible.

President Ellen Brady served as Principal Investigator for this project. Principal Investigator Aimee Leithoff and Senior Architectural Historian Sandra DeChard co-authored the report with Ms. Brady. Ms. DeChard also served as Architectural Historian for the project. Emily Lindtveit, Assistant Architectural Historian and Katy Wolford, Architectural History Technician conducted the architectural fieldwork component of the pre-application study. GIS Technician Sean Sutor prepared the report graphics and project maps.

Photo simulations of select points along the existing transmission line corridor presented in Appendix C were prepared by TrueScape for Dominion. Editorial assistance and assistance with preparation of the routing descriptions, was provided by Natural Resource Group (NRG) on behalf of Dominion. NRG also prepared and supplied the line of sight analyses for select historic resources. Their assistance is greatly appreciated.



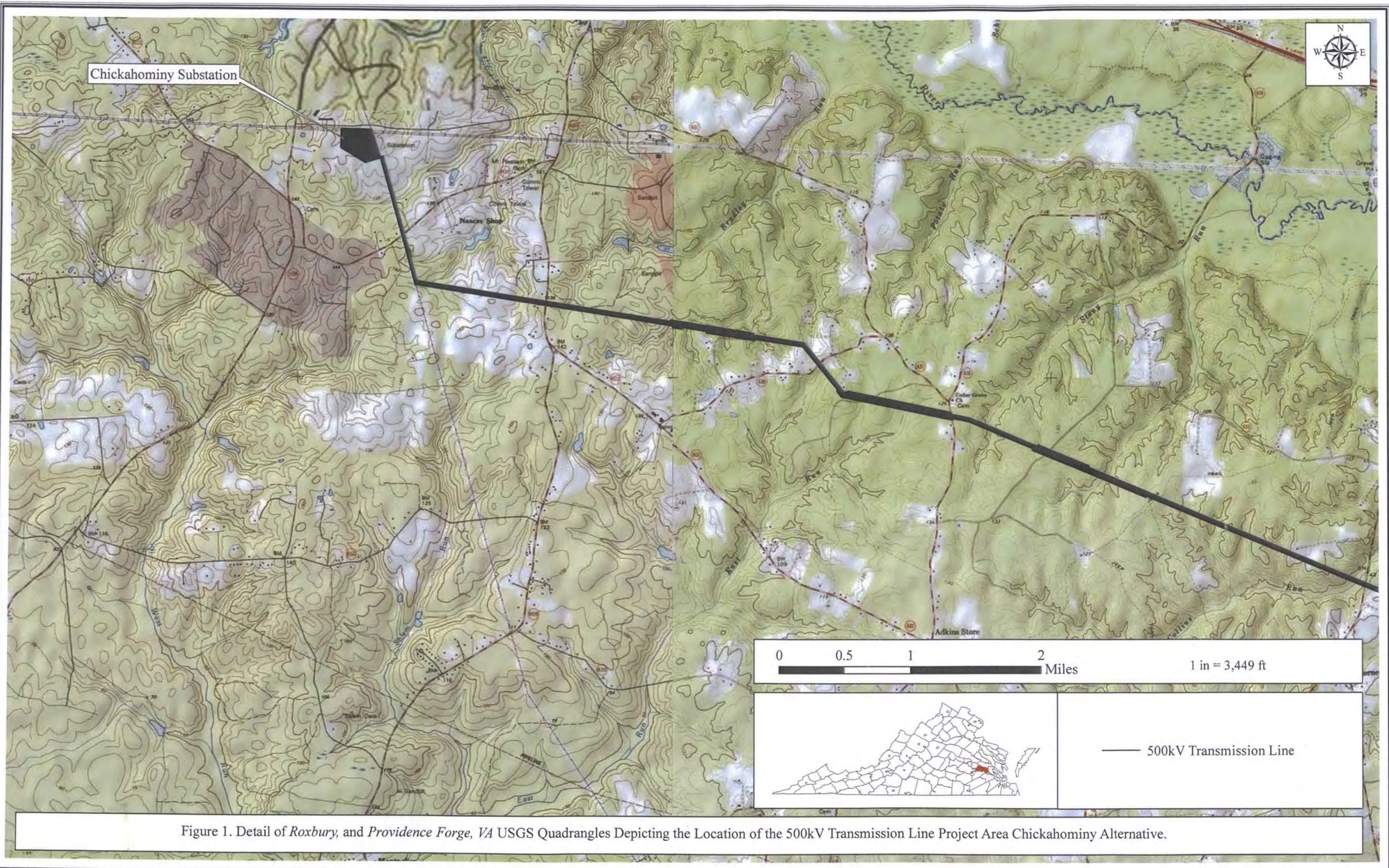


Figure 1. Detail of Roxbury, and Providence Forge, VA USGS Quadrangles Depicting the Location of the 500kV Transmission Line Project Area Chickahominy Alternative.



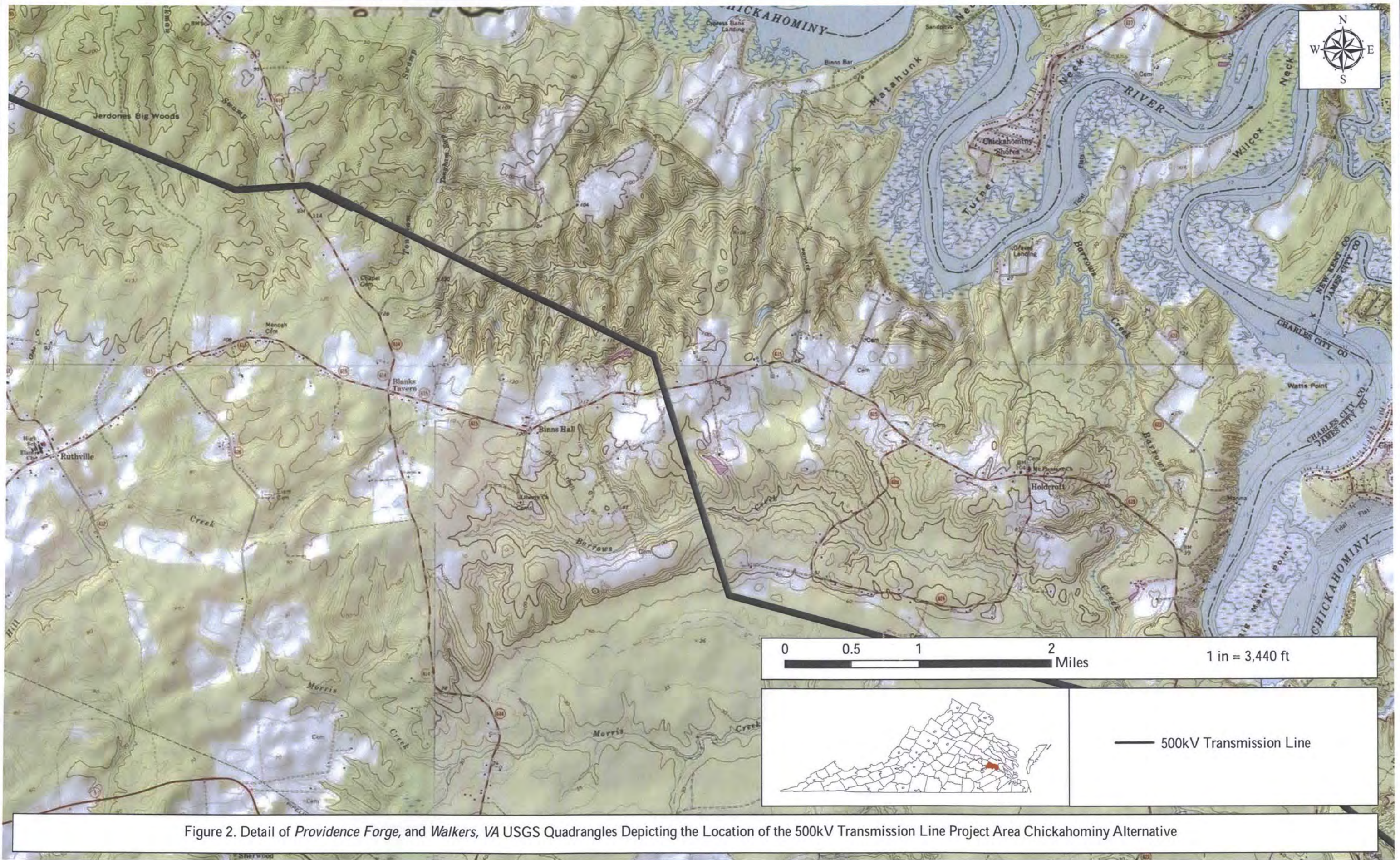


Figure 2. Detail of *Providence Forge*, and *Walkers*, VA USGS Quadrangles Depicting the Location of the 500kV Transmission Line Project Area Chickahominy Alternative



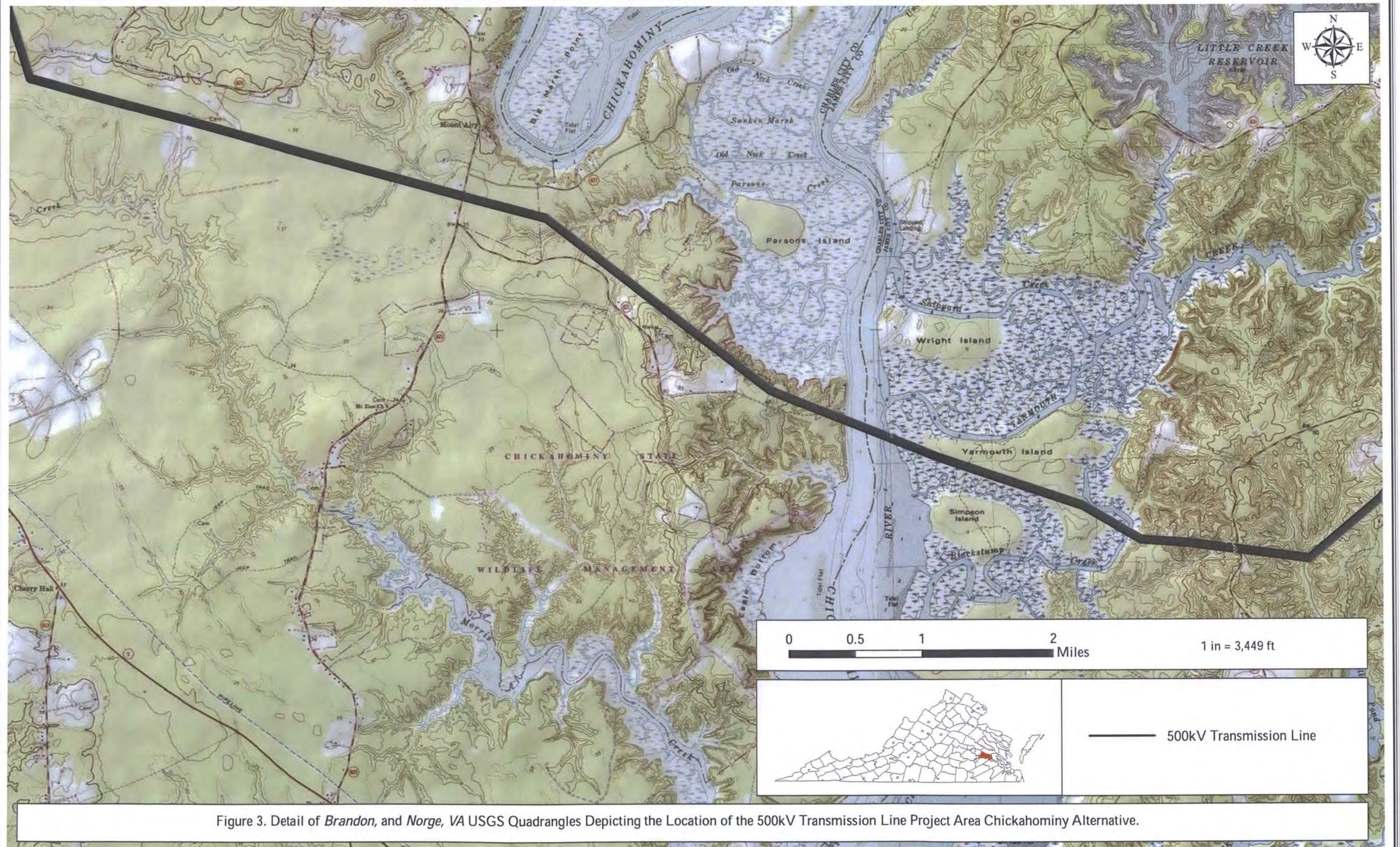
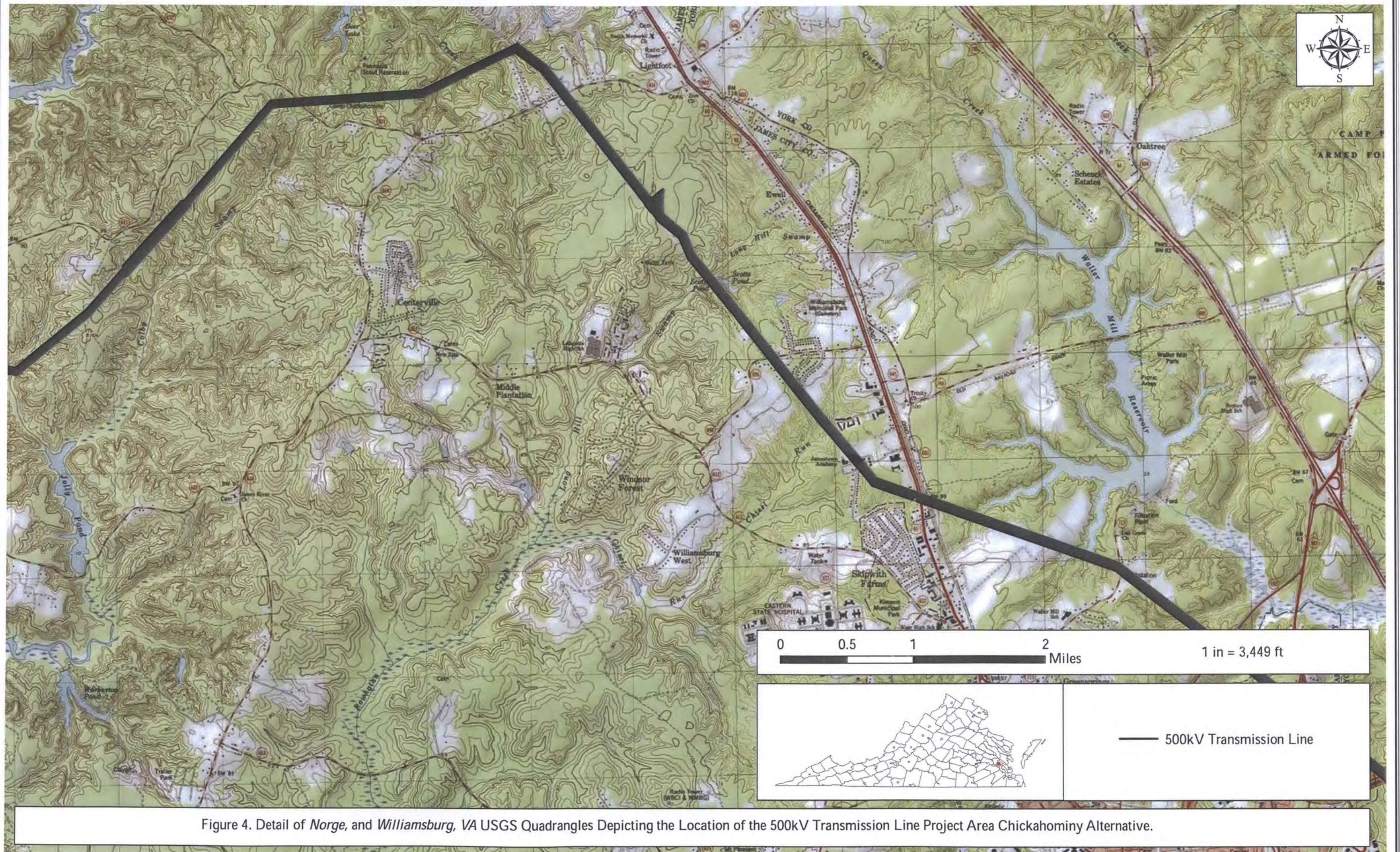
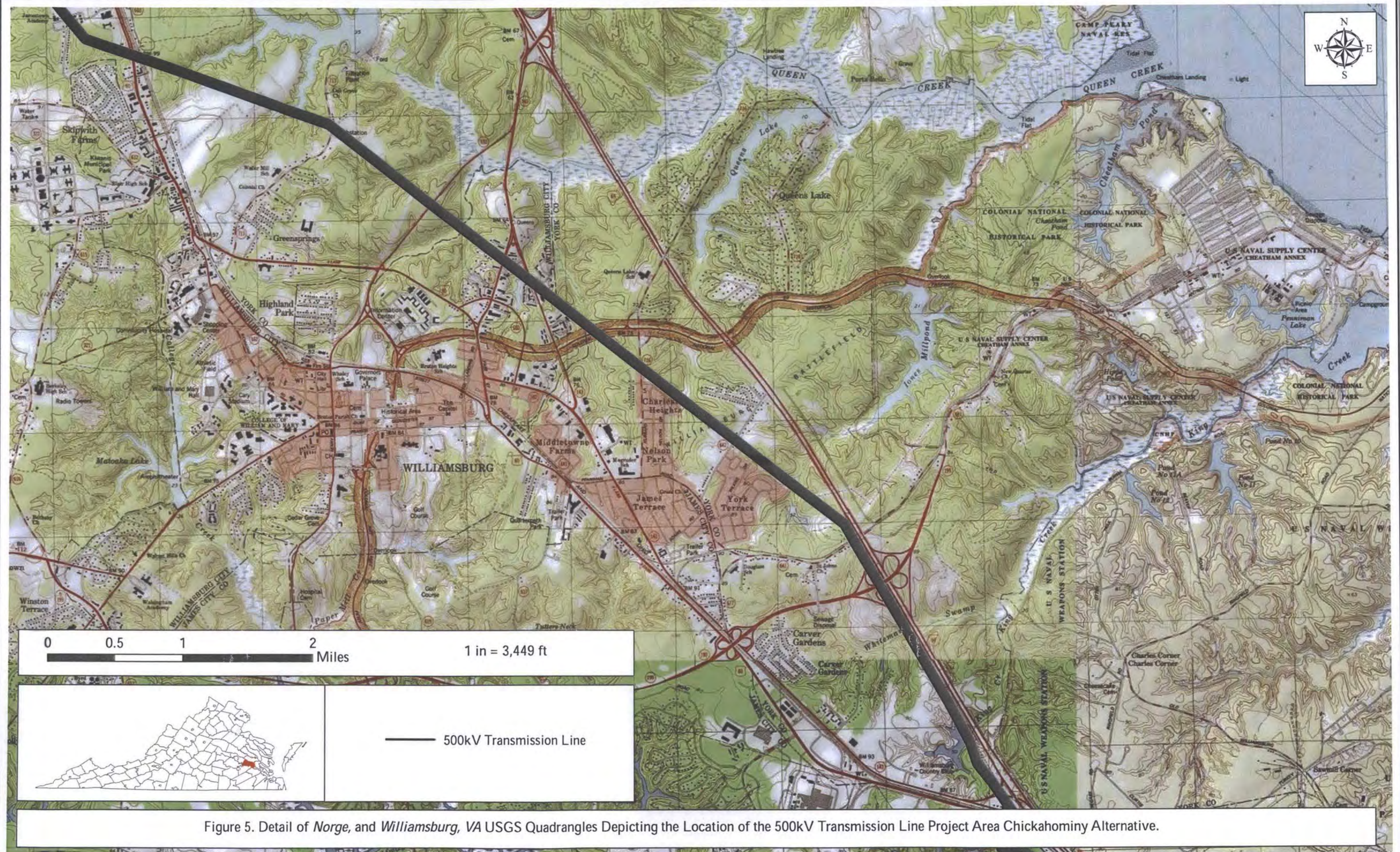


Figure 3. Detail of *Brandon*, and *Norge*, VA USGS Quadrangles Depicting the Location of the 500kV Transmission Line Project Area Chickahominy Alternative.

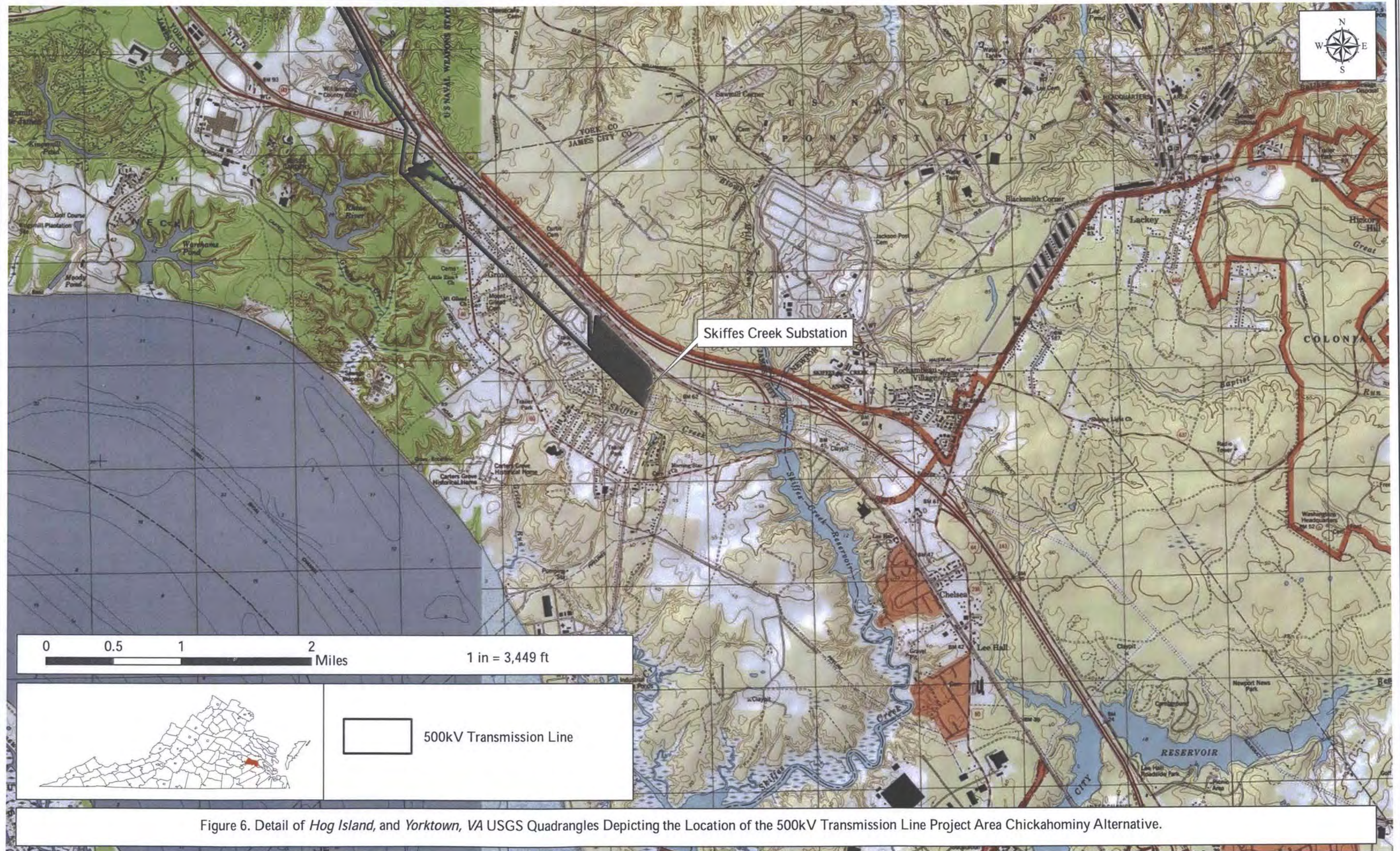














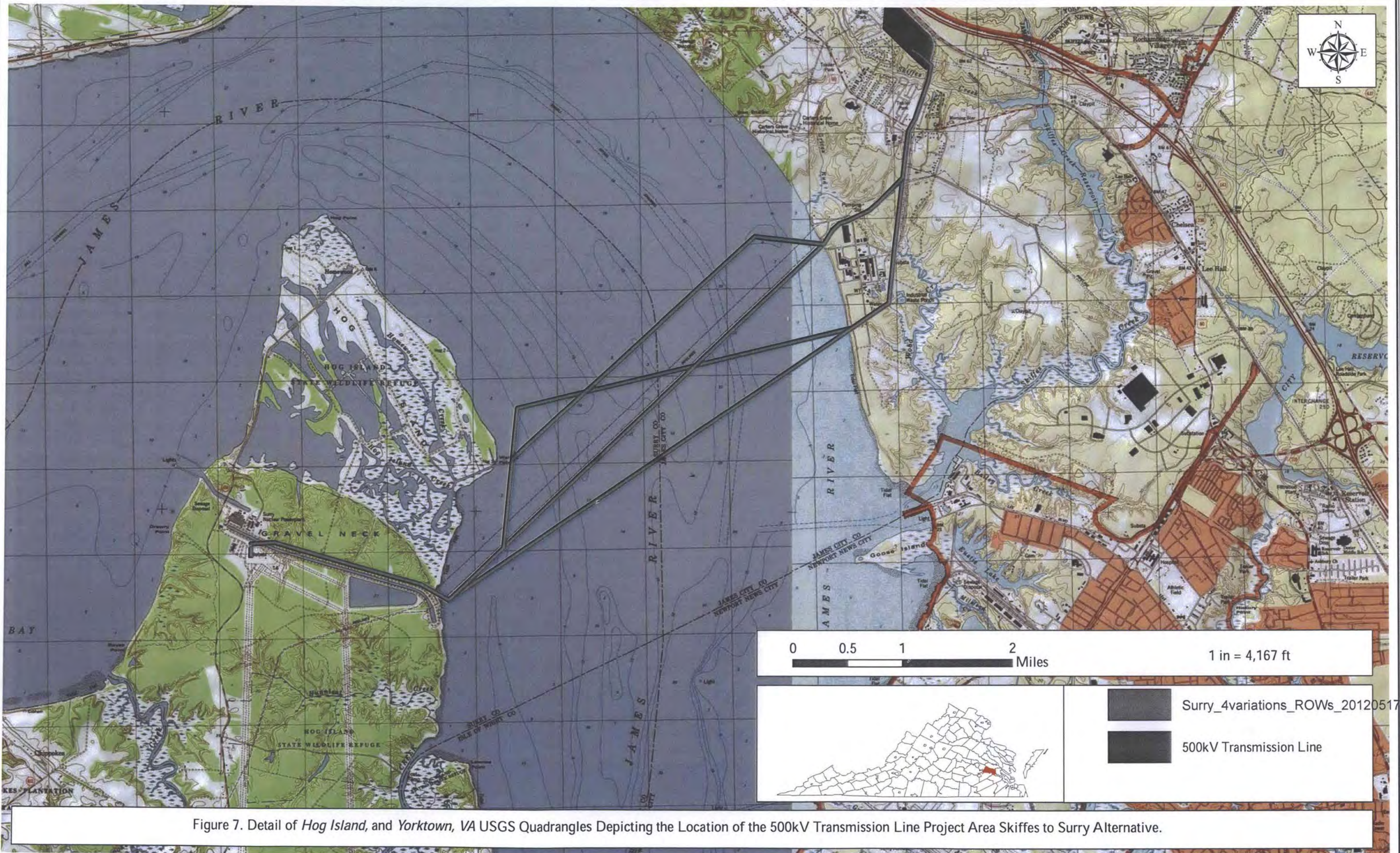


Figure 7. Detail of Hog Island, and Yorktown, VA USGS Quadrangles Depicting the Location of the 500kV Transmission Line Project Area Skiffes to Surry Alternative.



## II. BACKGROUND RESEARCH

The Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia (VDHR 2008) were developed by VDHR to assist the State Corporation Commission (SCC) and their applicants to address and minimize potential impacts to historic resources associated with the construction of large scale transmission lines and associated facilities. As part of the Stage I Pre-Application Analysis effort, VDHR guidance recommends a four-tier study area strategy to be considered for each alternative alignment for the proposed undertaking (Table 6). Two alternatives were investigated and associated with this project. The first alternative, from the existing Chickahominy Substation to the proposed Skiffes Creek Switching Station (Chickahominy Alternative), will be placed primarily within existing easement that has not been previously cleared or constructed upon and within an existing, maintained right-of-way (ROW) corridor, which contains previously constructed tower structures and associated transmission lines. The second and preferred alternative, located between the Skiffes Creek Switching Station and the Surry Power Station (Surry Alternative and the James River Crossing Variations) would also be placed primarily on new location and incorporate the Surry Power Station and an existing 115 kV transmission line for nearly half its length. The Skiffes Creek Switching Station will be sited within an approximately 51-acre parcel adjacent to Route 143 in James City County. For portions of the proposed project area, the proposed increase in pole height will be greater than 10 percent and 20 feet over the existing structure heights within the ROW corridor, which represents a substantial increase as defined by VDHR.

Table 6. Study Areas as Defined by VDHR Guidelines for Transmission Lines	
Radial Buffer (in miles)	Considered Resources
1.5	National Historic Landmarks
1.0	Above resources and: National Register Properties (listed) Battlefields Historic Landscapes (e.g. Rural HD)
0.5	Above resources and: National Register-eligible (as determined by VDHR)
0.0 (Within ROW)	Above resources and: Archaeological Sites

### Methodology

The background research included a review of the VDHR archives and of data collected from the VDHR Data Sharing System (DSS), using the most current (March 2011) data as provided by the VDHR. The VDHR files of archaeological sites and historic structures were examined and information was retrieved on all archaeological sites located up to a 0.5-mile radius of the project area and all previously recorded architectural resources up to a 1.5-mile radius of the project corridor. The *Update to the Civil War Sites Advisory Commission's Report on the Nation's Civil War Battlefields* (NPS 2009) prepared by the American Battlefield Protection Program of the National Park Service (NPS) and the *Final Comprehensive Management Plan and Environmental Assessment for the Captain John Smith Chesapeake National Historic Trail* (NPS, 2011) were also reviewed during the background research.

Background research also focused on relevant sources of local historical information and available historical maps, which were examined to check for any buildings and other cultural features present within the project area. Google Earth 2011 aerial photography of current conditions was examined for the entire study area. Photographs of each of the architectural resource under consideration, if visible, as well as their view sheds were taken from the public ROW.

## **Results of the Background Research Chickahominy Alternative and Skiffes Creek Switching Station**

### *NHL-Listed Resources within the 1.5-Mile Buffer*

According to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008), all National Historic Landmarks within the 1.5-mile buffer of the transmission line will be subject to consideration and view shed analysis. There are 702 previously identified architectural resources located within a 1.5-mile radius of the project centerline for this segment. Seven NHL-listed architectural resources fall within the 1.5-mile buffer and include Carter's Grove (VDHR #047-0001), Bruton Parish Church (VDHR #137-0007), Sir Christopher Wren Building (VDHR #137-0013), Peyton Randolph House (VDHR #137-0032), James Semple House (VDHR #137-0033), Williamsburg Historic District (VDHR #137-0050), and the George Wythe House (VDHR #137-0058), all of which are subject to consideration under the current guidelines (Figures 8-15, Table 7).

### *NRHP-Listed Architectural Resources, Battlefields, and Rural Historic Districts within the 1.0-Mile Buffer*

Pursuant to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008), all National Register listed properties, Battlefields, and Historic Landscapes within a 1.0-mile buffer of the proposed transmission line will be subject to consideration and view shed analysis.

There are 391 previously identified architectural resources located within a 1.0-mile radius of the project centerline, thirteen of which are NRHP-listed properties, battlefield resources, or historic landscapes. Seven resources are listed on the National Register and include: Poplar Springs (VDHR #018-0018), Eagles Nest (VDHR #018-0037), Piney Grove (VDHR #018-0063), Colonial Parkway (VDHR #047-0002), Bryan Manor Plantation Site (VDHR #099-0065), Bruton Parish Poorhouse Archaeology Site (VDHR #099-0070), and Burwell's Mill/Whittaker's Mill Archaeology Site (VDHR #099-5275). The Bruton Parish Poorhouse Archaeology Site and Burwell's Mill/Whittaker's Mill Archaeology Site, although designated with an architectural survey number, were originally surveyed as archaeology sites and do not have any standing structures. Under the current assessment guidelines, these properties were not subject to view shed analysis. Two Battlefields are located within a mile of the transmission line and includes the St Mary's Church Battlefield (VDHR #018-5004) and the Battle of Williamsburg (VDHR #099-5282). One Rural Historic District, the Old Main Road Rural Historic District (VDHR #018-5101) is also located within a mile of the transmission line. One VLR-listed resource, Capitol



Landing (VDHR #137-056), is located within a mile of the center line of the transmission line. Three of the above mentioned NHL properties are also listed on the NRHP and are located within a mile of the transmission line and include Carter's Grove (VDHR #047-0001), James Semple House (VDHR #137-0033), and Williamsburg Historic District (VDHR #137-0050) (see Figures 8-16, Table 7).

#### *NRHP-Eligible Architectural Resources within the 0.5-Mile Buffer*

Pursuant to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008), all National Register-eligible resources (as determined by the VDHR) within a 0.5-mile radius of the existing transmission line ROW will be subject to consideration and view shed analysis.

There are 202 previously identified architectural resources located within a 0.5-mile radius of the project centerline (Appendix C). Of the 202 resources, two NRHP-eligible resources were located within the 0.5-mile buffer. The two eligible resources include: the ca. 1850 Moss Side (VDHR # 018-0066), and the Confederate Peninsula Defenses (VDHR #099-0040). The Confederate Peninsula Defenses have been demolished and no further work is recommended for this resource. In addition, ten of the resources discussed above and including Poplar Springs, Piney Grove, Carter's Grove, Colonial Parkway, Bryan Manor, Burwell's Mill, St. Mary's Battlefield, Yorktown Battlefield, Battle of Williamsburg and the Old Main Road Historic District are located within the half mile radius.

#### *Architectural Resources within the Right-of-Way Corridor*

Pursuant to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008), all National Register-eligible resources (as determined by the VDHR) within the existing transmission line ROW corridor will be subject to consideration and view shed analysis. Six resources are located within. Immediately adjacent to, or are crossed by the corridor. Two are battlefields and include Saint Mary's Church Battlefield (VDHR #018-5004) and the Battle of Williamsburg (VDHR #099-5282). One is the newly identified Old Main Road Rural Historic District and one is the NRHP-listed Colonial Parkway (VDHR #047-0002). The Motel Rochambeau (VDHR #137-0088), is located immediately adjacent to the corridor and would require evaluation with respect to NRHP criteria in order to determine if an assessment of visual and/or direct impacts would be required. The Hogge House and Woodworks (VHDR #099-5003) were also identified within the proposed corridor, however the resource was determined not eligible for listing on the NRHP and is also no longer extant. No additional work would be required for this resource (See Figures 8-16, Table 7).

#### *Captain John Smith National Historic Water Trail*

In addition to the traditional architectural resources identified within the corridor, an additional resource has been identified within the ROW corridor where it crosses the James River. This resource, the Captain John Smith National Historic Water Trail, has not been recorded as a

resource in the VDHR database. However, it has been recommended by the VDHR to be considered as a NRHP-eligible resource for purposes of this study.

**Table 7. Previously Recorded Architectural Resources Considered within the Stage I Pre-Application Process.**

VDHR #	Resource	Date	Reference	VDHR/NRHP Status	CRI Recommendations
018-0018	Poplar Springs	1809	Gordineer 1994	NRHP Listed 1994	Visual Effect Assessment as Required under Guidelines
018-0037	Eagle's Nest (Eagle Lodge/ Margots/ Claybancke)	Post 1700	None Listed	NRHP Listed 1973	Visual Effect Assessment as Required under Guidelines
018-0063	Piney Grove	1800	Gordineer 1985	NRHP Listed 1985	Visual Effect Assessment as Required under Guidelines
018-0066	Moss Side	1850	Edwards 1987	Eligible VDHR 1991	Visual Effect Assessment as Required under Guidelines
018-5004	Saint Mary's Church Battlefield (Samaria Church)	1864	CWSAC 1993	Eligible ABPP-2007	Visual Effect Assessment as Required under Guidelines
018-5101	Old Main Road Rural Historic District	Post 1800	Edwards 1989	Not Evaluated	Visual Effect Assessment as Required under Guidelines
047-0001	Carter's Grove	c. 1750	VHLC 1969	NRHP-Listed 1969; NHL-Listed 1970	Visual Effect Assessment as Required under Guidelines
047-0002	Colonial National Historic Park/ Colonial Parkway	Post 1931	Not Listed	NRHP-Listed 1966	Visual Effect Assessment as Required under Guidelines
099-0040	Confederate Peninsula Defenses/ Redoubt #9	c. 1862	Chappell 1971	NRHP-Eligible 2009	Demolished; No Further Work
099-0065	Bryan Manor Plantation Site	c. 1757	WMCAR 1977	NRHP-Listed 1978	Visual Effect Assessment as Required under Guidelines
099-0070	Bruton Parish Poorhouse Archaeology Site, Route 132	Pre 1781	Chappell 1972	NRHP-Listed 1982	Archaeology Site Only; Visual Assessment not Applicable
099-5275	Burwell's Mill/ Whittaker's Mill Archaeological Site	c. 1720	Quarstein 2007	NRHP-Listed 2008	Visual Effect Assessment as Required under Guidelines
099-5282	Battle of Williamsburg (Civil War)	1862	NPS 1993 and 2009; Tyrer 2011	Not Evaluated	Visual Effect Assessment as Required under Guidelines
137-0007	Bruton Parish Church, Duke of Gloucester Street	1711	Dillon 1974	NRHP-Listed 1970; NHL-Listed 1970	Visual Effect Assessment as Required under Guidelines
137-0013	Sir Christopher Wren Building, Duke of Gloucester Street	c. 1695	Sarles 1961; Melvin 1972; Selig 2008	NRHP-Listed 1966; NHL-Listed 1960	Visual Effect Assessment as Required under Guidelines
137-0032	Peyton Randolph House, Nicholson & North England Streets	c. 1715	Dillon 1974; Selig 2008	NRHP-Listed 1970; NHL-Listed 1970	Visual Effect Assessment as Required under Guidelines
137-0033	James Semple House, Francis Street	c. 1770	Dillon 1974	NRHP-Listed 1970; NHL-Listed 1970	Visual Effect Assessment as Required under Guidelines
137-0050	Williamsburg Historic District	c. 1695	HABS 1958; Melvin 1972	NRHP-Listed 1966; NHL-Listed 1960	Visual Effect Assessment as Required under Guidelines
137-0056	Capitol Landing/ Queen Mary's Port, Capitol Landing Rd.	c. 1699	Hudgins 1977	VLR-Listed 1977	Archaeology Site Only; Visual Assessment not Applicable
137-0058	George Wythe House, Palace Green	c. 1755	Snell 1971; Sleig 2008	NRHP-Listed 1970; NHL-Listed 1970	Visual Effect Assessment as Required under Guidelines



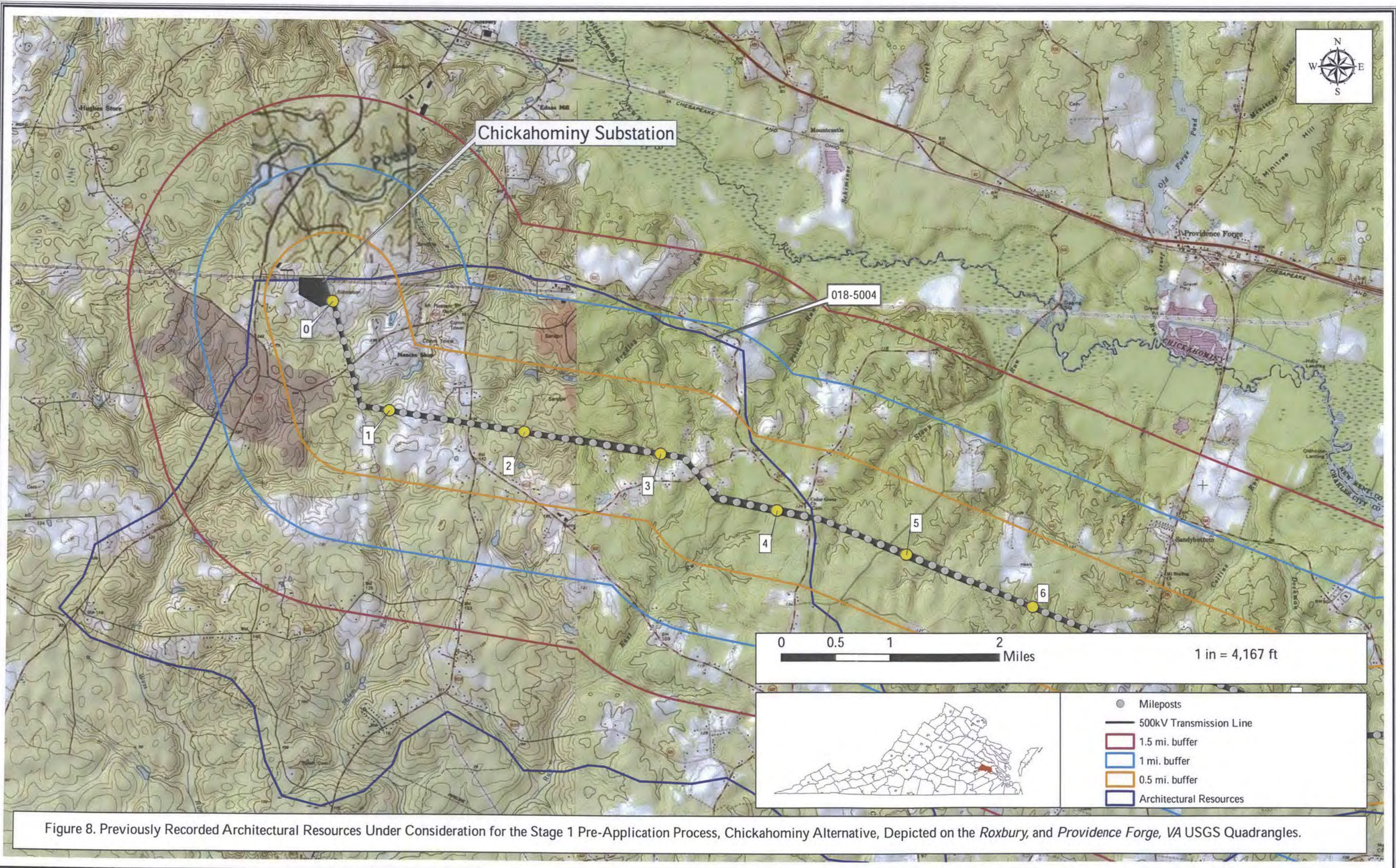
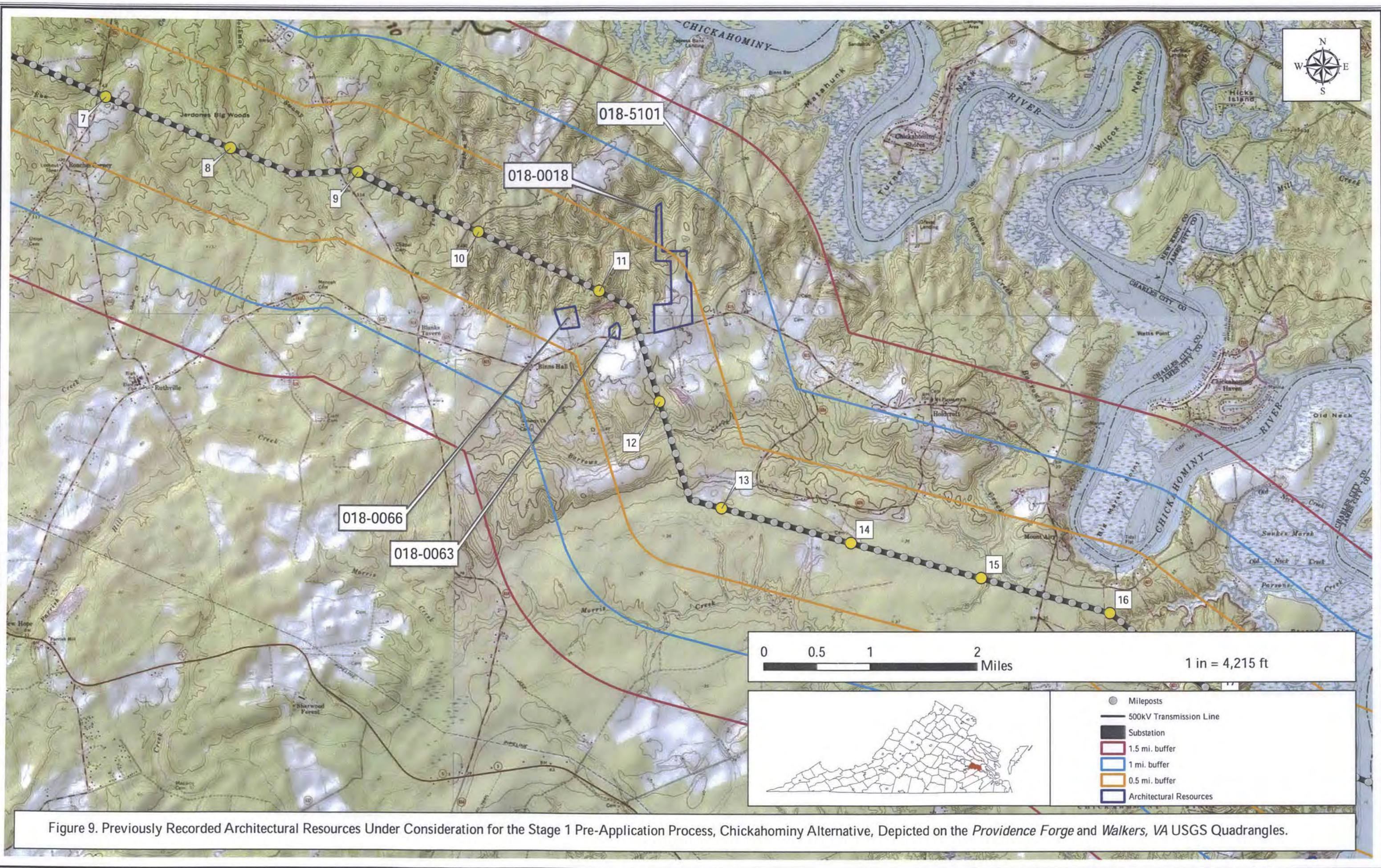


Figure 8. Previously Recorded Architectural Resources Under Consideration for the Stage 1 Pre-Application Process, Chickahominy Alternative, Depicted on the *Roxbury*, and *Providence Forge*, VA USGS Quadrangles.







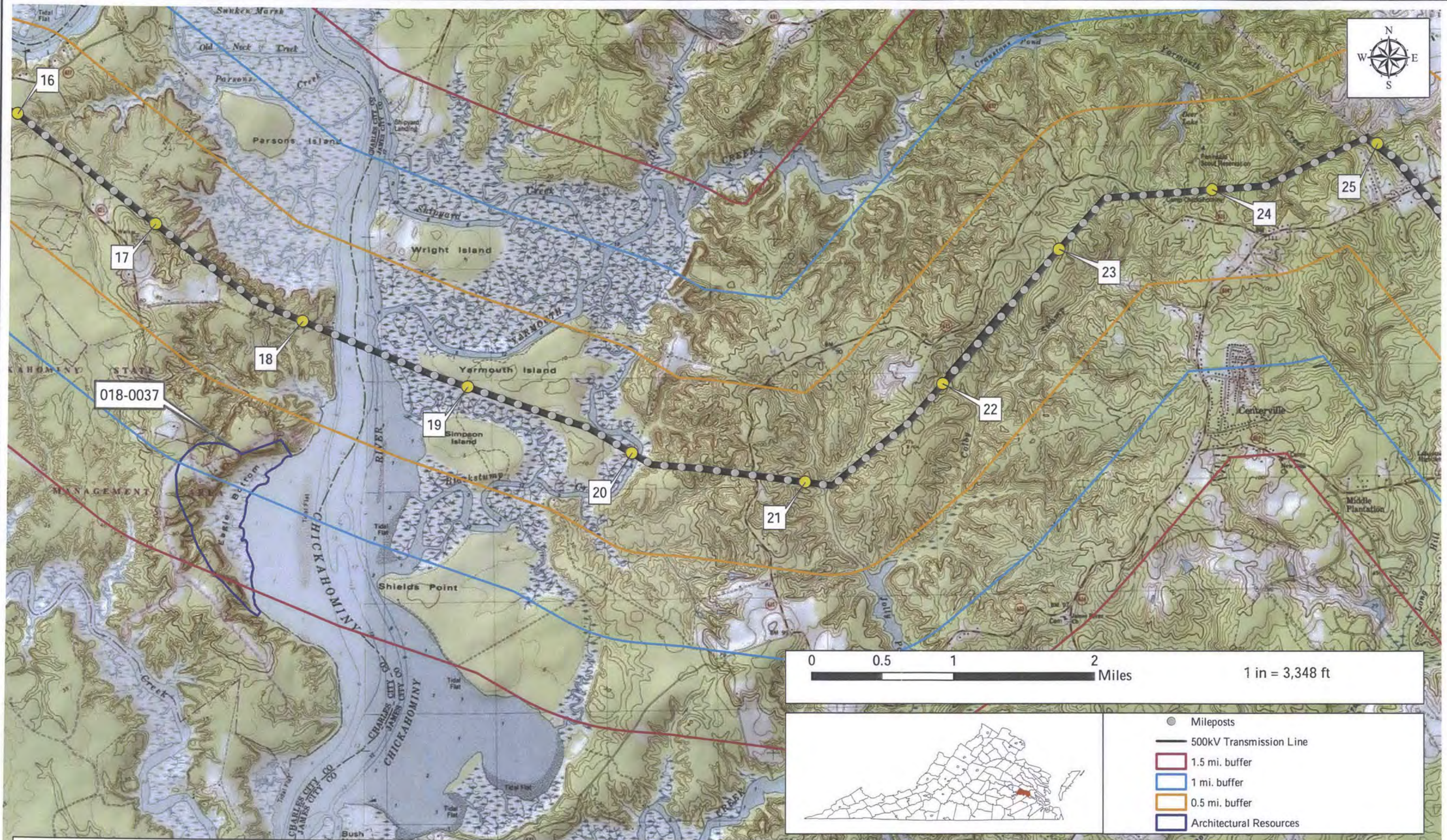


Figure 10. Previously Recorded Architectural Resources Under Consideration for the Stage 1 Pre-Application Process, Chickahominy Alternative, Depicted on the *Brandon* and *Norge*, VA USGS Quadrangles.



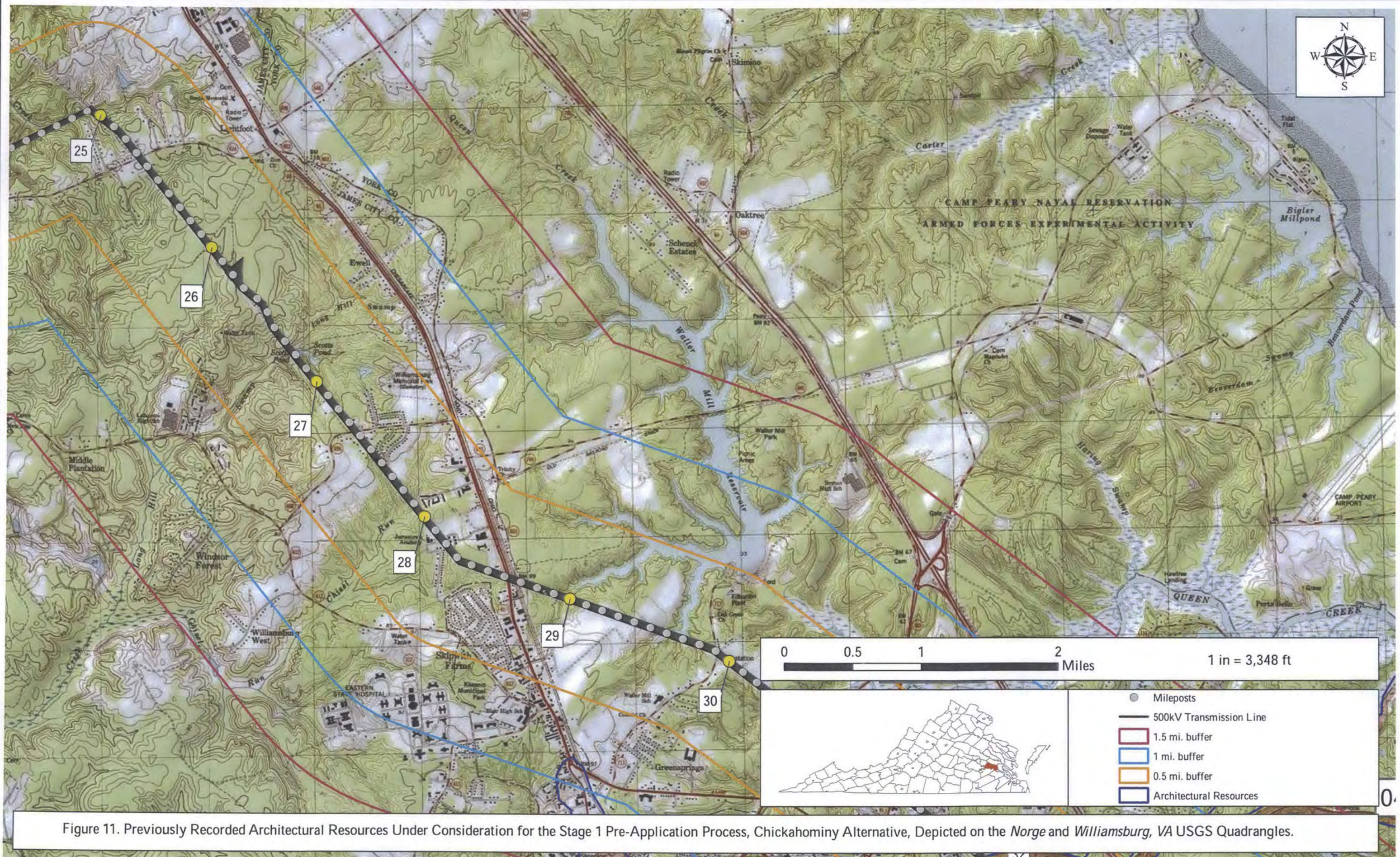
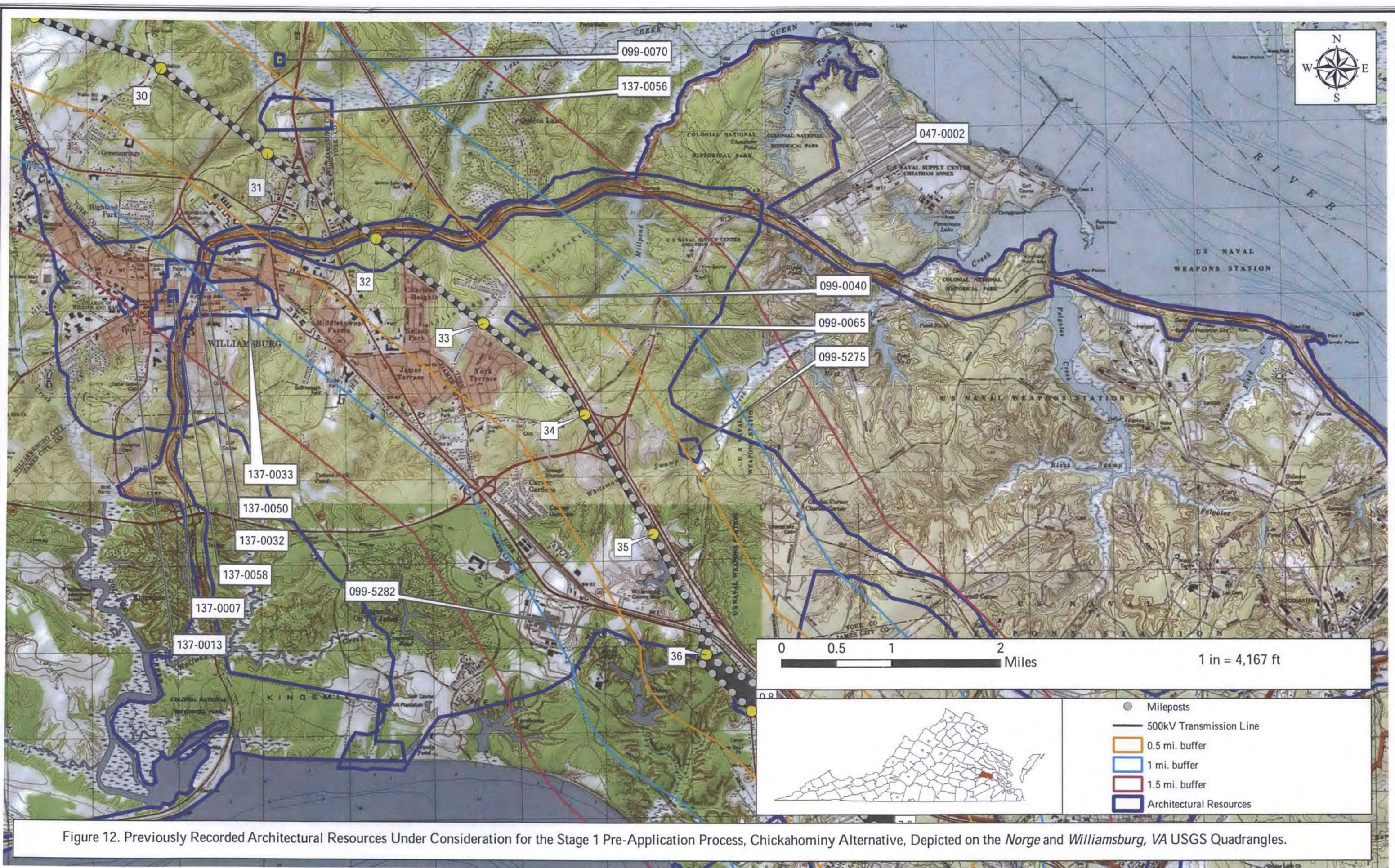


Figure 11. Previously Recorded Architectural Resources Under Consideration for the Stage 1 Pre-Application Process, Chickahominy Alternative, Depicted on the *Norge* and *Williamsburg*, VA USGS Quadrangles.

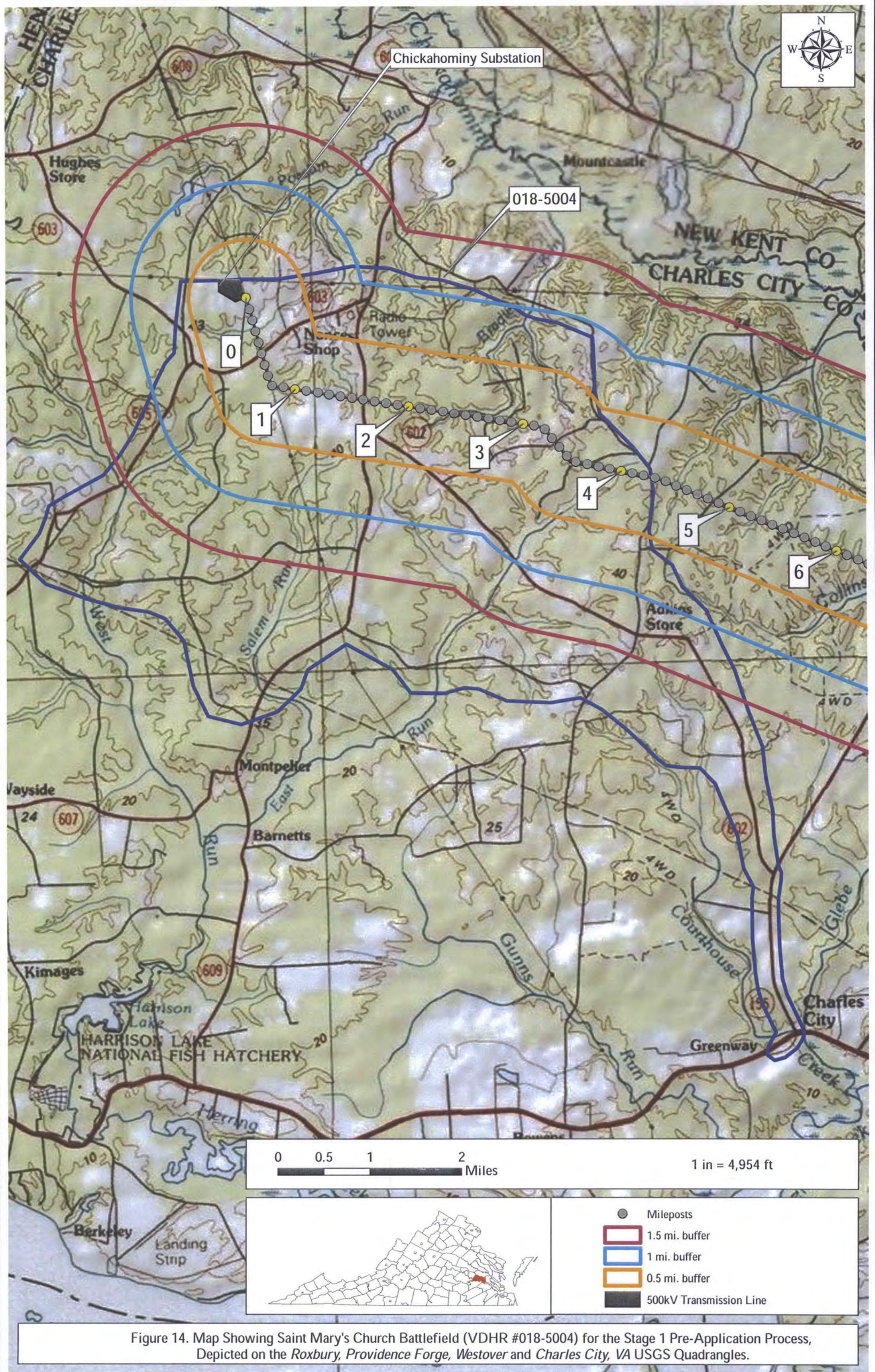














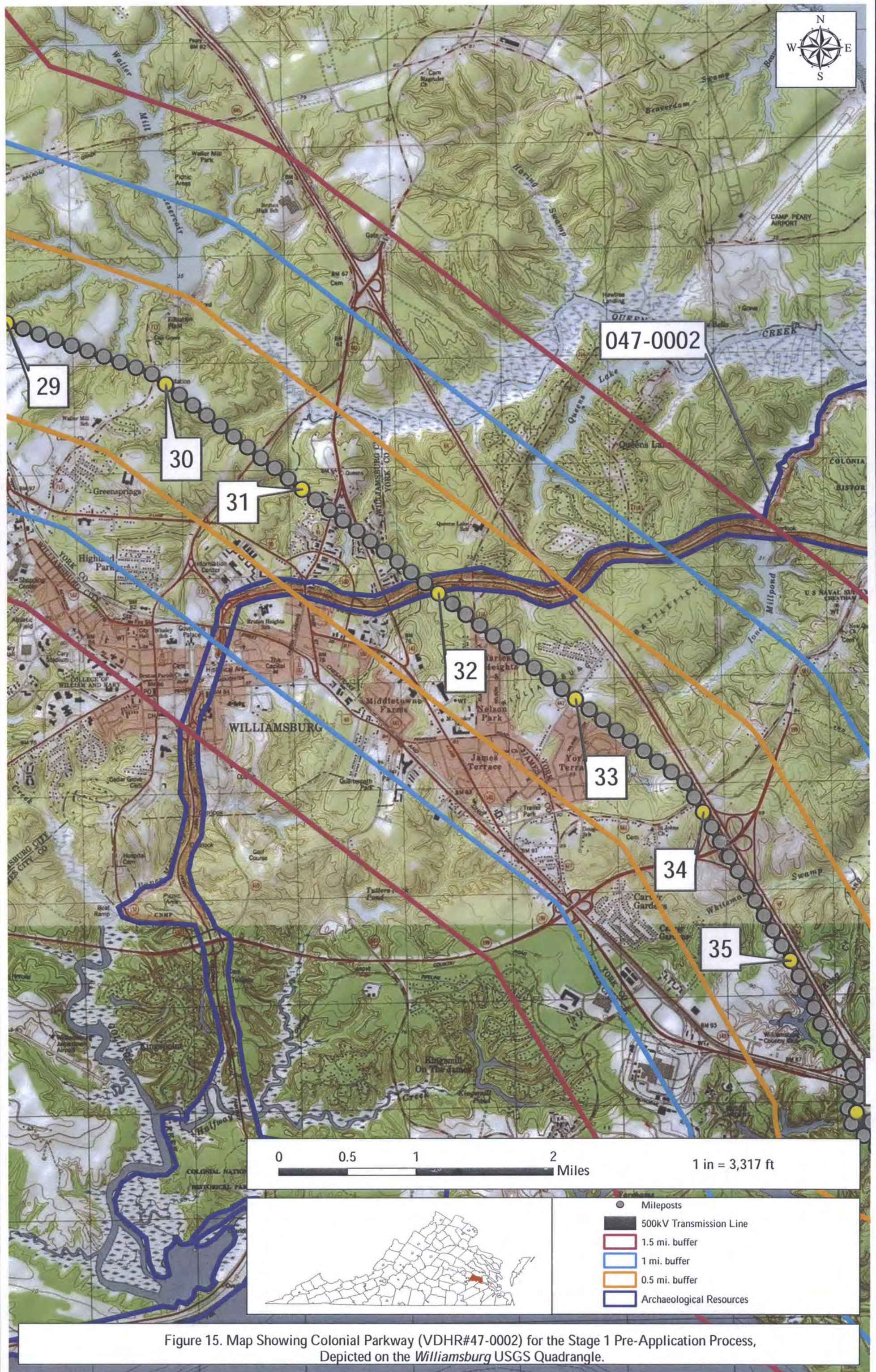


Figure 15. Map Showing Colonial Parkway (VDHR#47-0002) for the Stage 1 Pre-Application Process, Depicted on the *Williamsburg* USGS Quadrangle.



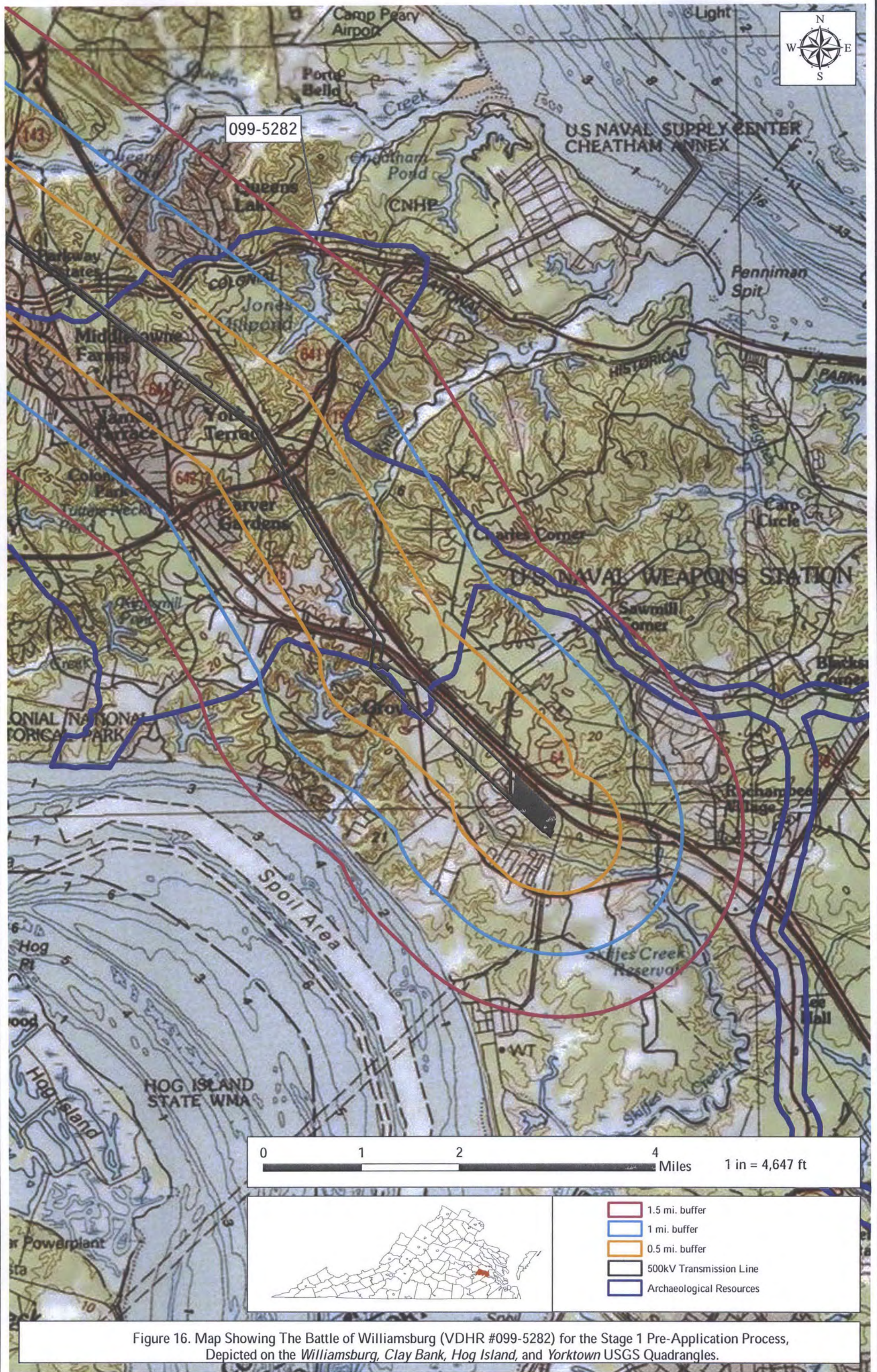


Figure 16. Map Showing The Battle of Williamsburg (VDHR #099-5282) for the Stage 1 Pre-Application Process, Depicted on the *Williamsburg, Clay Bank, Hog Island, and Yorktown* USGS Quadrangles.



## Archaeological Resources Located within the Right-of-Way Corridor

Pursuant to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008), all archaeological sites within the ROW of the transmission line and switching station parcel will be subject to consideration. Fourteen previously identified archaeological resources (Sites 44CC0350, 44CC0369, 44JC0194, 44JC0195, 44JC0662, 44JC0663, 44JC1044, 44JC1175, 44WB0066, 44WB0133-0001, 44WB0133-0002, 44YO0220, 44YO0524 and 44YO0757) are located either within or immediately adjacent to the project ROW corridor and/or switching station parcel (Figures 17-22; Table 8). Ten of the resources are unevaluated in terms of NRHP eligibility. Martha McCartney map projected two 19<sup>th</sup> century dwellings based on Civil War period maps including 44JC0194 and 44JC0195. Neither of these sites has been archaeological verified. A 20<sup>th</sup> century dwelling and trash scatter (44CC0369) was identified by Jenkins in 2001. Circa~CRM recorded a road trace (44JC1175) in 2007. Site 44CC0350 was identified by Garrow and Associates in 1991. The site was defined by the presence of 143 brick fragments in a total of 7 shovel tests. The site has not been evaluated for listing on the NRHP. Two sites, 44JC0662 and 44JC0663, have been determined not eligible for listing on the NRHP according to the VDHR DSS forms. However, 44JC0662 appears to be potentially eligible for listing on the NRHP. Site 44JC0662 is located partially within the Skiffes Creek Switching Station parcel. Site 44JC1044 was determined potentially eligible and 44WB0066 was determined eligible.

<b>Resource</b>	<b>Resource Type</b>	<b>Association</b>	<b>Reference</b>	<b>NRHP Recommendation</b>	<b>CRI Recommendation</b>
44CC0350	Domestic	19 <sup>th</sup> century	Garrow 1991	Not Evaluated	Investigate During Archaeological Survey
44CC0369	Dwelling & Trash Scatter	20 <sup>th</sup> Century	Jenkins 2001	Not Evaluated	Investigate During Archaeological Survey
44JC0194	Domestic	19 <sup>th</sup> Century	McCartney 1983	Not Evaluated	Investigate During Archaeological Survey
44JC0195	Domestic	19 <sup>th</sup> Century	McCartney 1983	Not Evaluated	Investigate During Archaeological Survey
44JC0662	Trash Pit	19 <sup>th</sup> Century	VCU 1991; Goodwin 1994	Eligible VDHR 1991; Not Eligible VDHR 1994	Investigate During Archaeological Survey
44JC0663	Trash Scatter	Late 19 <sup>th</sup> to 20 <sup>th</sup> Century	VCU 1991; Goodwin 1994	Not Eligible VDHR 1994, 1995, 2001	No Further Work
44JC1044	Camp Domestic	Middle Woodland; Mid 19 <sup>th</sup> to Early 20 <sup>th</sup> Century	WMCAR	Potentially Eligible VDHR 2001	Investigate During Archaeological Survey
44JC1175	Road Trace	19 <sup>th</sup> Century	Circa~CRM 2007	Not Evaluated	Investigate During Archaeological Survey

**Table 8. Archaeological Resources Within the Chickahominy Alternative Transmission Line ROW Corridor and Skiffes Creek Switching Station Parcel**

<b>Resource</b>	<b>Resource Type</b>	<b>Association</b>	<b>Reference</b>	<b>NRHP Recommendation</b>	<b>CRI Recommendation</b>
44WB0066	Palisade	Early 17 <sup>th</sup> Century	Huston & Associates	Eligible VDHR 1992	Investigate During Archaeological Survey
44WB0133- 0001	Military Camp	18 <sup>th</sup> Century:4 <sup>th</sup> Qtr	W3R Consultants 2008	Not Evaluated	Investigate During Archaeological Survey
44WB0133- 0002	Military Camp	18 <sup>th</sup> Century:4 <sup>th</sup> Qtr	W3R Consultants 2008	Not Evaluated	Investigate During Archaeological Survey
44YO0220	Yorktown Battlefield	Mid 18 <sup>th</sup> to 20 <sup>th</sup> Century		Not Evaluated	Investigate During Archaeological Survey
44YO0524	Dwelling	Historic	Huston & Associates 1990	Not Evaluated	Investigate During Archaeological Survey
44YO0757	Domestic	19 <sup>th</sup> Century	CWF 1988	Not Evaluated	Investigate During Archaeological Survey

Figure 17. Map of Previously Recorded Archaeological Resources Under Consideration for the Stage 1 Pre-Application Process, Depicted on the *Roxbury and Providence Forge, VA* USGS Quadrangle Intentionally Omitted: Contains Confidential Information.

Figure 18. Map of Previously Recorded Archaeological Resources Under Consideration for the Stage 1 Pre-Application Process, Depicted on the *Providence Forge and Walkers, VA* USGS Quadrangles Intentionally Omitted:  
Contains Confidential Information.

Figure 19. Map of Previously Recorded Archaeological Resources Under Consideration for the Stage 1 Pre-Application Process, Depicted on the *Roxbury and Providence Forge, VA* USGS Quadrangles Intentionally Omitted: Contains Confidential Information.



Figure 20. Map of Previously Recorded Archaeological Resources Under Consideration for the Stage 1 Pre-Application Process, Depicted on the *Norge and Williamsburg, VA* USGS Quadrangle Intentionally Omitted: Contains Confidential Information.

Figure 21. Map of Previously Recorded Archaeological Resources Under Consideration for the Stage 1 Pre-Application Process, Depicted on the *Norge and Williamsburg, VA* USGS Quadrangle Intentionally Omitted: Contains Confidential Information.

Figure 22. Map of Previously Recorded Archaeological Resources Under Consideration for the Stage 1 Pre-Application Process, Depicted on the *Hog Island and Yorktown, VA* USGS Quadrangle Intentionally Omitted: Contains Confidential Information.

## **Results of the Background Research - Surry Alternative and James River Crossing Variations**

The Surry Alternative also includes three river crossing variations. These variations were developed to avoid potential impacts from the proposed crossing of the James River by the Surry Alternative to the airspace associated with Felker Army Airfield at Fort Eustis (Felker Airfield) (James River Crossing Variations 1 and 3) and/or to take advantage of a routing opportunity presented by a pipeline corridor that crosses the James River to the north of the Surry Alternative and continues east across James City County (James River Crossing Variations 2 and 3). The resources under consideration for the Surry Alternative and the three river crossing variations are identical and are therefore discussed in this section as a group. The total number of resources noted for each section is based on the widest potential radius; i.e based on the southernmost crossing and the northernmost crossing for the Surry Alternative and its variations. Potential impacts may vary across the four alternatives and will be discussed appropriately in later sections of this report.

### *NHL-Listed Resources within the 1.5-Mile Buffer*

According to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008), all National Historic Landmarks within the 1.5-mile buffer of the transmission line will be subject to consideration and view shed analysis. There are 86 previously identified architectural resources located within a 1.5-mile radius for the Surry Alternative and its variations (Appendix D). Only one architectural resource, Carter's Grove (VDHR #047-0001), is a NHL-listed property and subject to consideration under the current guidelines (Figures 23-26, Table 9). This resource's boundary also extends into the 1.0 and 0.5-mile radii as discussed below. Of the remaining resources located within 1.5-miles of the proposed alternatives, 48 have been determined not eligible for listing on the NRHP, one has been listed on the NRHP and does not extend into the second tier of evaluation, one have been destroyed, and the remainder are unevaluated with respect to NRHP criteria.

### *NRHP-Listed Architectural Resources, Battlefields, and Rural Historic Districts within the 1.0-Mile Buffer*

Pursuant to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008), all National Register listed properties, Battlefields, and Historic Landscapes within a 1.0-mile buffer of the proposed transmission line will be subject to consideration and view shed analysis.

There are 44 previously identified architectural resources located within a 1.0-mile radius for the Surry Alternative and its variations, only two of which have been listed on the NRHP or meet the qualifications for consideration at the Stage I level. These include the Carter's Grove property, which is also located within the 1.5-mile buffer and has already been identified as a resource requiring consideration and the Yorktown Battlefield (099-5283) which is located within a 1.0-mile radius of the proposed corridors (Figures 23-26, Table 9). Of the remaining 42 resources,

one has been destroyed, 12 are unevaluated with respect to the NRHP criteria, and 28 have been determined not eligible for listing on the NRHP.

*NRHP-Eligible Architectural Resources within the 0.5-Mile Buffer*

Pursuant to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008), all National Register-eligible (as determined by the VDHR) within a 0.5-mile radius of the existing transmission line ROW will be subject to consideration and view shed analysis.

There are 14 previously identified architectural resources located within a 0.5-mile radius for the Surry Alternative and its variations. The Carter's Grove property, which has already been identified for consideration at the 1.5-mile and 1.0-mile tiers, also extends into the 0.5-mile radius. However, of the 13 additional resources identified within this radius, none are NRHP-listed or NRHP-eligible resources, six have been determined not eligible for the NRHP, and one has been destroyed. One of these resources is the Hog Island Wildlife Refuge (VDHR File 090-0121). This resource has not been evaluated for listing on the NRHP, but is immediately adjacent to the Surry Power Plant. Hog Island was not formally considered during the Stage I process, however, it is noted as a potential resource consideration for future studies associated with this project.

*Architectural Resources within the Right-of-Way Corridor*

Pursuant to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008), all National Register-eligible (as determined by the VDHR) within the existing transmission line ROW corridor will be subject to consideration and view shed analysis. Two resources are located within or immediately adjacent to the proposed Surry Alternative ROW and also for the three variations (Figures 23-26, Table 9). These resources include the Spray King Car Wash (VDHR File 047-5059), located at 8956 Pocahontas Trail, and the Sherry House (VDHR #047-0113). The Spray King Car Wash has been determined not eligible and the Sherry House has not been evaluated for listing on the NRHP.

Table 9. Previously Recorded Architectural Resources Considered within the Stage I Pre-Application Process.					
VDHR #	Resource	Date	Reference	VDHR/NRHP Status	CRI Recommendations
099-5283	Battle of Yorktown	1862	NPS 1993 and 2009	NRHP-Listed Date Unknown	Visual Effect Assessment as Required under Guidelines
047-0001	Carter's Grove	c. 1750	VHLC 1969	NRHP-Listed 1969; NHL-Listed 1970	Visual Effect Assessment as Required under Guidelines

### *Captain John Smith National Historic Water Trail*

In addition to the traditional architectural resources identified within the corridor, an additional resource has been identified within the ROW corridor where it crosses the James River. This resource, the Captain John Smith National Historic Water Trail, has not been recorded as a resource in the VDHR database. However, it has been recommended by the VDHR to be considered as a NRHP-eligible resource for purposes of this study.

### *Archaeological Resources Located within the Right-of-Way*

Pursuant to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008), all archaeological sites within the ROW of the transmission line will be subject to consideration.

Five previously identified archaeological resources (Sites 44JC0662, 44JC0663, 44JC0649, 44JC0650, and 44JC0840) are located either within or immediately adjacent to the project ROW corridor for the Surry Alternative (Figures 23-26, Table 9). Two sites (44JC0649, 44JC0650) are unevaluated in terms of NRHP eligibility. Two sites, 44JC0662 and 44JC0663, have been determined not eligible for listing on the NRHP according to the VDHR DSS forms. A Phase I survey has already been completed for the Switching Station Parcel and identified that Site 44JC0662 may be potentially eligible for listing on the NRHP. Site 44JC0662 is currently under investigation at the Phase II evaluation level of effort.

In addition to the archaeological resources located within the project ROW within the land-based portion of this alternative, a single underwater archaeological site falls just to the south of the proposed corridor for the Surry Alternative. This site, 44JC0840 is a shipwreck likely dating to the nineteenth century that was identified during underwater survey conducted for the US Army Corps of Engineers by Tidewater Atlantic Research (TAR) in 1995 for planned work on the Tribell Shoals Channel. The shipwreck was subject to a Phase II evaluation and was subsequently determined eligible for listing on the NRHP. While the shipwreck does not appear to be within the footprint for the proposed transmission line as it crosses the James River, it is nearby.



Figure 23. Map of Previously Recorded Architectural and Archaeological Resources Under Consideration for the Stage 1 Pre-Application Process, Surry Alternative Depicted on the *Yorktown, VA* USGS Quadrangle Intentionally Omitted: Contains Confidential Information.

Figure 24. Map of Previously Recorded Architectural and Archaeological Resources Under Consideration for the Stage 1 Pre-Application Process, James River Crossing Variation 1 Depicted on the Yorktown, VA USGS Quadrangle Intentionally Omitted: Contains Confidential Information.

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Figure 25. Map of Previously Recorded Architectural and Archaeological Resources Under Consideration for the Stage 1 Pre-Application Process, James River Crossing Variation 2, Depicted on the *Yorktown, VA* USGS Quadrangle Intentionally Omitted: Contains Confidential Information.

Figure 26. Map of Previously Recorded Architectural and Archaeological Resources Under Consideration for the Stage 1 Pre-Application Process, James River Crossing Variation 3, Depicted on the Yorktown, VA USGS Quadrangle Intentionally Omitted: Contains Confidential Information.

### **III. STAGE I PRE-APPLICATION ANALYSIS RESULTS**

#### **Architectural Field Work Methodology**

Field work for the proposed transmission line project was undertaken by Emily Lindtveit, Assistant Architectural Historian, and Katy Wolford, Architectural History Technician, between October 26 and 27, 2011, and November 30, 2011 and was comprised of photographing 20 resources requiring assessment according to the Stage I Pre-Application review process and examining the potential line-of-sight views from each resource towards the proposed transmission line improvements. Since the fieldwork was conducted prior to a formal SCC application submittal, all photographs were taken from public ROW locations, except for in the case of Carter's Grove, and aerial photography was utilized to supplement the analysis of project visibility and potential visual effects. Line of sight analyses were prepared by NRG for select resources in Charles City County and for Carter's Grove. Photo simulations for select points were prepared by TrueScape and were also utilized in the assessment.

#### **Chickahominy Alternative and Proposed Skiffes Creek Substation**

The proposed 500 kV transmission line will be located in a variable width right-of-way owned by Dominion Virginia Power for approximately 24.9 miles. This portion of the ROW crosses both areas of dense woods as well as open fields. The proposed structures are anticipated to be similar to those utilized on other 500 kV transmission line projects and are not expected to exceed a height ranging between 121 and 135 feet except for two structures at the Chickahominy River crossing that will be approximately 195 feet tall. Ground disturbing activities will take place at each tower foundation. Right-of-way will be cleared by cutting trees at ground level. The landscape associated with the new installment portion of the project ROW corridor is primarily rural in nature with sections of dense woods as well as areas of open fields. In addition, the landscape consists of gently rolling hills and areas of relatively level topography. Little modern development is located within the project area under consideration. The current transmission line corridor cuts across several roadway corridors as well as an active railroad line. An existing 230 kV transmission line corridor is located to the north of the proposed Chickahominy Alternative but is largely not visible from the vicinity of the proposed new 500 kV transmission line.

The improvements and upgrading to the remaining approximately 12.9 miles of the proposed 500 kV transmission line will be located entirely within a previously cleared and maintained transmission line ROW with existing power lines. Before crossing Interstate Highway 64 and reaching the existing Kingsmill Substation, this portion of the route splits into two subsections, one to the north and one to the south, with each subsection following an existing transmission right-of-way. To the north, the existing right-of-way contains 230/115 kV wood pole structures (Lines 209 and 58). The existing structures would be removed and replaced with a metal pole carrying a single circuit 500 kV line, which would be placed within the center of the right-of-way. To the south, the existing right-of-way is 100 feet wide and contains a steel pole structure with 230 and 115 kV lines (Lines 285 and 34). The 115 kV line would be replaced with a second 230 kV line, turning the structure into a double circuit 230 kV line. Ground disturbance activities will take place at each tower foundation. Right-of-way will be cleared by cutting trees

at ground level. The current landscape consists of gently undulating topography with the lowest elevations typically found adjacent to streams. The built environment, consisting of commercial, industrial, and residential development, is interspersed with deciduous and evergreen forests. This mixed landscape allows portions of the existing transmission line to be visible year-round in the developed areas. Presently very short segments of the existing transmission line corridor are hidden from view by tree cover on either side of the ROW. The proposed transmission line structures associated with this portion of the project will be visible in a vast majority of the area under consideration, however in most areas multiple lines currently exist in the corridor and are also visible.

### ***Individual Architectural Resources***

#### ***Poplar Springs (VDHR #018-0018)***

Poplar Springs is a c. 1809 one-and-a-half-story frame dwelling supported by a raised brick foundation (Figure 27-31). Originally constructed as a two-bay, side hall plan, the house was expanded to three bays with an addition built to the east in 1840. The exterior brick chimney on the west end of the building services the basement kitchen as well as the first and attic rooms. Other features include six-over-nine wood double-hung sash windows and a six-panel door with transom; all characteristic to the buildings time period of construction (VDHR Site Files).

The house sits on approximately 91 acres and is accessed by a long straight gravel driveway. Located on either side of the driveway are open fields with several large trees located along the driveway's edge. Behind the house is also a large expanse of open fields. The house, according to aerial maps, would only be shielded to the proposed 500 kV line by an approximately 500-foot area of woods directly to the west. Photographs taken in the public ROW at the base of the driveway as well as the corner of the property towards the proposed transmission line corridor across the open fields indicate that the proposed undertaking would be visible from this resource.

A simulated view (Figure 32) from the right of way along Glebe Road and at the southwestern corner of the Poplar Spring property was prepared to provide an example of potential visual effects for the general area and including Poplar Springs and the Old Main Road Rural Historic District (discussed on page 71). The photo simulation was prepared by TrueScape and provided by NRG on behalf of Dominion. View Point 2 (VP2; Location 5 in Figure 30) is about 1,075 feet southwest of the main house and farm complex and that much closer to the transmission line route. From VP2, the closest transmission line structure on the north side of The Glebe Lane would be obvious to travelers along the road, but structure height and appearance in the landscape would diminish quickly as the viewers look down the right-of-way into the distance. Structures in this area would be spaced on an average of about 1,000 feet. Views of the transmission line structures from the house, located 1,075 to the northeast away from the line would be much less noticeable. The two possible towers that would be located to the west of Poplar Springs would be invisible from the main complex of the resource due to dense forest. ***The proposed transmission line as it approaches the Glebe Lane west of Poplar Springs (VDHR #018-0018) would not be visible from this resource. However, the transmission line will be visible from the southern boundary of the property at Glebe Lane and slightly less visible from the main complex of the resource located approximately 1075 feet northeast down***

*a long, open driveway (Figures 27-32; Appendix B). Photo Simulations (Figure 32) illustrate the potential view and demonstrate that as distance increases, views are diminished even in an open setting. Additional evaluation of the potential visual effect on Poplar Springs is recommended pending final tower siting plans.*



Figure 27. View of Poplar Springs (VDHR #018-0018), Looking North (Photograph was taken from the Public ROW at the end of the Driveway).





Figure 28. View from Poplar Springs (VDHR #018-0018), from Location 6a, Looking Southwest towards the Proposed 500 kV Transmission Line Corridor. Under Current Conditions it Appears the Proposed Undertaking will be Visible from this Resource (Photograph was taken from Public ROW at the end of the Driveway).



Figure 29. View from Poplar Springs (VDHR #018-0018), from Location 6b, Looking Southwest towards the Proposed 500 kV Transmission Line Corridor. Under Current Conditions it Appears the Proposed Undertaking will be Visible from this Resource (Photograph was taken from Public ROW at the end of the Driveway).



Figure 30. View from Poplar Springs (VDHR #018-0018), from Location 5a, Looking Southwest towards the Proposed 500 kV Transmission Line Corridor. Under Current Conditions it Appears the Proposed Undertaking will be Visible from this Resource (Photograph was taken from Public ROW at the Southwestern Corner of the Property).



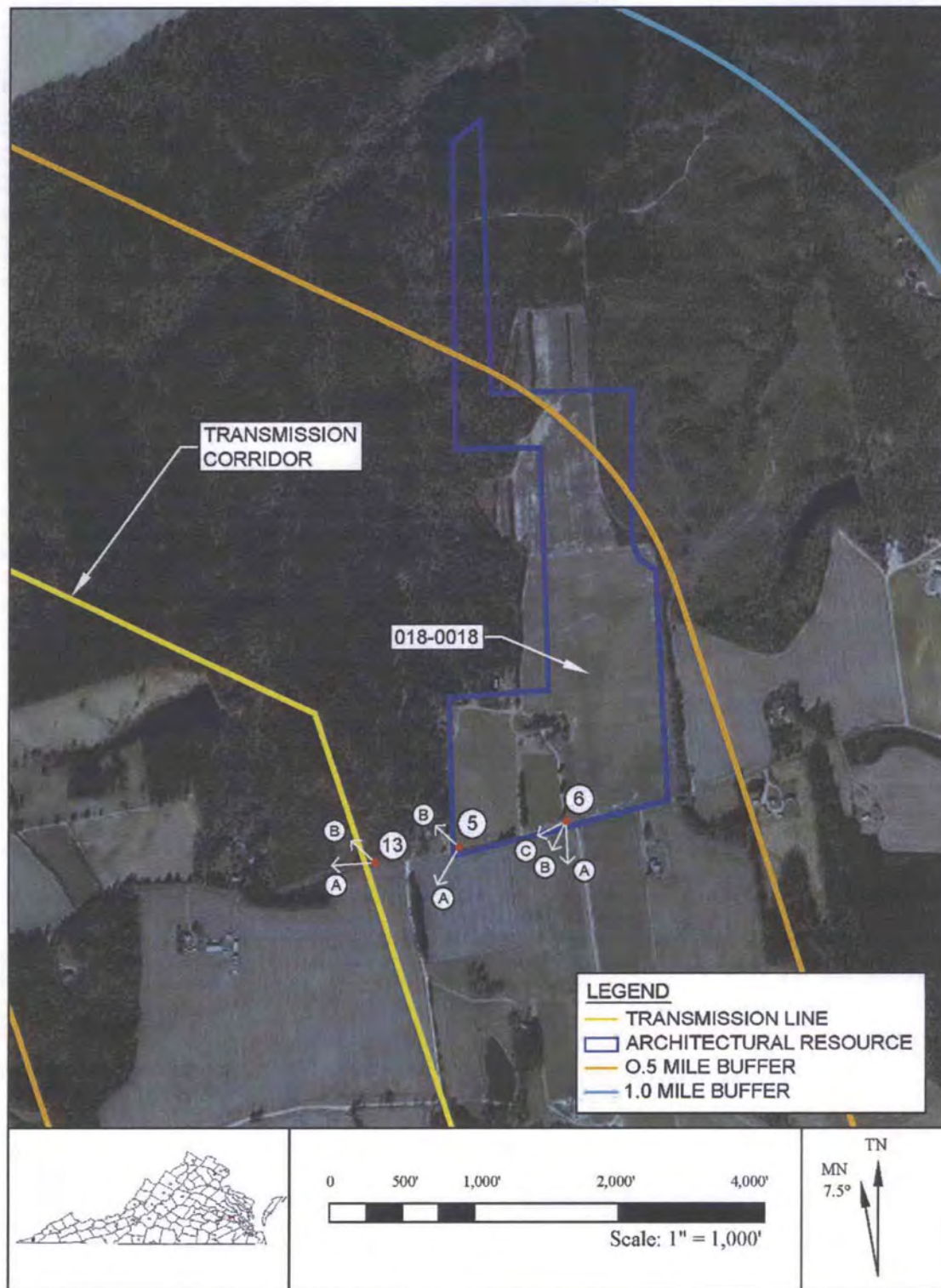


Figure 31. View shed Analysis for Poplar Springs (VDHR #018-0018), Charles City County, Virginia.





Viewpoint 02 - The Glebe Lane - Looking South - Existing View



Viewpoint 02 - The Glebe Lane - Looking South - Proposed View



**Dominion**  
Surry-Skiffes Creek 500 kV Transmission Line  
Skiffes Creek-Wheaton 230 kV Transmission Line  
Skiffes Creek 500-230-115 kV Switching Station

**Viewpoint 02**  
The Glebe Lane  
Looking South  
Existing and Proposed

Viewpoint Location  
Transmission Line



Easting position (Virginia South Zone NAD83) 11926711.14  
Northing position (Virginia South Zone NAD83) 3663079.66  
Elevation of viewpoint position (NAD 83) (ft) 112.28  
Height of camera above ground (ft) 5.4  
Date of photography: 26th November 2011 at 10:26 a.m.  
Orientation of view: S  
Horizontal field of view: 124°  
Vertical field of view: 55°

NOTES:  
Viewpoint locations have been precision surveyed by  
Dominion Virginia Power  
Coordinator - Survey Services  
Larry Hedblom, L.S.  
701 East Cary Street  
Richmond, Va. 23219  
No part of this photosimulation shall be altered in any way.  
Visual Assessments should be made from the full size TrueView™ only.

Photosimulation Created Using  
TrueView™ Technology  
Provided by  
**TRUESCAPE**  
VISUAL COMMUNICATION  
www.truescape.com

DATE April 20, 2012

Tower placement in simulations is preliminary - final tower locations may change upon final design and survey

Figure 32. Photo Simulation from View Point 2 and Poplar Springs, Charles City County, Virginia.



### *Eagle's Nest (VDHR #018-0037)*

Eagle's Nest, post 1700, as originally built was a one or one-and-a-half-story brick dwelling constructed in an English bond pattern except for the north façade, which is laid in Flemish bond. In the nineteenth century, the house was raised to two stories with the construction of a frame addition. The house features both an interior and exterior brick chimney. During the current study visibility of the house was obscured by trees and distance from the public ROW (Figure 33). Photographs were obtained from the end of the driveway.

The Lodge, the main house associated with Eagle's Nest, sits on top of a rise in the landscape and has a commanding view of the Chickahominy River and Eagle's Bottom Marsh (Figure 33-34). To the north and northwest of the house large expanses of trees are present, including both deciduous and evergreens, of approximately 5,000 feet in depth which shield the resource from the proposed transmission line as it crosses the river (Figure 35-36). However, the siting of the house on a high bluff indicates that it may have views of the line on the opposite side of the river. Photographs taken in the public ROW at the base of the driveway in a southeasterly direction towards the proposed transmission line corridor across the water, however, indicate that the proposed undertaking may be visible from this resource from this direction (see Figure 36).

NRG prepared a line of sight analysis for this resource to further examine the potential visual effects the proposed transmission line may have on Eagle's Nest (Figure 37). NRG used digital elevation data (3-meter cell size resolution) obtained from the U.S. Department of Agriculture that represented ground surface elevations along the sight lines. Tree height data for the mature forests in these areas was estimated to be between 60 to 80 feet tall based on information obtained from Dominion's forestry group familiar with tree work along transmission line rights-of-way in this part of Virginia. Consequently, an average tree height of 70 feet was used to model the mature forest canopy in this area. Additionally, and because Eagle's Nest may have a line of sight to towers in James City County, the line of sight analysis for this resource also utilized digital LIDAR elevation data (5-foot cell size resolution) obtained from the College of William and Mary for James City County to represent both the ground and vegetation (tree) surface elevations so that actual tree heights, rather than estimated tree heights could be used for vegetation modeling on the east side of the river. At this location (Figure 37), with the exception of the towers used to span the Chickahominy River, all other towers would average approximately 111 feet in height. The towers used to span the river would be 195 feet tall above the ground (west side) or river level (east side). From the line of sight analysis done for the Eagles Nest location, it was determined that the top 56 feet and 16 feet of the western and eastern towers used to span the river, respectively, would be visible from the front of the house. Additionally, the top 37 feet of the westernmost tower modeled (Tower 1) would be visible. Towers 2 and Towers 5 through 13 would not be visible from Eagles Nest. This is partially due to a large-canopied tree located in the front yard of the main house complex that would block views from the front of the house towards the transmission line on the east side of the river. Tower numbers 1 and 3 would be approximately 1.0 mile from Eagles Nest and tower number 4 would be approximately 1.15 miles from the Eagles Nest house.

The line of sight analysis was conducted from the main above-ground resource for this property. Eagle's Nest encompasses an area measuring just under 200 acres that is largely wooded with

dense, mature forest. Locations along the edge of the river and along the marsh are at a much lower elevation than the main house and would likely not have significant views of the towers except for at the river crossing. These areas are largely inaccessible, however. Photo simulations taken from the opposite side of the river south of Yarmouth Island and north of Eagle's Nest from View Point 3 (Appendix B) give a general sense of the views of the river crossing in this vicinity. *Therefore it is recommended that the proposed undertaking may have a visual effect on the main resources at Eagle's Nest from this particular vantage point and possibly from other points along the southeastern edge of the property along the Chickahominy River. However, the visual effects are highly minimized by the heavily wooded conditions present in the vicinity. Pending final tower siting, additional evaluation is recommended.*



Figure 33. View of Eagle's Lodge (VDHR #018-0037), from Base of Driveway Looking Southeast (Photograph was taken from Public ROW).



Figure 34. View from Eagle's Lodge (VDHR #018-0037), from Location 7, Looking Southeast towards the Proposed 500 kV Transmission Line Corridor. Under Current Conditions it Appears the Proposed Undertaking may be Visible from this Resource at this Location (Photograph was taken from Public ROW at the end of the Driveway with a Zoom Lens).





Figure 35. View from Eagle's Lodge (VDHR #018-0037), from Location 7b, Looking Northeast towards the Proposed 500 kV Transmission Line Corridor. Under Current Conditions it Appears the Proposed Undertaking will not be Visible from this Resource in this Direction (Photograph was taken from Public ROW at the Base of the Driveway).

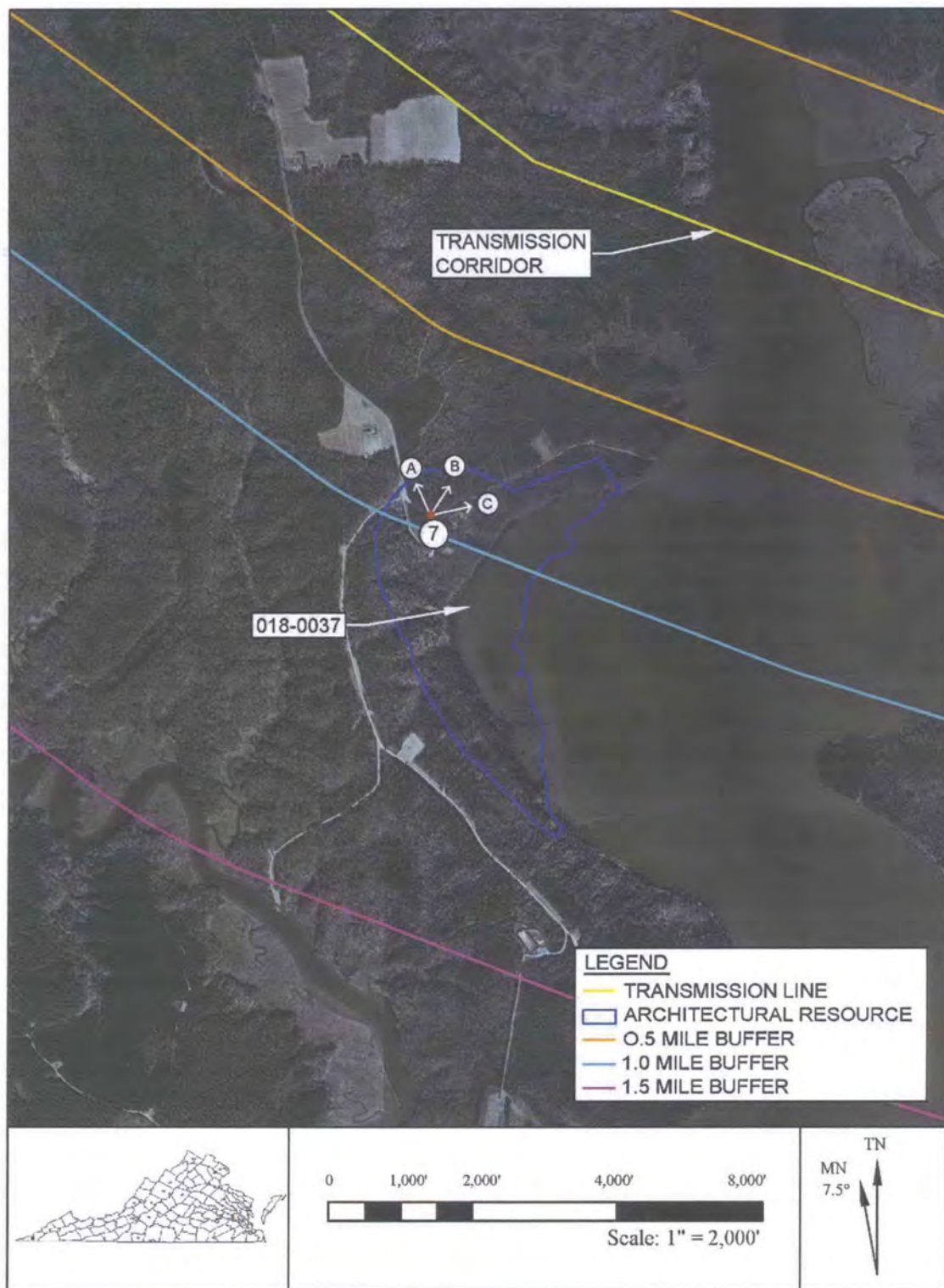
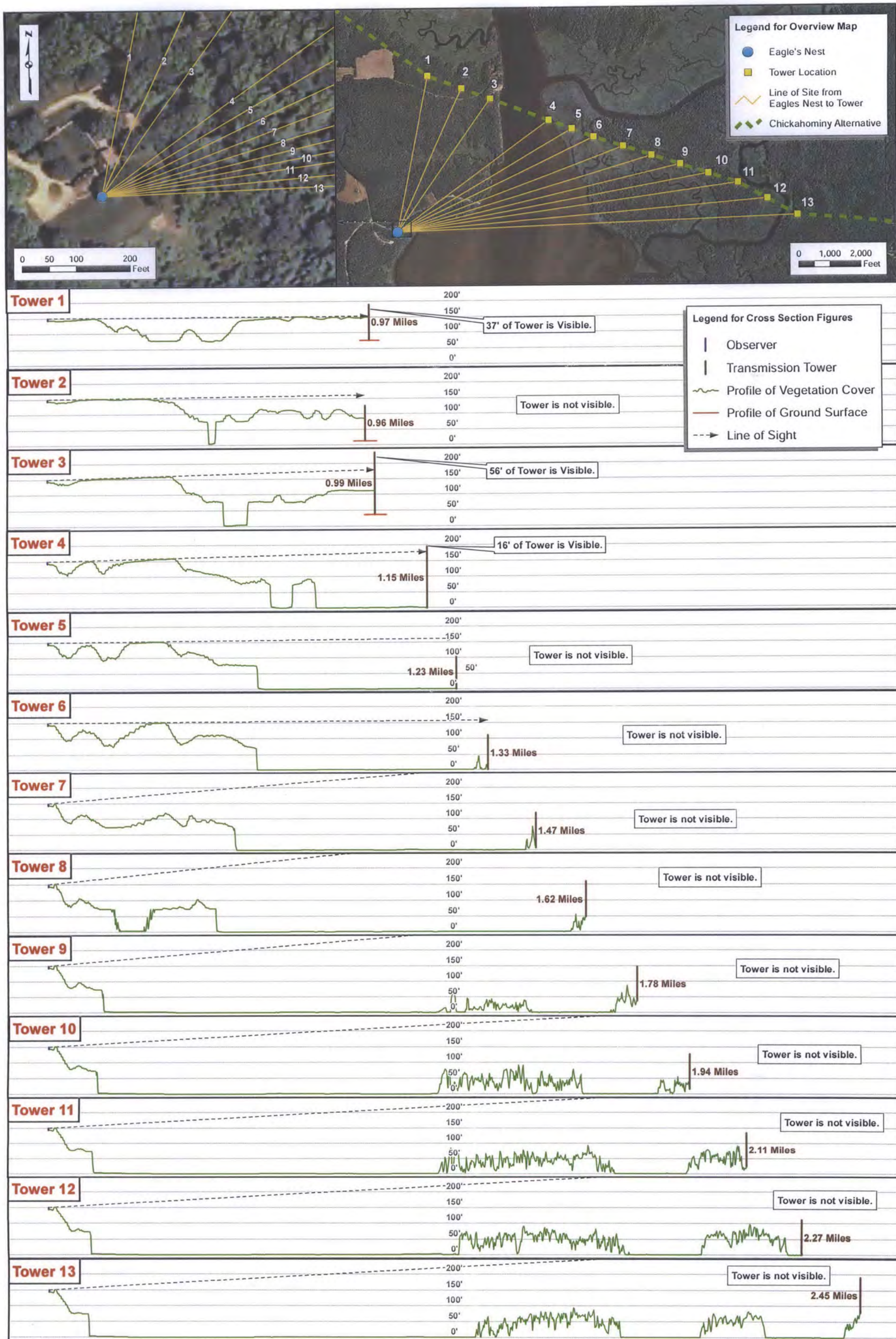


Figure 36. Viewshed Analysis for Eagle's Lodge (VDHR #018-0037), Charles City County, Virginia.





**Figure 37**

Surry - Skiffes Creek 500 kV Transmission Line  
Line of Sight and Tower Visibility Analysis from Eagles Nest  
Chickahominy Alternative  
Vertical Exaggeration X 5



\*Elevation Data: 2010 11-County Coastal LIDAR DSM Files Representing Elevation of Vegetation Cover. Downloaded from College of William and Mary, Center for Geospatial Analysis - <http://www.wm.edu/as/cga/Data%20Services/VALIDAR/index.php>





*Piney Grove (VDHR #018-0063)*

The NRHP-listed Piney Grove is a c. 1800 one-and-a-half-story frame dwelling which is constructed of logs in a hall and parlor plan (Figure 38). The house was added to in 1853 and consisted of a two-story block and a lean-to off the north elevation. An additional chimney was added during the mid-nineteenth century to accommodate new fireboxes and service the earlier fireplace in the original portion of the house. In the early twentieth century the porch was enlarged and a one-story block addition constructed (VDHR Site Files).

Piney Grove sits on approximately 5.2 acres on a relatively level lot. In front of the house is a large expanse of lawn with a variety of trees to the rear and north. The house is also accessed by a long driveway. Although a majority of the resource appears to be shielded from the proposed 500 kV transmission line by dense areas of woods, the view towards the southeast across open fields, would possibly afford a view of the proposed undertaking (Figure 39).

A line of sight analysis was conducted by NRG on behalf of Dominion for this resource (Figure 41). Photo simulations were not prepared for this resource due to the low probability of having views of the towers from this resource. However, to determine more accurately if any of the towers that would be used in this area could be seen from this resource, and to assess the number of towers and how much of each tower could be seen, NRG used digital elevation data (3-meter cell size resolution) obtained from the U.S. Department of Agriculture that represented ground surface elevations along the sight lines. Tree height data for the mature forests in these areas was estimated to be between 60 to 80 feet tall based on information obtained from Dominion's forestry group familiar with tree work along transmission line rights-of-way in this part of Virginia. Consequently, an average tree height of 70 feet was used to model the mature forest canopy in this area. The tower design that would be used in this area would average approximately 111 feet tall. These data were used in combination with ArcGIS 3D Analyst to prepare cross-sectional sight lines to each tower location from a point 6 feet off the ground (eye level) directly in front of the main houses at each site. The line of sight analysis indicated that Piney Grove would be shielded from view of the towers that would be located near, and that could reasonably be expected to be seen from this resource. The presence of large stands of dense mature trees vicinity located on both the north and south sides of The Glebe Lane effectively shield the resource from view of the transmission line. *According to aerial mapping (Figure 40), the site visit, and the line of sight analysis, it appears that Piney Grove will be shielded from views of the transmission line corridor and associated structures. Slight views may be possible from the driveway as it intersects The Glebe Lane, however the main resource and core of the property will be protected from view. Therefore it is recommended that the proposed transmission line will only minimally affect view sheds associated with Piney Grove.*





Figure 38. View of Piney Grove (VDHR #018-0063), Looking Northeast (Photograph taken from Public ROW).





Figure 39. View from Piney Grove (VDHR #018-0063), from Location 3c, Looking East towards the Proposed 500 kV Transmission Line Corridor. Under Current Conditions it Appears the Proposed Undertaking will not be Visible from this Resource in this Direction (Photograph was taken from Public ROW from the Driveway).



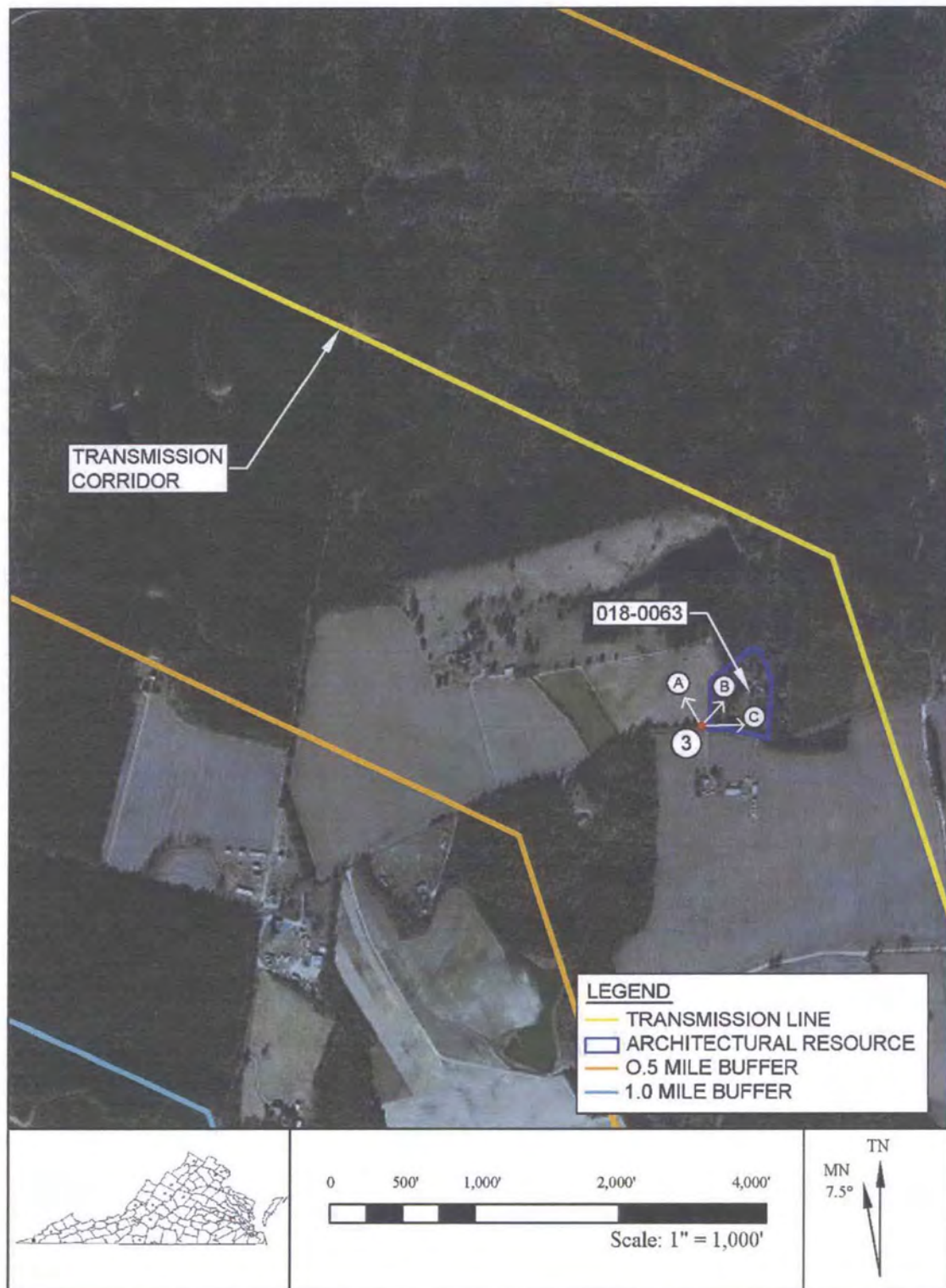
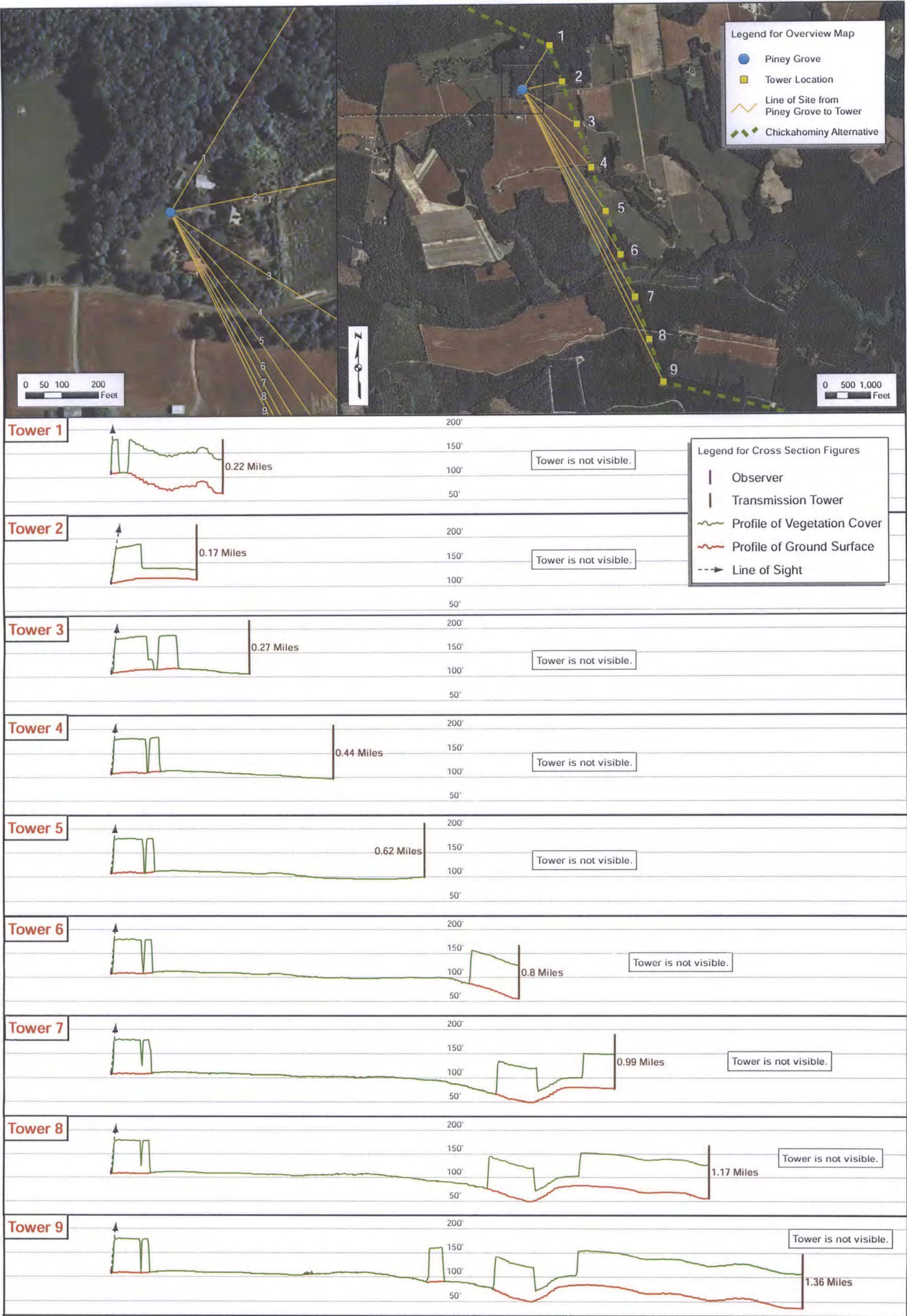


Figure 40. Viewshed Analysis for Piney Grove (VDHR #018-0063), Charles City County, Virginia.





**Figure 41**  
 Surry - Skiffes Creek 500 kV Transmission Line  
 Line of Sight and Tower Visibility Analysis from Piney Grove  
 Chickahominy Alternative  
 Vertical Exaggeration X 5





*Moss Side (VDHR #018-0066)*

Moss Side is a c. 1850 wood-framed two-story dwelling determined potentially eligible for listing on the NRHP. Noted during the previous survey the dwelling is clad with weatherboards on the exterior walls with a standing seam metal roof (Figure 42). Several later outbuildings are located on the property and include a c. 1830 smoke/meat house, and a c. 1900 secondary dwelling and chicken coop (VDHR Site Files).

The house sits on a relatively level lot and is accessed from a long gravel driveway. Flanking the driveway are agricultural fields. Woods are located behind the house and range in depth from the proposed 500 kV transmission line corridor to the edge of the tree line from approximately 1,000 to 1,500 feet. An area of woods is also located to the southeast of the house. Two narrow areas of breaks in the forested sections near the property may afford a view of the proposed 500 kV transmission line, but that view would be minimal (Figures 43-44).

A line of sight analysis was conducted by NRG on behalf of Dominion for this resource (Figure 45). Photo simulations were not prepared for this resource due to the low probability of having views of the towers from this resource. However, to determine more accurately if any of the towers that would be used in this area could be seen from this resource, and to assess the number of towers and how much of each tower could be seen, NRG used digital elevation data (3-meter cell size resolution) obtained from the U.S. Department of Agriculture that represented ground surface elevations along the sight lines. Tree height data for the mature forests in these areas was estimated to be between 60 to 80 feet tall based on information obtained from Dominion's forestry group familiar with tree work along transmission line rights-of-way in this part of Virginia. Consequently, an average tree height of 70 feet was used to model the mature forest canopy in this area. The tower design that would be used in this area would average approximately 111 feet tall. These data were used in combination with ArcGIS 3D Analyst to prepare cross-sectional sight lines to each tower location from a point 6 feet off the ground (eye level) directly in front of the main houses at each site. The results of the line of sight analysis indicated that only a portion of a single tower, Tower 7, would be visible from Moss Side. Because of the scattered smaller and large trees located surrounding the Moss Side complex, only the top 23 feet of tower 7 would be visible from a distance of about 0.5 mile. All other towers that could reasonably be seen from this location would be blocked by the tree cover surrounding the house. Additionally, the location of Moss Side, set back from The Glebe Lane, provides adequate shielding of the proposed transmission line as it crosses The Glebe Lane and trends to the south. A large stand of trees located on the south side of The Glebe Lane, provides shielding as does the distance between the resource and towers sited south of the road. ***Under current conditions, and according to the line of sight analysis, it appears that the resource will have minimal if any view of the proposed undertaking and therefore it is recommended that the proposed project will not have an negative visual effect on Moss Side (VDHR #018-0066).***





Figure 42. View of Moss Side (VDHR #018-0066), Looking North (Photograph taken from Public ROW).





Figure 43. View from Moss Side (VDHR #018-0066), from Location 2b, Looking Northeast towards the Proposed 500 kV Transmission Line Corridor. Under Current Conditions it Appears the Proposed Undertaking will not be Visible from this Resource in this Direction (Photograph was taken from Public ROW from the end of the Driveway).



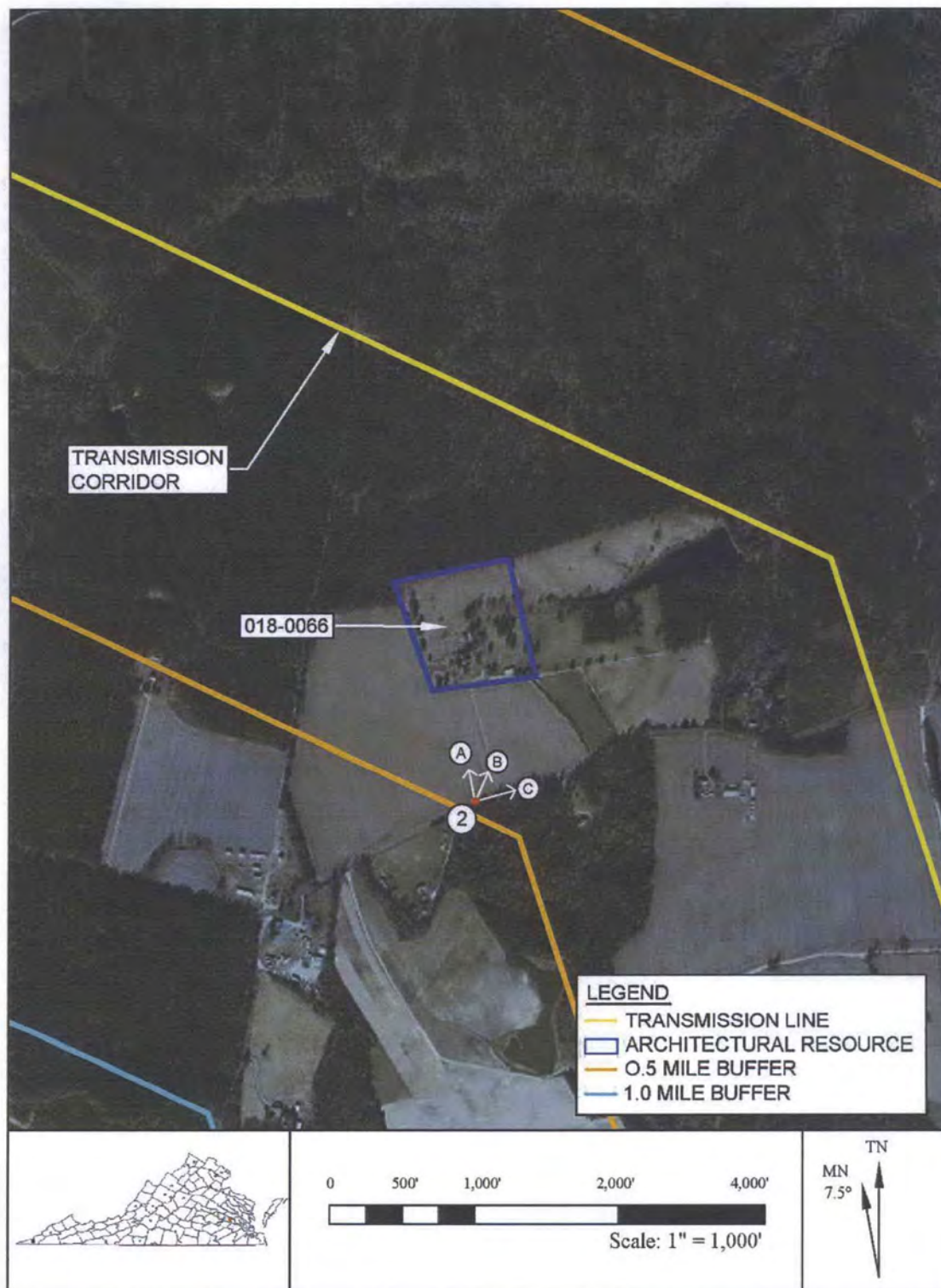
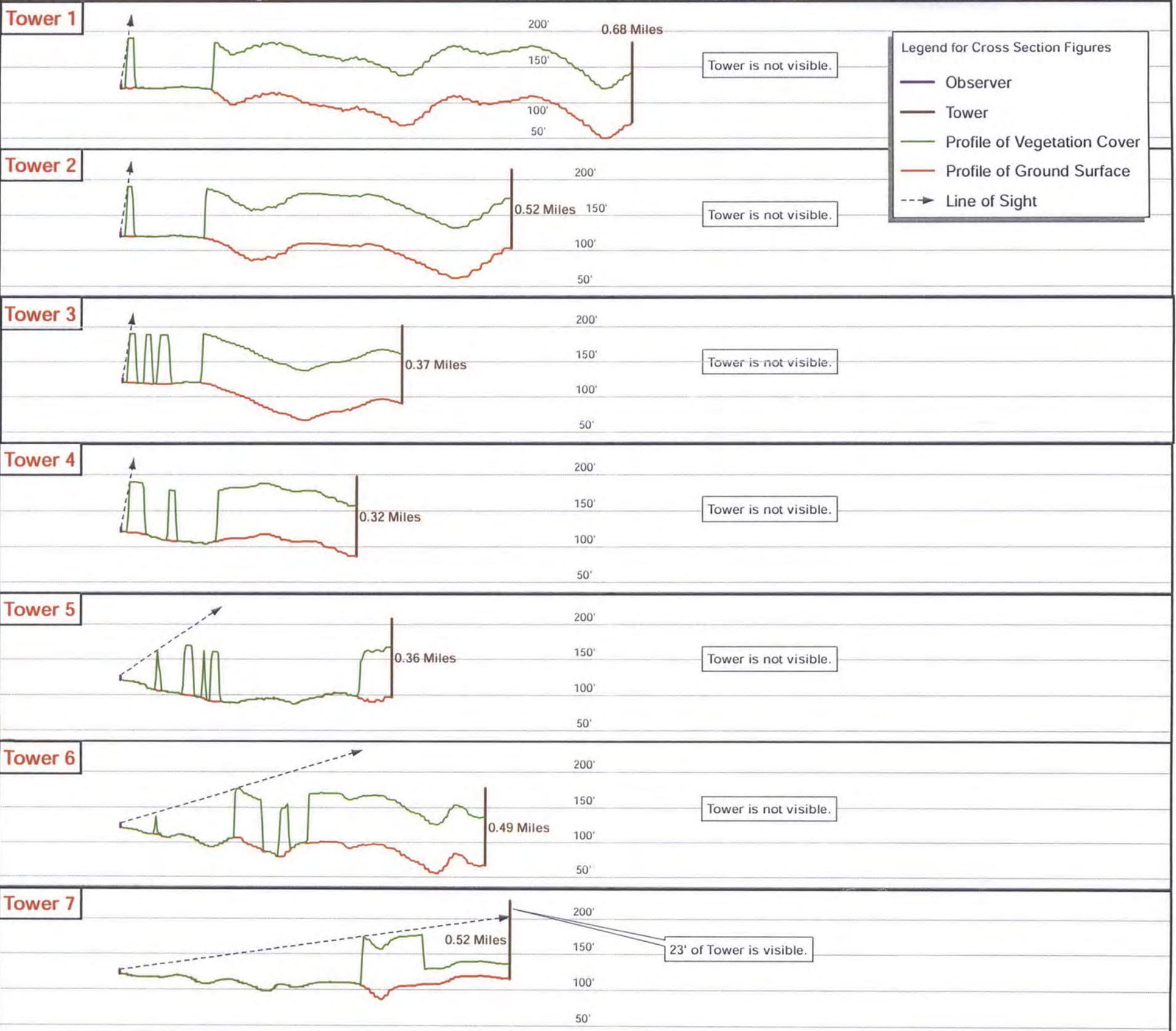
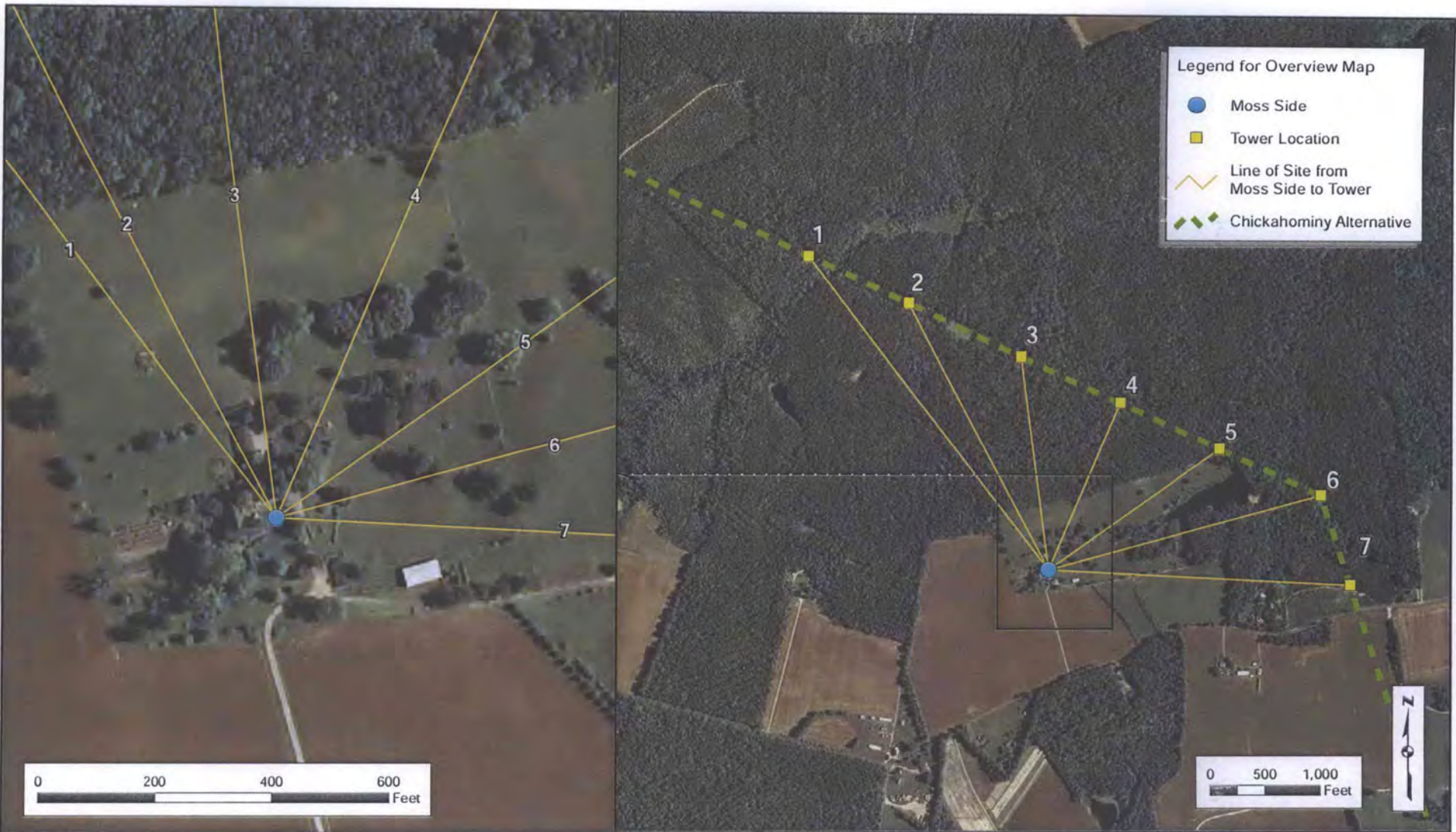


Figure 44. Viewshed Analysis for Moss Side (VDHR #018-0066), Charles City County, Virginia.





**Figure 45**  
 Surry - Skiffes Creek 500 kV Transmission Line  
 Line of Sight and Tower Visibility Analysis from Moss Side  
 Chickahominy Alternative  
 Vertical Exaggeration X 5





*Saint Mary's Church Battlefield (VDHR #018-5004)*

The Saint Mary's Church Battlefield (1864) is located along areas of Routes 602, 603 and 609 in Charles City County. The landscape of the battlefield consists of open agricultural fields with tree lines as well as densely wooded areas. Architectural resources are scattered within the boundaries of the battlefield; however, most are not associated with NRHP-eligible battlefield resource. The associated resources noted during the previous survey included Civil War Breastworks, and St. Mary's, Salem and Hopewell churches. Other contributing resources included Nance's Shop, and possible hospital and burial sites. The form notes that these resources have been destroyed (VDHR Site Files). During the Stage I Pre-Application an effort was made to relocate the contributing battlefield resources within the study area noted during the current survey to confirm that they had in fact been demolished. None of the previously identified resources noted during the previous 1993 survey are located/extant within the ROW corridor associated with the proposed undertaking.

Currently an existing transmission line corridor crosses the battlefield in several locations within the northern portion of the resource and north of the proposed Chickahominy Alternative. An existing transmission line corridor is also present along the western boundary of the resource as is the Chickahominy Substation. Because the landscape consists of open agricultural fields, the extant transmission lines are visible in several different locations. However, the field site visit indicated that these transmission lines did not overly detract from the resource and surrounding landscape due to the extensive and sometimes dense forest interspersed with open agricultural fields. The current Chickahominy Substation is located in the northwestern corner of the battlefield resource. The proposed 500 kV transmission line crosses through the battlefield in areas of open fields as well as dense woods (Figures 46-51). The portion of the existing section of the transmission line is visible above the tree line at the intersection with Old Union Road and in areas with large expanses of fields (Figures 46 and 50). The proposed transmission line will be visible at the point of intersection with several roads located within the Battlefield, aside from Old Union Road where it is presently visible, including Barrett's Road, Chambers Road, Samaria Lane, and Adkins Road, among others.

An example of views of the landscape from within the Saint Mary's Church Battlefield is presented in the simulation for VP1 (Figure 53; Appendix B). The battlefield area is currently a mixture of some rural agricultural areas, but mostly forested lands with interspersed houses, roads, existing transmission line rights-of-way, a landfill, and a sand and gravel mining area (Figure 54). Most of the transmission line in this area would be located either along existing transmission lines or located in forested areas. From VP1, distant views of the new towers would be along the same right-of-way as existing towers of the same height and appearance and would not be expected to significantly change the visual character of this area of the battlefield. Other areas are primarily forested and short, foreground views of the transmission line would be limited to along roadways. *The proposed transmission line will be visible in various parts of the Battlefield, however, the large spans and open design of the tower structures will minimize views within the open, agricultural areas. The majority of the transmission line corridor as it crosses the Battlefield is forested providing effective shielding for the approximately 111 feet tall structures that would be constructed in this area. However, because of the size of the resource, additional evaluation of the potential visual effects the transmission line will have*



*on this resource is recommended pending final siting of tower locations. While the tower structures will have a visual impact, the open design and relatively large spans between towers may minimize the overall visual impact to the Battlefield landscape.*



Figure 46. View from Location I at the Intersection of Old Union Road, Looking North along Existing Transmission Line showing Current Conditions. Extant Transmission Line Corridor and Associated Towers are Visible in this Portion of Saint Mary's Battlefield (VDHR #018-5004; Photograph was taken from Public ROW).



Figure 47. View from Location J at the Intersection of Barnett's Road, Looking West along Proposed Transmission Line Corridor showing Current Conditions. Transmission Line Corridor and Associated Towers will be Visible in this Portion of Saint Mary's Battlefield (VDHR #018-5004; Photograph was taken from Public ROW).





Figure 48. View from Location M at the Intersection of Samaria Lane and the Proposed Transmission Line Corridor, Looking Northeast showing Current Conditions Including Variable Tree Heights. Transmission Line Corridor and Associated Towers will be Visible in this Portion of Saint Mary's Battlefield (VDHR #018-5004; Photograph was taken from Public ROW).



Figure 49. View from Location O at the Intersection of Adkins Road, Looking West along Proposed Transmission Line Corridor showing Current Conditions. Transmission Line Corridor and Associated Towers will be Visible in this Portion of Saint Mary's Battlefield (VDHR #018-5004; Photograph was taken from Public ROW).





Figure 50. View from Location B from Old Union Road in Vicinity of Nance's Shop, Looking Southwest towards Existing Transmission Line showing Current Conditions. Transmission Line and Associated Towers are Visible in this Portion of Saint Mary's Battlefield (VDHR #018-5004; Photograph was taken from Public ROW).



Figure 51. View from Location D along Barnett's Road, Looking South towards Proposed Transmission Line Corridor showing Current Conditions. Transmission Line Corridor and Associated Towers will be Potentially Visible in this Portion of Saint Mary's Battlefield (VDHR #018-5004; Photograph was taken from Public ROW.



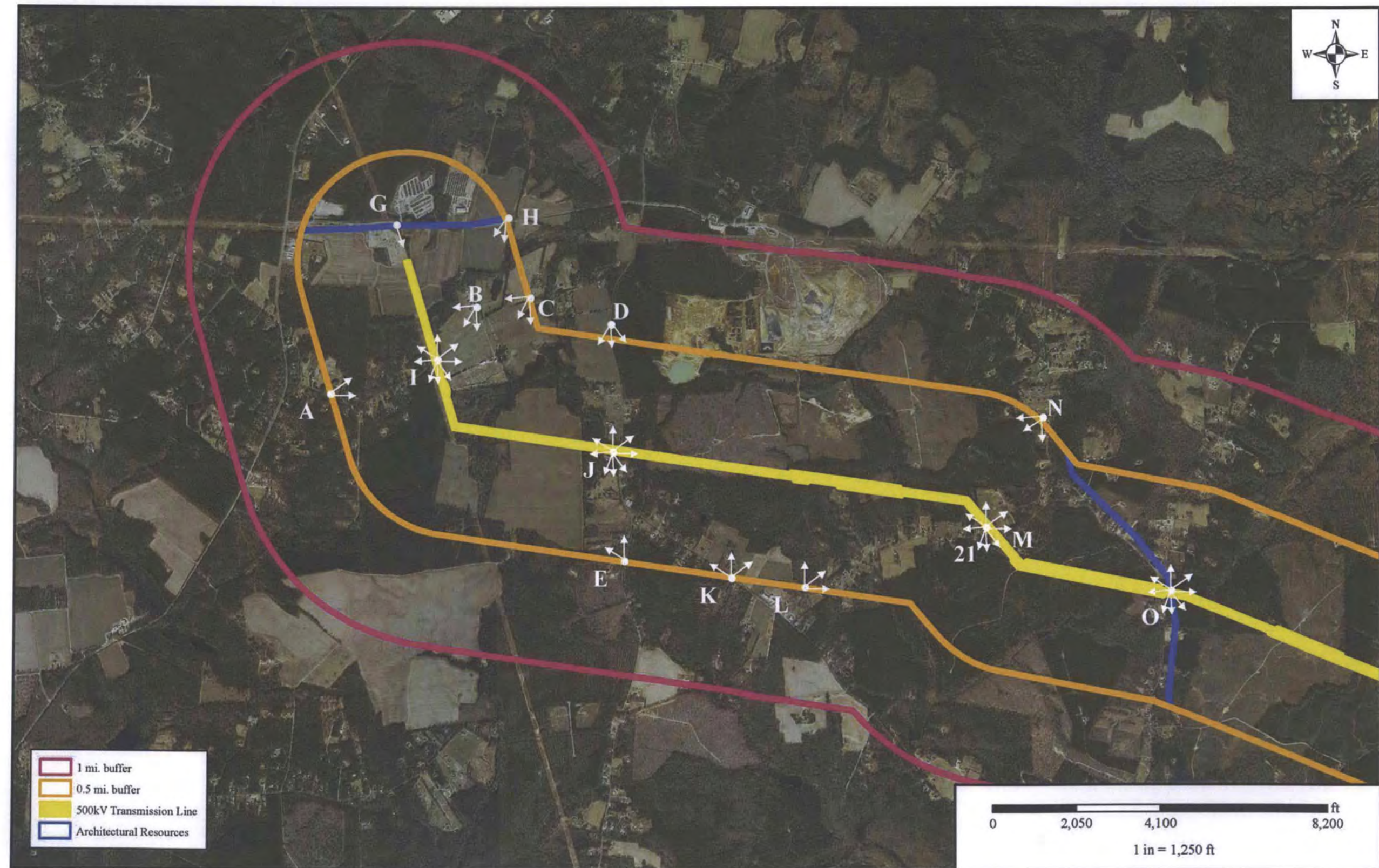


Figure 52. Viewshed Analysis for the Saint Mary's Church Battlefield Site (VDHR #018-5004), Charles City County, Virginia.





**Viewpoint 01 - State Route 603 (Old Union Road) - Looking South West - Existing View**



**Viewpoint 01 - State Route 603 (Old Union Road) - Looking South West - Proposed View**




 <b>Dominion</b> Surry-Skiffes Creek 500 kV Transmission Line Skiffes Creek-Wheaton 230 kV Transmission Line Skiffes Creek 500-230-115 kV Switching Station	
<b>Viewpoint 01</b> State Route 603 (Old Union Road) Looking South West  Existing and Proposed	
* Viewpoint Location  Transmission Line	
	
Easting position (Virginia South Zone NAD83): 11674532.64 Northing position (Virginia South Zone NAD83): 2683557.27 Elevation of viewpoint position (NAD 83) (ft): 128.73 Height of camera above ground (ft): 5.4 Date of photography: 24th November 2011 at 12:39 p.m. Orientation of view: SW Horizontal field of view: 124° Vertical field of view: 55°	
NOTES: Viewpoint locations have been precision surveyed by <b>Dominion Virginia Power</b> Coordinator - Survey Services Larry Hedblom, L.S. 701 East Cary Street Richmond, Va. 23219  No part of this photosimulation shall be altered in any way. Visual Assessments should be made from the full size TrueView™ only.	
Photosimulation Created Using TrueView™ Technology  Provided by <b>TRUESCAPE</b> VISUAL COMMUNICATION www.truescape.com	
DATE	April 20, 2012
Tower placement in simulations is preliminary - final tower locations may change upon final design and survey	

Figure 53. Photo Simulation of Proposed Transmission Line within the Saint Mary's Battlefield Resource (see also Appendix B).





Figure 54. Detail View of the Chickahominy Alternate Depicting the Saint Mary's Church Battlefield (VDHR #018-5004).



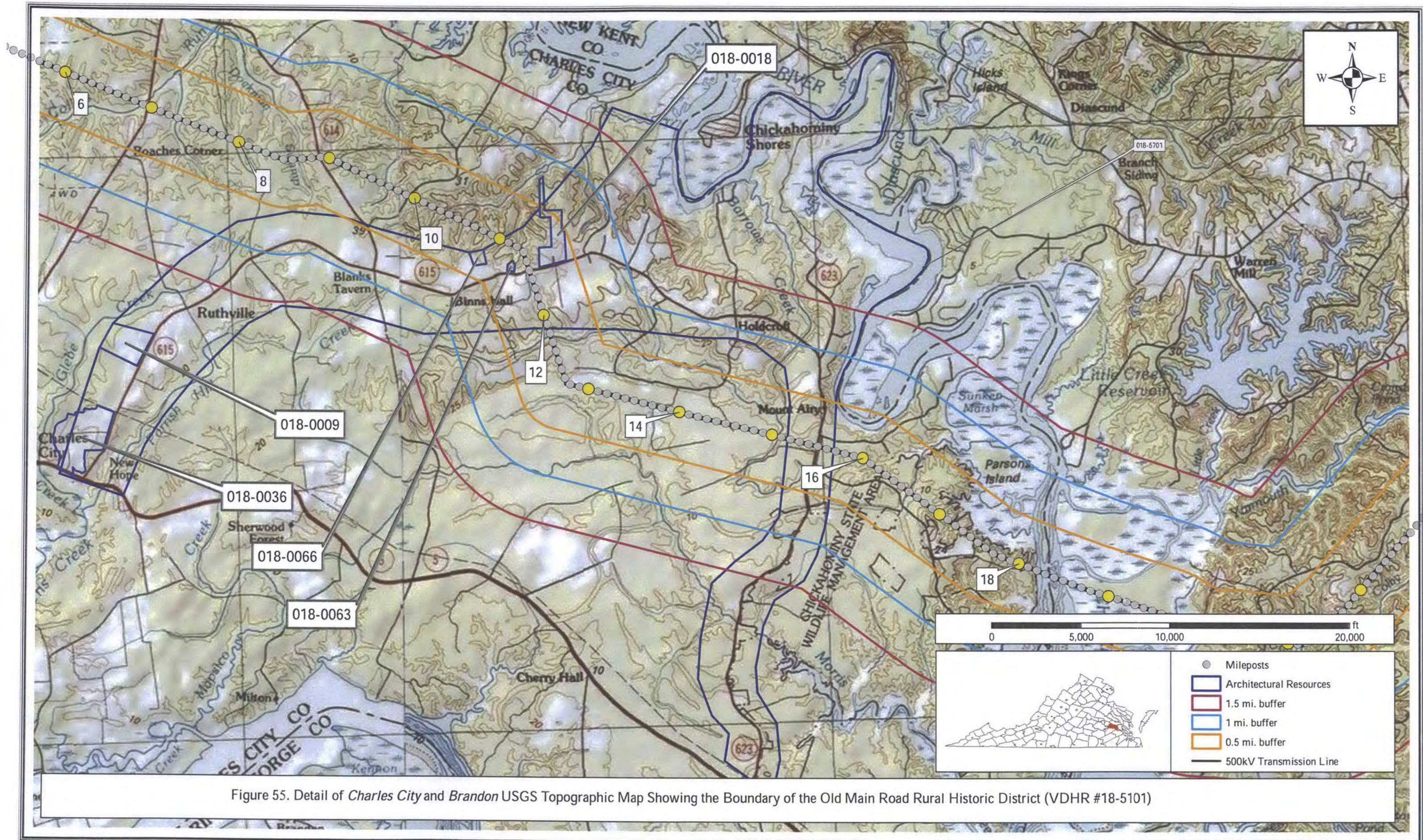
### *Old Main Road Rural Historic District (VDHR #018-5101)*

The Old Main Road Rural Historic District comprises an area of Charles City County along Route 615 and Route 623 with the central portion of the district bounded by the Chickahominy River to the north. Eighty-two previously recorded architectural resources are located within the district boundary with four of the resources; the Glebe, Westover Parish (VDHR #018-0009), Poplar Springs (VDHR #018-0018), Bel Air (VDHR #018-0036), and Piney Grove (VDHR #018-0063) listed on the NRHP. Two of the resources; Poplar Springs and Piney Grove are located within the 0.5-mile buffer of the proposed transmission line corridor. The remaining two resources; Bel Air and the Glebe, Westover Parish, fall outside the 1.5-mile buffer and are not within the defined project area. An additional resource, Moss Side (VDHR #018-0066), is eligible for listing on the NRHP and falls within the 0.5-mile buffer.

The district boundary is based on a 1989 windshield survey and the district is unevaluated; however, several of the properties maintain a high degree of architectural integrity and is recommended potentially eligible for listing on the NRHP (Figure 55).

The proposed 500 kV transmission line crosses through the Old Main Road Rural Historic District in primarily in area of dense woods as well as a few areas of open fields (Figures 55-65). Largely, the proposed transmission line passes through the historic districts through dense stands of woods except for at road crossings. Towers in this vicinity are proposed at 111 feet in height (Appendix A: II.A.3.D) and in some cases would only barely exceed the height of the existing trees. Based on the close proximity of the proposed transmission line to Poplar Springs (VDHR #018-0018), Piney Grove (VDHR #018-0063), and Moss Side (VDHR #018-0066), the architectural resources may experience moderate visual impact from the construction of the proposed tower structures and associated wires. While the tower structures will have a visual impact, the open design and relatively large spans between towers may minimize the overall visual impact to the *district's* landscape in certain areas. Photo simulations from the Glebe Lane and the vicinity of Poplar Springs (see Figure 32) provide a representative view of the potential visual impact the proposed transmission line may have on this historic district. ***Although several resources within the district may be moderately impacted by the line, it appears that overall the characteristics qualifying the district as potentially eligible for listing on the NRHP including the rural setting will not be largely compromised. Tree clearing along the undeveloped corridor will be limited to the corridor only; surrounding stands of trees will not be compromised. It is therefore recommended that the proposed transmission line will only minimally impact the Old Main Road Historic District. Individual Resources listed on the NRHP or determined eligible for listing on the NRHP within this district have been evaluated individually.***







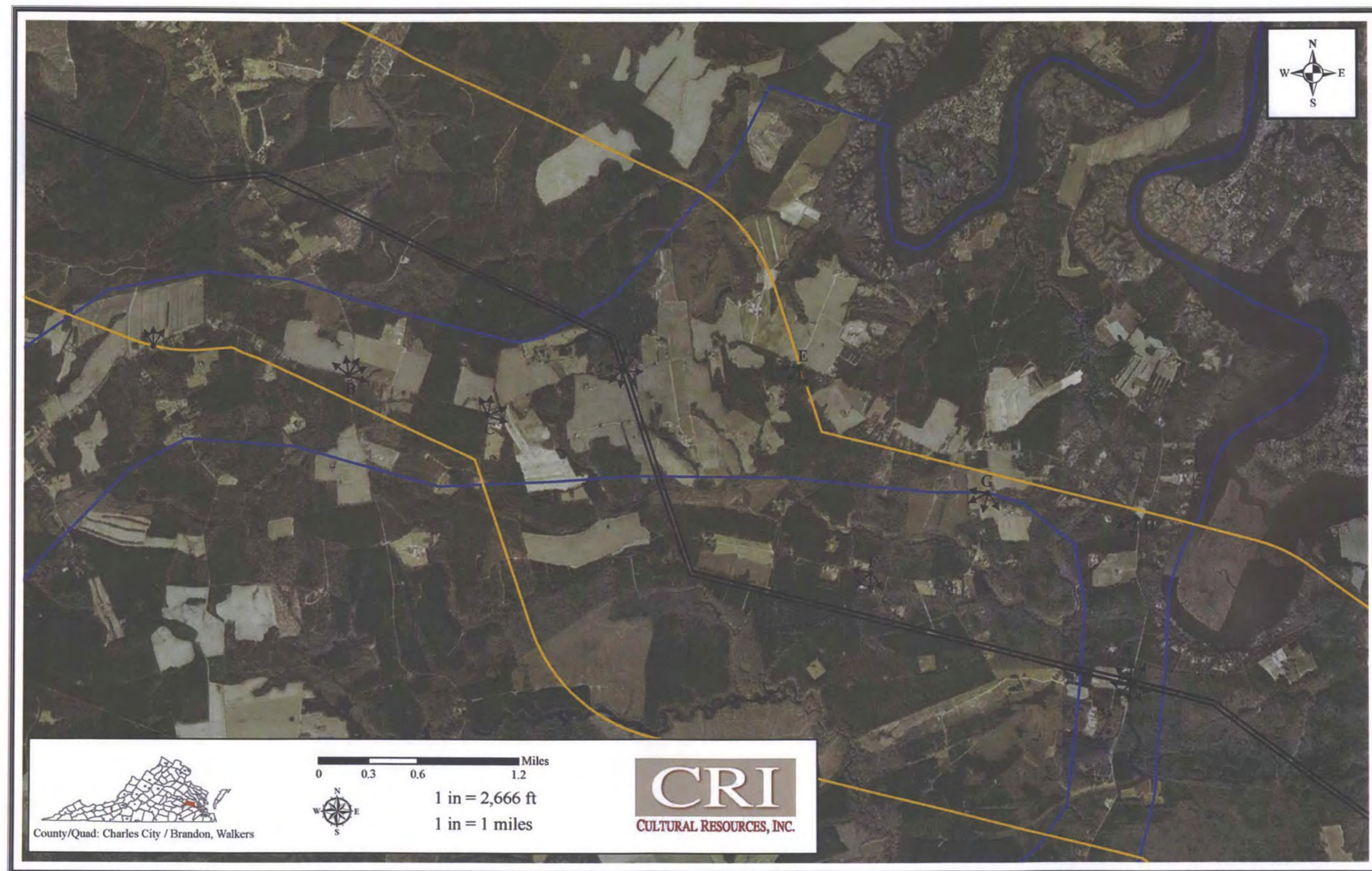


Figure 56. Viewshed Analysis for the Old Main Road Rural Historic District (VDHR # 018-5101), Charles City County, Virginia.





Figure 57. View from Point A, Facing Northwest toward the Transmission Line. Dense wooded conditions would shield the proposed transmission line from view from this location. This location is approximately 1.2 miles from the proposed transmission line corridor.



Figure 58. View from Location B, Facing North down Route 634 toward the Transmission Line Corridor. Dense woods and distance would shield the Historic District from view of the proposed Transmission Line.





Figure 59. View from Point C, Facing North toward proposed Transmission Line Corridor. Dense woods to the north of this location would block the proposed transmission line from view.





Figure 60. View from the Vicinity of Poplar Springs, Moss Side, and Piney Grove. The transmission line corridor crosses this property to the left of this photograph. Additional photographs and analysis have been discussed in the context of these resources.





Figure 61. View from Point E, Facing South. Dense stands of woods interspersed with some open space are located in this vicinity. The proposed transmission line corridor will not be visible from this location.





Figure 62. View from Point G, Facing South toward proposed transmission line. The view represented here indicates that the transmission line would not be visible both due to dense stands of woods located to the south.





Figure 63. View from Point H, Facing South and toward transmission line corridor. Densely wooded conditions would shield this area of the historic district from view of the transmission line.





Figure 64. Representative View from Location I. The power line crosses this field adjacent to the woods and would be clearly visible. However, it is one of few locations where the power line would be in open conditions.





Figure 65. Additional view for Location I and the Old Main Road Rural Historic District. The power line will cross this field adjacent to the tree line. Towers in this area will be approximately 111 feet tall (Appendix A: II.A.3.D) and would be against the tree line minimizing the overall scale of the structure. The stands of mature trees located in the vicinity range in height from 70-90 feet providing additional cover for the majority of the transmission line.



*Carter's Grove (VDHR #047-0001)*

Carter's Grove is a well preserved example of a two-story, seven-bay, mid-eighteenth century Georgian dwelling (Figure 66). Flanking the main block are one-story brick dependencies thought to have been constructed prior to the main dwelling, although at an unknown date. The main block features a hipped roof, two large interior chimneys and hipped-roof dormers. Other features include rubbed brick quoins, a modillioned cornice, nine-over-nine wood double-hung sash windows, hipped-roof dormers and a rubbed brick belt course. Carter's Grove was listed on the NRHP in 1969 and as a NHL in 1970 (VDHR Site Files).

The house is located between the 1.0-mile and 1.5-mile buffers of the existing 230 kV transmission line and proposed 500 kV transmission line between the Lightfoot and Skiffes Creek substations. The boundary closest to the existing transmission line is within the 0.5-mile buffer. The northeast corner is approximately 2,700 feet west of the extant transmission line ROW corridor and the proposed Skiffes Creek Substation with the southeast corner of the property approximately 2,500 feet to the southwest of the line. Between the northeastern property line and the transmission line corridor is a large area of modern residential development. The plantation house itself is set back on the property nearer to the river and is buffered from the modern development, transmission line ROW corridor and Skiffes Creek Substation by 5,000 feet of open fields and areas of dense woods and tree lines (Figures 67-70).

As the proposed alternative approaches the vicinity of Carter's Grove, the line splits, at approximately milepost 36. The northern/western route continues along Route 143 in existing right of way where towers will be replaced. This section of the proposed transmission line is bound by modern development, mature trees, Route 143 and the I-64 corridor and will be shielded from view from Carter's Grove. The portion of the line with the potential for visibility from the Carter's Grove property is an extension of the corridor associated with the Kingsmill substation. The towers in this vicinity are existing and will not be increased in height (Appendix B: Figures II.A.3.o and II.A.3.p). *The existing transmission line ROW corridor and associated structures, under current landscape conditions, was only visible from Location 29 (the end of the driveway of this resource). It is recommended therefore, that Carter's Grove (VDHR #047-0001) will be only minimally impacted by the current proposed Dominion Virginia Power Chickahominy Alternative improvements.*





Figure 66. Carter's Grove (VDHR #047-0001), view from the Driveway looking southwest towards resource (Photograph taken from public ROW).





Figure 67. Carter's Grove (VDHR #047-0001), view from Location 28 looking north towards existing transmission line ROW corridor (Transmission line not visible; Photograph taken from public ROW).





Figure 68. Carter's Grove (VDHR #047-0001), view from Location 29 looking east towards existing transmission line ROW corridor (Existing transmission line is visible; Photograph taken from public ROW).





Figure 69. Carter's Grove (VDHR #047-0001), view from Location 30 looking northeast towards existing transmission line ROW corridor (Existing transmission line is not visible; Photograph taken from public ROW).



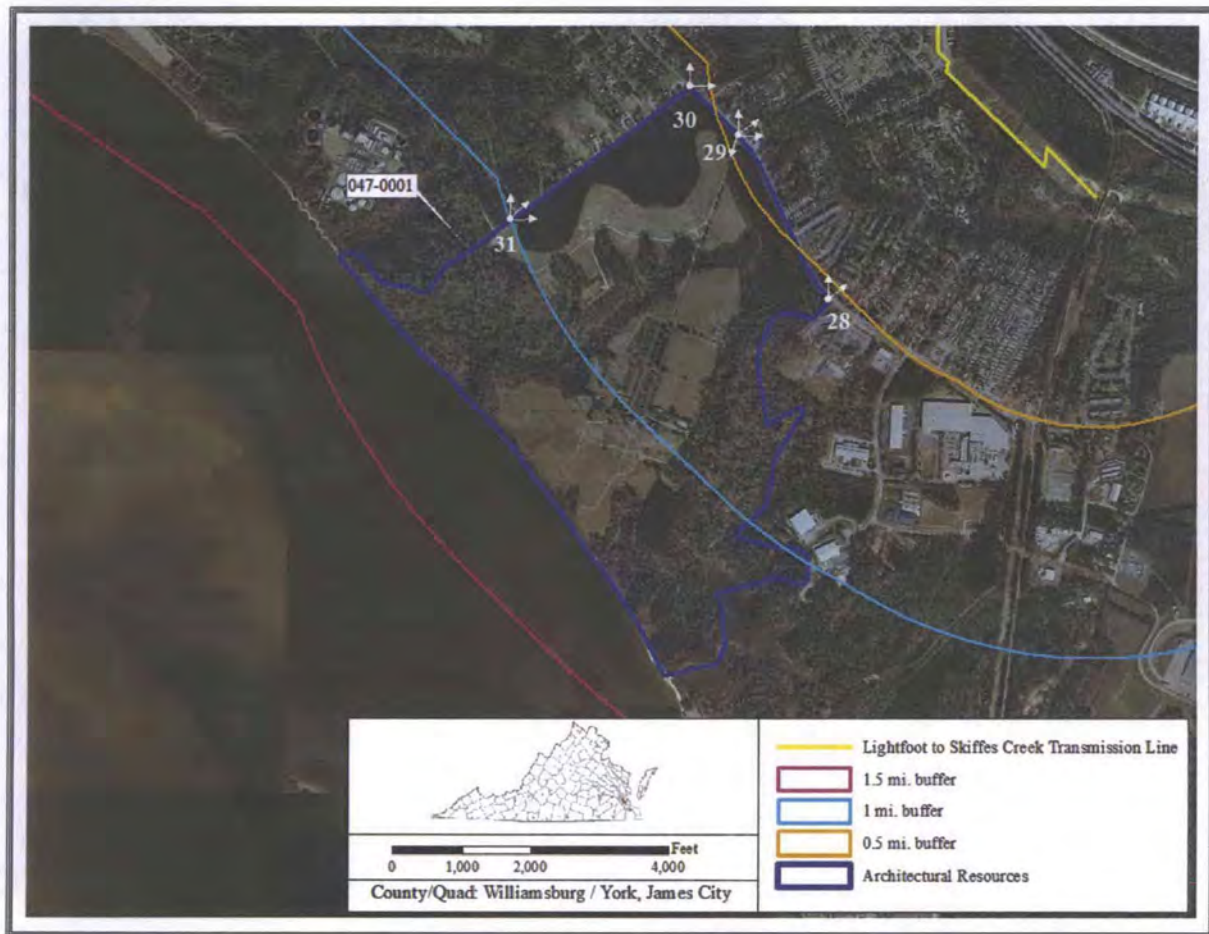


Figure 70. Aerial map showing locations of view shed analysis for Carter's Grove (VDHR #047-0001). Existing transmission line was visible from Location 29 only (Photographs taken from public ROW).



*Colonial National Parkway (VDHR #047-0002)*

The Colonial National Parkway was constructed between 1930 and 1958 as a scenic roadway connecting Jamestown, Williamsburg, and Yorktown. The parkway through most of the project area is flanked by woods which shield the resource from modern development and aids in maintaining the parkway's historic feel and appearance (Figures 71-74). The existing transmission line was not visible from the parkway with the exception of Location 8, where the line crosses the road (Figure 73). The existing towers will be replaced on the current foundations with a tall, single pole 500 kV structure. *Overall, there will be little change in visual impact over what is currently in place. However, a view of the replacement pole may be possible as the line crosses the road. Even though the line and replacement poles may be visible at the point where the line crosses the Parkway it is unlikely that this view would adversely impact the resource. It is recommended that the Colonial National Parkway (VDHR #047-0002), will be only minimally impacted by the current proposed Dominion Virginia Power 500 kV transmission line improvement as an existing line is already present and visible.*



Figure 71. Colonial Parkway (VDHR #047-0002), view looking east from Location 8 (Photograph taken from public ROW).





Figure 72. Colonial Parkway (VDHR #047-0002), view looking southwest from Location 9  
(Photograph taken from public ROW).



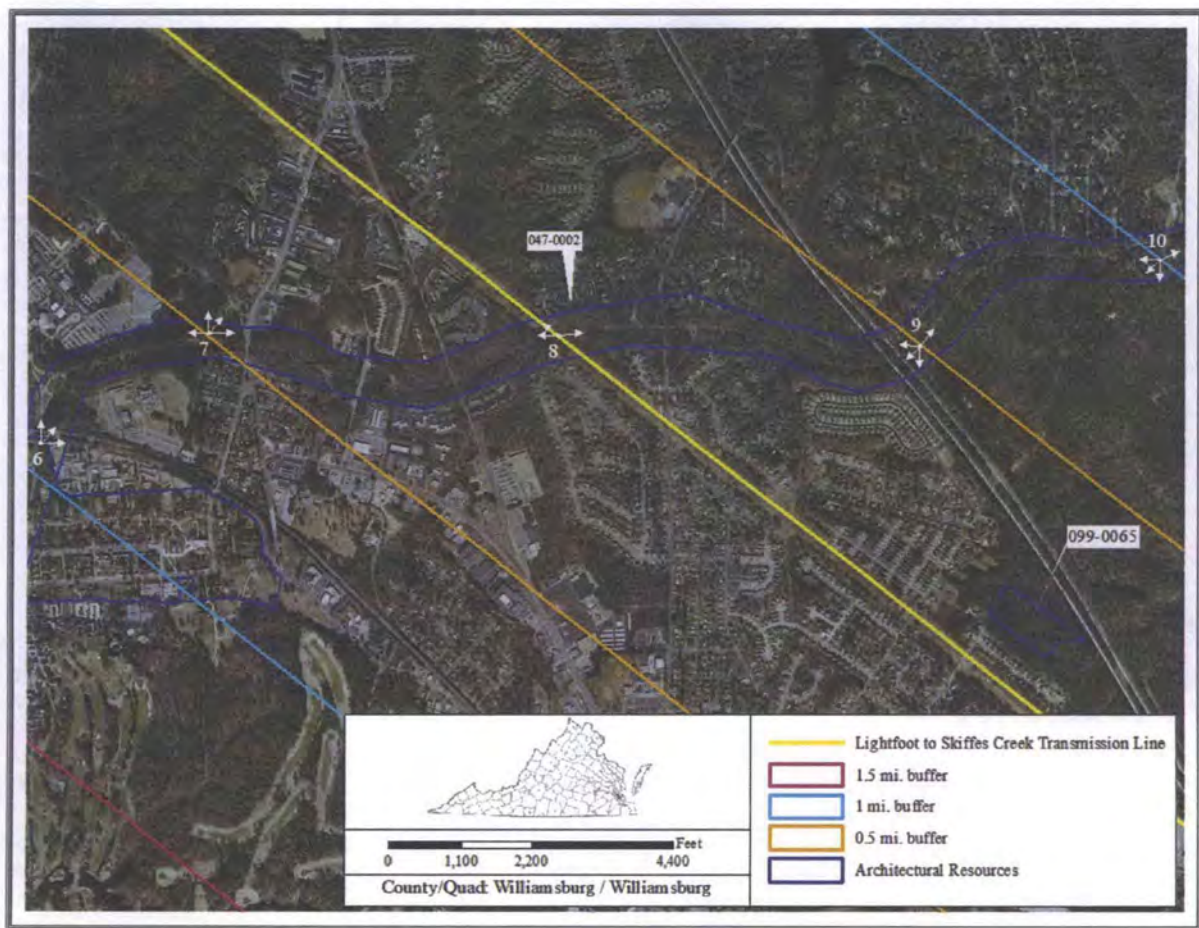


Figure 73. Aerial map showing location of view shed analysis for the Colonial National Parkway (VDHR #047-0002). Existing transmission line was visible from resource (Photographs taken from public ROW).





Figure 74. Colonial Parkway (VDHR #047-0002), view looking southeast from Location 8. Transmission line was visible where the ROW corridor crossed the parkway (Photograph taken from public ROW).

*Confederate Redoubt #9 (VDHR #099-0040)*

Confederate Redoubt #9 (44YO0051) was located in the median between the north-bound and south-bound lanes of I-64. It appears any above ground features of the resource have been obliterated by construction improvements to I-64. Since the resource appears to have had its architectural component demolished and is now an archaeology site with no standing structures a visual assessment under the current *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008) was not applicable.

*Bryan Manor Plantation Site (VDHR #099-0065)*

The Bryan Manor Plantation Site (44YO0007) is an archaeological site of a mid-eighteenth century plantation complex (Figure 75). The site was listed on the NRHP in 1978. When last surveyed, the above-ground components of the Bryan site consisted of gravestones located in the cemetery (VDHR Site Files). The site was inaccessible at the time of the Stage I analysis and as such it could not be determined whether the gravestones were still visible.



The site is located on the southwestern side of I-64 and within the 0.5-mile buffer of the existing 230 and proposed 500 kV transmission line between the Lightfoot and Skiffes Creek substations (Figure 76). Modern development encroaches on the site from the northwest, west and southwest. Photographs were taken from the public ROW from the closest accessible location to the site. The transmission line was visible from both Location 22 and 23 due to the site's close proximity to the existing ROW corridor (Figure 77). The site itself is heavily wooded and overgrown. *The existing transmission line ROW corridor and associated structures, under current landscape conditions, was visible from Location 22 and 23 (the closest location to the site accessible; Figure 66). It is recommended therefore, that Bryan Manor Plantation Site (VDHR #099-0065) will not be impacted by the current proposed Dominion Virginia Power 500 kV transmission line improvement as an existing line is already present and visible.*



Figure 75. View looking east from Location 22 towards Bryan Manor Plantation Site (VDHR #099-0065). Transmission line is located on the right side of the photograph (Photograph taken from public ROW).



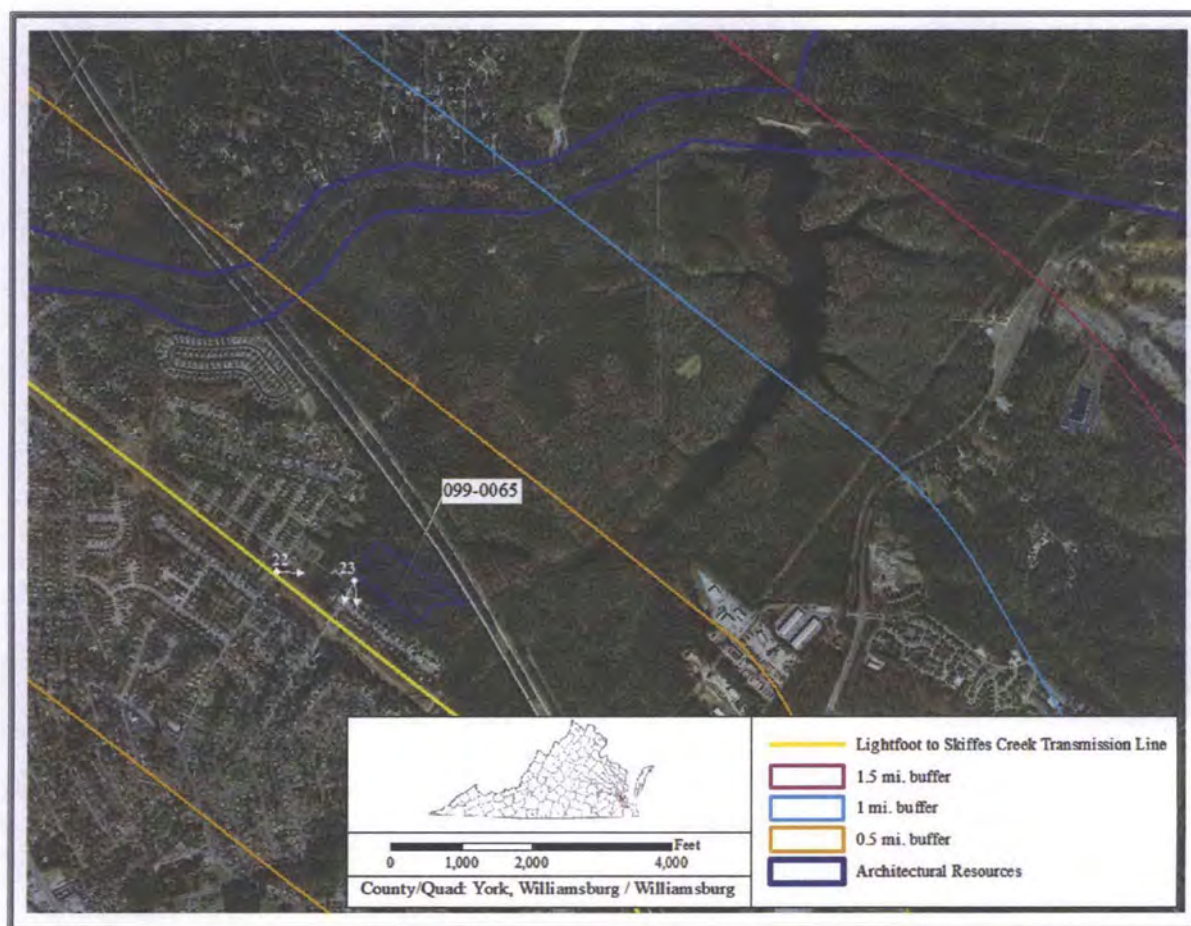


Figure 76. Aerial map showing location of view shed analysis for Bryan Manor Plantation Site (VDHR #099-0065). Existing transmission line was visible from resource (Photographs taken from public ROW).





Figure 77. View from Bryan Manor Plantation Site (VDHR #099-0065) looking southwest from Location 23 towards transmission line. Transmission line wires are visible from the vicinity of the southwest corner of the resource (Photograph taken from public ROW).

*Bruton Parish Poorhouse Archaeological Site (VDHR #099-0070)*

Bruton Parish Poorhouse Archaeological Site (44YO0060) is located on a wooded rise overlooking Queens Creek within the 1.0-mile buffer of the existing 230 and proposed 500 kV transmission line between the Lightfoot and Skiffes Creek substations. The Poorhouse, a complex of eighteenth century structures, was established in 1755 by the Virginia legislature at the request of the Bruton Parish Church in order to provide housing for the poor. The resource, which is owned by the Colonial Williamsburg Foundation, does not have any above-ground components. Archaeological testing located intact midden deposits and the brick foundation of one structure. The resource was listed on the NRHP in 1982 as an archaeological site. As the resource is an archaeology site with no standing structures a visual assessment under the current *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008) was not applicable.



*Burwell's Mills/Whittaker's Mill Archaeology Complex (VDHR #099-5275)*

Burwell's Mill/ Whittaker's Mill Archaeology Complex (44YO0395, 44YO0385, 44YO0394, 44YO0396, and 44YO1026) archaeological complex encompasses five archaeological sites adjacent to King's Creek and is located within both the 0.5-mile and 1.0-mile buffer of the existing 230 and proposed 500 kV transmission line between the Lightfoot and Skiffes Creek substations. The location of the site is largely forested with deciduous trees and some evergreens (Figure 78). The eighteenth and nineteenth century Burwell's Mill site consists of a mill dam, mill race, borrow pit, mill foundation, and two structure foundations. The other sites are domestic sites and brick kilns associated with the mill complex, Civil War earthworks, and a segment of the principal colonial road between Williamsburg and Yorktown. When last surveyed in 2007, the above-ground components of the Whittaker's Mill archaeological complex consisted of Civil War earthworks, the colonial road, and some structures at the mill site. The site was listed on the NRHP in 2008.

The site is located approximately 2,300 feet to the northeast, at its closest point, from the existing transmission line corridor and associated structures. Located between the site and the transmission line to the southwest is approximately 2,000 feet of forested areas. At this point the line parallels and is adjacent to I-64 (Figure 79). Currently the site has been impacted by encroaching commercial development to the southwest, west and northwest with several big box stores already constructed. The existing transmission line is visible from Location 24 in a southwesterly direction from the site. The location of the photographs is slightly to the northwest of the site boundary as the road to the site, during the time of the survey, was impassable as well as within an active construction zone. *The existing transmission line ROW corridor and associated structures, under current landscape conditions, was visible from Location 24, the closest accessible location to the site (Figure 80). As the site has been already impacted by the commercial development, which partially shields the site from the current transmission line, it is recommended that the Burwell's Mill/Whittaker's Mill Archaeology Complex (VDHR #099-5275) will be only minimally impacted by the addition of the transmission line as part of the current proposed Dominion Virginia Power transmission line improvements.*





Figure 78. View of Burwell's Mill/Whittaker's Mill Archaeological Complex (VDHR #099-5275), looking southeast towards resource (Photograph was taken from public ROW).



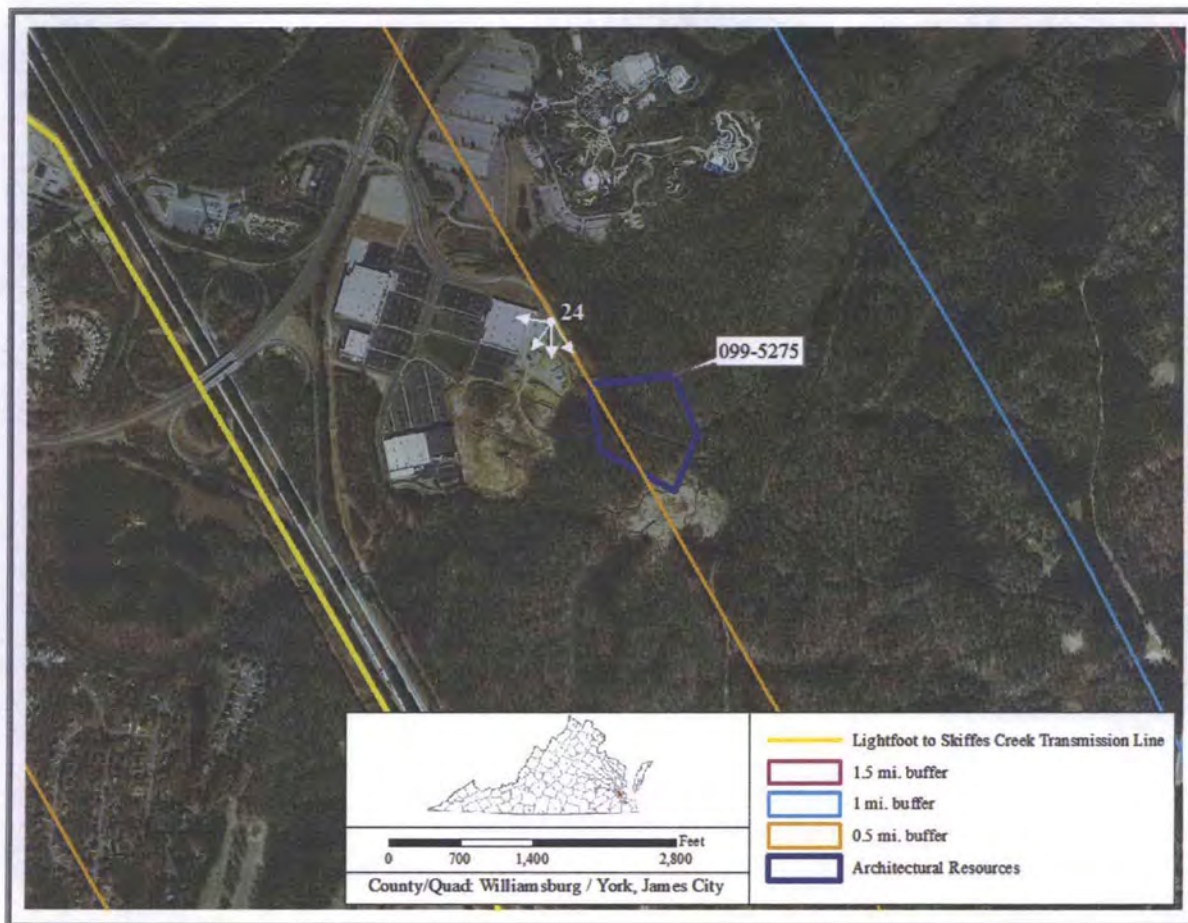


Figure 79. Aerial map showing location of view shed analysis for Burwell's Mill/Whittaker's Mill Archaeological Complex (VDHR #099-5275). Existing transmission line was visible from resource (Photographs taken from public ROW).





Figure 80. Burwell's Mill/Whittaker's Mill Archaeological Complex (VDHR #099-5275), view from Location 24 looking southwest towards existing transmission line ROW corridor (Existing transmission line is visible; Photograph taken from public ROW).



*Battle of Williamsburg (VDHR #099-5282)*

The Battle of Williamsburg is an area comprising an estimated 10,370 acres. Colonial Williamsburg is located within the current battlefield boundary. Much of the battlefield has been developed including the construction of I-64, a number of modern residential neighborhoods, commercial and industrial complexes as well as the Newport News Golf Course (Figure 81). The existing transmission line bisects the battlefield and as such the battlefield is located within the existing transmission line ROW corridor. The portion of the battlefield intersected by the proposed transmission line improvements has been wholly developed with very little remaining, undisturbed landscape. Several areas of open space within the battlefield boundary are located within the 0.5-mile buffer, but are located on the opposite side of I-64 and will not be impacted by the proposed improvements. A small portion of the battlefield was recommended as potentially eligible by the ABPP but it located outside of the APE and on the east side of I-64 (Appendix B). ***It is recommended therefore that the currently unevaluated resource will not be impacted or only minimally impacted by the construction of the proposed Dominion Virginia Power transmission line as an existing transmission line is present and the area has been heavily developed.***

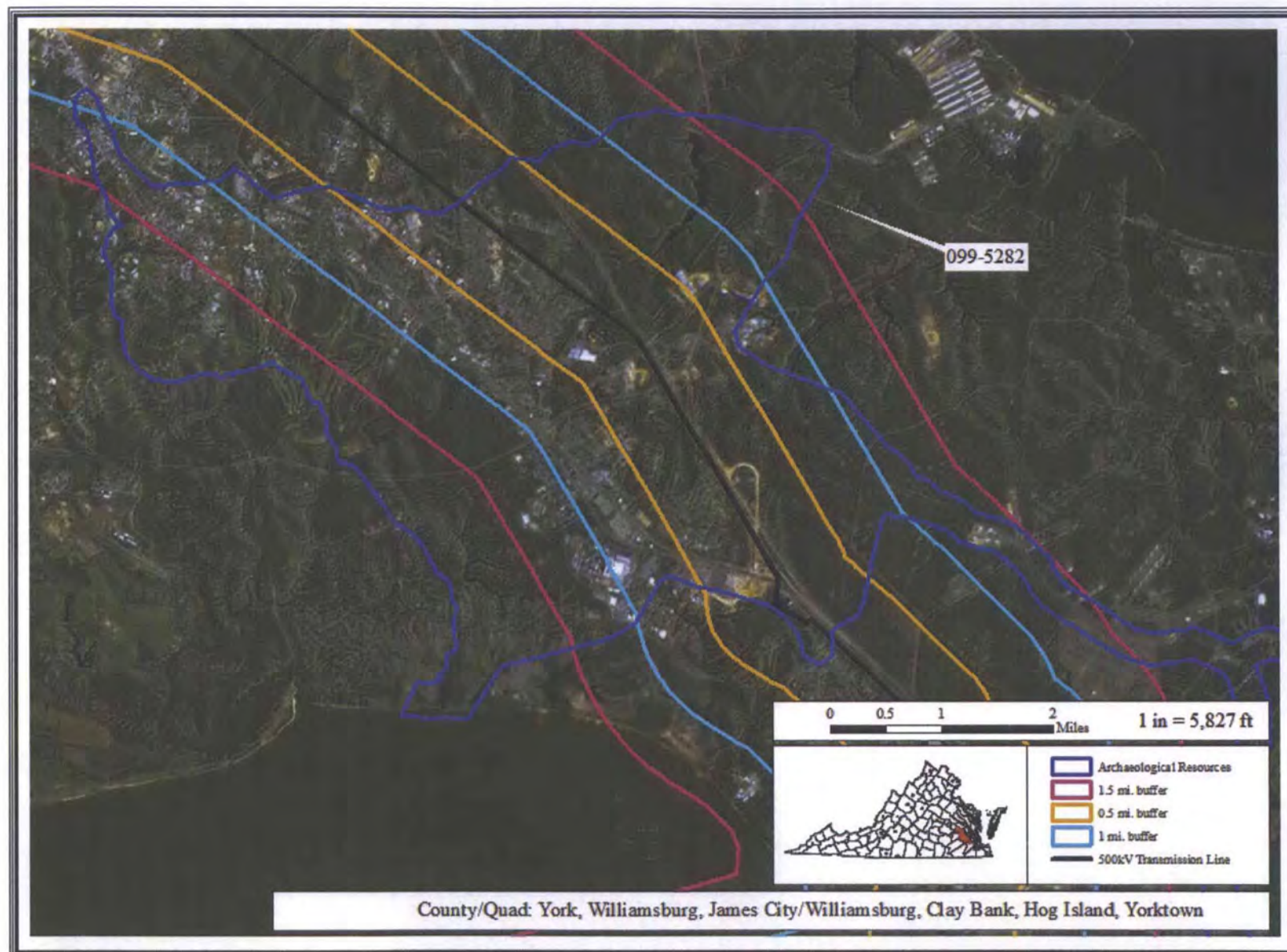


Figure 81. Aerial showing Williamsburg Battlefield (VDHR #099-5282) in relation to existing transmission line and modern development.



*Bruton Parish Church (VDHR #137-0007)*

Bruton Parish Church is a 1711 brick structure which features a cruciform plan with square three-story brick tower and wood-framed octagonal steeple (Figure 82). The building features nine-over-nine and sixteen-over-sixteen double-hung wood frame windows with fixed round-arched windows above. The church grounds also include a cemetery with graves dating back to 1690 (VDHR Site Files; Bruton Parish Church website). The church was listed on the NRHP and as a National Historic Landmark in 1970 and considered a contributing resource to the NHL-listed Williamsburg Historic District (VDHR #137-0050). The resource is located within the 1.5-mile buffer of the existing 230 and proposed 500 kV transmission line between the Lightfoot and Skiffes Creek substations.

The church is located approximately 6,200 feet to the southwest of the existing transmission line ROW corridor and is from the line by portions of the Williamsburg Historic District as well as other residential, commercial and modern industrial development (Figure 83). Approximately 2,000 feet of dense woods is located adjacent to the transmission line extending to the south/southwest. *The existing transmission line ROW corridor and associated structures, under current landscape conditions, was not visible from this resource (Figures 84 and 85). It is recommended therefore, that the NHL-Listed Bruton Parish Church (VDHR #137-0007) will not be visually impacted by the current proposed Dominion Virginia Power transmission line improvements.*

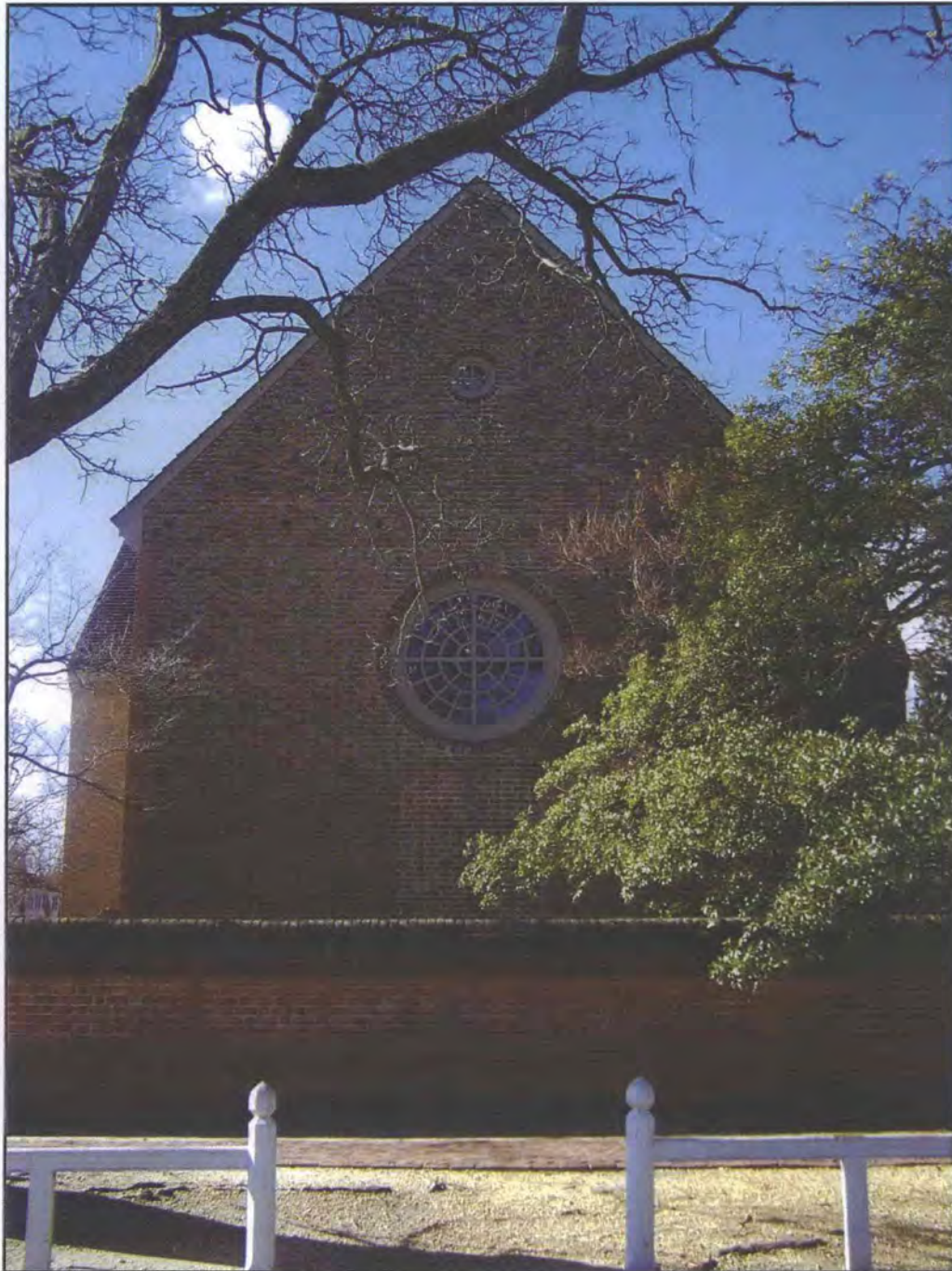


Figure 82. Bruton Parish Church (VDHR #137-0007), view looking west towards resource (Photograph taken from within the Williamsburg Historic District).



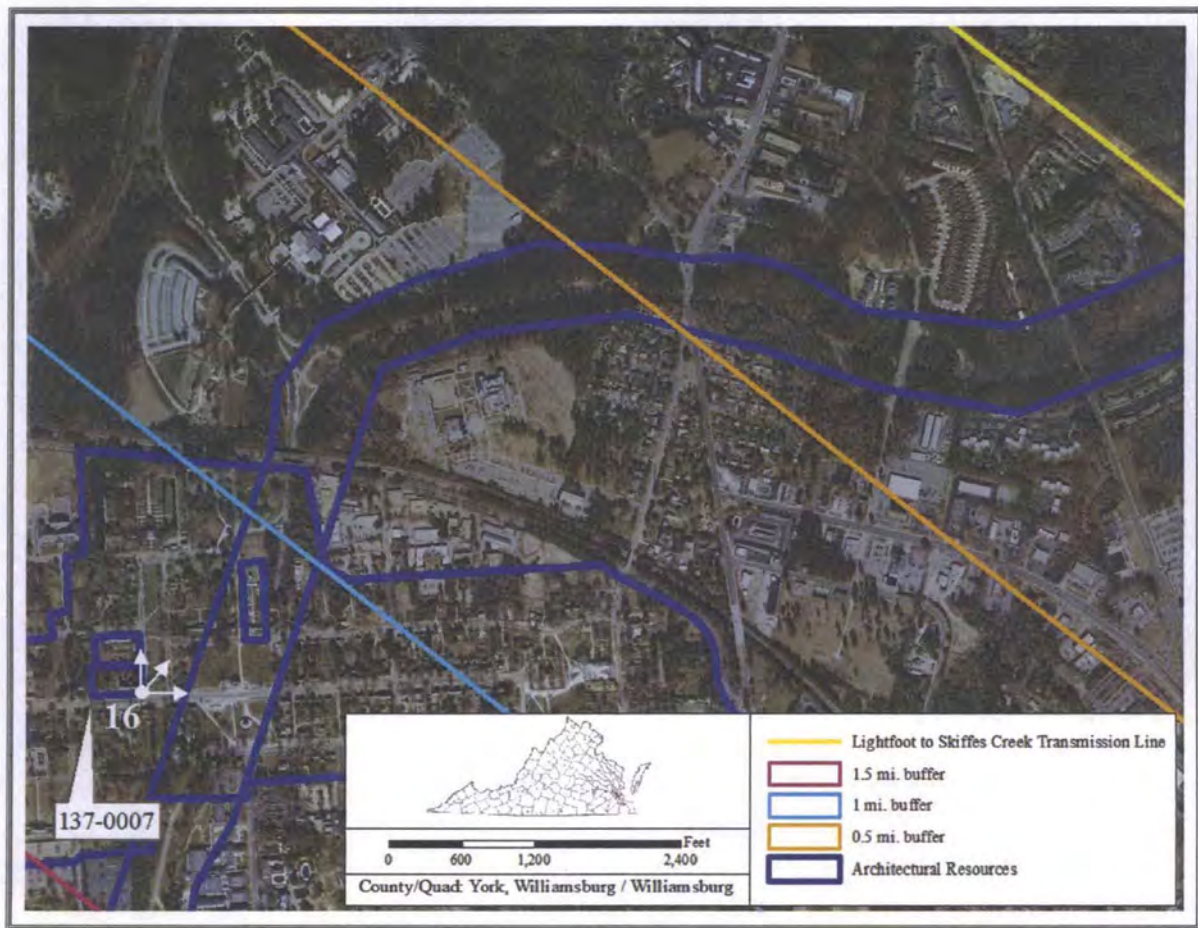


Figure 83. Aerial map showing location of view shed analysis for Bruton Parish Church (VDHR #137-0007). Existing transmission line was not visible from resource (Photographs taken from within the Williamsburg Historic District).



Figure 84. Bruton Parish Church (VDHR #137-0007), view looking north towards existing transmission line ROW corridor (Existing transmission line is not visible; Photograph taken from within the Williamsburg Historic District).





Figure 85. Bruton Parish Church (VDHR #137-0007), view looking northeast towards existing transmission line ROW corridor (Existing transmission line is not visible; Photograph taken from within the Williamsburg Historic District).

*Sir Christopher Wren Building (VDHR #137-0013)*

The Sir Christopher Wren Building is a c. 1695 four-story brick structure with a central vertical axis accented by an arched front entrance, a front cross gable, and a hexagonal cupola (Figure 86). The structure is one of the original buildings at the College of William and Mary and when last surveyed in 2008 featured symmetrically placed wood double-hung sash windows and front gable dormers along the side gable roof. The house was listed as a National Historic Landmark in 1960 and on the NRHP in 1966. The resource is also associated with the Revolutionary War Route and Transportation Survey 1781-1782 (VDHR #000-8900-0097; VDHR Site Files) and the unevaluated College of William and Mary Historic District (VDHR #137-0061).

The Sir Christopher Wren Building is located straddles the 1.5-mile buffer of the existing 230 and proposed 500 kV transmission line between the Lightfoot and Skiffes Creek substations. At its closest point, the Wren Building is approximately 7,500 feet from the existing transmission line corridor and associated structures. Between the resource and the line is approximately 5,000 feet of historic and modern development as well as approximately 2,500 feet of dense woods (Figure 87). *The existing transmission line ROW corridor and associated structures, under current landscape conditions, was not visible from this resource (Figures 88 and 89). It is recommended therefore, that the NHL-Listed Sir Christopher Wren Building (VDHR #137-0013) will not be visually impacted by the current proposed Dominion Virginia Power transmission line improvements.*





Figure 86. Sir Christopher Wren Building (VDHR #137-0013), view looking west towards resource (Photograph taken from the campus of the College of William and Mary).







Figure 88. Sir Christopher Wren Building (VDHR #137-0013), view looking northeast towards existing transmission line ROW corridor (Existing transmission line is not visible; from the campus of the College of William and Mary).



Figure 89. Sir Christopher Wren Building (VDHR #137-0013), view looking northeast towards existing transmission line ROW corridor (Existing transmission line is not visible; Photograph taken from the campus of the College of William and Mary).



*Peyton Randolph House (VDHR #137-0032)*

The Peyton Randolph House is a c. 1715 two-story frame dwelling with interior end corbelled chimneys (Figure 90). The dwelling, when last surveyed in 2008, featured weatherboard siding, a wood shingle hipped roof, and nine-over-nine and six-over-nine wood double-hung sash windows. The house was listed on the NRHP and as a National Historic Landmark in 1970. The resource is also a contributing resource to the NHL-listed Williamsburg Historic District (VDHR #137-0050) and is associated with the Revolutionary War Route and Transportation Survey 1781-1782 (VDHR #000-8900-0097; VDHR Site Files).

The house is located within the 1.5-mile buffer of the existing 230 and proposed 500 kV transmission line between the Lightfoot and Skiffes Creek substations (Figure 91). The property, at its closest point to the existing transmission line, is approximately 6,000 feet to the southwest. Located between the NHL-listed house and the extant line is a portion of the Williamsburg Historic District, measuring approximately 2,000 feet, with approximately 2,000 feet of modern commercial development and 2,000 feet of forested area. *The existing transmission line ROW corridor and associated structures, under current landscape conditions, was not visible from this resource (Figures 92 and 93). It is recommended therefore, that the NHL-Listed Peyton Randolph House (VDHR #137-0032) will not be visually impacted by the current proposed Dominion Virginia Power transmission line improvements.*

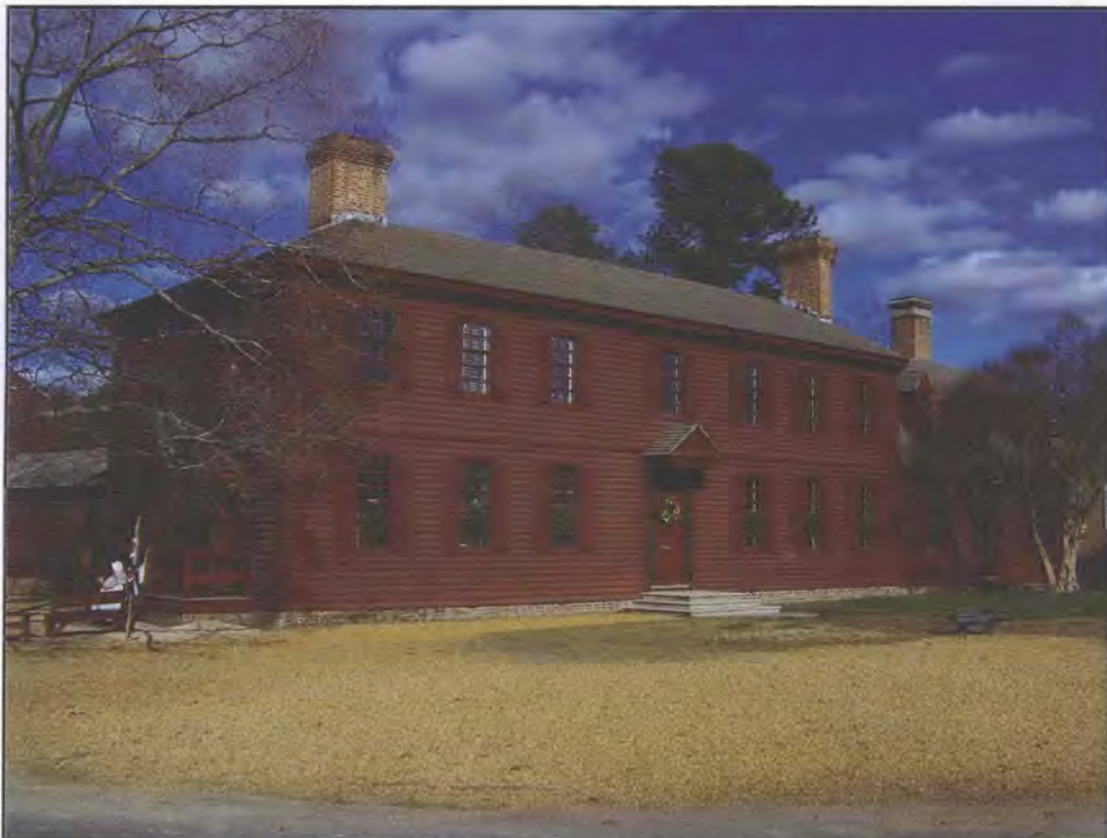


Figure 90. Peyton Randolph House (VDHR #137-0032), view looking northeast towards resource (Photograph taken from within the Williamsburg Historic District).

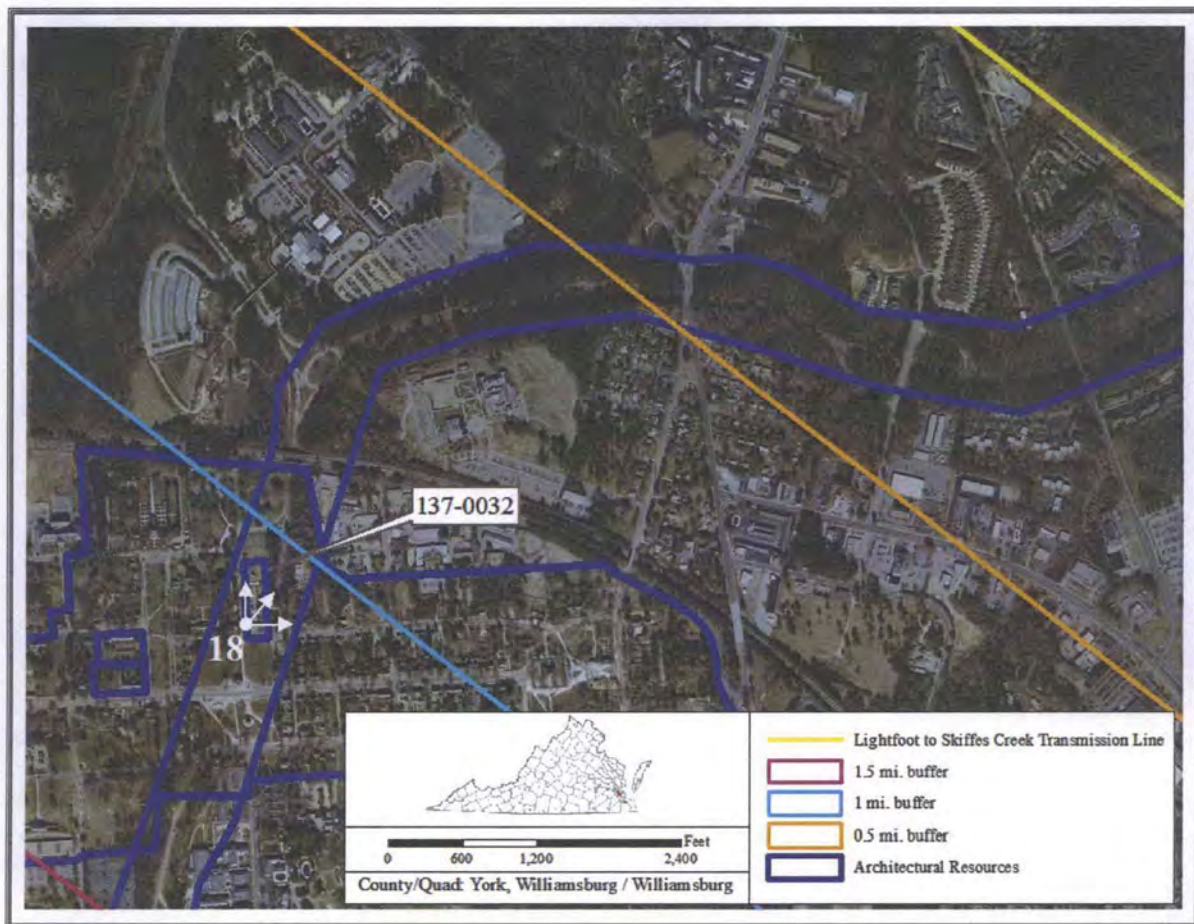


Figure 91. Aerial map showing location of view shed analysis for Peyton Randolph House (VDHR #137-0032). Existing transmission line was not visible from resource (Photographs taken from within the Williamsburg Historic District)





Figure 92. Peyton Randolph House (VDHR #137-0032), view looking north towards existing transmission line ROW corridor (Existing transmission line is not visible; Photograph taken from within the Williamsburg Historic District).



Figure 93. Peyton Randolph House (VDHR #137-0032), view looking east towards existing transmission line ROW corridor (Existing transmission line is not visible; Photograph taken from within the Williamsburg Historic District).



*James Semple House (VDHR #137-0033)*

The James Semple House is a c. 1770 two-story frame dwelling with a pedimented Doric portico and two interior end chimneys (Figure 94). The dwelling, when last surveyed, featured weatherboard siding, a wood shingle front gable roof, nine-over-nine and six-over-six wood double-hung sash windows, and symmetrical one-story side-gable wings flanking the main block. The house was listed on the NRHP and as a National Historic Landmark in 1970 and is a contributing resource to the NHL-listed Williamsburg Historic District (VDHR #137-0050; VDHR Site Files).

The house, located along Francis Street within the eastern portion of the Williamsburg Historic District, is within the 1.5 and 1.0-mile buffer of the existing 230 and proposed 500 kV transmission line between the Lightfoot and Skiffes Creek substations (Figure 95). At the northeastern corner of the property, its closest point to the transmission line, the house is approximately 5,000 feet southwest of the existing corridor. Between the architectural resource and the line are areas of residential development as well as green space. *The existing transmission line ROW corridor and associated structures, under current landscape conditions, was not visible from this resource (Figures 96 and 97). It is recommended therefore, that the NHL-Listed James Semple House (VDHR #137-0033) will not be visually impacted by the current proposed Dominion Virginia Power transmission line improvements.*



Figure 94. James Semple House (VDHR #137-0033), view looking south towards resource (Photograph taken from within the Williamsburg Historic District).

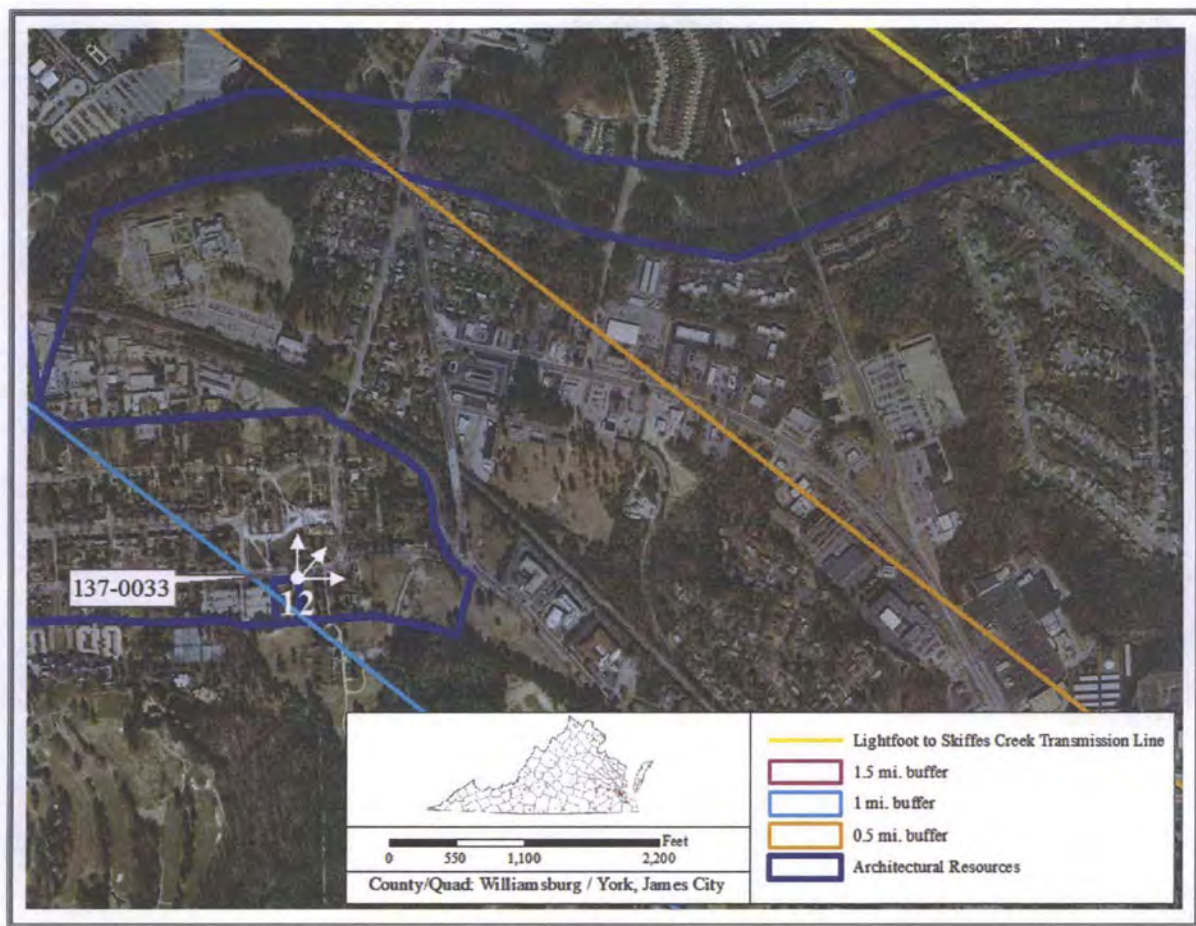


Figure 95. Aerial map showing location of view shed analysis for the James Semple House (VDHR #137-0033). Existing transmission line was not visible from resource (Photographs taken from within the Williamsburg Historic District).





Figure 96. James Semple House (VDHR #137-0033), view looking north towards existing transmission line ROW corridor (Existing transmission line is not visible; Photograph taken from within the Williamsburg Historic District).



Figure 97. James Semple House (VDHR #137-0033), view looking northeast towards existing transmission line ROW corridor (Existing transmission line is not visible; Photograph taken from within the Williamsburg Historic District).



*Williamsburg Historic District (VDHR #137-0050)*

Williamsburg Historic District encompasses the restored structures of Colonial Williamsburg including Brafferton Hall (1723), the President's House (1732), the Public Magazine (1714), the Ludwell-Paradise House (1717), the Old Courthouse (1770), Bruton Parish Church (1710-15; VDHR #137-0007), and the George Wythe House (1755; VDHR #137-0058). The restoration of the historic district was begun in 1927 by Mr. John D. Rockefeller Jr. and many properties within the district are operated as a living-history tourist attraction. The district was listed on the NRHP in 1966 and as a National Historic Landmark in 1960 (VDHR Site Files).

The district, located within the 1.5-mile buffer of the existing 230 and proposed 500 kV transmission line between the Lightfoot and Skiffes Creek substations, is bounded on the north and east by Route 62 (Figure 98). Beyond this boundary are areas of modern development and a buffer of trees which extends from the existing transmission line corridor approximately 2,000 feet to the southwest. At its closest point the historic district is 4,000 feet southwest of the extant transmission line ROW. In addition to view shed photographs taken from individually listed architectural resources within the Williamsburg Historic District, six additional locations (Locations 11, 13, 14, 19, 20 and 21) were selected to assess visibility of the existing transmission line. Neither the transmission line ROW corridor nor the associated tower structures or wires were visible from the district (Figures 99-101). ***Therefore it is recommended that the NHL-Listed Williamsburg Historic District (VDHR #137-0050) will not be visually impacted by the current proposed Dominion Virginia Power transmission line improvements.***

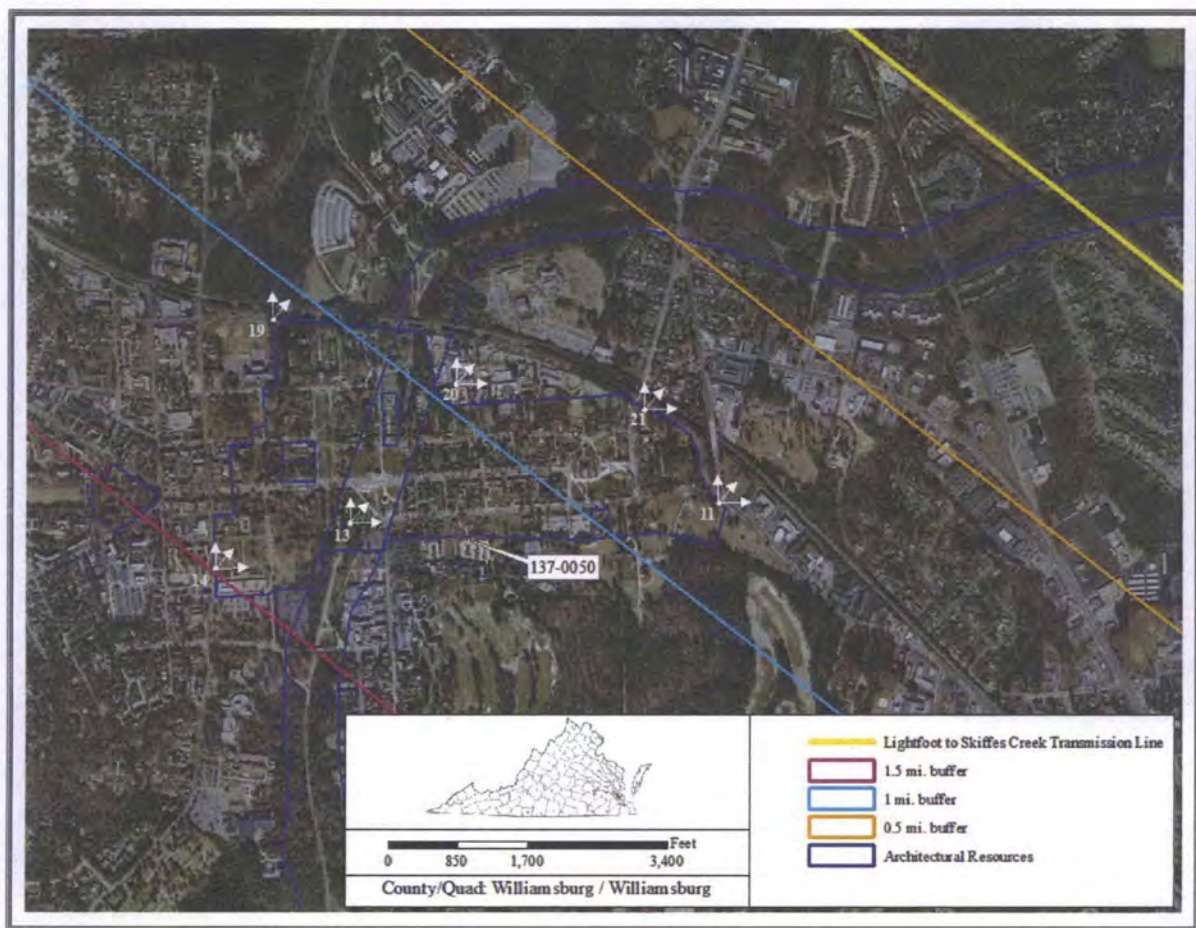


Figure 98. Aerial map showing location of view shed analysis for the Williamsburg Historic District (VDHR #137-0050). Existing transmission line was not visible from resource (Photographs taken from within the Williamsburg Historic District).





Figure 99. Williamsburg Historic District (VDHR #137-0033), view looking northeast from Location 11 towards existing transmission line ROW corridor (Existing transmission line is not visible; Photograph taken from within the Williamsburg Historic District).



Figure 100. Williamsburg Historic District (VDHR #137-0033), view looking northeast from Location 19 towards existing transmission line ROW corridor (Existing transmission line is not visible; Photograph taken from within the Williamsburg Historic District).





Figure 101. Williamsburg Historic District (VDHR #137-0033), view looking northeast from Location 21 towards existing transmission line ROW corridor (Existing transmission line is not visible; Photograph taken from within the Williamsburg Historic District).

*Capitol Landing/Queen Mary's Port (VDHR #137-0056)*

Capitol Landing (44WB0005) is an archaeological site situated on a landform to the south of and overlooking Queens Creek. Capitol Landing Road runs through the middle of Capitol Landing archaeological site, which does not have any above-ground components. The resource is the site of Queen Mary's Port established in 1699 by the Virginia Assembly and consists of the domestic, commercial, and industrial sites associated with the port. The archaeological site was listed on the VLR and recommended as eligible for listing on the NRHP in 1977 and is located within the 0.5-mile buffer of the existing 230 and proposed 500 kV transmission line between the Lightfoot and Skiffes Creek substations. As the resource is an archaeology site with no standing structures a visual assessment under the current *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008) was not applicable.



*George Wythe House (VDHR #137-0058)*

The George Wythe House is a c. 1755 two-story brick dwelling with interior Flemish-bond chimneys (Figure 102). The dwelling, when last surveyed in 2008, featured rubbed brick fenestration surrounds, a raised basement, a wood shingle hipped roof, and nine-over-nine wood double-hung sash windows. The house was listed on the NRHP and as a National Historic Landmark in 1970 and is a contributing resource to the NHL-listed Williamsburg Historic District (VDHR #137-0050; VDHR Site Files).

The house is located in the western portion of the Williamsburg Historic District between the 1.0 and 1.5-mile buffer of the existing 230 and proposed 500 kV transmission line between the Lightfoot and Skiffes Creek substations (Figure 103). At its closest point the property is approximately 6,200 feet southwest of the existing line. Between the house and the transmission line corridor are areas of historic residences. An area of wood adjacent to the ROW corridor extends to the southwest approximately 2,000 feet obscuring the view from the resource. *The existing transmission line ROW corridor and associated structures, under current landscape conditions, was not visible from this resource (Figures 104 and 105). It is recommended therefore, that the NHL-Listed George Wythe House (VDHR #137-0058) will not be visually impacted by the current proposed Dominion Virginia Power transmission line improvements.*



Figure 102. George Wythe House (VDHR #137-0058), view looking west towards resource (Photograph taken from within the Williamsburg Historic District).



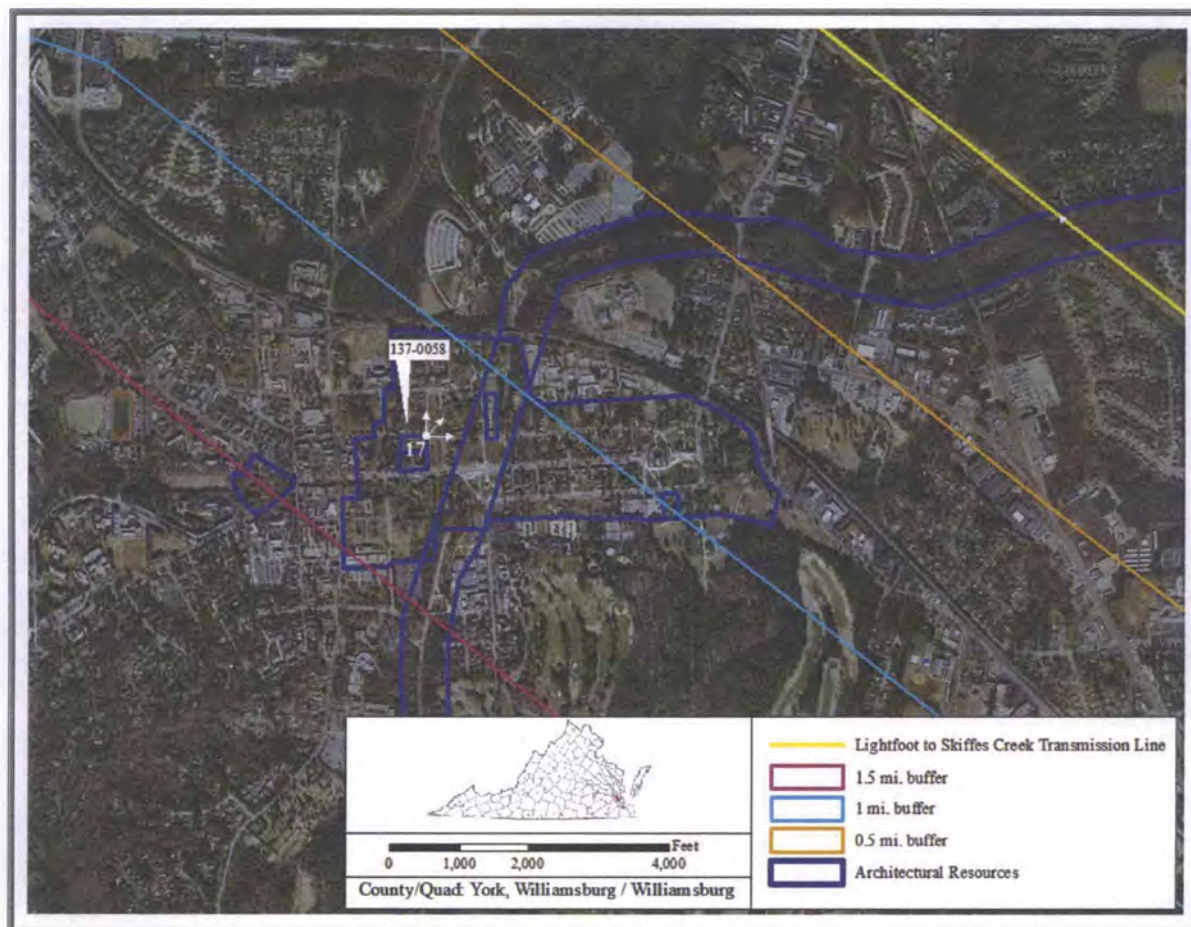


Figure 103. Aerial map showing location of view shed analysis for the George Wythe House (VDHR #137-0058). Existing transmission line was not visible from resource (Photographs taken from within the Williamsburg Historic District).



Figure 104. George Wythe House (VDHR #137-0058), view looking northeast towards existing transmission line ROW corridor (Existing transmission line is not visible; Photograph taken from within the Williamsburg Historic District).



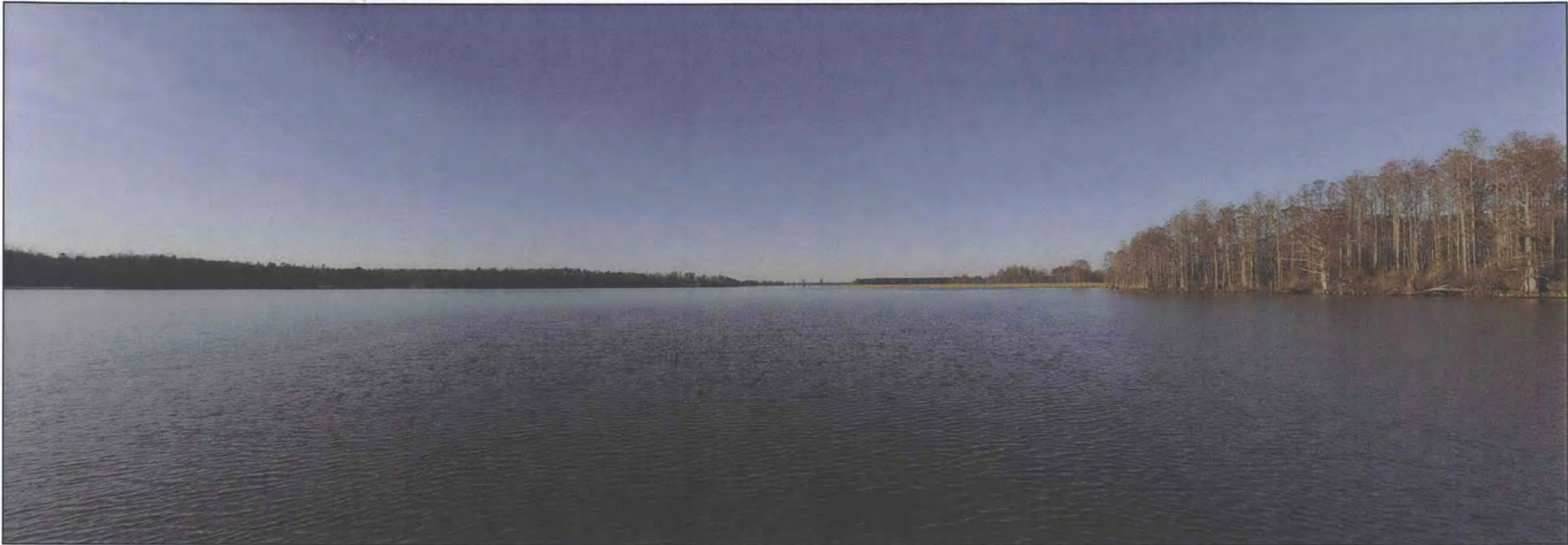


Figure 105. George Wythe House (VDHR #137-0058), view looking east towards existing transmission line ROW corridor (Existing transmission line is not visible; Photograph taken from within the Williamsburg Historic District).

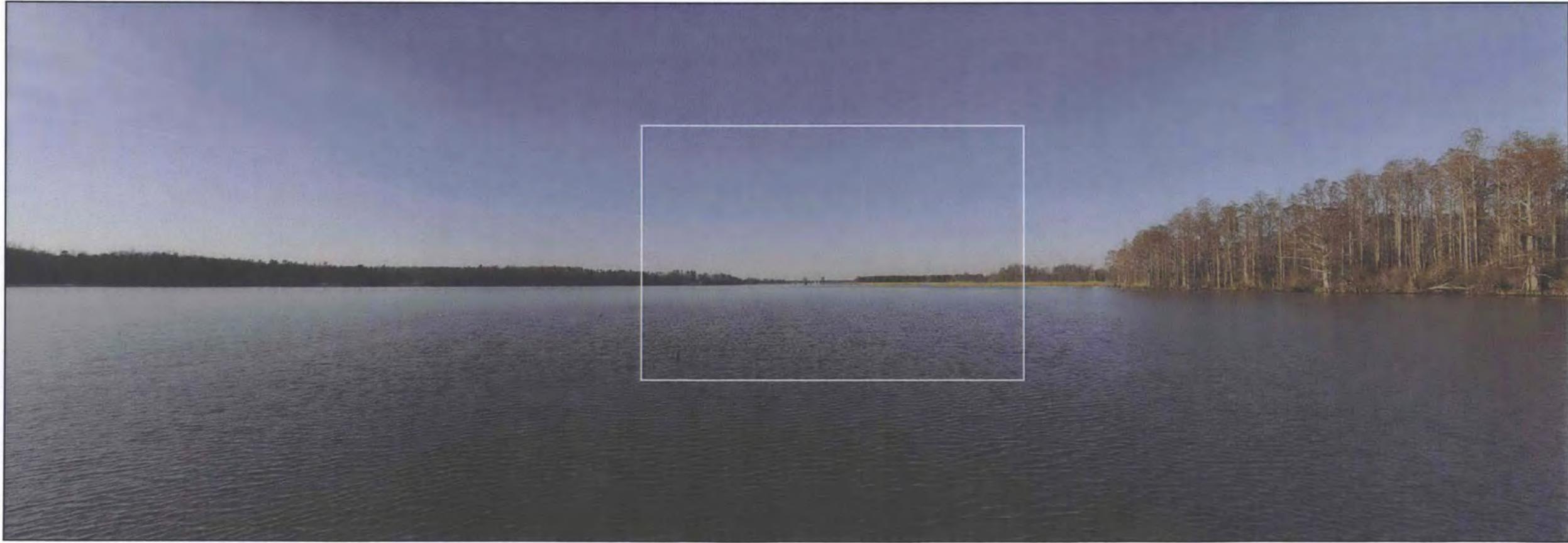
#### *Captain John Smith National Historic Water Trail*

In addition to the traditional architectural resources identified within the corridor, an additional resource has been identified within the ROW corridor where it crosses the Chickahominy River. This resource, the Captain John Smith National Historic Water Trail, has not been recorded as a resource in the VDHR database. However, it has been recommended by the VDHR to be considered as a NRHP-eligible resource for purposes of this study. In December 2006 the U.S. Congress designated the routes of Smith's explorations of the Chesapeake as the first national historic water trail. The Trail follows the early explorations of John Smith as depicted in his numerous maps and writings and covers approximately 3,000 miles in parts of present-day Virginia, Maryland, Delaware, and the District of Columbia. The development of the Comprehensive Management Plan for the Trail resulted in a determination that the Trail should be managed in segments. The Chickahominy to Skiffes Creek Alternative crosses the Chickahominy River and the Trail in an area that has been noted as being one of the more pristine environments within the Trail system in Virginia. Figures 106 and 107 simulates the potential visual impact the proposed transmission line may have on this resource. This image is zoomed in to show detail. Additional simulations are located in Appendix B. Additional evaluation is recommended contingent upon final tower siting.






**Viewpoint 13 - Chickahominy River - Looking North West - Existing View**



**Viewpoint 13 - Chickahominy River - Looking North West - Proposed View**


Figure 106. Photo Simulation, Chickahominy River Crossing, Chickahominy Alternative.





**Dominion**  
Surry-Skiffes Creek 500 kV Transmission Line  
Skiffes Creek-Wheaton 230 kV Transmission Line  
Skiffes Creek 500-230-115 kV Switching Station

**Viewpoint 13**  
Chickahominy River  
- Looking North West

Existing and Proposed

 Viewpoint Location

 Transmission Line



Easting position (Virginia South Zone NAD83)11957071.8

Northing position (Virginia South Zone NAD83)3642439.1

Elevation of viewpoint position (NAD 83 / ft):1.3

Height of camera above ground (ft):5.4

Date of photography:7th February 2012 at 12:53 p.m.

Orientation of view:NW

Horizontal field of view:124°

Vertical field of view:55°

Distance to Closest Tower (miles)0.49

NOTES:

Viewpoint locations have been precision surveyed by

**Dominion Virginia Power**  
**Coordinator - Survey Services**  
Larry Hedblom, L.S.  
701 East Cary Street  
Richmond, Va. 23219

No part of this photosimulation shall be altered in any way.

Visual Assessments should be made from the full size TrueView™ only.

Photosimulation Created Using  
TrueView™ Technology

Provided by  
**TRUESCAPE**  
VISUAL COMMUNICATION

www.truescape.com

DATE

April 20, 2012

Tower placement in simulations is preliminary - final tower locations may change upon final design and survey

**Viewpoint 13 - Chickahominy River - Looking North West - Proposed View**

Figure 106. Photo Simulation, Chickahominy River Crossing, Chickahominy Alternative.





**Viewpoint 13 - Chickahominy River - Looking North West - Proposed View**

*Enlargement Area of previous page - enlarged to a representative view when printed on a 11 x 17 " page and viewed from approx. 20" distance.*

Figure 107. Zoomed In View of Figure 106.

### *Archaeological Sites within the ROW Corridor*

#### *44CC0350*

Site 44CC0350 is described as a 19<sup>th</sup> century site and was identified by the presence of 143 brick fragments in seven shovel tests. According to the site form, no additional artifacts were recovered. This site has not been evaluated for listing on the NRHP.

#### *44CC0369*

Site 44CC0369 is a 20<sup>th</sup> Century dwelling/trash scatter that was identified by shovel testing by MAI in 2001, by David Jenkins. The site at the time of survey was located in a plowed field and has not been evaluated for listing on the NRHP.

#### *44JC0194*

Site 44JCV0194 is a 19<sup>th</sup> century dwelling that was a map projected site based on Civil War mapping by Martha McCartney in 1983. No archaeological investigation of the site has been done, and the site has not been evaluated for listing on the NRHP.

#### *44JC0195*

Site 44JCV0195 is a 19<sup>th</sup> century dwelling that was a map projected site based on Civil War mapping by Martha McCartney in 1983. No archaeological investigation of the site has been done, and the site has not been evaluated for listing on the NRHP.

#### *44JC1175*

Site 44JC1175 is a 19<sup>th</sup> Century road trace that was identified by surface indications and shovel testing by Circa~CRM in 2007 as part of the survey of 120 acres. The site has not been evaluated for listing on the NRHP.

#### *44JC0662*

Site 44JC0662 is noted as a 19<sup>th</sup> Century trash pit that was identified by surface collection and shovel testing by VCU-ARC in 1991. The site was identified as a 400-x-400 foot concentration and that site was recommended eligible. VCU started a Phase II on the site that was not completed. In 1994 Goodwin and Associates placed a single shovel test within the site and recorded a piece of bottle glass. The site was noted as being only 10-x-10 feet after the 1994 investigation and determined not eligible. Additional investigations at this site are underway to determine the full breadth of its potential significance.

#### *44JC0663*

Site 44JC0663 is a mid 19<sup>th</sup> Century to 20<sup>th</sup> Century trash scatter that was identified by surface collection by VCU in 1991 and Goodwin and Associates in 1994. The site was determined not eligible in 1994, 1995, and 2001.



#### *44JC1044*

Site 44JC1044 is a Middle Woodland Camp site and Mid-19<sup>th</sup> century to Early 20<sup>th</sup> Century Farmstead that was identified by shovel testing by WMCAR. The site was determined potentially eligible in 2001.

#### *44WB0066*

Site 44WB0066 is an early 17<sup>th</sup> century gallows site that was shovel tests by Huston and Associates. The site was determined eligible in 1992.

#### *44WB0133-0001*

Site 44WB0133-0001 is a late 18<sup>th</sup> century military camp that was identified by map projection and limited survey efforts by W3R Consultants in 2008. All known campsites associated with the siege of Yorktown were recorded as archaeological sites independent of their integrity precisely known location or extant of historical background. A large square is mapped to encompass these resources. The site has not been evaluated for listing on the NRHP.

#### *44WB0133-0002*

Site 44WB0133-0002 is a late 18<sup>th</sup> century military camp that was identified by map projection and limited survey efforts by W3R Consultants in 2008. All known campsites associated with the siege of Yorktown were recorded as archaeological sites independent of their integrity precisely known location or extant of historical background. A large square is mapped to encompass these resources. The site has not been evaluated for listing on the NRHP.

#### *44YO0220*

Site 44YO0220 has been expanded to encompass the entire Yorktown Battlefield but originally was the site number given to a single earthwork and also includes domestic material associated with a dependency and outbuilding with the Moore House. The most recent work included shovel testing of limited areas by JRI. The site has not been evaluated for listing on the NRHP.

#### *44YO0524*

Site 44YO0524 is historic dwelling that was identified by shovel testing by Huston and Associates in 1990 as part of the survey for the Natural Gas Line. The site has been determined not eligible for listing on the NRHP.

#### *44YO0757*

Site 44YO0757 is a 19<sup>th</sup> century domestic site that was identified by an informant and recorded by CWF in 1988. It does not appear that the site has been subject to an archaeological survey, and the site has not been evaluated for listing on the NRHP.

## Surry Alternative and James River Crossing Variations

The proposed Surry Alternative 500 kV transmission line will be located largely on new right-of-way adjacent to an existing cleared and maintained transmission line ROW with an existing power line. As the proposed transmission line exits the proposed Skiffes Creek substation, and between MP 7.4 and 5.8, heading south, existing structures within an existing ROW will be replaced. The remainder of the line and including the crossing of the James River and entry into the Surry substation will be constructed on new location right-of-way. Construction will be required for installation of each new structure. Additional ROW will be cleared for the construction of new structures which will require ground disturbing activities. Current conditions in the vicinity of proposed alternative are characterized by suburban development, mobile home parks, peppered with a mixture of deciduous and evergreen trees. At the time of the pre-application analysis, deciduous trees were devoid of foliage.

The Surry Alternative also includes three river crossing variations. These variations were developed to avoid potential impacts from the proposed crossing of the James River by the Surry Alternative to the airspace associated with Felker Army Airfield at Fort Eustis (Felker Airfield) (James River Crossing Variations 1 and 3) and/or to take advantage of a routing opportunity presented by a pipeline corridor that crosses the James River to the north of the Surry Alternative and continues east across James City County (James River Crossing Variations 2 and 3). The resources under consideration for the Surry Alternative and the three river crossing variations are identical and are therefore discussed in a single section.

One NHL property, Carters Grove (VDHR #047-0001) is located within all three radii for consideration associated with the Surry Alternative and the James River Crossing Variations. Additionally, a small portion of the Yorktown Battlefield (VDHR #099-5283) is located within one mile of the proposed corridors as it approaches the James River. This portion of the battlefield was not accessible for photographs as it is largely located along Skiffes Creek and in a swamp. It does not appear likely that either the Surry Alternative or the James River Crossing Variations will have an adverse effect on the Yorktown Battlefield.

### *Yorktown Battlefield (VDHR #099-5283)*

The Yorktown Battlefield (VDHR #099-5283) comprises an area of approximately 63,960 acres (Figure 108). Only a very small portion of the battlefield falls within the 1.0-mile and 1.5-mile buffers for the proposed Surry to Skiffes Creek alternative (see Figures 23-26). This area is located south of Route 60 and adjacent to Skiffes Creek and forms the western boundary of the resource in this area. This portion of the Battlefield is not a core engagement area, but rather a portion of the larger Battlefield Study Area as defined by the American Battlefield Protection Program (ABPP) (Appendix B). The portion of the battlefield within the 1.0-mile buffer was generally not accessible for photographs as it is located largely in a forested area as well as along Skiffes Creek and the associated swamp (see Figure 108). A second portion of the battlefield is located within the 1.5-mile buffer near Route 60 and the Skiffes Creek Reservoir and is also heavily wooded and low-lying. Additionally, a residential subdivision is located within the battlefield boundary immediately to the east (Figure 99).



The overall landscape within the defined project area consists of modern residential and commercial development, I-64 as well as other major transportation corridors, forested areas, reservoirs and other lakes and watercourses. Portions of the battlefield to the east and north of the project area have been compromised by numerous modern intrusions such as residential and commercial areas, power lines, and industrial development (Figures 108-109). *As such it is recommended, that the Yorktown Battlefield (VDHR #099-5283) will not be adversely impacted by the proposed Surry Alternative or the James River Crossing Variations.*



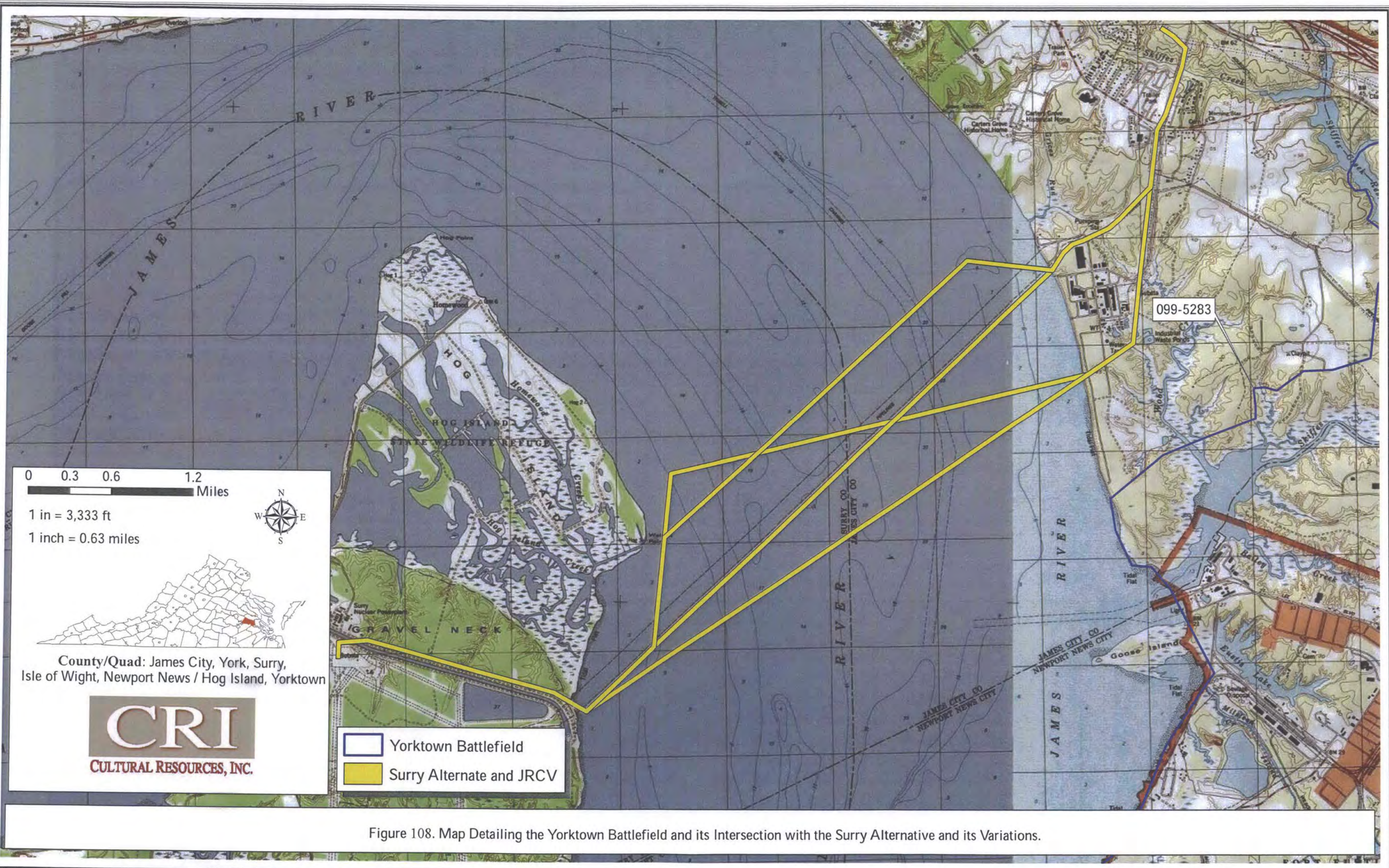






Figure 109. Detailed View of the Yorktown Battlefield and its Relationship to the Surry Alternatives on Aerial Photography to Show Existing Conditions.



*Carter's Grove (VDHR #047-0001)*

Carter's Grove is a well preserved example of a two-story, seven-bay, mid-eighteenth century Georgian dwelling (Figures 110-113) located on an elevated landform on an approximately 400-acre parcel. The landform is terraced as it approaches the large open field located between the mansion and the James River. Flanking the main block are one-story brick dependencies thought to have been constructed prior to the main dwelling, although at an unknown date. The main block features a hipped roof, two large interior chimneys and hipped-roof dormers. Other features include rubbed brick quoins, a modillioned cornice, nine-over-nine wood double-hung sash windows, hipped-roof dormers and a rubbed brick belt course.

Carter's Grove was listed on the NRHP in 1969 and as a NHL in 1970 (VDHR Site Files). According to the site form and NRHP nomination, it is "one of the best documented of Virginia's colonial mansions." The construction of Carter's Grove was begun circa 1750 for Carter Burwell, grandson of Robert "King" Carter and son of Nathaniel Burwell. According to the plantation's account book of 1751-1753, the house was constructed by David Minitree of Williamsburg" (NRHP Nomination 1969). After Burwell's death, Carter's Grove was inherited by Burwell's son, Carter Burwell II who sold the plantation circa 1790. Carter's Grove changed hands several times between 1790 and 1927 but remained as a well-preserved example of a colonial mansion and plantation. According to the site file information, the exterior of the house was radically altered and enlarged in 1927-1928 to appear larger and more grandiose, however the interior woodwork was still largely intact (NRHP Nomination 1969).

The last resident of Carter's Grove passed away in 1964 and the mansion and 400-acre property associated with it were acquired by the Colonial Williamsburg Foundation through a gift from the Rockefeller Foundation in 1969. Carter's Grove was open to tourists for many years and included reconstructed slave cabins and an archaeology museum, but closed its doors to the public in 2003. The foundation announced in late 2006 that it would be offered for sale, under specific restrictive conditions and it was purchased in 2007.

The Carter's Grove property measures approximately 400 acres and is characterized by broad open agricultural fields and large stands of mature trees. There are several drainages/ravines located across the property which are densely wooded with mature oak, poplar, pine, and other varieties of trees and vegetation. The eastern and western boundaries of the parcel are wooded as are sections of the James River water front. In some places the trees reach heights of nearly 150 feet. The property includes reconstructed slave cabins, the closed archaeology museum, several reconstructed dependencies, and the grave site of Susanna Burwell, the wife of Nathaniel Burwell dated 1788. Adjacent to her marked grave are two smaller graves, presumably her children.





Figure 110. Carters Grove (VDHR #047-0001), Facing Southwest.



Figure 111. Carters Grove (VDHR #047-0001), view to the North from the James River.





Figure 112. Approach to Carter's Grove, Facing South.



Figure 113. View of Open Agricultural Fields Banked by Trees in the Northwestern portion of the Carters Grove Property, Facing North.



### Visual Effects Analysis, Carter's Grove



A site visit was made to Carter's Grove on May 11, 2012 and all photographs were taken on that day. Also included in this discussion of visual effects are photo simulations prepared by TrueScape on behalf of Dominion as well as a line of sight analyses from the main dwelling prepared by NRG, for each alternative. Additional photo simulations and view points are also utilized for the visual effects analysis however line of sight graphics were not prepared for all; just for the view from the main house. The line of sight exhibits and photo simulations are located in Appendices B and C in order to facilitate viewing at full size.

The Carter's Grove plantation house, as noted above sits on an elevated landform, at an elevation of approximately 50 feet above mean sea level (amsl) and approximately 2000 feet from the James River shoreline. The house is located approximately two miles to the northeast of the center point of the proposed transmission line as it crosses the James River. At its closest point to the transmission line as it crosses the river, the edge of the property is approximately 4300 feet to the north. This portion of the property is heavily wooded and would provide buffering between the proposed transmission line and the plantation house. However, visibility will increase as the towers get larger at the center of the river crossing.

To assess potential visibility of the transmission line structures that would be used for the river crossing from the main Carter's Grove house, a combination of ground photography, photo simulations, and line of sight analysis was utilized. Photographs were taken from seven locations within the bounds of the Carter's Grove property to assess the potential visual effects the proposed transmission line may have on the property as a whole (Figure 114). These same photo locations were utilized for all four alternatives. Line of sight analysis was based on Viewpoint 15 (P4), the front stoop of the main house as it faces the river, however photo simulations were prepared for Viewpoints 16, and 17 (P5 and P7). These three viewpoints will be discussed in detail as they are generally representative of the property where the views are the greatest.

Additionally, NRG used a combination of both a TrueScape photo simulation and Line of Sight Profiles constructed using LIDAR digital elevation data (5-foot cell size resolution) obtained from the College of William and Mary that represented both the ground and vegetation (tree) surface elevations. These elevation data were used in combination with ArcGIS 3D Analyst to prepare cross-sectional Line of Sight (LOS) profiles to each tower location from a point 6 feet off the ground (eye level) from directly in front of the main house (VP 15) facing the river and from a location between the main house and Route 60 (Pocohontas Trail) facing southeast to northeast for the onshore portion of the route. The same tower heights and locations across the river used for this visual assessment, while estimated, were also used by Dominion for modeling span lengths for channel and pipeline crossings in the river and to conduct an FAA and DOD non-precision approach obstruction analysis associated with Felker Airfield at Fort Eustis.



 Carter's Grove  
 James River Crossing and Surry Variations



County/Quad: James City, York, Surry,  
Isle of Wight, Newport News / Hog Island, Yorktown



0 0.15 0.3 0.6  
 Miles  
 1 in = 1,667 ft  
 1 inch = 0.32 miles



Figure 114. Key to Photograph Locations of Carter's Grove Property.



### The Surry Alternative and James River Crossing Variations – Land Based Routes

The boundary closest to the existing transmission line and proposed transmission line corridor for the Surry Alternative as well as the three James River Crossing Variations is within the 0.5-mile buffer. The northeastern corner of the property as it intersects Route 60 is approximately 2,900 feet west of the extant transmission line ROW corridor and the Skiffes Creek Substation. The southeastern portion of the property at the dead end of Endeavor Drive is approximately 1950 feet from the proposed power line transmission corridor and adjacent to an industrial complex. Between the northeastern property boundary on the east and the proposed transmission line corridor from the Skiffes Creek Switching Station to the point at which the corridor spans the James River in James City County is characterized by modern residential development as well as industrial development and several stands of mature trees.

A series of photographs taken from the public ROW and along the edges of the property in the vicinity of the industrial development to the east indicate that visibility will be nil (Figures 115-118). Additionally, the plantation house itself is set back on the property nearer to the river and is buffered from the modern development, transmission line ROW corridor and Skiffes Creek Switching Station. While the land-based route for the James River Crossing Variations is closer to the Carter's Grove property, the dense stands of trees and the natural topography effectively shield this portion of the power line from view. Immediately adjacent to the property boundary on the east are areas of industrial development; no components of which are currently visible from the Carter's Grove property.

Photographs taken from photo locations P1, P2, and P3 within the Carter's Grove Property all indicated that the power line will not be visible from the northern, agricultural portion of the property (see Figure 118; Figures 119-122). The distance to the river coupled with the natural terrain and the large, dense stands of mature trees effectively shield this portion of the property from any view of the power line; either land based or crossing the river. The only potential visibility from this section of the property is that described above; where the property intersects Route 60 at the end of the drive to the resource.

A Line of Sight profile was also prepared and evaluated from a location between the main house and Route 60 (Pocahontas Trail) facing southeast to northeast for the onshore portion of the route (Figure 123). It was determined that no towers associated with the Surrey Alternative or from any of the James River Crossing Variations 1, 2, or 3 would be visible between the river and Skiffes Creek Switching Station from this side of Carters Grove Main House (Appendix C). This is due primarily to heavily forested areas between the house and the transmission line route. *Existing transmission line ROW corridors and associated structures near the northern terminus of the alternative and as it approaches the James River, under current landscape conditions, were only visible from Location 29 (the end of the driveway of this resource) and were invisible from the interior of the property. It is recommended therefore, that Carters Grove (VDHR #047-0001) will not be impacted by the land-based portions of the Surry Alternative or the James River Crossing Variations as they exit the proposed switching station and trend south toward the James River.*



Figure 115. Carters Grove (VDHR #047-0001), view from Location 29 looking southwest towards resource (Photograph taken from public ROW).



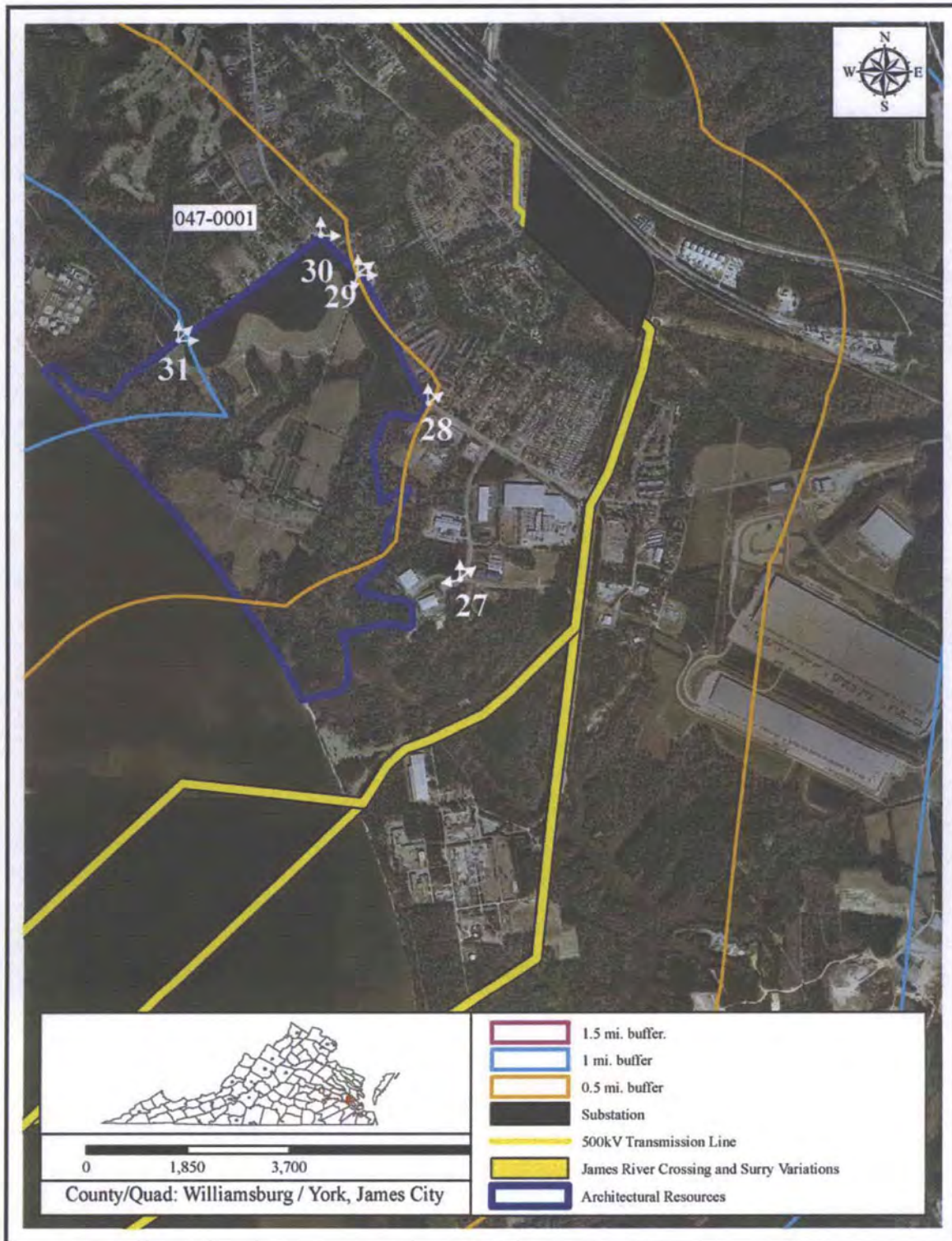


Figure 116. Carters Grove (VDHR #047-0001), view from Location 28 looking northwest towards Skiffes Creek Switching Station and existing development (Photograph taken from public ROW).



Figure 117. Carters Grove (VDHR #047-0001), view from Location 27, near eastern boundary of resource looking northwest towards proposed power line corridor (Photograph taken from public ROW).





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Figure 118. Aerial map showing locations of view shed analysis for Carters Grove at the Switching Station and Land-Based portion of the Surry Alternative and the James River Crossing Variations (VDHR #047-0001) (Photographs taken from public ROW).



Figure 119. View from Photo Location 1, Facing South Toward Carter's Grove Mansion and Proposed Transmission Line. There will be no visibility from this location.





Figure 120. View from Photo Location 2, Facing Southeast Toward Carter's Grove Mansion and Proposed Transmission Line. There will be no visibility from this location.



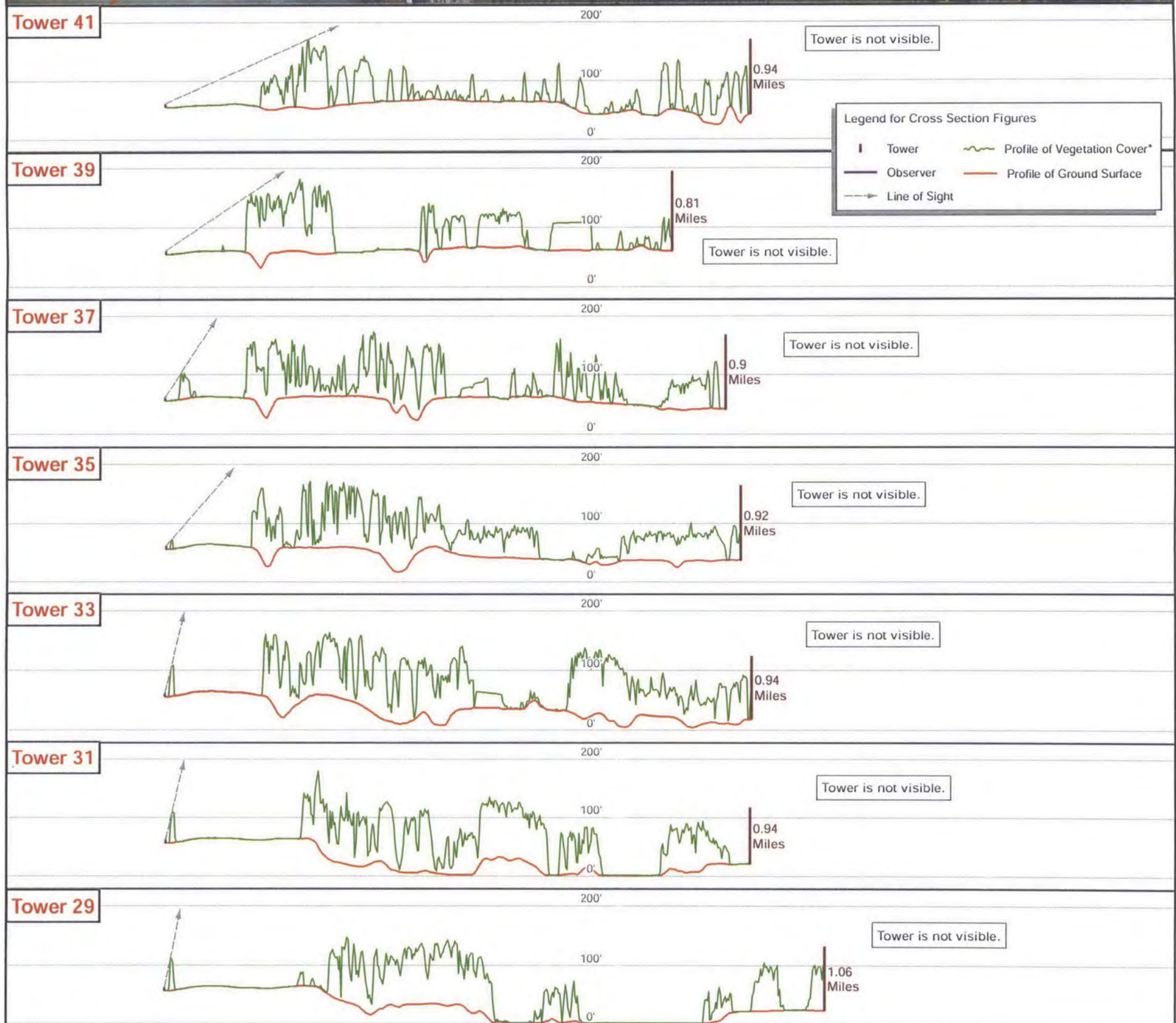
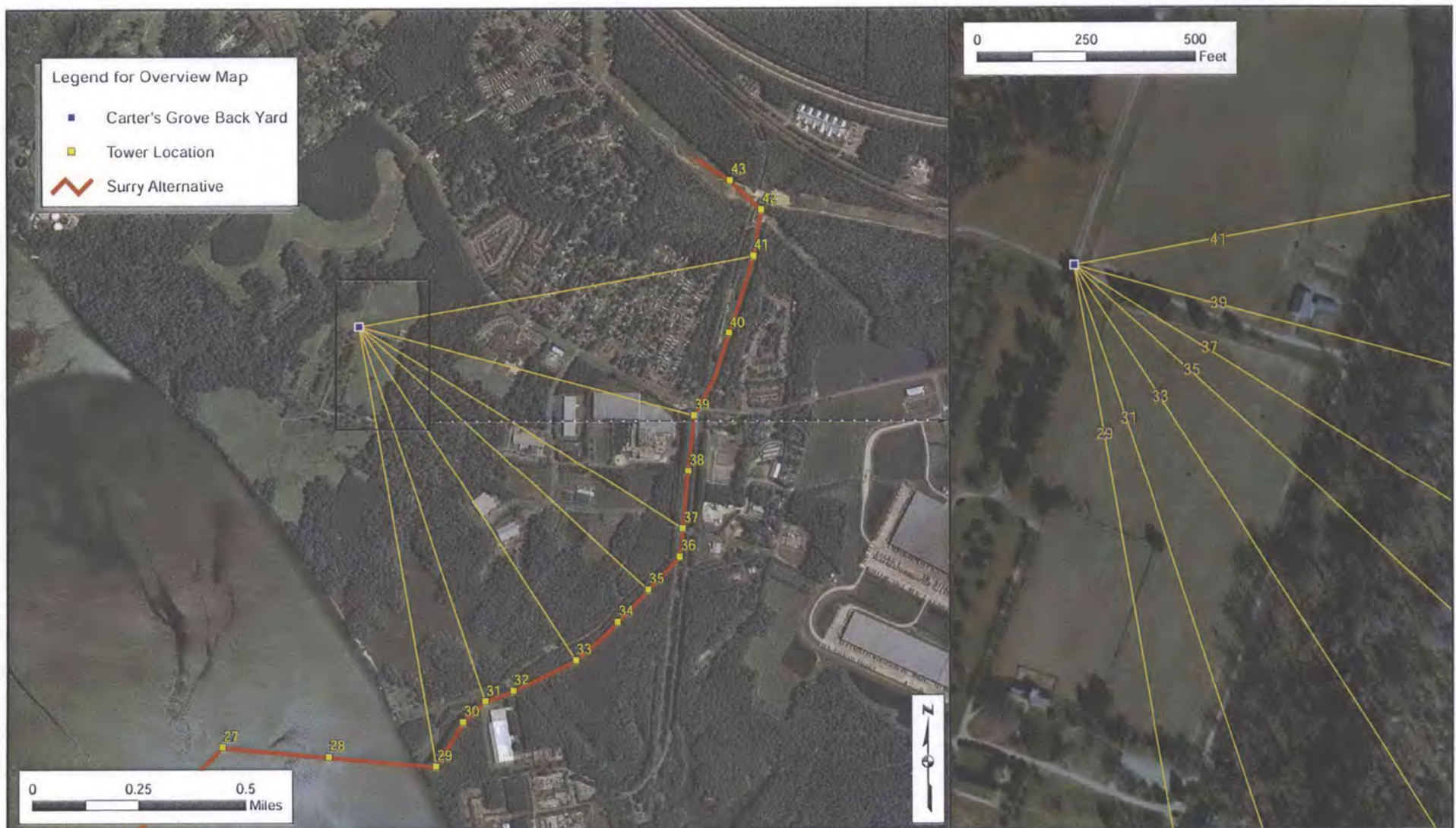
Figure 121. View of Carter's Grove from Photo Location 3. Facing South towards proposed transmission line corridor. There will be no visibility from this location.





Figure 122. View Facing Southeast from Photo Location 3 toward the Land-Based portion of the Proposed transmission line. The distance, dense tree cover and natural terrain will shield this location from view.





**Figure 123**  
 Surry - Skiffes Creek 500 kV Transmission Line  
 Surry Alternative - On Shore  
 Line of Sight and Tower Visibility Analysis from Carter's Grove  
 Surry Alternative  
 Vertical Exaggeration X 5



\*Elevation Data: 2010 11-County Coastal LIDAR DSM Files Representing Elevation of Vegetation Cover. Downloaded from College of William and Mary, Center for Geospatial Analysis - <http://www.wm.edu/as/cga/Data%20Services/VALIDAR/index.php>



*The Surry Alternative and James River Crossing Variations – River Crossing Routes*

Photographs taken from locations P4-P7 all indicated that the power line as it crosses the James River will be visible at varying degrees (see Figure 108; Figures 124-127) dependent upon the alternative chosen. The Surry Alternative is located the furthest away from the Carter's Grove property, while James River Crossing Variation 3 is the closest. In all cases, only a portion of the towers are visible and no alternative has a direct view of all structures within the river crossing (Figure 128). Representative views from locations P4 (VP15), P7 (VP17), and P5 (VP16) were simulated and are discussed in detail below as they relate to each of the alternatives.



Figure 124. View from Photo Location 4, the Front Stoop of the Main House, Facing South toward Proposed Power line Crossing. This view will be discussed in greater detail below.



Figure 125. View from Photo Location 5, Facing Southeast toward the Proposed River Crossing. Power line will be slightly visible from this location and is shielded by tree cover. The view will also be minimized by distance.



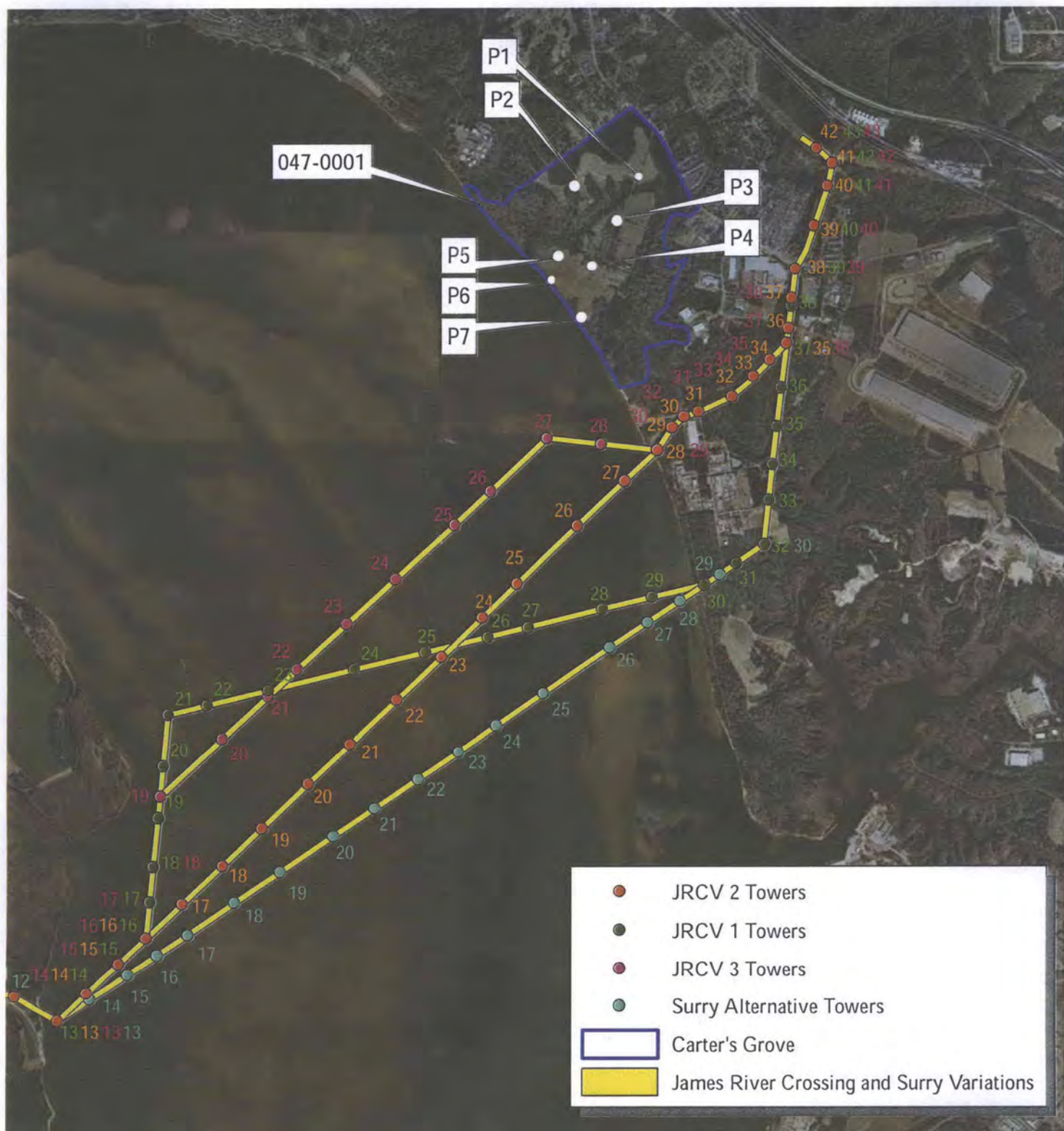


Figure 126. View from Photo Location 6, the Bank of the James River, Facing Southeast toward proposed transmission line crossing. Transmission towers will be visible from this location. However, view will be minimized by distance and tower style.



Figure 127. View from Photo Location 7, the Bank of the James River, South of the Main House, Facing Southeast toward proposed transmission line crossing. Transmission towers will be visible from this location. However, view will be minimized by distance and tower style.





County/Quad: James City, York, Surry,  
Isle of Wight, Newport News / Hog Island, Yorktown



0 0.375 0.75 1.5  
Miles

1 in = 4,167 ft

1 inch = 0.79 miles



Figure 128. Surry Alternative and James River Crossing Variations Depicted in Relationship to Carter's Grove, Hog Island, and Yorktown, VA USGS 7.5' Quadrangles.

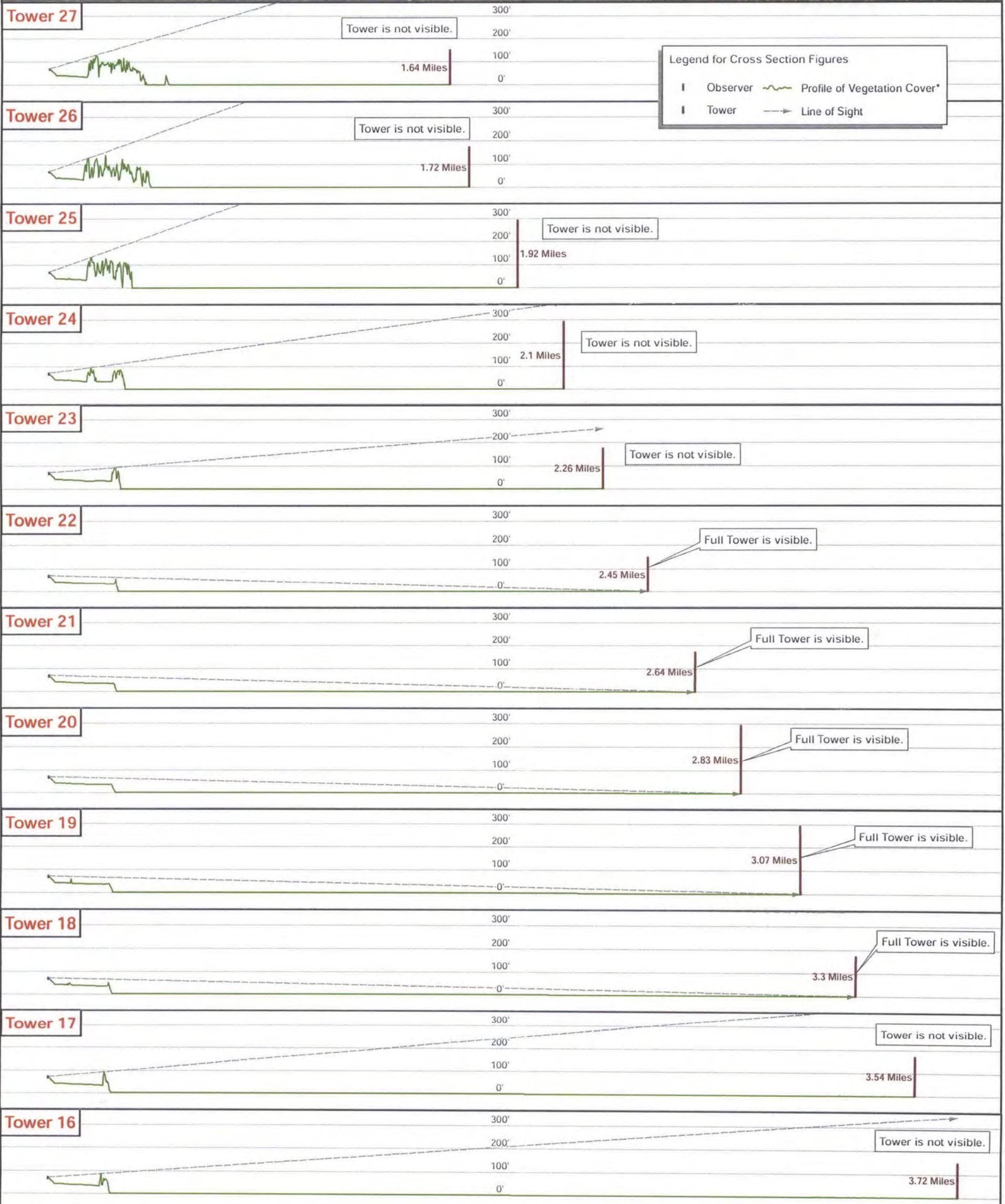
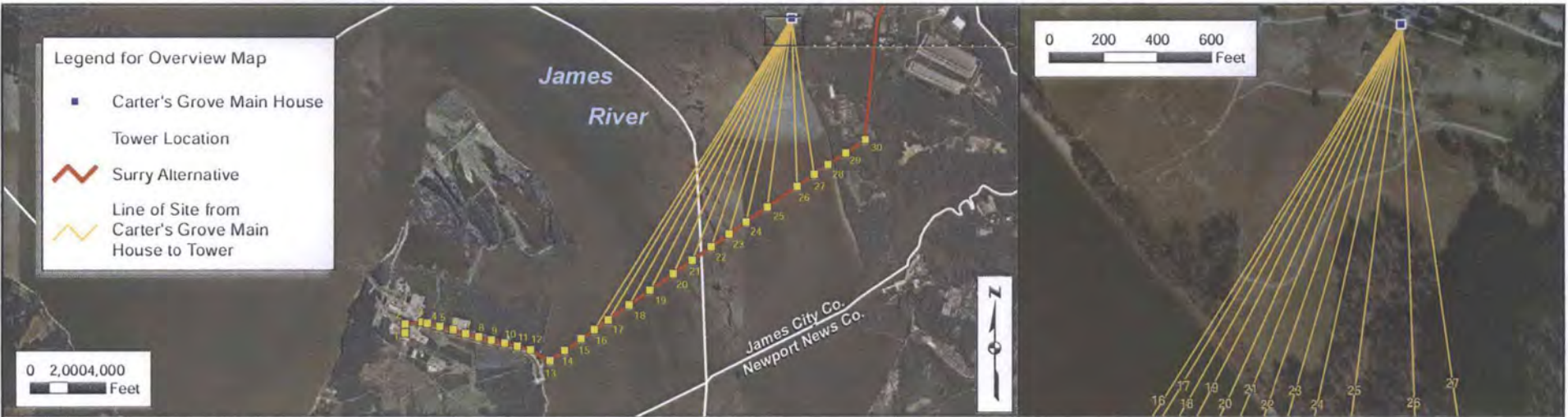
## Line of Sight and Photo Simulation – Viewpoint 15 (P4)

NRG used a combination of both a TrueScape photo simulation and Line of Sight Profiles constructed using LIDAR digital elevation data (5-foot cell size resolution) obtained from the College of William and Mary that represented both the ground and vegetation (tree) surface elevations. These elevation data were used in combination with ArcGIS 3D Analyst to prepare cross-sectional Line of Sight (LOS) profiles to each tower location from a point 6 feet off the ground (eye level) from directly in front of the main house (VP 15, P4) facing the river (see Figure 104, Figure 113, Figure 117, and Appendix B).

*The Surry Alternative.* The LOS elevation profile from Carter’s Grove VP15 (Figure 129) show which towers and how much of the towers used in the river crossing could be seen from the main house at Carter’s Grove and which ones would be blocked by the trees. Because of the dense tree line on the southeast side of the house and along portions of the shoreline, only 5 of the 15 towers in the river (towers 18 through 22) along the Surry Alternative would be visible from the main house at Carter’s Grove. Because these towers would be viewed from an opening in the treeline near the shoreline, the entire height of each of these towers would be visible from the house at distances between 2.4 miles (tower 22) and 3.3 miles (tower 18). On a clear day the towers would likely be distant but visible. The photo simulation from VP15 (Figures 130-131) confirms this conclusion.

*James River Crossing Variation 1.* The same process was used to determine visibility of towers along the three James River Crossing Variations. The LOS elevation profiles from Carter’s Grove show that, similar to the Surry Alternative route, because of the dense tree line on the southeast side of the house and along portions of the shoreline, only a small number of the towers crossing the river would be visible from VP15, depending on which crossing variation is being viewed (Figure 132). For the James River Crossing Variation 1, 3 of the 16 towers in the river would be all or partially visible. While all of tower 25 would be visible at a distance of about 2.0 miles, the top 246 feet of tower 26 would be visible at about 1.7 miles, and only the top 40 feet of tower 18 would be visible at 3.5 miles. Consequently, views from the main house would be limited to two towers, and the very top of a third tower, through breaks in the trees or over the top of trees. The photo simulation from VP15 to the James River Crossing Variation 1 indicates that only tower 25 and about the upper half of Tower 26 would be seen from this location (Figures 132-134). Because the towers are located between 1.75 and 2.0 miles from the Main House at Carter’s Grove, the views on a clear day would be distant and limited to one and one half towers, but apparent.

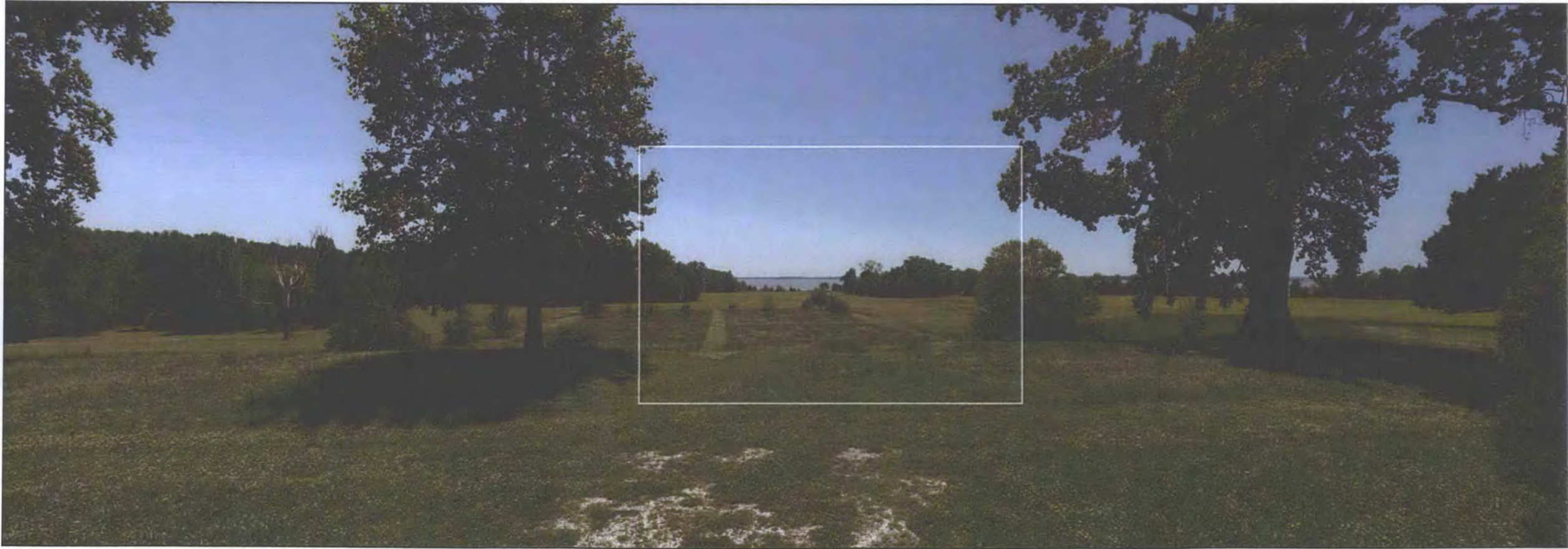








**Viewpoint 15 - View from Main House at Carter's Grove - Looking Southwest – Existing View**



**Viewpoint 15 - View from Main House at Carter's Grove - Looking Southwest – Surry Alternative - Proposed View**

Figure 130. Photo Simulation, VP 15, Surry Alternative.



**Dominion**  
Surry-Skiffes Creek 500 kV Transmission Line  
Skiffes Creek-Wheaton 230 kV Transmission Line  
Skiffes Creek 500-230-115 kV Switching Station

**Viewpoint 15**  
View from Main House at Carter's Grove  
Looking Southwest  
Surry Alternative  
Existing and Proposed

Viewpoint Location

Tower Position

Surry Alternative



Easting position (Virginia South Zone NAD83) 12028981.5  
Northing position (Virginia South Zone NAD83) 3604320.9  
Elevation of viewpoint position (NAD 83 / ft): 68.0  
Height of camera above ground (ft): 5.4  
Date of photography: 11-May-12 at 1:22 p.m.  
Orientation of view: SW  
Horizontal field of view: 124°  
Vertical field of view: 55°  
Distance to Closest Visible Tower (miles): 2.46

NOTES:

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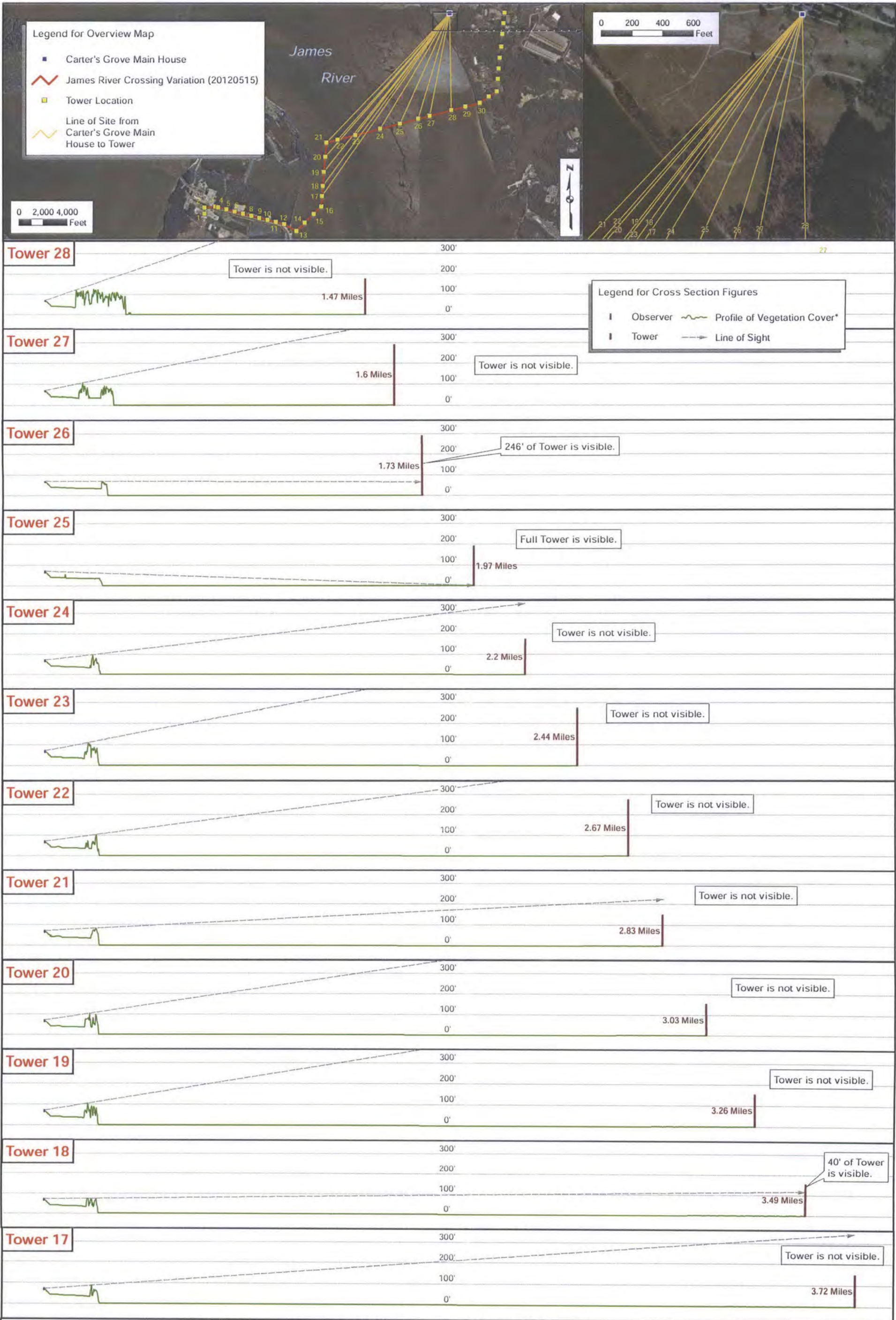




**Viewpoint 15** - View from Main House at Carter's Grove - Looking Southwest – **Surry Alternative - Proposed View**  
*Enlargement Area of previous page - enlarged to a representative view when printed on a 11 x 17 " page and viewed from approx. 20" distance.*

Figure 131. Zoomed In View of Proposed View, VP 15, Surry Alternative.

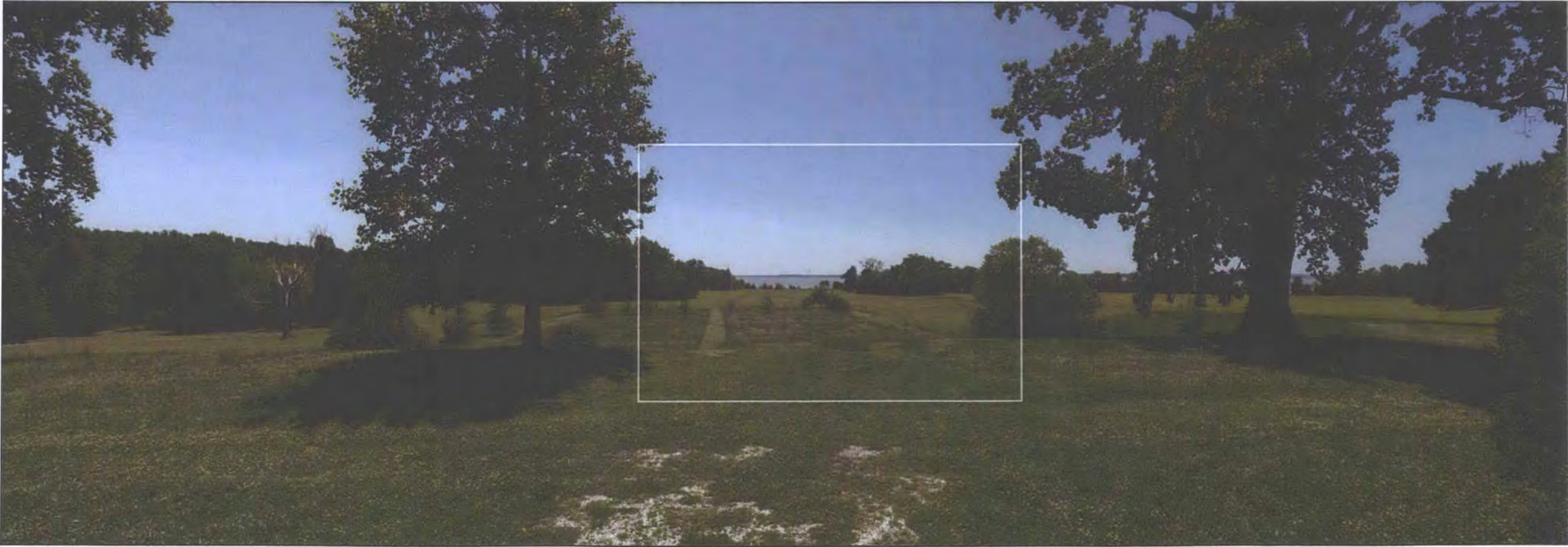








Viewpoint 15 - View from Main House at Carter's Grove - Looking Southwest - Existing View



Viewpoint 15 - View from Main House at Carter's Grove - Looking Southwest - James River Crossing Variation 1 - Proposed View

Figure 133. Photo Simulation, VP 15, James River Crossing Variation 1.



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Surry-Skiffes Creek 500 kV Transmission Line  
Skiffes Creek-Wheaton 230 kV Transmission Line  
Skiffes Creek 500-230-115 kV Switching Station

**Viewpoint 15**

View from Main House at Carter's Grove  
Looking Southwest  
James River Crossing Variation 1  
Existing and Proposed

• Viewpoint Location

● Tower Position

— James River Crossing Variation 1



Easting position (Virginia South Zone NAD83) 12028981.5  
Northing position (Virginia South Zone NAD83) 3604320.9  
Elevation of viewpoint position (NAD 83 / ft): 68.0  
Height of camera above ground (ft): 5.4  
Date of photography: 11-May-12 at 1:22 p.m.  
Orientation of view: SW  
Horizontal field of view: 124°  
Vertical field of view: 55°  
Distance to Closest Visible Tower (miles) 1.76

NOTES:

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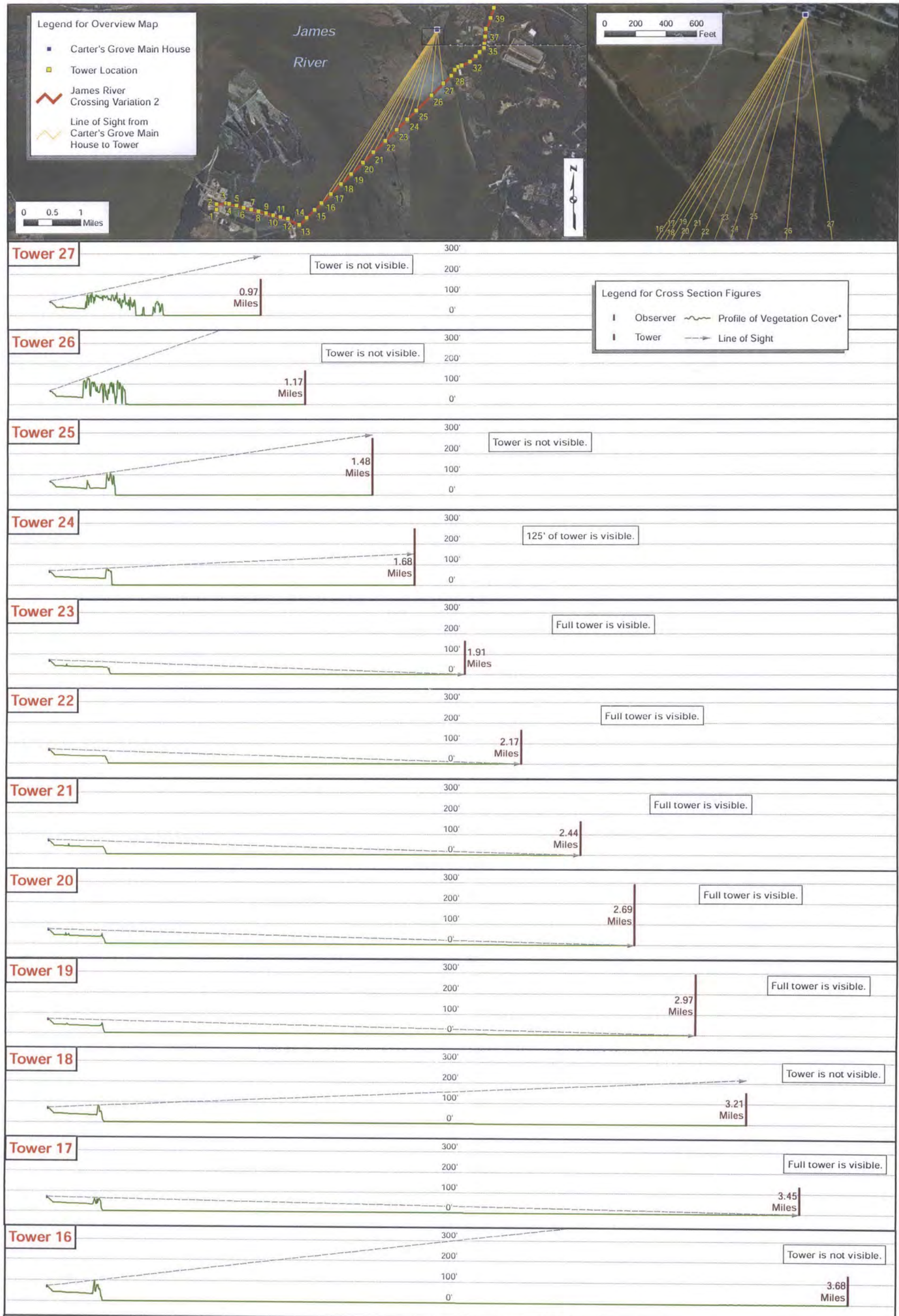
**Viewpoint 15** - View from Main House at Carter's Grove - Looking Southwest – **James River Crossing Variation 1 - Proposed View**  
*Enlargement Area of previous page - enlarged to a representative view when printed on a 11 x 17 " page and viewed from approx. 20" distance.*

Figure 134. Zoomed in View of Proposed View, VP 15, James River Crossing Variation 1.



James River Crossing Variation 2. For the James River Crossing Variation 2, 6 of the 14 towers in the river would be all or partially visible (Figure 135). While only the top half of tower 24 would be visible from a distance of 1.7 miles, all of towers 23 through 19 would be visible from distances ranging from 1.9 miles to 3.0 miles, respectively. While views of the route would be limited to the same break in the trees along the shoreline as the James River Crossing Variation 1, alignment of the James River Crossing Variation 2, similar to the alignment of the Surry Alternative, is angled such that a greater number of towers are visible. The photo simulation from VP15 to the James River Crossing Variation 2 verifies that five full towers and the upper half of a sixth tower would be seen from this location (Figures 136-137). This alignment would represent a distinct and apparent, but distant view of new infrastructure across the river.

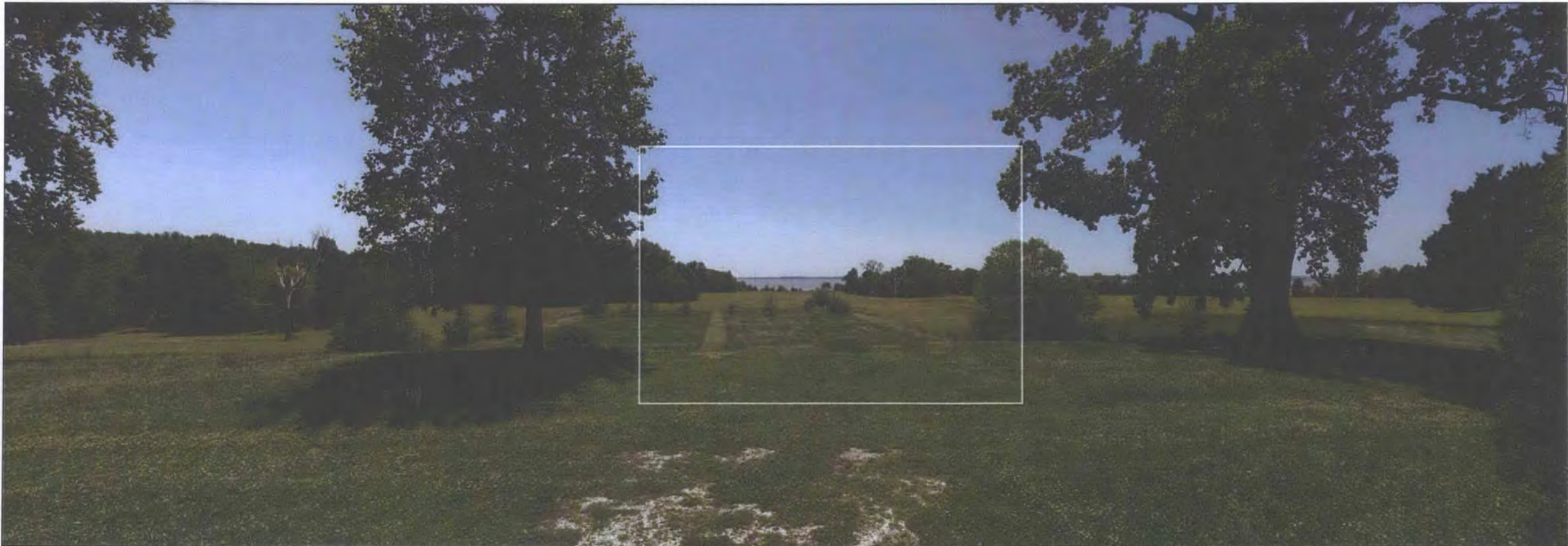
James River Crossing Variation 3. For the James River Crossing Variation 3, only 3 of the 15 towers in the river would be all or partially visible. Only the top approximately 25 percent (40 feet) of tower 27 would be visible from a distance of about 0.8 mile (Figure 138). However, all of towers 25 and 26 would be visible from approximately 1.3 and 1.1 miles, respectively. The photo simulation from this location shows that while the top part of tower 27 is barely visible, towers 25 and 26, which are the taller towers required to span the eastern shipping channel, would be apparent from the main house location during clear weather conditions and, because of the tower height and closeness, would represent a distinct new visual addition to the visual landscape (Figures 139-140).







**Viewpoint 15 - View from Main House at Carter's Grove - Looking Southwest - Existing View**



**Viewpoint 15 - View from Main House at Carter's Grove - Looking Southwest - James River Crossing Variation 2 - Proposed View**



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 Surry-Skiffes Creek 500 kV Transmission Line  
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 Skiffes Creek 500-230-115 kV Switching Station

**Viewpoint 15**  
 View from Main House at Carter's Grove  
 Looking Southwest  
 James River Crossing Variation 2  
 Existing and Proposed

- Viewpoint Location
- Tower Position
- James River Crossing Variation 2



Easting position (Virginia South Zone NAD83): 12028981.5  
 Northing position (Virginia South Zone NAD83): 3604320.9  
 Elevation of viewpoint position (NAD 83 / ft): 68.0  
 Height of camera above ground (ft): 5.4  
 Date of photography: 11-May-12 at 1:22 p.m.  
 Orientation of view: SW  
 Horizontal field of view: 124°  
 Vertical field of view: 55°  
 Distance to Closest Visible Tower (miles): 1.68

NOTES:

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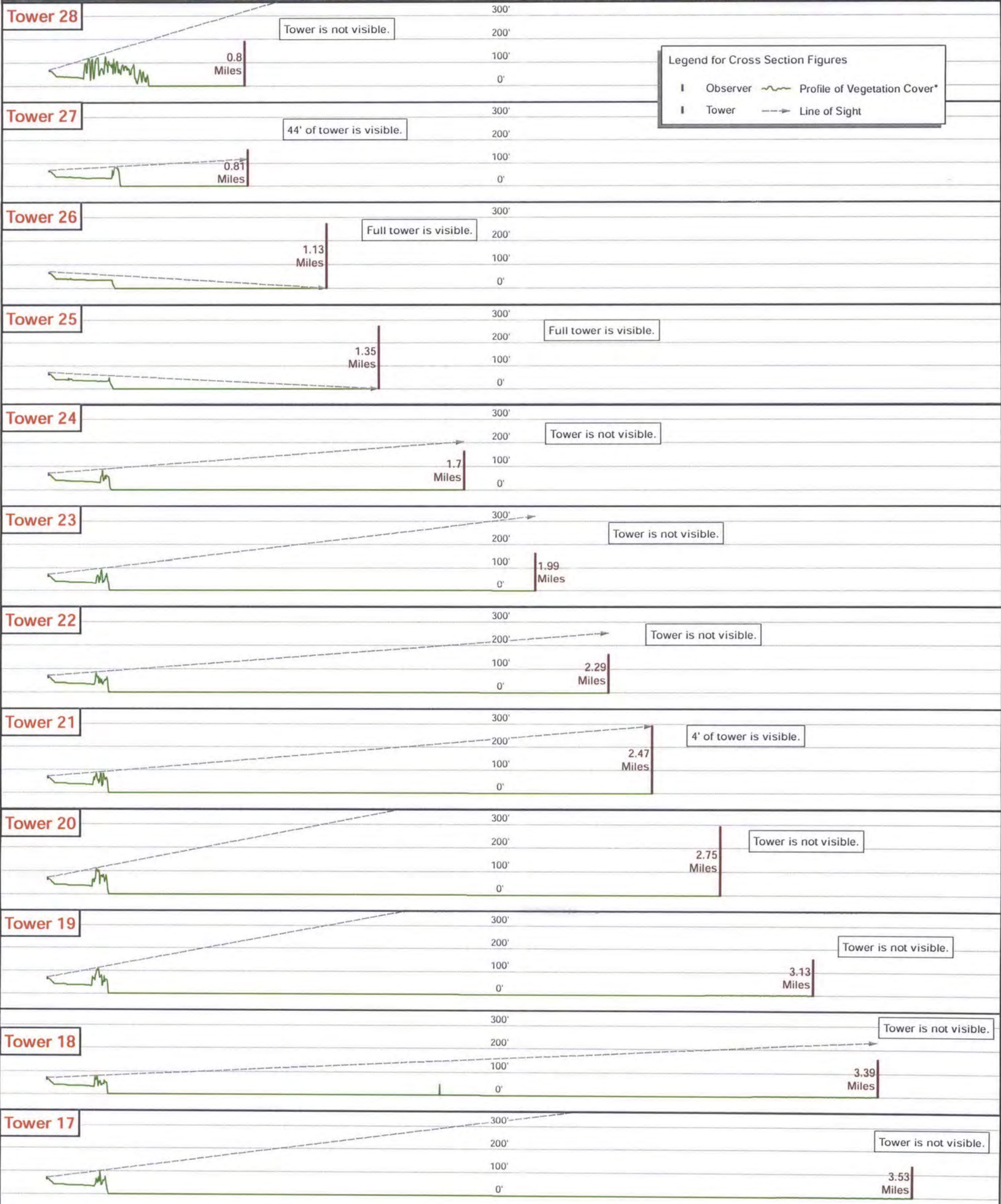




**Viewpoint 15** - View from Main House at Carter's Grove - Looking Southwest - **James River Crossing Variation 2 - Proposed View**  
*Enlargement Area of previous page - enlarged to a representative view when printed on a 11 x 17 " page and viewed from approx. 20" distance.*

Figure 136. Zoomed in View of Proposed View, VP 15, James River Crossing Variation 2.

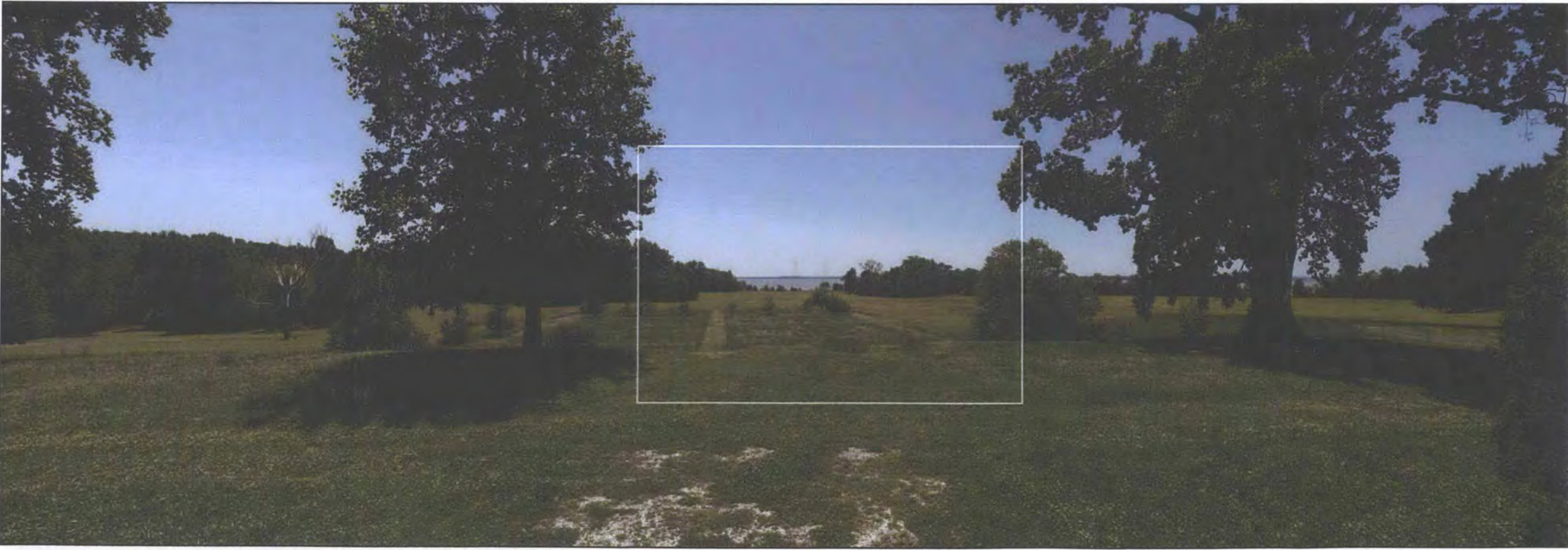









Viewpoint 15 - View from Main House at Carter's Grove - Looking Southwest - Existing View



Viewpoint 15 - View from Main House at Carter's Grove - Looking Southwest – James River Crossing Variation 3 - Proposed View



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**Viewpoint 15**

View from Main House at Carter's Grove  
Looking Southwest  
James River Crossing Variation 3  
Existing and Proposed

• Viewpoint Location

• Tower Position

James River Crossing Variation 3



Easting position (Virginia South Zone NAD83) 12028981.5  
Northing position (Virginia South Zone NAD83) 3604320.9  
Elevation of viewpoint position (NAD 83 / ft): 68.0  
Height of camera above ground (ft): 5.4  
Date of photography: 11-May-12 at 1:22 p.m.  
Orientation of view: SW  
Horizontal field of view: 124°  
Vertical field of view: 55°  
Distance to Closest Visible Tower (miles): 0.82

NOTES:

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Figure 139. Photo Simulation, VP 15, James River Crossing Variation 3.





**Viewpoint 15** - View from Main House at Carter's Grove - Looking Southwest - **James River Crossing Variation 3 - Proposed View**  
*Enlargement Area of previous page - enlarged to a representative view when printed on a 11 x 17 " page and viewed from approx. 20" distance.*

Figure 140. Zoomed in View of Proposed View, VP 15, James River Crossing Variation 3.



### Photo Simulation – Viewpoint 16 (P5)

Line of sight analyses were not prepared for this view from the open field west of the main house looking southeast toward the proposed river crossings. However, a useful discussion of potential visual effects that the proposed transmission line may have can be devised by a review of photo simulations for each of the four river crossing routes. This photo location is located on an elevated hill within the open agricultural fields west of the main house (see Figure 108). This location is also in proximity to the gravesite of Susanna Burwell, wife of Nathaniel Burwell who passed away in 1788. This location is at an elevation of approximately 40 feet amsl, providing a “worst case scenario” view for this portion of the property. Figures 114 and 117 illustrate the general view from this location, however the photo simulations are located in Appendix C to facilitate viewing at a large scale.

The Surry Alternative. The photo simulation prepared for the view from VP16 (P5) indicates that the towers associated with the Surry Alternative will be only slightly visible from the open, agricultural fields comprising the western portion of the Carter’s Grove property as it approaches the James River (Figures 141-142). A review of the locations of towers plotted on aerial photography coupled with the review of photo simulations indicates that views of Towers 22-26 are likely, but the view would be distant. These towers range in height from 275 to 295 feet and are the tallest towers along the crossing. It is unlikely that Towers 26-30 would be visible from this location due to tree cover, a tower height of 160 feet, and distance and Towers 13-20, also measuring 160 feet or less, would also be largely invisible from this location due to distance and the presence of mature trees along the shoreline of the James River. This alternative is located the farthest away of the four alternatives being examined. The center point of the river crossing near Towers 22 and 23 is 2.8 miles from this photo location. While visible, the Surry Alternative towers would be distant on the horizon and not pose a significant change to the visual landscape from this location.

James River Crossing Variation 1. The photo simulation prepared for the view from VP16 (P5) indicates that three full towers associated with this alternative will be visible from the open, agricultural fields located in this vicinity (Figures 143-144). These towers appear to be Towers 22-24 located at the northernmost point in this variation before it turns south to tie in to the route to the Power Station. These towers range in height from 160 feet to 295 feet tall as the line spans the shipping channel. Additional towers may also be visible as the route turns to the south, but in only minor capacity. Towers 16-20 along the line as it turns south are 160 feet in height and would be only minimally visible on the horizon from this location. The top of Towers 26 and 27 may also be partially visible from this viewpoint with Towers 26 and 27 measuring 275 feet in height as they






Viewpoint 16 - View from field west of Main House at Carter's Grove - Looking Southwest - Existing View



Viewpoint 16 - View from field west of Main House at Carter's Grove - Looking Southwest - Surry Alternative - Proposed View

Figure 141. Photo Simulation, VP 16, Surry Alternative.



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**Viewpoint 16**

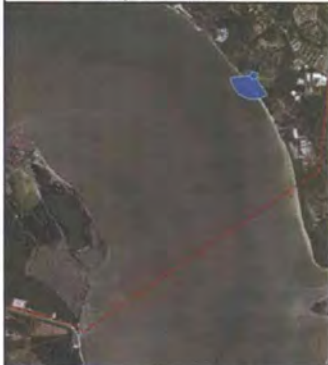
View from field west of Main House at Carter's Grove  
Looking Southwest

Surry Alternative  
Existing and Proposed

Viewpoint Location

Tower Position

Surry Alternative



Easting position (Virginia South Zone NAD83): 12028059.2

Northing position (Virginia South Zone NAD83): 3604351.7

Elevation of viewpoint position (NAD 83 / ft): 57.7

Height of camera above ground (ft): 5.4

Date of photography: 11-May-12 at 2:08 p.m.

Orientation of view: SW

Horizontal field of view: 124°

Vertical field of view: 55°

Distance to Closest Visible Tower (miles): 1.94

NOTES:

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**Viewpoint 16** - View from field west of Main House at Carter's Grove - Looking Southwest - **Surry Alternative - Proposed View**  
*Enlargement Area of previous page - enlarged to a representative view when printed on a 11 x 17 " page and viewed from approx. 20" distance.*

Figure 142. Zoomed in View of Proposed View, VP 16, Surry Alternative.






Viewpoint 16 - View from field west of Main House at Carter's Grove - Looking Southwest - Existing View



Viewpoint 16 - View from field west of Main House at Carter's Grove - Looking Southwest - James River Crossing Variation 1 - Proposed View

Figure 143. Photo Simulation, VP 16, James River Crossing Variation 1.



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**Viewpoint 16**


View from field west of Main House at Carter's Grove  
Looking Southwest

James River Crossing Variation 1  
Existing and Proposed

Viewpoint Location

Tower Position

James River Crossing Variation 1



Easting position (Virginia South Zone NAD83) 12028059.2

Northing position (Virginia South Zone NAD83) 3604351.7

Elevation of viewpoint position (NAD 83 / ft): 57.7

Height of camera above ground (ft): 5.4

Date of photography: 11-May-12 at 2:08 p.m.

Orientation of view: SW

Horizontal field of view: 124°

Vertical field of view: 55°

Distance to Closest Visible Tower (miles) 1.65

NOTES:

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**Viewpoint 16** - View from field west of Main House at Carter's Grove - Looking Southwest - **James River Crossing Variation 1 - Proposed View**  
*Enlargement Area of previous page - enlarged to a representative view when printed on a 11 x 17 " page and viewed from approx. 20" distance.*

Figure 144. Zoomed in View of Proposed View, VP 16, James River Crossing Variation 1.



span the shipping channel. The proposed transmission line as it approaches James City County from Towers 28 to 30 will not be visible from this viewpoint due to stands of mature trees along the James River shoreline.. A large portion of this alternative is visually similar to that of the Surry Alternative except where it turns sharply to the north toward Hog Island. It is in this northernmost point that the towers would be visible. Three towers would be fully visible from this location while the remainder would be shielded from view.

James River Crossing Variation 2. The photo simulation prepared for the view from VP16 (P5) indicates that several towers associated with this alternative will be visible from the open, agricultural fields located in this vicinity (Figures 145-146). Towers 19-22, measuring 160 feet in height will be wholly visible from this location. However, the lower height and the backdrop of trees on the Surry County side of the river assists in minimizing the view. Additionally Tower 19 is 3.5 miles from this photo location. Distance alone minimizes the potential view from the open agricultural area. Additional views of the tops of Towers 23-26 may be possible, with tower heights in this section ranging in height from 160 (Towers 23, 26) to 295 (Towers 24, 25) feet. The closest point to this photo location, near Tower 27, is one mile away, however it is unlikely that these towers will be visible from this location due to the presence of dense woods both along the eastern boundary of the property as well as along the shoreline. Generally, the visible towers blend into the wooded background across the river, which assist in shielding them from view. While a large number of towers are visible from this location, their size, the distance from this location and the wooded backdrop minimize the overall view from this view point. While the tower structures are apparent, the view is distant.

James River Crossing Variation 3. The photo simulation prepared for the view from VP16 (P5) indicates that at least four full towers will be visible from this viewpoint in the open, agricultural fields located in this vicinity (Figures 147-148). Towers 19-24 will be wholly visible from this location. The two tallest structures, Towers 21 and 22, measure 296 feet tall as they cross the shipping channel. The photo simulation illustrates that these towers will be a significant addition to the visual landscape from this location. It is likely that additional structures associated with this alternatives will also be partially visible from this portion of the property as well as the main house and points south between the main house and the shoreline. This alternative is significantly closer to the property at Carter's Grove than the other alternatives intensifying the potential visual impact. While the wooded shoreline shields several of the smaller towers from view, the proximity of the tower structures as the line comes onshore in James City County allows for greater visibility.





Viewpoint 16 -View from field west of Main House at Carter’s Grove – Looking Southwest - Existing View



Viewpoint 16 - View from field west of Main House at Carter’s Grove - Looking Southwest - James River Crossing Variation 2 - Proposed View

Figure 145. Photo Simulation, VP 16, James River Crossing Variation 2.

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Skiffes Creek-Wheaton 230 kV Transmission Line  
Skiffes Creek 500-230-115 kV Switching Station

**Viewpoint 16**  
View from field west of Main House at Carter's Grove  
Looking Southwest  
James River Crossing Variation 2  
Existing and Proposed

Viewpoint Location

Tower Position

James River Crossing Variation 2



Easting position (Virginia South Zone NAD83) 12028059.2  
Northing position (Virginia South Zone NAD83) 3604351.7  
Elevation of viewpoint position (NAD 83 / ft): 57.7  
Height of camera above ground (ft): 5.4  
Date of photography: 11-May-12 at 2:08 p.m.  
Orientation of view: SW  
Horizontal field of view: 124°  
Vertical field of view: 55°  
Distance to Closest Visible Tower (miles) 1.46

NOTES:  
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**Viewpoint 16** - View from field west of Main House at Carter's Grove - Looking Southwest - **James River Crossing Variation 2 - Proposed View**  
*Enlargement Area of previous page - enlarged to a representative view when printed on a 11 x 17 " page and viewed from approx. 20" distance.*

Figure 146. Zoomed in View of Proposed View, VP 16, James River Crossing Variation 2.






Viewpoint 16 - View from field west of Main House at Carter's Grove - Looking Southwest - Existing View



Viewpoint 16 - View from field west of Main House at Carter's Grove - Looking Southwest - James River Crossing Variation 3 - Proposed View

Figure 147. Photo Simulation, VP 16, James River Crossing Variation 3.




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**Viewpoint 16**  
View from field west of Main House at Carter's Grove  
Looking Southwest  
James River Crossing Variation 3  
Existing and Proposed

● Viewpoint Location

● Tower Position

— James River Crossing Variation 3



Easting position (Virginia South Zone NAD83) 12028059.2

Northing position (Virginia South Zone NAD83) 3604351.7

Elevation of viewpoint position (NAD 83 / ft): 57.7

Height of camera above ground (ft): 5.4

Date of photography: 11-May-12 at 2:08 p.m.

Orientation of view: SW

Horizontal field of view: 124°

Vertical field of view: 55°

Distance to Closest Visible Tower (miles) 0.80

NOTES:  
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**Viewpoint 16** - View from field west of Main House at Carter's Grove - Looking Southwest - **James River Crossing Variation 3 - Proposed View**  
*Enlargement Area of previous page - enlarged to a representative view when printed on a 11 x 17 " page and viewed from approx. 20" distance.*

Figure 148. Zoomed in View of Proposed View, VP 16, James River Crossing Variaton 3.



### Photo Simulation – Viewpoint 17 (P5)

The views from this location for all four alternatives are similar in that there is an unobstructed view of the power line structures as they cross the river between Surry and James City County. Therefore, for all of the alternatives, nearly all of the structures will be visible from this location. This location along the shoreline is nearly 2000 feet south of the main house and is comprised of open agricultural fields surrounded by stands of mature trees. The trees marking the eastern property boundary measure nearly 150 feet tall in some places. While all of the alternatives will have views, the significance of the impact will vary due to the placement of towers and distance away from the shoreline.

Surry Alternative. As noted above, the Surry Alternative is the farthest away from the Carter's Grove property and as such affords the least visual impact to the Carter's Grove property from this location. Because the view is unobstructed, nearly all of the towers associated with the river crossing will be visible, however, the lattice type tower and distance will minimize the visual impacts significantly (Figures 149-150).

James River Crossing Variation 1. The photo simulation for this alternative from VP 17 indicate that nearly all of the towers will be visible for this alternative by virtue of the unobstructed view of the River. This alternative turns to the north as it leaves the shoreline in James City County and turns sharply across the James River to a point just offshore of Hog Island. This angle affords a greater, closer view of the towers associated with this alternative from VP 17. The tower structures as they approach the Surry side of the River will fade from view due to distance the wooded shoreline as a backdrop, but will still likely be visible (Figures 151-152). The transmission line along this alternative would be visually distinct, although more distant than James River Crossing Variations 2 and 3.

James River Crossing Variation 2. The photo simulation for this alternative from VP 17 indicates nearly all of the towers will be visible for this alternative, as is the case with the three other alternatives, however the visual impact of this alternative from this location is lessened by the straight route it follows across the river (Figures 153-154). This alternative follows a straight course from where it leaves the shore in James City County and comes onshore in Surry. While a large number of towers are visible, as is the case with all of the alternatives, the overall visual impact is lessened. This alternative is also a greater distance from the shoreline than James River Crossing Variation 1 and 3. Additionally, as the line approaches Surry, the heavily wooded shoreline serves as a backdrop minimizing the view of the towers as it approaches the shore. These towers measure approximately 160 feet in height and are not much taller than the existing trees.

James River Crossing Variation 3. The photo simulation for this alternative from VP 17 indicates that the towers associated with this alternative will be highly visible (Figures 155-156). The route in the vicinity of Carter's Grove and this view point is just over 0.5 miles away, affording a distinct and direct view of nearly all of the structures as the route crosses the river. While the views of the structures associated with all four alternatives are unobstructed from this viewpoint, this alternative poses a significant change to the visual landscape.





**Viewpoint 17 - View from James River Shoreline at Carter's Grove - Looking South – Existing View**



**Viewpoint 17 - View from James River Shoreline at Carter's Grove - Looking South – Surry Alternative - Proposed View**

Figure 149. Photo Simulation, VP 17, Surry Alternative.



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Skiffes Creek-Wheaton 230 kV Transmission Line  
Skiffes Creek 500-230-115 kV Switching Station

**Viewpoint 17**  
View from James River Shoreline at Carter's Grove  
Looking South  
Surry Alternative  
Existing and Proposed

Viewpoint Location

Tower Position

Surry Alternative



Easting position (Virginia South Zone NAD83) **12028351.1**  
Northing position (Virginia South Zone NAD83) **3603163.3**  
Elevation of viewpoint position (NAD 83 / ft): **37.4**  
Height of camera above ground (ft): **5.4**  
Date of photography: **11-May-12 at 2:56 p.m.**  
Orientation of view: **S**  
Horizontal field of view: **124°**  
Vertical field of view: **55°**  
Distance to Closest Visible Tower (miles) **1.43**

NOTES:  
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**Viewpoint 17** - View from James River Shoreline at Carter's Grove - Looking South – **Surry Alternative - Proposed View**  
*Enlargement Area of previous page - enlarged to a representative view when printed on a 11 x 17 " page and viewed from approx. 20" distance.*

Figure 150. Zoomed In View of Proposed View, VP 17, Surry Alternative.





**Viewpoint 17 - View from James River Shoreline at Carter's Grove – Looking South - Existing View**



**Viewpoint 17 - View from James River Shoreline at Carter's Grove – Looking South - James River Crossing Variation 1 - Proposed View**

Figure 151. Photo Simulation, VP 17, James River Crossing Variation 1.



**Dominion**  
Surry-Skiffes Creek 500 kV Transmission Line  
Skiffes Creek-Wheaton 230 kV Transmission Line  
Skiffes Creek 500-230-115 kV Switching Station

**Viewpoint 17**  
View from James River Shoreline at Carter's Grove  
Looking South  
James River Crossing Variation 1  
Existing and Proposed

● Viewpoint Location

● Tower Position

— James River Crossing Variation 1



Easting position (Virginia South Zone NAD83) **12028351.1**  
Northing position (Virginia South Zone NAD83) **3603163.3**  
Elevation of viewpoint position (NAD 83 / ft): **37.4**  
Height of camera above ground (ft): **5.4**  
Date of photography: **11-May-12 at 2:56 p.m.**  
Orientation of view: **S**  
Horizontal field of view: **124°**  
Vertical field of view: **55°**  
Distance to Closest Visible Tower (miles) **1.33**

NOTES:  
Viewpoint locations have been precision surveyed by  
**Dominion Virginia Power**  
Coordinator - Survey Services  
Larry Hedblom, L.S.  
701 East Cary Street  
Richmond, Va. 23219  
No part of this photosimulation shall be altered in any way.  
Visual Assessments should be made from the full size TrueView™ only.

Photosimulation Created Using  
TrueView™ Technology  
Provided by  
**TRUESCAPE**  
VISUAL COMMUNICATION  
www.truescape.com

DATE **May 28, 2012**

Tower placement in simulations is preliminary - final tower locations may change upon final design and survey





**Viewpoint 17** - View from James River Shoreline at Carter's Grove – Looking South - **James River Crossing Variation 1 - Proposed View**  
*Enlargement Area of previous page - enlarged to a representative view when printed on a 11 x 17 " page and viewed from approx. 20" distance.*

Figure 152. Zoomed In View of Proposed View, VP 17, James River Crossing Variation 1.





**Viewpoint 17 - View from James River Shoreline at Carter's Grove – Looking South - Existing View**



**Viewpoint 17 - View from James River Shoreline at Carter's Grove – Looking South - James River Crossing Variation 2 - Proposed View**

Figure 153. Photo Simulation, VP 17, James River Crossing Variation 2.




**Dominion**  
Surry-Skiffes Creek 500 kV Transmission Line  
Skiffes Creek-Wheaton 230 kV Transmission Line  
Skiffes Creek 500-230-115 kV Switching Station

**Viewpoint 17**  
View from James River Shoreline at Carter's Grove  
Looking South  
James River Crossing Variation 2  
Existing and Proposed

● Viewpoint Location

○ Tower Position

— James River Crossing Variation 2



Easting position (Virginia South Zone NAD83) **12028351.1**  
Northing position (Virginia South Zone NAD83) **3603163.3**  
Elevation of viewpoint position (NAD 83 / ft): **37.4**  
Height of camera above ground (ft): **5.4**  
Date of photography: **11-May-12 at 2:56 p.m.**  
Orientation of view: **5**  
Horizontal field of view: **124°**  
Vertical field of view: **55°**  
Distance to Closest Visible Tower (miles) **0.96**

NOTES:  
Viewpoint locations have been precision surveyed by  
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**Coordinator - Survey Services**  
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www.truescape.com

DATE **May 28, 2012**

Tower placement in simulations is preliminary - final tower locations may change upon final design and survey





**Viewpoint 17** - View from James River Shoreline at Carter's Grove – Looking South - **James River Crossing Variation 2 - Proposed View**  
*Enlargement Area of previous page - enlarged to a representative view when printed on a 11 x 17 " page and viewed from approx. 20" distance.*

Figure 154. Zoomed In View of Proposed View, VP 17, James River Crossing Variation 2.






**Viewpoint 17** - View from James River Shoreline at Carter's Grove – Looking South - **Existing View**



**Viewpoint 17** - View from James River Shoreline at Carter's Grove – Looking South - **James River Crossing Variation 3** - **Proposed View**



**Dominion**


Surry-Skiffes Creek 500 kV Transmission Line  
Skiffes Creek-Wheaton 230 kV Transmission Line  
Skiffes Creek 500-230-115 kV Switching Station

**Viewpoint 17**  
View from James River Shoreline at Carter's Grove  
Looking South  
James River Crossing Variation 3  
Existing and Proposed

Viewpoint Location

Tower Position

James River Crossing Variation 3



Easting position (Virginia South Zone NAD83) **12028351.1**  
Northing position (Virginia South Zone NAD83) **3603163.3**  
Elevation of viewpoint position (NAD 83 / ft): **37.4**  
Height of camera above ground (ft): **5.4**  
Date of photography: **11-May-12 at 2:56 p.m.**  
Orientation of view: **S**  
Horizontal field of view: **124°**  
Vertical field of view: **55°**  
Distance to Closest Visible Tower (miles) **0.60**

NOTES:  
Viewpoint locations have been precision surveyed by  
**Dominion Virginia Power**  
**Coordinator - Survey Services**  
Larry Hedblom, L.S.  
701 East Cary Street  
Richmond, Va. 23219  
No part of this photosimulation shall be altered in any way.  
Visual Assessments should be made from the full size TrueView™ only.

Photosimulation Created Using  
TrueView™ Technology  
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VISUAL COMMUNICATION  
www.truescape.com

DATE **May 28, 2012**

Tower placement in simulations is preliminary - final tower locations may change upon final design and survey

Figure 155. Photo Simulation, VP 17, James River Crossing Variation 3.





**Viewpoint 17** - View from James River Shoreline at Carter's Grove - Looking South – **James River Crossing Variation 3 - Proposed View**  
*Enlargement Area of previous page - enlarged to a representative view when printed on a 11 x 17 " page and viewed from approx. 20" distance.*

Figure 156. Zoomed In View of Proposed View, VP 17, James River Crossing Variation 3.



*The results of the visual effects analysis, including both ground photography, photo simulations, and line of sight analysis indicates that all four alternatives will be visible from both the Main House and points south and west of the house. The northern portion of the property will not have visibility of the river crossings due to the presence of large stands of mature trees, measuring nearly 150 feet tall in some places. The views from the shoreline (VP17) are similar for all four alternatives with James River Crossing Variation 3 posing the most significant visual effect to the property at the edge of the James River. However, the assessment of visual effects includes an assessment of view from the main house in addition to those from the James River shoreline and other points within the property.*

*Overall, of the four routes under consideration for the James River Crossing, the Surry Alternative poses the least amount of visual impact to Carter's Grove (VDHR # 047-0001). While the transmission line likely will be visible on a clear day, as evidenced by the line of sight analysis and photo simulation, the towers would be distant. It is recommended that this alternative will have a minimal visual impact to Carter's Grove.*

*The James River Crossing Variation 1, like the Surry Alternative is largely located between 1.5 miles and 3.5 miles from the main house. The view of this line from the shoreline would be similar to that of the Surry Alternative in that the majority of the towers would be located approximately 1.5 miles away. The portion of the line that may be more significantly visible is that section that trends to the north as it approaches the Surry side of the transmission line corridor. Like the Surry Alternative, tower views from the main house on a clear day would be distant and limited, but views from the open agricultural field significant to the Carter's Grove property would be greater. Therefore it is recommended the James River Crossing Variation 1 will have a moderate visual impact to Carter's Grove.*

*The James River Crossing Variation 2 like the James River Crossing 1 will be visible from the main house and like all alternatives from the shoreline and points west of the main house in the open agricultural fields. While views of the route would be limited to the same break in the trees along the shoreline as the James River Crossing Variation 1, alignment of the James River Crossing Variation 2, similar to the alignment of the Surry Alternative, is angled such that a greater number of towers are visible. As noted above this alternative would represent a distinct and apparent, but still distant view of new infrastructure across the river. This alternative, with the angles and number of towers visible either in part or whole will have a moderate impact to the views from Carter's Grove.*

*The James River Crossing Variation 3 is the closest of the alternatives to the Carter's Grove property. As it approaches the shoreline in James City County, the closest towers are less than one mile from the Carter's Grove shoreline and just over a mile from the main house. While only three of these towers would be visible from the main house, a larger number are visible from the western portion of the property and also from the shoreline. The closeness and proximity of these towers would represent a significant visual impact. Therefore it is recommended that the James River Crossing Variation 3 would have a significant visual impact on Carter's Grove.*



### *Captain John Smith National Historic Water Trail*

In addition to the traditional architectural resources identified within the corridor, an additional resource has been identified within the ROW corridor where it crosses the James River. This resource, the Captain John Smith National Historic Water Trail, has not been recorded as a resource in the VDHR database. However, it has been recommended by the VDHR to be considered as a NRHP-eligible resource for purposes of this study.

In December 2006 the U.S. Congress designated the routes of Smith's explorations of the Chesapeake as the first national historic water trail. The Trail follows the early explorations of John Smith as depicted in his numerous maps and writings and covers approximately 3,000 miles in parts of present-day Virginia, Maryland, Delaware, and the District of Columbia. The development of the Comprehensive Management Plan for the Trail resulted in a determination that the Trail should be managed in segments. The current project area and proposed transmission line corridor crosses the James River in the James River Segment of the Trail (NPS 2011). This segment of the Trail is noted as having five focus areas to serve as primary locations for directing users of the Trail to a variety of available Trail opportunities and resources. One of the focus areas, the Chippokes Plantation/Hog Island Wildlife Management Area falls within the ROW for the proposed Skiffes Creek to Surry Alternative 500 kV transmission line (Figure 157).

The proposed Surry Alternative and the three James River Crossing Variations cross the James River and thus the Trail just south of a heavily industrialized area within James City County and enters the Surry Nuclear Power Station after traversing a portion of Hog Island Wildlife Refuge. Because all four alternatives cross the river, each will have a similar effect to this resource (Figure 158). While it is certain that the proposed transmission line corridor will have an impact to the Trail in this location the full breadth of the impacts should be determined via discussion with the National Park Service and other identified agencies. This Trail has not been identified as a historic resource with respect to the VDHR database of historic resources, but it has been recommended by the VDHR that the Trail be considered as a NRHP-eligible resource. The guidance from the DHR indicates that the resource should be considered for visual effects, however, an assessment of direct effects to the recreational aspect of the Trail should also be considered. This section of the James River is a commercial shipping channel and the river bank to the east, heavily industrialized. The Surry Power Plant is located immediately adjacent to Hog Island and within the vicinity of the Chippokes Plantation/Hog Island Wildlife Management Area. Therefore while it is certain that the Trail will be affected by any of the proposed alternatives, the full breadth of those affects should be further investigated as the project progresses.





Figure 157. James River Segment of the Captain John Smith Water Trail ([www.nps.gov](http://www.nps.gov)). Red Circle Denotes Vicinity of Project Area.





Figure 158. Zoomed in View from Kingsmill Plantation illustrating the Potential View/Impact to the Captain John Smith Trail. Full sized photo simulations with existing and proposed views are located in Appendix C. Photo Simulation Prepared by TrueScape.



## *Archaeological Sites within the ROW Corridor*

### *44JC0662*

Site 44JC0662 is noted as a 19th Century trash pit that was identified by surface collection and shovel testing by VCU-ARC in 1991. The site was identified as a 400-x-400 foot concentration and that site was recommended eligible. VCU started a Phase II on the site that was not completed. In 1994 Goodwin and Associates placed a single shovel test within the site and recorded a piece of bottle glass. The site was noted as being only 10-x-10 feet after the 1994 investigation and determined not eligible. Additional investigation at this site are currently underway.

### *44JC0663*

Site 44JC0663 is a mid-19<sup>th</sup> Century to 20<sup>th</sup> Century trash scatter that was identified by surface collection by VCU in 1991 and Goodwin and Associates in 1994. The site was determined not eligible in 1994, 1995, and 2001.

### *44JC0649*

Site 44JC0649 is documented on the site form as an indeterminate historic site although the site form mentions a brick-lined cellar associated with a Colonial period occupation date. Three shovel tests were placed inside the cellar. The site was recorded by the Colonial Williamsburg Foundation in 1991 has not been evaluated for listing on the NRHP.

### *44JC0650*

Site 44JC0650 is an indeterminate 18<sup>th</sup> century site that was identified by shovel testing on a 2 meter interval during a survey by the Colonial Williamsburg Foundation in 1991. The site was noted as a light scatter of artifacts and has not been evaluated for listing on the NRHP.

### *44JC0840*

Site 44JC0840 is a shipwreck likely dating to the nineteenth century, that was identified during underwater survey conducted for the US Army Corps of Engineers by Tidewater Atlantic Research (TAR) in 1995 for planned work on the Tribell Shoals Channel. The shipwreck was subject to a Phase II evaluation and was subsequently determined eligible for listing on the NRHP. While the shipwreck does not appear to be within the footprint for the proposed Surry Alternative it is nearby. The shipwreck will not be affected by the route of the James River Crossing Variation.



## IV. CONCLUSIONS

### Overview

Cultural Resources, Inc. (CRI) was retained by Dominion Virginia Power (Dominion) to conduct a Stage I Pre-Application Analysis for the proposed Chickahominy Alternative and the Surry Alternative. This analysis was completed during October and November 2011 and January 2012. CRI conducted preliminary background research and a field study pursuant to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008) for proposed transmission line improvements in Charles City, Surry, James City and York Counties, and the City of Williamsburg, Virginia. Two alternatives were investigated and associated with this project. The first alternative, from the existing Chickahominy Substation to the proposed Skiffes Creek Switching Station (Chickahominy Alternative), will be placed primarily within existing easement that has not been previously cleared or constructed upon and within an existing, maintained right-of-way (ROW) corridor, which contains previously constructed tower structures and associated transmission lines. The second and preferred alternative, located between the Skiffes Creek Switching Station and the Surry Power Station (Surry Alternative) would also be placed primarily on new location and incorporate the Surry Power Station and an existing 115 kV line for nearly half its length.

Also included in the study are three variations to the Surry Alternative as it crosses the James River. These variations were developed to avoid potential impacts from the proposed crossing of the James River by the Surry Alternative to the airspace associated with Felker Army Airfield at Fort Eustis (Felker Airfield) (James River Crossing Variations 1 and 3) and/or to take advantage of a routing opportunity presented by a pipeline corridor that crosses the James River to the north of the Surry Alternative and continues east across James City County (James River Crossing Variations 2 and 3). The Skiffes Creek Switching Station will be sited within a 51-acre parcel adjacent to Route 143 in James City County.

As detailed by VDHR guidance, consideration was given to: NHL properties located within a 1.5-mile radius of the project centerline; NRHP-listed properties, battlefields, and historic landscapes located within a 1.0-mile radius of the project centerline; NRHP-eligible sites located within a 0.5-mile radius of the project centerline; and archaeological sites located within the project ROW corridor. Twenty-one previously identified architectural and thirteen previously recorded archaeological resources were identified that matched the criteria for consideration detailed in VDHR's guidelines. Since the study was completed prior to filing an SCC application, all digital images were taken from public right-of-way and/or Dominion Virginia Power property.

### Chickahominy Alternative and Proposed Skiffes Creek Switching Station

#### *Previously Recorded Architectural Resources*

Of the 20 architectural resources considered under the Stage I pre-application process (Table 10) eight resources, Eagles Nest (VDHR #018-0037), Piney Grove (VDHR #018-0063), Moss Side (VDHR #018-0066), Carters Grove (VDHR #047-0001), Colonial National Parkway (VHDR #047-0002), the Bryan Manor Plantation Site (VDHR #099-0065), the Burwell's Mill/Whittaker's Mill Archaeology Site (VDHR #099-5275), and the Williamsburg Battlefield (VDHR #099-5282), will be



minimally impacted by the proposed transmission line project (Table 11). Three resources Poplar Springs (VDHR #018-0018), St. Mary's Church Battlefield (VDHR #018-5004), and the Old Main Road Rural Historic District (VDHR #018-5101) will be moderately impacted by the proposed transmission line project. Seven architectural resources will be unaffected by the proposed transmission line project and include Confederate Peninsula Defenses/Redoubt #9 (VDHR #099-0040; Demolished), Bruton Parish Church (VDHR #137-0007), Sir Christopher Wren Building (VDHR #137-0013), the Peyton Randolph House (VDHR #137-0032), the James Semple House (VDHR #137-0033), the Williamsburg Historic District (VDHR #137-0050), and the George Wythe House, (VDHR #137-0058) (Table 11). The remaining two resources, the Bruton Parish Poorhouse Archaeological Site (VDHR #099-0070), and the Capitol Landing/Queen Mary's Port (VDHR #137-0056), although given architectural resource numbers, were originally recorded as archaeological sites. None contain any standing historic structures. The resources also do not fall within the transmission line ROW corridor and as such were not studied during the Stage 1 process. These recommendations stated above only pertain to previously identified resources, and do not address potential effects to unidentified and unrecorded architectural resources. One additional unevaluated resource is located in the corridor and would require evaluation. This resource is the Motel Rochambeau (VDHR #137-0088).

**Table 10. Previously Recorded Architectural Resources Considered within the Stage I Pre-Application Process.**

<b>VDHR #</b>	<b>Resource</b>	<b>Date</b>	<b>Reference</b>	<b>VDHR/NRHP Status</b>	<b>CRI Recommendations</b>
018-0018	Poplar Springs	1809	Gordineer 1994	NRHP Listed 1994	Visual Effect Assessment as Required under Guidelines
018-0037	Eagle's Nest (Eagle Lodge/Margots/Cla ybancke)	Post 1700	None Listed	NRHP Listed 1973	Visual Effect Assessment as Required under Guidelines
018-0063	Piney Grove	1800	Gordineer 1985	NRHP Listed 1985	Visual Effect Assessment as Required under Guidelines
018-0066	Moss Side	1850	Edwards 1987	Eligible VDHR 1991	Visual Effect Assessment as Required under Guidelines
018-5004	Saint Mary's Church Battlefield (Samaria Church)	1864	CWSAC 1993	Eligible ABBP-2007	Visual Effect Assessment as Required under Guidelines
018-5101	Old Main Road Rural Historic District	Post 1800	Edwards 1989	Not Evaluated	Visual Effect Assessment as Required under Guidelines
047-0001	Carter's Grove	c. 1750	VHLC 1969	NRHP-Listed 1969; NHL-Listed 1970	Visual Effect Assessment as Required under Guidelines
047-0002	Colonial National Historic Park/ Colonial Parkway	Post 1931	Not Listed	NRHP-Listed 1966	Visual Effect Assessment as Required under Guidelines
099-0040	Confederate Peninsula Defenses/ Redoubt #9	c. 1862	Chappell 1971	NRHP-Eligible 2009	Demolished; No Further Work
099-0065	Bryan Manor Plantation Site	c. 1757	WMCAR 1977	NRHP-Listed 1978	Visual Effect Assessment as Required under Guidelines



**Table 10. Previously Recorded Architectural Resources Considered within the Stage I Pre-Application Process.**

VDHR #	Resource	Date	Reference	VDHR/NRHP Status	CRI Recommendations
099-0070	Bruton Parish Poorhouse Archaeology Site, Route 132	Pre 1781	Chappell 1972	NRHP-Listed 1982	Archaeology Site Only; Visual Assessment not Applicable
099-5275	Burwell's Mill/Whittaker's Mill Archaeological Site	c. 1720	Quarstein 2007	NRHP-Listed 2008	Visual Effect Assessment as Required under Guidelines for Above-Ground Remains
099-5282	Battle of Williamsburg (Civil War)	1862	NPS 1993 and 2009; Tyrer 2011	Not Evaluated	Visual Effect Assessment as Required under Guidelines
137-0007	Bruton Parish Church, Duke of Gloucester Street	1711	Dillon 1974	NRHP-Listed 1970; NHL-Listed 1970	Visual Effect Assessment as Required under Guidelines
137-0013	Sir Christopher Wren Building, Duke of Gloucester Street	c. 1695	Sarles 1961; Melvin 1972; Selig 2008	NRHP-Listed 1966; NHL-Listed 1960	Visual Effect Assessment as Required under Guidelines
137-0032	Peyton Randolph House, Nicholson & North England Streets	c. 1715	Dillon 1974; Selig 2008	NRHP-Listed 1970; NHL-Listed 1970	Visual Effect Assessment as Required under Guidelines
137-0033	James Semple House, Francis Street	c. 1770	Dillon 1974	NRHP-Listed 1970; NHL-Listed 1970	Visual Effect Assessment as Required under Guidelines
137-0050	Williamsburg Historic District	c. 1695	HABS 1958; Melvin 1972	NRHP-Listed 1966; NHL-Listed 1960	Visual Effect Assessment as Required under Guidelines
137-0056	Capitol Landing/Queen Mary's Port, Capitol Landing Rd.	c. 1699	Hudgins 1977	VLR-Listed 1977	Archaeology Site Only; Visual Assessment not Applicable
137-0058	George Wythe House, Palace Green	c. 1755	Snell 1971; Sleig 2008	NRHP-Listed 1970; NHL-Listed 1970	Visual Effect Assessment as Required under Guidelines

**Table 11. Summary of visual impacts to previously identified architectural resources.**

VDHR #	Resource	No Impact	Minimal Impact	Moderate Impact	Significant Impact
018-0018	Poplar Springs			X	
018-0037	Eagle's Nest (Eagle Lodge/Margots/Claybancke)			X	
018-0063	Piney Grove		X		
018-0066	Moss Side		X		
018-5004	Saint Mary's Church Battlefield (Samaria Church)			X	
018-5101	Old Main Road Rural Historic District			X	
047-0001	Carters Grove		X		
047-0002	Colonial National Historic Park/Colonial Parkway		X		



Table 11. Summary of visual impacts to previously identified architectural resources.					
VDHR #	Resource	No Impact	Minimal Impact	Moderate Impact	Significant Impact
099-0040	Confederate Peninsula Defenses/ Redoubt #9	X			
099-0065	Bryan Manor Plantation Site		X		
099-0070	Bruton Parish Poorhouse Archaeology Site	N/A	N/A	N/A	N/A
099-5275	Burwell's Mill/ Whittaker's Mill Archaeological Site		X		
099-5282	Battle of Williamsburg (Civil War)		X		
137-0007	Bruton Parish Church	X			
137-0013	Sir Christopher Wren Building	X			
137-0032	Peyton Randolph House	X			
137-0033	James Semple House	X			
137-0050	Williamsburg Historic District	X			
137-0056	Capitol Landing/ Queen Mary's Port	N/A	N/A	N/A	N/A
137-0058	George Wythe House	X			

#### *Previously Recorded Archaeological Resources*

Fourteen previously identified archaeological resources (Sites 44CC0350, 44CC0369, 44JC0194, 44JC0195, 44JC0662, 44JC0663, 44JC1044, 44JC1175, 44WB0066, 44WB0133-0001, 44WB0133-0002, 44YO0220, 44YO0524 and 44YO0757) are located either within or immediately adjacent to the project ROW corridor (Table 10). Ten of the resources are unevaluated in terms of NRHP eligibility. Martha McCartney map projected two 19<sup>th</sup> century dwellings based on Civil War period maps including 44JC0194 and 44JC0195. Neither of these sites has been archaeological verified. A 20<sup>th</sup> century dwelling and trash scatter (44CC0369) was identified by Jenkins in 2001. Circa~CRM recorded a road trace (44JC1175) in 2007. Site 44CC0350 was identified by Garrow and Associates in 1991. The site was defined by the presence of 143 brick fragments in a total of 7 shovel tests. The site has not been evaluated for listing on the NRHP. Two sites, 44JC0662 and 44JC0663, have been determined not eligible for listing on the NRHP according to the VDHR DSS forms. Site 44JC1044 was determined potentially eligible and 44WB0066 was determined eligible. All of the previously recorded sites except 44JC0663 which has been previously determined not eligible will require further study if it is a project impact area, such as a new structure pad site or other project activity area associated with ground disturbing activities. However, 44JC0662 appears to be potentially eligible for listing on the NRHP and is located within the Skiffes Creek Switching Station parcel. A Phase I survey has already been completed for the Switching Station Parcel and identified that Site 44JC0662 may be potentially eligible for listing on the NRHP. Site 44JC0662 is currently under investigation at the Phase II evaluation level of effort. These recommendations only pertain to previously identified resources, and do not address potential effects to unidentified and unrecorded archaeological resources.



**Table 12. Archaeological Resources Within the Dominion Virginia Power Chickahominy-Skiffes Creek Transmission Line ROW Corridor.**

Resource	Resource Type	Association	Reference	NRHP	CRI
				Recommendation	Recommendation
44CC0350	Domestic	19 <sup>th</sup> century	Garrow 1991	Not Evaluated	Investigate During Archaeological Survey
44CC0369	Dwelling & Trash Scatter	20 <sup>th</sup> Century	Jenkins 2001	Not Evaluated	Investigate During Archaeological Survey
44JC0194	Domestic	19 <sup>th</sup> Century	McCartney 1983	Not Evaluated	Investigate During Archaeological Survey
44JC0195	Domestic	19 <sup>th</sup> Century	McCartney 1983	Not Evaluated	Investigate During Archaeological Survey
44JC0662	Domestic	19 <sup>th</sup> Century	VCU 1991; Goodwin 1994	Eligible VDHR 1991 Not Eligible VDHR 1994	Investigate During Archaeological Survey
44JC0663	Trash Scatter	Late 19 <sup>th</sup> to 20 <sup>th</sup> Century	VCU 1991; Goodwin 1994	Not Eligible VDHR 1994, 1995, 2001	No Further Work
44JC1044	Camp Domestic	Middle Woodland; Mid 19 <sup>th</sup> to Early 20 <sup>th</sup> Century	WMCAR	Potentially Eligible VDHR 2001	Investigate During Archaeological Survey
44JC1175	Road Trace	19 <sup>th</sup> Century	Circa~CRM 2007	Not Evaluated	Investigate During Archaeological Survey
44WB0066	Palisade	Early 17 <sup>th</sup> Century	Huston & Associates	Eligible VDHR 1992	Investigate During Archaeological Survey
44WB0133-0001	Military Camp	18 <sup>th</sup> Century:4 <sup>th</sup> Qtr	W3R Consultants 2008	Not Evaluated	Investigate During Archaeological Survey
44WB0133-0002	Military Camp	18 <sup>th</sup> Century:4 <sup>th</sup> Qtr	W3R Consultants 2008	Not Evaluated	Investigate During Archaeological Survey
44YO0220	Yorktown Battlefield	Mid 18 <sup>th</sup> to 20 <sup>th</sup> Century		Not Evaluated	Investigate During Archaeological Survey
44YO0524	Dwelling	Historic	Huston & Associates 1990	Not Evaluated	Investigate During Archaeological Survey
44YO0757	Domestic	19 <sup>th</sup> Century	CWF 1988	Not Evaluated	Investigate During Archaeological Survey



## *Recommendations for Additional Study*

### *Architectural Resources*

The recommendations for additional study for the Chickahominy Alternative are based entirely upon the standards set forth by VDHR (2008) for proposed electric transmission line projects, and vary depending upon the nature of the changes in height and current conditions associated with the specific sections of the transmission line corridor. According the VDHR (2008:3-4), sections of the proposed project that are equal to or exceed a 10 percent or 20 foot increase in height will require survey of all architectural resources, previously identified and undocumented, that are located within a 0.5-mile radius of the ROW corridor. If the changes in height fall beneath that standard, the study area for architectural survey is reduced to adjacent parcels only.

A portion of the proposed Chickahominy Alternative is new right-of-way corridor within existing easement but has not been cleared or constructed on. This portion of the line is approximately 24.1 miles long and runs from MP 0.78 to MP 24.93 (Table 13). This portion of the alignment would require full architectural survey of the 0.5 mile buffer on either side of the proposed alignment. The second portion of the proposed line improvements with the greatest change over current right-of-way conditions is the section located between MP 35.78 and MP 37.89, which encompasses a distance of approximately 2.11 miles within the eastern portion of the project area (see Table 13). This portion of the proposed ROW will require architectural survey within a 0.5-mile radius of the project centerline, because the ROW is less than 500 feet wide, and the proposed increase in tower height is 73 feet, a percentage increase in height is 140 percent over current conditions within the ROW corridor. There is currently a single line at 52 feet that will be subject to wreck and rebuild.

The remainder of the proposed improvement area will only require architectural survey of adjacent parcels. While the changes in structure height are marked within certain sections of the proposed improvement area they do not exceed the 10 percent/20 foot threshold (see Table 13). In terms of visual effects, this represents a minimal change over current conditions, in an area associated with existing power lines, and survey should be reduced to adjacent parcels for the remainder of the proposed project area. It is anticipated that a substantial number of new resources will be identified as part of this effort.

**Table 13. Table of Proposed Height Changes Associated with Chickahominy Alternative**

<b>Starting Point</b>	<b>End Point</b>	<b>Distance</b>	<b>Current Height</b>	<b>Proposed Height</b>	<b>Proposed Structure Type</b>	<b>Number of Other Lines in ROW Corridor</b>	<b>Maximum Existing Height in ROW Corridor</b>	<b>Change in Height to Current ROW Conditions</b>
MP -0.07	MP 0.79	0.86 Mile	New Line	111 Feet	Tower	1 Line	121 Feet	-11 Feet Decrease
MP 0.79	MP 21.15	18.27 Miles	New Line	111 Feet	Tower	None	New Line	+ 111 Feet Increase
MP 18.1	MP18.8	0.9 mile	New Line	195 Feet	Tower	None	Chickahominy River Crossing	+ 195 feet
MP 21.15	MP 24.94	3.25 Miles	New Line	135 Feet	Monopole	None	New Line	+ 135 Feet Increase



**Table 13. Table of Proposed Height Changes Associated with Chickahominy Alternative**

<b>Starting Point</b>	<b>End Point</b>	<b>Distance</b>	<b>Current Height</b>	<b>Proposed Height</b>	<b>Proposed Structure Type</b>	<b>Number of Other Lines in ROW Corridor</b>	<b>Maximum Existing Height in ROW Corridor</b>	<b>Change in Height to Current ROW Conditions</b>
MP 24.94	MP 29.95	5.01 Miles	56.5 Feet	125 Feet	Monopole	1 Line	105 Feet	+ 10 Feet Increase
MP 29.95	MP 35.17	5.22 Miles	56.5 Feet	125 Feet	Monopole	1 Line	105 Feet	+ 10 Feet Increase
MP 35.17	MP 35.78	0.61 Mile	120 Feet	125 Feet	Monopole	1 Line	120 Feet	+ 5 Feet Increase
MP 35.78	MP 37.89	2.11 Miles	52 Feet	125 Feet	Monopole	Single Line Only	52 Feet	+ 73 Feet Increase
MP 35.76	MP 37.6	2.04 Miles	105 Feet	105 Feet	Restraining Only	Single Line	105 Feet	No Change

### *Captain John Smith National Historic Water Trail*

In addition to the traditional architectural resources identified within the corridor, an additional resource has been identified within the ROW corridor where it crosses the Chickahominy River. This resource, the Captain John Smith National Historic Water Trail, has not been recorded as a resource in the VDHR database. However, it has been recommended by the VDHR to be considered as a NRHP-eligible resource for purposes of this study.

In December 2006 the U.S. Congress designated the routes of Smith's explorations of the Chesapeake as the first national historic water trail. The Trail follows the early explorations of John Smith as depicted in his numerous maps and writings and covers approximately 3,000 miles in parts of present-day Virginia, Maryland, Delaware, and the District of Columbia. The development of the Comprehensive Management Plan for the Trail resulted in a determination that the Trail should be managed in segments. The current project area and proposed transmission line corridor crosses the Chickahominy River in an area that has been noted as one of the most pristine sections of the this part of the Trail. The landscape is described as an evocative landscape and one that has been largely unaltered since historic times.

While it is certain that the proposed transmission line corridor will have an impact to the Trail in this location the full breadth of the impacts should be determined via discussion with the National Park Service and other identified agencies. This Trail has not been identified as a historic resource with respect to the VDHR database of historic resources, but it has been recommended by the VDHR that the Trail be considered as a NRHP-eligible resource. The guidance from the DHR indicates that the resource should be considered for visual effects, however, an assessment of direct effects to the recreational aspect of the Trail should also be considered.

### *Archaeological Resources*

As noted, 14 previously identified archaeological resources (Sites 44CC0350, 44CC0369, 44JC0194, 44JC0195, 44JC0662, 44JC066344JC1044, 44JC1175, 44WB0066, 44WB0133-0001, 44WB0133-0002, 44YO0220, 44YO0524 and 44YO0757) are located either within or immediately adjacent to the project ROW corridor and/or switching station parcel. Ten of the resources are



unevaluated in terms of NRHP eligibility. Martha McCartney map projected two 19th century dwellings based on Civil War period maps including 44JC0194 and 44JC0195. Neither of these sites has been archaeologically verified. A 20th century dwelling and trash scatter (44CC0369) was identified by Jenkins in 2001. Circa-CRM recorded a road trace (44JC1175) in 2007. Site 44CC0350 was identified by Garrow and Associates in 1991. The site was defined by the presence of 143 brick fragments in a total of 7 shovel tests. The site has not been evaluated for listing on the NRHP.

Site 44JC1044 was determined potentially eligible and 44WB0066 was determined eligible. All of the previously recorded sites except 44JC0663 which has been previously determined not eligible will require further study if it is a project impact area, such as a new structure pad site or other project activity area associated with ground disturbing activities.

Archaeological survey should be performed on all areas that will be directly impacted by construction, including proposed ROW, pole structure locations, staging areas, and access roads. The Chickahominy Alternative is located within existing easement that has not been previously cleared or constructed upon and within an existing, maintained right-of-way (ROW) corridor, which contains previously constructed tower structures and associated transmission lines. The ROW ranges from 100 feet to 250 feet (Table 14). Within the existing cleared and constructed ROW, the larger ROW contains multiple lines and only one line will be wrecked and rebuilt, resulting in an impact area less than the full width of the existing corridor. The ROW does not require any clearing so a comprehensive archaeological survey of the entire ROW may not be necessary. However, at a minimum a survey of tower locations and any other areas of impact would need to be performed. It is recommended that the portion of the existing cleared ROW associated with this project be subject to full systematic archaeological survey to facilitate avoidance of archaeological sites when possible and to allow for changes to design plans. In the proposed new alignment in Charles City and James City Counties it is recommended that the full easement be subject to full archaeological survey. It is estimated that a number of new archaeological resources could be identified during this effort, associated with the general occupation of the project vicinity during both the prehistoric and historic periods.

The Skiffes Creek Switching Station which will be sited on 51 acres that are primarily wooded and has already been subject to archaeological survey prior to tree removal and construction of the switching station. One archaeological site is located within the switching station property, 44JC0662. Site 44JC0662 was reported in 1991 as a late-eighteenth to late-nineteenth century domestic site identified within and adjacent to Dominion's existing transmission line corridor. Phase II evaluation of site 44JC0662 began in 1991, but was not completed. This excavation resulted in the identification of cellar features, post holes and post molds, and grave shafts. The VDHR considered the site eligible at that time. In 1994, a single transect of shovel tests was excavated across the site and resulted in the identification of a single piece of bottle glass. Based on the archaeological inventory in 1994, the site was recommended not eligible for listing in the NRHP and the SHPO concurred with this recommendation. Site 44JC0662 likely retains archaeological potential and requires further assessment to determine the integrity of archaeological deposits. A Phase I survey has already been completed for the Switching Station Parcel and identified that Site 44JC0662 may be potentially eligible for listing on the NRHP. Site 44JC0662 is currently under investigation at the Phase II evaluation level of effort.



**Table 14. Table of Proposed ROW Changes Associated with Chickahominy Alternative**

<b>Starting Point</b>	<b>End Point</b>	<b>Distance</b>	<b>Current ROW</b>	<b>Proposed ROW</b>	<b>Proposed Structure Type</b>	<b>Number of Other Lines in ROW Corridor</b>	<b>Maximum Archaeological Survey Coverage of ROW Corridor</b>	<b>Change in Current ROW Conditions</b>
MP -0.07	MP 0.79	0.86 Mile	275 Feet	275 Feet	Tower	1 Line	150 Feet	No Change
MP 0.79	MP 21.15	18.27 Miles	New Location	250 Feet	Tower	None	250 Feet	+ 250 Feet
MP 21.15	MP 24.94	3.25 Miles	New Location	250 Feet	Monopole	None	250 Feet	+ 250 Feet
MP 24.94	MP 29.95	5.01 Miles	200 Feet	200 Feet	Monopole	1 Line	140 Feet	No Change
MP 29.95	MP 35.17	5.22 Miles	200 Feet	200 Feet	Monopole	1 Line	140 Feet	No Change
MP 35.17	MP 35.78	0.61 Mile	230 Feet	230 Feet	Monopole	1 Line	150 Feet	No Change
MP 35.78	MP 37.89	2.11 Miles	150 Feet	150 Feet	Monopole	Single Line	150 Feet	No Change
MP 35.76	MP 37.6	2.04 Miles	100 Feet	100 Feet	Restraining Only	Single Line	No Archaeological Survey Needed	No Change

### **Surry Alternative and James River Crossing Variations**

#### *Previously Recorded Architectural Resources*

Two resources, Carter's Grove (VDHR #047-0001) and the Yorktown Battlefield (099-5283), met the requirements for consideration at the Stage I level for the Surry Alternative and the James River Crossing Variations (Table 15). The Yorktown Battlefield (VDHR #099-5283) comprises an area of approximately 63,960 acres. Only a very small portion of the battlefield falls within the 1.0-mile and 1.5-mile buffers for the proposed Surry to Skiffes Creek alternative. This area is located south of Route 60 and adjacent to Skiffes Creek and forms the western boundary of the resource in this area. This portion of the Battlefield is not a core engagement area, but rather a portion of the larger Battlefield Study Area as defined by the American Battlefield Protection Program (ABPP) (Appendix B). The portion of the battlefield within the 1.0-mile buffer was generally not accessible for photographs as it is located largely in a forested area as well as along Skiffes Creek and the associated swamp (see Figure 98). A second portion of the battlefield is located within the 1.5-mile buffer near Route 60 and the Skiffes Creek Reservoir and is also heavily wooded and low-lying. Additionally, a residential subdivision is located within the battlefield boundary immediately to the east (Figure 99).

The overall landscape within the defined project area consists of modern residential and commercial development, I-64 as well as other major transportation corridors, forested areas, reservoirs and other lakes and watercourses. Portions of the battlefield to the east and north of the project area have been compromised by numerous modern intrusions such as residential and commercial areas, power lines, and industrial development (Figures 98-99). *As such it is recommended, that the*



***Yorktown Battlefield (VDHR #099-5283) will not be adversely impacted by the proposed Surry Alternative or the James River Crossing Variations.***

Photographs taken from within the Carter's Grove Property all indicated that the power line will not be visible from the northern, agricultural portion of the property. The distance to the river coupled with the natural terrain and the large, dense stands of mature trees effectively shield this portion of the property from any view of the power line; either land based or crossing the river. The only potential visibility from this section is that where the property intersects Route 60 at the end of the drive to the resource.

A Line of Sight profile was also prepared and evaluated from a location between the main house and Route 60 (Pocahontas Trail) facing southeast to northeast for the onshore portion of the route. It was determined that no towers associated with the Surry Alternative or from any of the James River Crossing Variations 1, 2, or 3 would be visible between the river and Skiffes Creek Switching Station from this side of Carters Grove Main House. This is due primarily to heavily forested areas between the house and the transmission line route. ***Existing transmission line ROW corridors and associated structures near the northern terminus of the alternative and as it approaches the James River, under current landscape conditions, were only visible from Location 29 (the end of the driveway of this resource) and were invisible from the interior of the property. It is recommended therefore, that Carters Grove (VDHR #047-0001) will not be impacted by the land-based portions of the Surry Alternative or the James River Crossing Variations as they exit the proposed switching station and trend south toward the James River.***

A site visit was made to Carter's Grove on May 11, 2012 and all photographs were taken on that day. Also included in this discussion of visual effects are photo simulations prepared by TrueScape on behalf of Dominion as well as a line of sight analyses from the main dwelling prepared by NRG, for each alternative. Additional photo simulations and view points are also utilized for the visual effects analysis however line of sight graphics were not prepared for all; just for the view from the main house. The line of sight exhibits and photo simulations are located in Appendices B and C in order to facilitate viewing at full size. The Carter's Grove plantation house, as noted above sits on an elevated landform, at an elevation of approximately 50 feet above mean sea level (amsl) and approximately 2000 feet from the James River shoreline. The house is located approximately two miles to the northeast of the center point of the proposed transmission line as it crosses the James River. At its closest point to the transmission line as it crosses the river, the edge of the property is approximately 4300 feet to the north. This portion of the property is heavily wooded and would provide buffering between the proposed transmission line and the plantation house. However, visibility will increase as the towers get larger at the center of the river crossing.

To assess potential visibility of the transmission line structures that would be used for the river crossing from the main Carter's Grove house, a combination of ground photography, photo simulations, and line of sight analysis was utilized. Photographs were taken from seven locations within the bounds of the Carter's Grove property to assess the potential visual effects the proposed transmission line may have on the property as a whole. These same photo locations were utilized for all four alternatives. Line of sight analysis was based on Viewpoint 15 (P4), the front stoop of the main house as it faces the river, however photo simulations were prepared for Viewpoints 16, and 17 (P5 and P7). These three viewpoints will be discussed in detail as they are generally representative of the property where the views are the greatest.



Additionally, NRG used a combination of both a TrueScape photo simulation and Line of Sight Profiles constructed using LIDAR digital elevation data (5-foot cell size resolution) obtained from the College of William and Mary that represented both the ground and vegetation (tree) surface elevations. These elevation data were used in combination with ArcGIS 3D Analyst to prepare cross-sectional Line of Sight (LOS) profiles to each tower location from a point 6 feet off the ground (eye level) from directly in front of the main house (VP 15) facing the river and from a location between the main house and Route 60 (Pocohontas Trail) facing southeast to northeast for the onshore portion of the route. The same tower heights and locations across the river used for this visual assessment, while estimated, were also used by Dominion for modeling span lengths for channel and pipeline crossings in the river and to conduct an FAA and DOD non-precision approach obstruction analysis associated with Felker Airfield at Fort Eustis.

The results of the visual effects analysis, including both ground photography, photo simulations, and line of sight analysis indicates that all four alternatives will be visible from both the Main House and points south and west of the house. The northern portion of the property will not have visibility of the river crossings due to the presence of large stands of mature trees, measuring nearly 150 feet tall in some places. The views from the shoreline (VP17) are similar for all four alternatives with James River Crossing Variation 3 posing the most significant visual effect to the property at the edge of the James River. However, the assessment of visual effects includes an assessment of view from the main house in addition to those from the James River shoreline and other points within the property. Recommendations for each of the four alternatives follows.

*Overall, of the four routes under consideration for the James River Crossing, the Surry Alternative poses the least amount of visual impact to Carter's Grove (VDHR # 047-0001). While the transmission line will likely be visible on a clear day, as evidenced by the line of sight analysis and photo simulation, the towers would be distant. It is recommended that this alternative will have a minimal visual impact to Carter's Grove.*

*The James River Crossing Variation 1, like the Surry Alternative, is largely located between 1.5 miles and 3.5 miles from the main house. The view of this line from the shoreline would be similar to that of the Surry Alternative in that the majority of the towers would be located approximately 1.5 miles away. The portion of the line that may be more significantly visible is that section that trends to the north as it approaches the Surry side of the transmission line corridor. Like the Surry Alternative, tower views from the main house on a clear day would be distant and limited, but views from the open agricultural field significant to the Carter's Grove property would be greater. Therefore it is recommended the James River Crossing Variation 1 will have a moderate visual impact to Carter's Grove.*

*The James River Crossing Variation 2 like the James River Crossing 1 will be visible from the main house and like all alternatives from the shoreline and points west of the main house in the open agricultural fields. While views of the route would be limited to the same break in the trees along the shoreline as the James River Crossing Variation 1, alignment of the James River Crossing Variation 2, similar to the alignment of the Surry Alternative, is angled such that a greater number of towers are visible. As noted above this alternative would represent a distinct and apparent, but still distant view of new infrastructure across the river. This alternative, with the angles and number of towers visible either in part or whole will have a moderate impact to the views from Carter's Grove.*



*The James River Crossing Variation 3 is the closest of the alternatives to the Carter's Grove property. As it approaches the shoreline in James City County, the closest towers are less than one mile from the Carter's Grove shoreline and just over a mile from the main house. While only three of these towers would be visible from the main house, a larger number are visible from the western portion of the property and also from the shoreline. The closeness and proximity of these towers would represent a significant visual impact. Therefore it is recommended that the James River Crossing Variation 3 would have a significant visual impact on Carter's Grove.*

**Table 15. Previously Recorded Architectural Resources Considered within the Stage I Pre-Application Process.**

VDHR #	Resource	Date	Reference	VDHR/NRHP Status	CRI Recommendations
047-0001	Carter's Grove	c. 1750	VHLC 1969	NRHP-Listed 1969; NHL-Listed 1970	Visual Effect Assessment as Required under Guidelines
099-5283	Battle of Yorktown	1862	NPS 1993 and 2009	NRHP-Listed Date Unknown	Visual Effect Assessment as Required under Guidelines

**Table 16. Summary of visual impacts to previously identified architectural resources.**

VDHR #	Resource	Impact	Impact	Impact	Impact
047-0001	Carters Grove – Surry Alternative		X		
047-0001	Carters Grove – JRV 1			X	
047-0001	Carters Grove – JRV 2			X	
047-0001	Carters Grove – JRV 3				X
099-5283	Battle of Yorktown		X		

#### *Captain John Smith National Historic Water Trail*

In addition to the traditional architectural resources identified within the corridor, an additional resource has been identified within the ROW corridor where it crosses the James River. This resource, the Captain John Smith National Historic Water Trail, has not been recorded as a resource in the VDHR database. However, it has been recommended by the VDHR to be considered as a NRHP-eligible resource for purposes of this study.

In December 2006 the U.S. Congress designated the routes of Smith's explorations of the Chesapeake as the first national historic water trail. The Trail follows the early explorations of John Smith as depicted in his numerous maps and writings and covers approximately 3,000 miles in parts of present-day Virginia, Maryland, Delaware, and the District of Columbia. The development of the Comprehensive Management Plan for the Trail resulted in a determination that the Trail should be managed in segments. The current project area and proposed transmission line corridor crosses the James River in the James River Segment of the Trail (NPS 2011). This segment of the Trail is noted as having five focus areas to serve as primary locations for directing users of the Trail to a variety of available Trail opportunities and resources. One of the focus areas, the Chippokes



Plantation/Hog Island Wildlife Management Area falls within the ROW for the proposed Surry to Skiffes Creek 500 kV transmission line.

The proposed transmission line crosses the James River and thus the Trail just north of a heavily industrialized area within James City County and enters the Surry Power Plant after traversing a portion of Hog Island Wildlife Refuge. While it is certain that the proposed transmission line corridor will have an impact to the Trail in this location the full breadth of the impacts should be determined via discussion with the National Park Service and other identified agencies. This Trail has not been identified as a historic resource with respect to the VDHR database of historic resources, but it has been recommended by the VDHR that the Trail be considered as a NRHP-eligible resource. The guidance from the DHR indicates that the resource should be considered for visual effects, however, an assessment of direct effects to the recreational aspect of the Trail should also be considered. This section of the James River is a commercial shipping channel and the river bank to the east, heavily industrialized. The Surry Nuclear Power Plant is located immediately adjacent to Hog Island and within the vicinity of the Chippokes Plantation/Hog Island Wildlife Management Area.

### *Archaeological Resources*

Five previously identified archaeological resources (Sites 44JC0662, 44JC0663, 44JC0649, 44JC0650, 44JC0840) are located either within or immediately adjacent to the project ROW corridor (Table 17). Three sites (44JC0649, 44JC0650, and 44SY0159) are unevaluated in terms of NRHP eligibility. Two sites, 44JC0662 and 44JC0663, have been determined not eligible for listing on the NRHP according to the VDHR DSS forms. However, 44JC0662 appears to be potentially eligible for listing on the NRHP. This site is located within the existing cleared ROW and also within the Switching Station parcel. A Phase I survey has already been completed for the Switching Station Parcel and identified that Site 44JC0662 may be potentially eligible for listing on the NRHP. Site 44JC0662 is currently under investigation at the Phase II evaluation level of effort.

All of the previously recorded sites except 44JC0663, which has been previously determined not eligible for listing on the NRHP, will require further study if it is a project impact area, such as a new structure pad site or other project activity area associated with ground disturbing activities. These recommendations only pertain to previously identified resources, and do not address potential effects to unidentified and unrecorded archaeological resources.

Table 17. Archaeological Resources Within the Dominion Virginia Power Surry to Skiffes Creek Transmission Line ROW Corridor.					
Resource	Resource Type	Association	Reference	NRHP Recommendation	CRI Recommendation
44JC0662	Trash Pit	19 <sup>th</sup> Century	VCU 1991; Goodwin 1994	Eligible VDHR 1991 Not Eligible VDHR 1994	Investigate During Archaeological Survey
44JC0663	Trash Scatter	Late 19 <sup>th</sup> to 20 <sup>th</sup> Century	VCU 1991; Goodwin 1994	Not Eligible VDHR 1994, 1995, 2001	No further work.



**Table 17. Archaeological Resources Within the Dominion Virginia Power Surry to Skiffes Creek Transmission Line ROW Corridor.**

<b>Resource</b>	<b>Resource Type</b>	<b>Association</b>	<b>Reference</b>	<b>NRHP Recommendation</b>	<b>CRI Recommendation</b>
44JC0649	Indeterminate	Historic	CWF 1991	Not Evaluated	Investigate During Archaeological Survey
44JC0650	Indeterminate	18 <sup>th</sup> Century	CWF 1991	Not Evaluated	Investigate During Archaeological Survey
44JC0840	Shipwreck	19 <sup>th</sup> Century	TAR 1995	Potentially Eligible	Underwater Survey if Impacted

### *Recommendations for Additional Study*

The recommendations for additional study are also based entirely upon the standards set forth by VDHR (2008) for proposed electric transmission line projects, and vary depending upon the nature of the changes in height and current conditions associated with the specific sections of the transmission line corridor. According the VDHR (2008:3-4), sections of the proposed project that are equal to or exceed a 10 percent or 20 foot increase in height will require survey of all architectural resources, previously identified and undocumented, that are located within a 0.5-mile radius of the ROW corridor. If the changes in height fall beneath that standard, the study area for architectural survey is reduced to adjacent parcels only.

### *Architectural Resources*

The majority of the proposed Surry Alternative and the James River Crossing Variations consists of the construction of new towers ranging in height from 130 feet to 295 feet in the channel of the James River. In only one section of the proposed land-based routes are existing towers present. The existing towers average 52 feet in height and will be replaced by towers proposed to be 130 feet in height, surpassing the 10 percent/20 foot threshold for survey of adjacent parcels only. As detailed in table format below (Tables 18-21), all of the proposed alignment meets the requirement for Phase I level architectural survey within a half mile radius of the project centerline. Therefore any additional architectural survey conducted for this alternative should be conducted at this level.

The tables below demonstrate the changes in tower heights for the alternatives. The James River Crossing Variations begin at the point in the river at which the variation begins. All routes share the same route between the Surry Power Station and the point at which the line moves offshore. Therefore, the tables for the James River Crossing Variations do not include this portion of the route and rather, begin at the first tower per variation within the river crossing. Similarly, for the land-based portions of the James River Crossing Variations 2 and 3, the data provided in table format below coincides with only that portion that varies from the Surry Alternative.



**Table 18. Proposed Height Changes Associated with the Surry Alternative.**

<b>Starting Point</b>	<b>End Point</b>	<b>Distance</b>	<b>Current Height</b>	<b>Proposed Height</b>	<b>Proposed Structure Type</b>	<b>Number of Other Lines in ROW Corridor</b>	<b>Maximum Existing Height in ROW Corridor</b>	<b>Change in Height to Current ROW Conditions</b>
MP 0	MP 1.60	1.60 Miles	New Line	155 Feet	Monopole	None	New Line	+ 155 Feet
MP 1.60	MP 2.72	1.12 Miles	New Line – James River Crossing	160 Feet	Lattice	None	New Line – James River Crossing	+ 160 Feet
MP 2.72	MP 3.20	0.48 Mile	New Line – James River Crossing	295 Feet	Lattice	None	New Line – James River Crossing	+295 Feet
MP 3.20	MP 3.90	0.70 Mile	New Line – James River Crossing	160 Feet	Lattice	None	New Line – James River Crossing	+ 160 Feet
MP 3.90	MP 4.40	0.50 Mile	New Line – James River Crossing	295 Feet	Lattice	None	New Line – James River Crossing	+295 Feet
MP 4.40	MP 5.07	0.67 Mile	New Line – James River Crossing	160 Feet	Lattice	None	New Line – James River Crossing	+ 160 Feet
MP 5.07	MP 5.73	0.66 Mile	New Line	150 Feet	Lattice	None	New Line	+ 150 Feet
MP 5.73	MP 6.70	0.97 Mile	52 Feet	128 Feet	Lattice	1 Line	52 Feet	+ 78 Feet
MP 6.70	MP 6.82	0.12 Mile	85 Feet	128 Feet	Lattice	1 Line	85 Feet	+45 Feet
MP 6.82	MP 7.08	0.26	85 Feet	128 Feet	Lattice	1 Line	85 Feet	+45 Feet
MP 7.08	MP 7.21	0.13	85 Feet	128 Feet	Lattice	1 Line	85 Feet	+45 Feet

**Table 19. Proposed Height Changes Associated with the Surry Alternative; James River Crossing Variation 1**

<b>Starting Point</b>	<b>End Point</b>	<b>Distance</b>	<b>Current Height</b>	<b>Proposed Height</b>	<b>Proposed Structure Type</b>	<b>Number of Other Lines in ROW Corridor</b>	<b>Maximum Existing Height in ROW Corridor</b>	<b>Change in Height to Current ROW Conditions</b>
MP 0	MP 1.47	1.65 Miles	New Line – James River Crossing	160 Feet	Lattice	None	New Line – James River Crossing	+ 160 Feet
MP 1.65	MP 2.14	0.49 Miles	New Line – James River Crossing	295 Feet	Lattice	None	New Line – James River Crossing	+ 295 Feet
MP 2.14	MP 2.95	0.81 Mile	New Line – James River Crossing	160 Feet	Lattice	None	New Line – James River Crossing	+ 160 Feet



**Table 19. Proposed Height Changes Associated with the Surry Alternative; James River Crossing Variation 1**

<b>Starting Point</b>	<b>End Point</b>	<b>Distance</b>	<b>Current Height</b>	<b>Proposed Height</b>	<b>Proposed Structure Type</b>	<b>Number of Other Lines in ROW Corridor</b>	<b>Maximum Existing Height in ROW Corridor</b>	<b>Change in Height to Current ROW Conditions</b>
MP 2.95	MP 3.35	0.40 Mile	New Line – James River Crossing	275 Feet	Lattice	None	New Line – James River Crossing	+ 275 Feet
MP 3.35	MP 4.00	0.65 Mile	New Line – James River Crossing	160 Feet	Lattice	None	New Line	+ 160 Feet
MP 4.00	MP 4.04	0.04 Mile	New Line – James River Crossing	150 Feet	Lattice	None	New Line	+ 150 Feet

**Table 20. Proposed Height Changes Associated with the Surry Alternative; James River Crossing Variation 2**

<b>Starting Point</b>	<b>End Point</b>	<b>Distance</b>	<b>Current Height</b>	<b>Proposed Height</b>	<b>Proposed Structure Type</b>	<b>Number of Other Lines in ROW Corridor</b>	<b>Maximum Existing Height in ROW Corridor</b>	<b>Change in Height to Current ROW Conditions</b>
MP 0	MP 1.17	1.17 Miles	New Line – James River Crossing	160 Feet	Lattice	None	New Line – James River Crossing	+ 160 Feet
MP 1.17	MP 1.66	0.49 Miles	New Line – James River Crossing	295 Feet	Lattice	None	New Line – James River Crossing	+ 295 Feet
MP 1.66	MP 2.55	0.89 Mile	New Line – James River Crossing	160 Feet	Lattice	None	New Line – James River Crossing	+ 160 Feet
MP 2.55	MP 3.00	0.45 Mile	New Line – James River Crossing	295 Feet	Lattice	None	New Line – James River Crossing	+ 295 Feet
MP 3.00	MP 3.72	0.72 Mile	New Line – James River Crossing	160 Feet	Lattice	None	New Line	+ 160 Feet
MP 3.72	MP 4.52	0.20 Mile	New Line – James River Crossing	111 Feet	Lattice	None	New Line	+ 111 Feet

**Table 21. Proposed Height Changes Associated with the Surry Alternative; James River Crossing Variation 3.**

<b>Starting Point</b>	<b>End Point</b>	<b>Distance</b>	<b>Current Height</b>	<b>Proposed Height</b>	<b>Proposed Structure Type</b>	<b>Number of Other Lines in ROW Corridor</b>	<b>Maximum Existing Height in ROW Corridor</b>	<b>Change in Height to Current ROW Conditions</b>
MP 0	MP 1.46	1.16 Miles	New Line – James River Crossing	160 Feet	Lattice	None	New Line – James River Crossing	+ 160 Feet



**Table 21. Proposed Height Changes Associated with the Surry Alternative; James River Crossing Variation 3.**

<b>Starting Point</b>	<b>End Point</b>	<b>Distance</b>	<b>Current Height</b>	<b>Proposed Height</b>	<b>Proposed Structure Type</b>	<b>Number of Other Lines in ROW Corridor</b>	<b>Maximum Existing Height in ROW Corridor</b>	<b>Change in Height to Current ROW Conditions</b>
MP 1.46	MP 1.96	0.50 Miles	New Line – James River Crossing	295 Feet	Lattice	None	New Line – James River Crossing	+ 295 Feet
MP 1.96	MP 2.90	0.72 Mile	New Line – James River Crossing	160 Feet	Lattice	None	New Line – James River Crossing	+ 160 Feet
MP 2.90	MP 3.35	0.45 Mile	New Line – James River Crossing	275 Feet	Lattice	None	New Line – James River Crossing	+ 275 Feet
MP 3.35	MP 4.05	0.58 Mile	New Line – James River Crossing	160 Feet	Lattice	None	New Line	+ 160 Feet
MP 4.05	MP 4.85	0.80 Mile	New Line – James River Crossing	111 Feet	Lattice	None	New Line	+ 111 Feet

### *Archaeological Resources*

Five previously identified archaeological resources (Sites 44JC0662, 44JC0663, 44JC0649, 44JC0650, 44JC0840) are located either within or immediately adjacent to the project ROW corridor for the Surry Alternative and the James River Crossing Variations. Two sites (44JC0649, 44JC0650) are unevaluated in terms of NRHP eligibility. Two sites, 44JC0662 and 44JC0663, have been determined not eligible for listing on the NRHP according to the VDHR DSS forms. However, 44JC0662 appears to be potentially eligible for listing on the NRHP and is currently under investigation at the Phase II evaluation level of effort. This site is also located in the parcel associated with the switching station. A Phase I survey has already been completed for the Switching Station Parcel and identified that Site 44JC0662 may be potentially eligible for listing on the NRHP. Site 44JC0662 is currently under investigation at the Phase II evaluation level of effort.

Site 44JC0840 is a shipwreck likely dating to the nineteenth century that was identified during underwater survey conducted for the US Army Corps of Engineers by Tidewater Atlantic Research (TAR) in 1995 for planned work on the Tribell Shoals Channel. The shipwreck was subject to a Phase II evaluation and was subsequently determined eligible for listing on the NRHP. While the shipwreck does not appear to be within the footprint for the proposed Surry Alternative it is nearby. The shipwreck will be unaffected by the proposed James River Crossing Variation.

Archaeological survey should be performed on all areas that will be directly impacted by construction, including proposed ROW, tower and associated facility locations, staging areas, and access roads. The project area as proposed utilizes cleared right-of-way that ranges from 100 feet to 150 feet and is also planned on new location adjacent to the existing ROW (Table 17 and 17a). If the ROW can be cleared without ground disturbance, such as stump grubbing, comprehensive archaeological survey of the entire ROW will not be necessary. A ROW clearing plan must be submitted for review prior to VDHR approval of this methodology, and a survey of tower locations would still need to be performed. However it is recommended that impact areas associated with the



entire corridor be subject to archaeological survey to facilitate avoidance of archaeological sites when possible and to allow for changes to design plans. Archaeological resources could be identified during this effort, associated with the general occupation of the project vicinity during both the prehistoric and historic periods, however the general area has been disturbed by modern development, an existing power line easement and a railroad corridor.

In addition to terrestrial survey, underwater archaeological survey is recommended. While some underwater archaeological studies have taken place within the project area, these studies were conducted over 20 years ago and the exact extent of the coverage is unknown. The underwater survey conducted in 1982 for the Colonial Gas pipeline appears to have been limited to 200 feet either side of the pipeline route. It is also unclear if follow up investigations of identified targets was completed as a result of this survey. While a portion of this survey certainly intercepts the current ROW, the exact level of coverage is uncertain. Underwater archaeological survey is also recommended because of advances in technology as well as changes/updates to the requirements for underwater archaeological survey coverage suggested by the VDHR. However, it is also recommended that if targets are identified during underwater archaeological survey, that only those targets that cannot be avoided by construction activities be investigated further. Table 18 summarizes previous underwater archaeological survey within the vicinity of the proposed ROW.

**Table 22. Table of Proposed ROW Changes Associated with Surry Alternative and James River Crossing Variation 1.**

<b>Starting Point</b>	<b>End Point</b>	<b>Distance</b>	<b>Current ROW</b>	<b>Proposed ROW</b>	<b>Proposed Structure Type</b>	<b>Number of Other Lines in ROW Corridor</b>	<b>Maximum Archaeological Survey Coverage of ROW Corridor</b>	<b>Change in Current ROW Conditions</b>
MP 0	MP 1.60	1.60 Miles	New Location	150 Feet	Monopole	Single Line	150 Feet	+ 150 Feet Increase
MP 1.60	MP 2.72	1.12 Miles	New Location	By Permit James River	Tower	Single Line	Underwater Survey	By Permit James River
MP 2.72	MP 3.20	0.48 Mile	New Location	By Permit James River	Tower	Single Line	Underwater Survey	By Permit James River
MP 3.20	MP 3.90	0.70 Mile	New Location	By Permit James River	Tower	Single Line	Underwater Survey	By Permit James River
MP 3.90	MP 4.40	0.50 Mile	New Location	By Permit James River	Tower	Single Line	Underwater Survey	By Permit James River
MP 4.40	MP 5.07	0.67 Mile	New Location	By Permit James River	Tower	Single Line	Underwater Survey	By Permit James River
MP 5.07	MP 5.73	0.66 Mile	New Location	150 Feet	Tower	Single Line	130 Feet	+ 150 Feet Increase
MP 5.73	MP 6.70	0.97 Mile	130 Feet	150 Feet	Tower	Single Line	150 Feet	+ 20 Feet Increase
MP 6.70	MP 6.82	0.12 Mile	100 Feet	150 Feet	Tower	Single Line	150 Feet	+50 Feet Increase
MP 6.82	MP 7.08	0.26	80 Feet	150 Feet	Tower	Single Line	150 Feet	+70 Feet Increase



**Table 22. Table of Proposed ROW Changes Associated with Surry Alternative and James River Crossing Variation 1.**

<b>Starting Point</b>	<b>End Point</b>	<b>Distance</b>	<b>Current ROW</b>	<b>Proposed ROW</b>	<b>Proposed Structure Type</b>	<b>Number of Other Lines in ROW Corridor</b>	<b>Maximum Archaeological Survey Coverage of ROW Corridor</b>	<b>Change in Current ROW Conditions</b>
MP 7.08	MP 7.21	0.13	100 Feet	150 Feet	Tower	Single Line	150 Feet	+50 Feet Increase

**Table 23. Table of Proposed ROW Changes Associated with Surry Alternative: James River Crossing Variation 1.**

<b>Starting Point</b>	<b>End Point</b>	<b>Distance</b>	<b>Current ROW</b>	<b>Proposed ROW</b>	<b>Proposed Structure Type</b>	<b>Number of Other Lines in ROW Corridor</b>	<b>Maximum Archaeological Survey Coverage of ROW Corridor</b>	<b>Change in Current ROW Conditions</b>
MP 0	MP 1.47	1.65 Miles	New Location	150 Feet	Tower	Single Line	150 Feet	+ 150 Feet Increase
MP 1.65	MP 2.14	0.49 Miles	New Location	By Permit James River	Tower	Single Line	Underwater Survey	By Permit James River
MP 2.14	MP 2.95	0.81 Mile	New Location	By Permit James River	Tower	Single Line	Underwater Survey	By Permit James River
MP 2.95	MP 3.35	0.40 Mile	New Location	By Permit James River	Tower	Single Line	Underwater Survey	By Permit James River
MP 3.35	MP 4.00	0.65 Mile	New Location	By Permit James River	Tower	Single Line	Underwater Survey	By Permit James River
MP 4.00	MP 4.04	0.04 Mile	New Location	150 feet	Tower	Single Line	150 feet	+ 150 feet increase

**Table 24. Table of Proposed ROW Changes Associated with Surry Alternative: James River Crossing Variation 2.**

<b>Starting Point</b>	<b>End Point</b>	<b>Distance</b>	<b>Current ROW</b>	<b>Proposed ROW</b>	<b>Proposed Structure Type</b>	<b>Number of Other Lines in ROW Corridor</b>	<b>Maximum Archaeological Survey Coverage of ROW Corridor</b>	<b>Change in Current ROW Conditions</b>
MP 0	MP 1.17	1.17 Miles	New Location	150 Feet	Tower	Single Line	150 Feet	+ 150 Feet Increase
MP 1.17	MP 1.66	0.49 Miles	New Location	By Permit James River	Tower	Single Line	Underwater Survey	By Permit James River
MP 1.66	MP 2.55	0.89 Mile	New Location	By Permit James River	Tower	Single Line	Underwater Survey	By Permit James River
MP 2.55	MP 3.00	0.45 Mile	New Location	By Permit James	Tower	Single Line	Underwater Survey	By Permit James River



**Table 24. Table of Proposed ROW Changes Associated with Surry Alternative: James River Crossing Variation 2.**

Starting Point	End Point	Distance	Current ROW	Proposed ROW	Proposed Structure Type	Number of Other Lines in ROW Corridor	Maximum Archaeological Survey Coverage of ROW Corridor	Change in Current ROW Conditions
				River				
MP 3.00	MP 3.72	0.72 Mile	New Location	By Permit James River	Tower	Single Line	Underwater Survey	By Permit James River
MP 3.72	MP 4.52	0.20 Mile	New Location	150 feet	Tower	Single Line	150 feet	+ 150 feet increase

**Table 25. Table of Proposed ROW Changes Associated with Surry Alternative: James River Crossing Variation 3.**

Starting Point	End Point	Distance	Current ROW	Proposed ROW	Proposed Structure Type	Number of Other Lines in ROW Corridor	Maximum Archaeological Survey Coverage of ROW Corridor	Change in Current ROW Conditions
MP 0	MP 1.46	1.16 Miles	New Location	150 Feet	Tower	Single Line	150 Feet	+ 150 Feet Increase
MP 1.46	MP 1.96	0.50 Miles	New Location	By Permit James River	Tower	Single Line	Underwater Survey	By Permit James River
MP 1.96	MP 2.90	0.72 Mile	New Location	By Permit James River	Tower	Single Line	Underwater Survey	By Permit James River
MP 2.90	MP 3.35	0.45 Mile	New Location	By Permit James River	Tower	Single Line	Underwater Survey	By Permit James River
MP 3.35	MP 4.05	0.58 Mile	New Location	By Permit James River	Tower	Single Line	Underwater Survey	By Permit James River
MP 4.05	MP 4.85	0.80 Mile	New Location	150 feet	Tower	Single Line	150 feet	+ 150 feet increase

**Table 26. Previous Underwater Archaeological Survey – James River/Tribell Shoals.**

Title	Affiliation/FIRM	Survey Type	Survey Level (Phase)	Year
Phase I Underwater Archaeological Survey of Proposed Submarine Pipeline Route Across the James River near the Hog Island, Virginia	Waterway Surveys and Engineering	Underwater Archaeology	Phase I	1982
Underwater Archaeological Site Survey at Tribell Shoals, James River, VA	Tidewater Atlantic Research (TAR)	Underwater Archaeology	Phase I/II	1995
Underwater Archaeological Site Documentation at Tribell Shoals and Turkey Island Channels, James River, Virginia	TAR	Underwater Archaeology	Phase I	1997



## V. REFERENCES

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- 2006 Captain John Smith Chesapeake National Historic Trail Feasibility Study and Environmental Assessment. Available online at <http://www.smithtrail.net/about-the-trail/legislation-and-purpose.aspx>. Accessed January 2012.

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- 2011 Making the Trail Visible and Visitor Ready: A Plan for the James River Segment. December 2011.

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- 1991 How to Apply the National Register Criteria of Evaluation. *National Register Bulletin 15*. Interagency Resources Division, National Park Service, U.S. Department of the Interior, Washington, D.C.

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- 1997 *Historic Context Guidelines for Preparing Cultural Resource Survey Reports*. VDHR, Richmond.

- 2008 *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia*. VDHR, Richmond.

- 2011 *Guidelines for Historic Resource Survey in Virginia*. VDHR, Richmond.

- 2012 Archives Files.



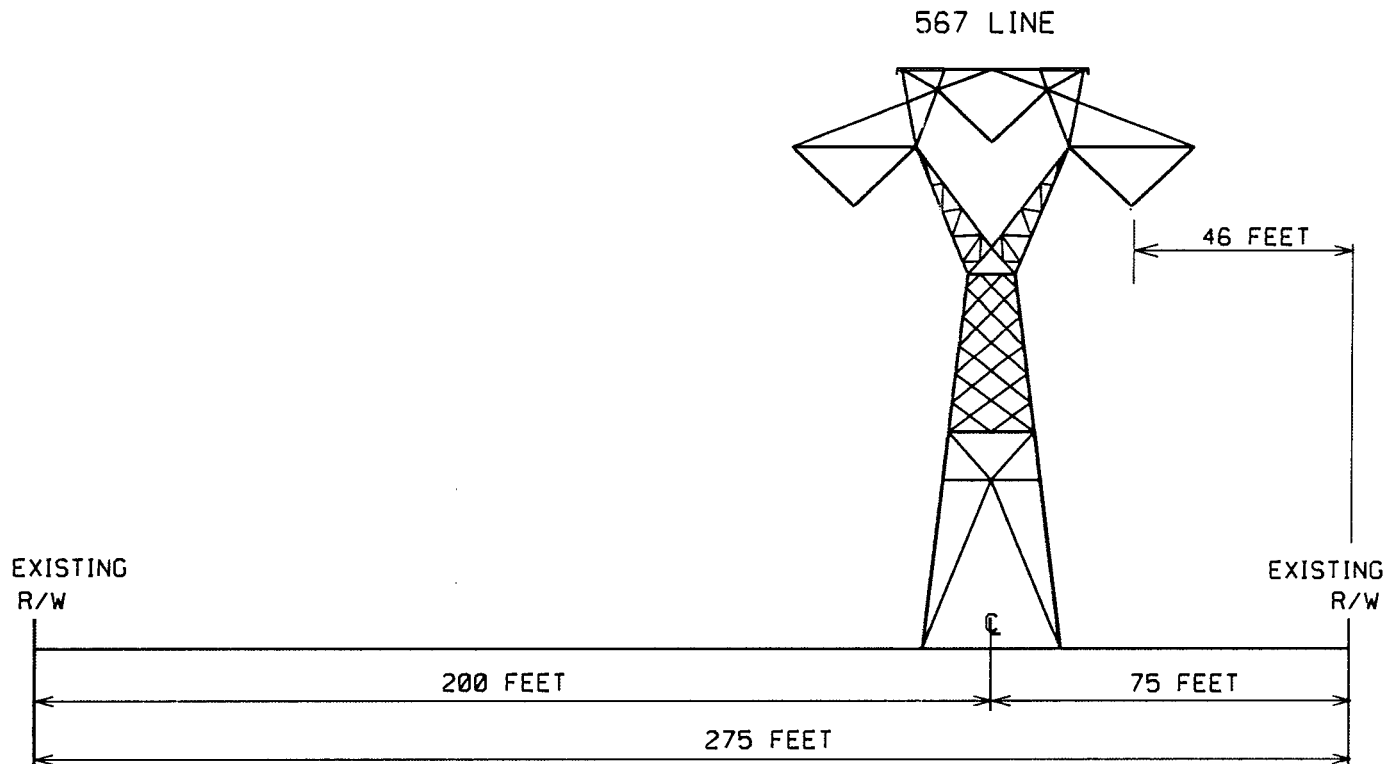
## **APPENDIX A: POLE SCHEMATICS**



## CHICKAHOMINY ALTERNATIVE



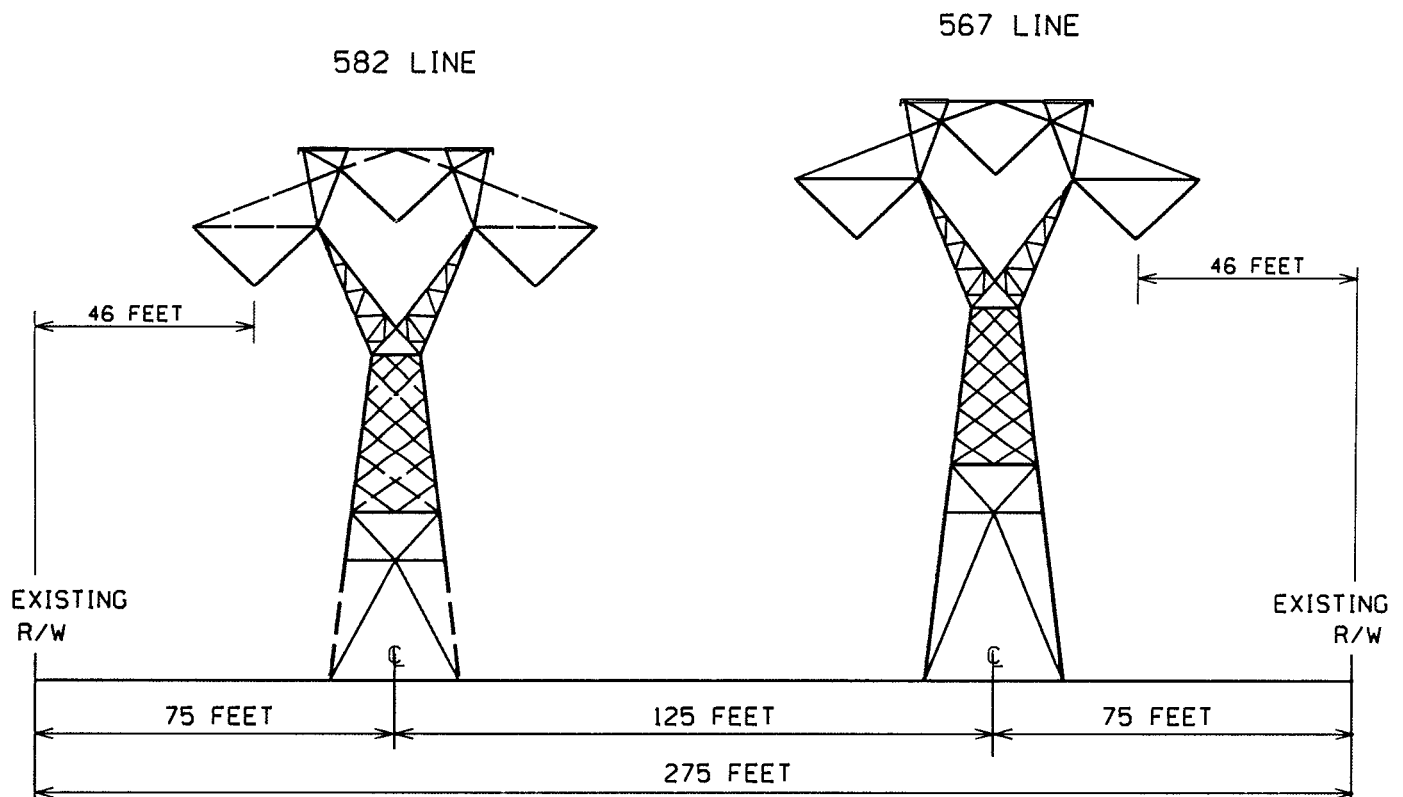
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EXISTING CONFIGURATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE :	WEATHERING TOWER
FOUNDATION :	EXISTING
APPROX. AVERAGE HEIGHT :	121 FEET
WIDTH AT CROSSARM :	84 FEET
WIDTH AT BASE :	30 FEET
AVERAGE SPAN LENGTH :	950 FEET
CONDUCTOR TYPE :	ALUMINUM
RIGHT-OF-WAY WIDTH :	275 FEET
APPROXIMATE LENGTH:	0.86 MILES



(C) MP (-0.07) - 0.79



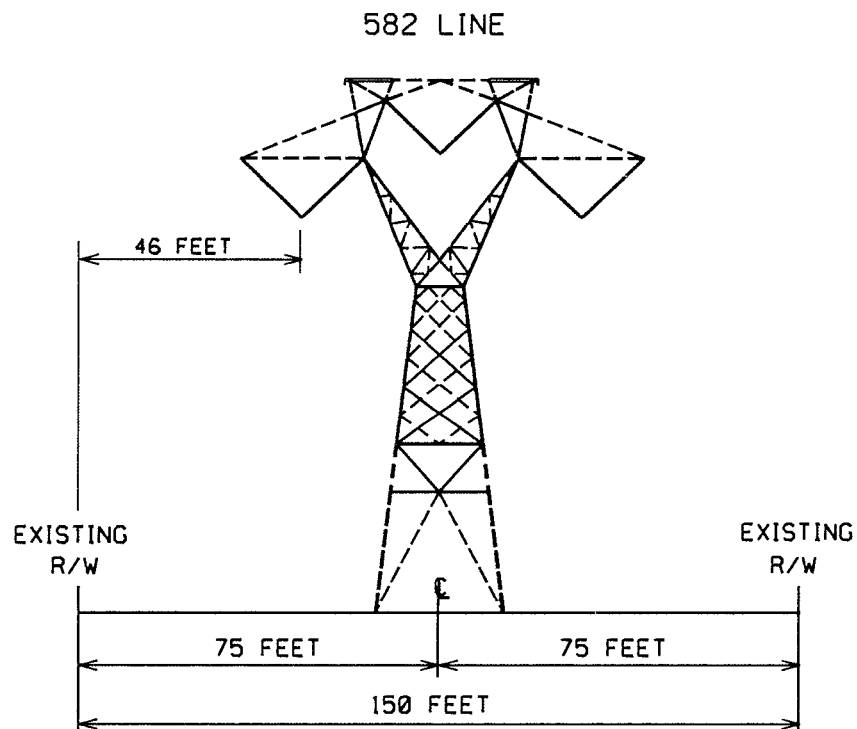
### PROPOSED CONFIGURATION

#### TYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE:	GALVANIZED TOWER	WEATHERING TOWER
FOUNDATION :	PILES/CONCRETE	EXISTING
APPROXIMATE HEIGHT:	111 FEET	121 FEET
WIDTH AT CROSSARM:	84 FEET	84 FEET
WIDTH AT BASE:	27 FEET	30 FEET
AVERAGE SPAN LENGTH:	950 FEET	950 FEET
CONDUCTOR TYPE:	ALUMINUM	ALUMINUM
RIGHT OF WAY WIDTH:	275 FEET	275 FEET
APPROXIMATE LENGTH:	0.86 MILES	0.86 MILES



(C) MP 0.79 - 21.15

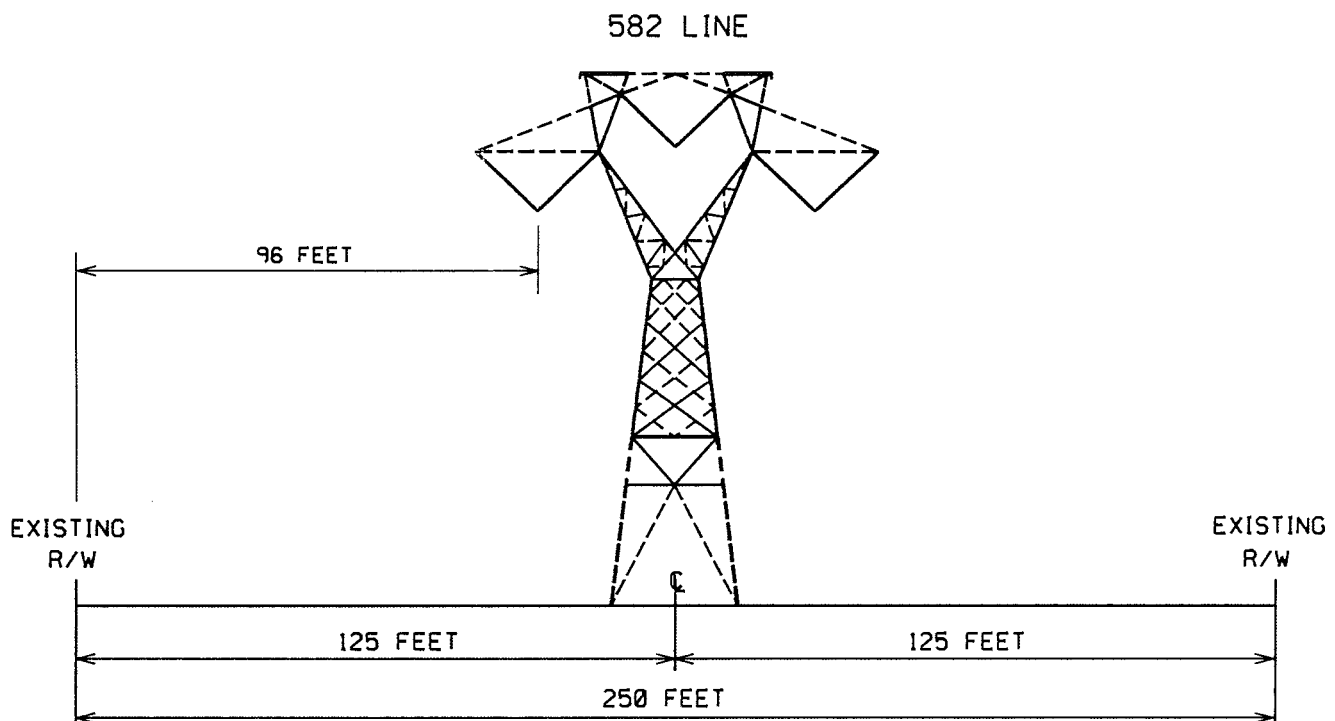


### PROPOSED CONFIGURATION

#### TYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE :	GALVANIZED TOWER
FOUNDATION :	PILES/CONCRETE
APPROX. AVERAGE HEIGHT :	111 FEET
WIDTH AT CROSSARM :	84 FEET
WIDTH AT BASE :	27 FEET
AVERAGE SPAN LENGTH :	1000 FEET
CONDUCTOR TYPE :	ALUMINUM
RIGHT-OF-WAY WIDTH :	150 FEET
APPROXIMATE LENGTH:	18.27 MILES

(C) MP 0.79 - 21.15



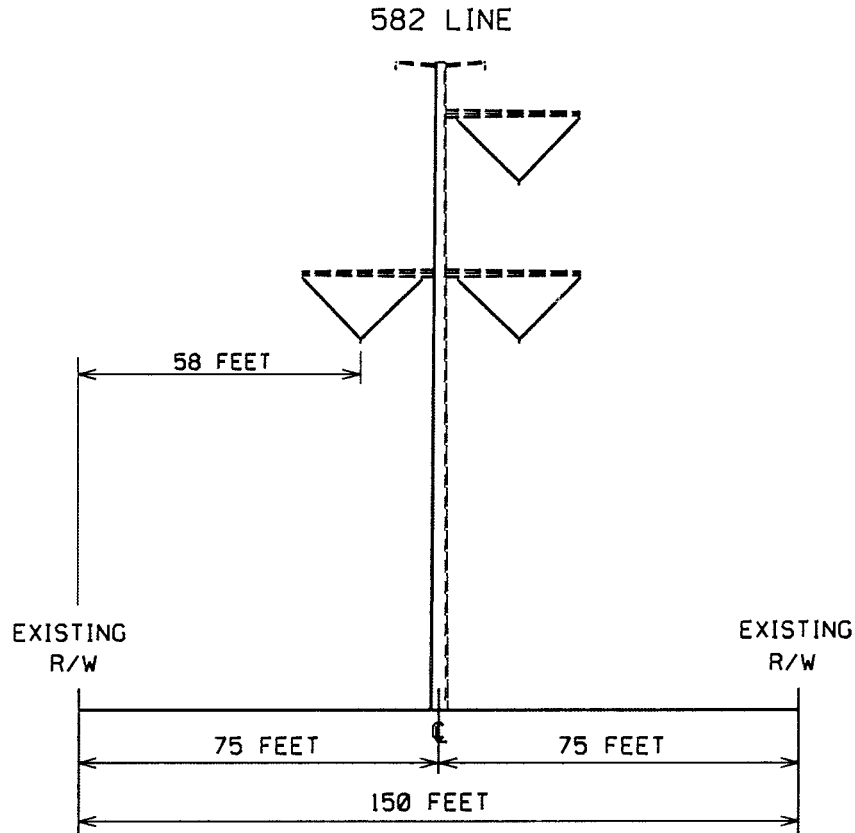
### PROPOSED CONFIGURATION

#### TYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE :	GALVANIZED TOWER
FOUNDATION :	PILES/CONCRETE
APPROX. AVERAGE HEIGHT :	111 FEET
WIDTH AT CROSSARM :	84 FEET
WIDTH AT BASE :	27 FEET
AVERAGE SPAN LENGTH :	1000 FEET
CONDUCTOR TYPE :	ALUMINUM
RIGHT-OF-WAY WIDTH :	250 FEET
APPROXIMATE LENGTH:	2.09 MILES



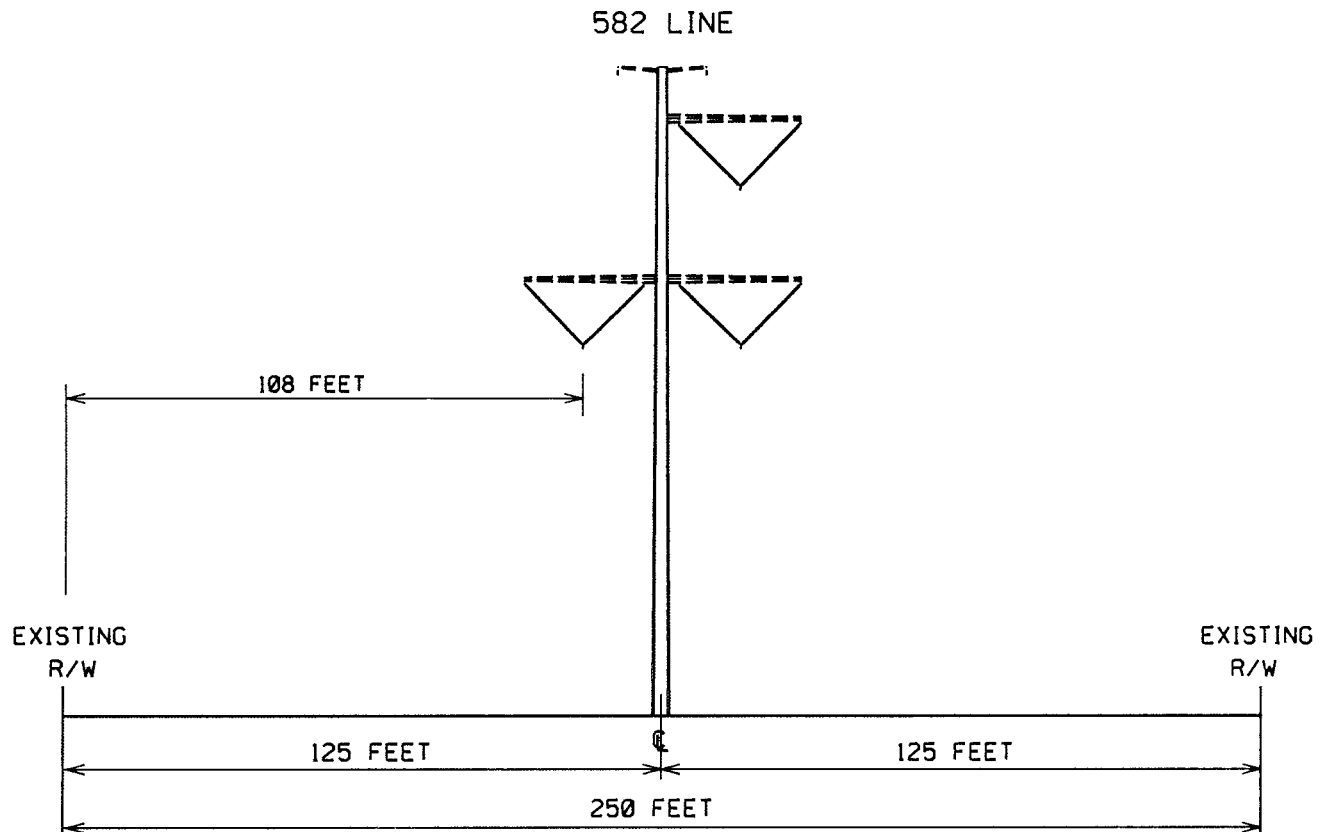
(C) MP 21.15 - 24.94

PROPOSED CONFIGURATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE :	GALVANIZED POLE
FOUNDATION :	PILES/CONCRETE
APPROX. AVERAGE HEIGHT :	135 FEET
WIDTH AT CROSSARM :	60 FEET
WIDTH AT BASE :	7 FEET
AVERAGE SPAN LENGTH :	900 FEET
CONDUCTOR TYPE :	ALUMINUM
RIGHT-OF-WAY WIDTH :	150 FEET
APPROXIMATE LENGTH:	3.25 MILES

\$DGN\$SPEC\$

(C) MP 21.15 - 24.94

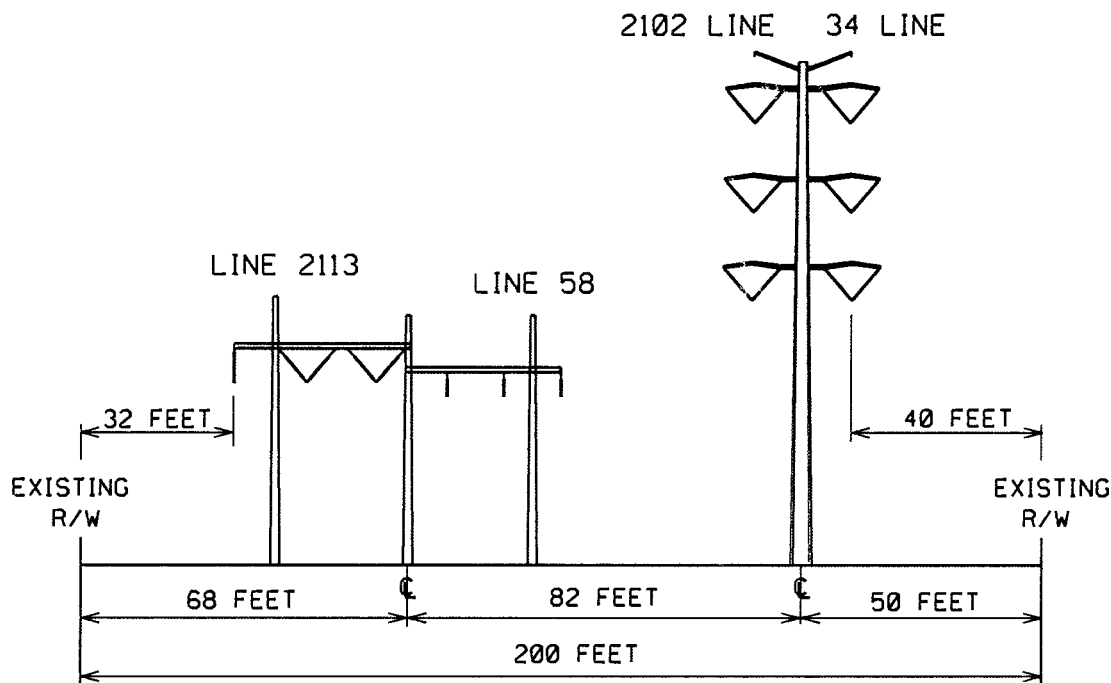
PROPOSED CONFIGURATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE :	GALVANIZED POLE
FOUNDATION :	PILES/CONCRETE
APPROX. AVERAGE HEIGHT :	135 FEET
WIDTH AT CROSSARM :	60 FEET
WIDTH AT BASE :	7 FEET
AVERAGE SPAN LENGTH :	900 FEET
CONDUCTOR TYPE :	ALUMINUM
RIGHT-OF-WAY WIDTH :	250 FEET
APPROXIMATE LENGTH:	0.54 MILES

\$DCNSPEC\$

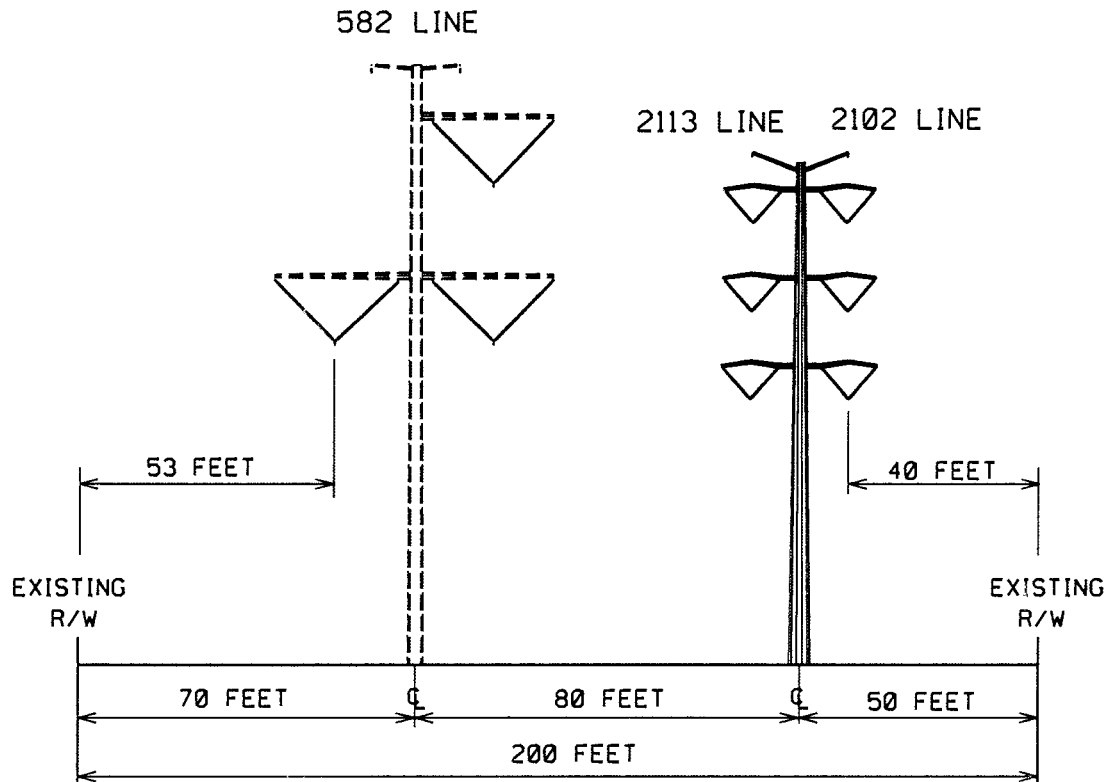


(C) MP 24.94 - 29.95

EXISTING CONFIGURATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE:	3 POLE WOOD	PAINTED POLE
FOUNDATION :	DIRECT BURIED	EXISTING
APPROXIMATE HEIGHT:	56.5 FEET	105 FEET
WIDTH AT CROSSARM:	68 FEET	32 FEET
WIDTH AT BASE:	53 FEET	5 FEET
AVERAGE SPAN LENGTH:	575 FEET	725 FEET
CONDUCTOR TYPE:	ALUMINUM	ALUMINUM
RIGHT OF WAY WIDTH:	200 FEET	200 FEET
APPROXIMATE LENGTH:	5.01 MILES	5.01 MILES

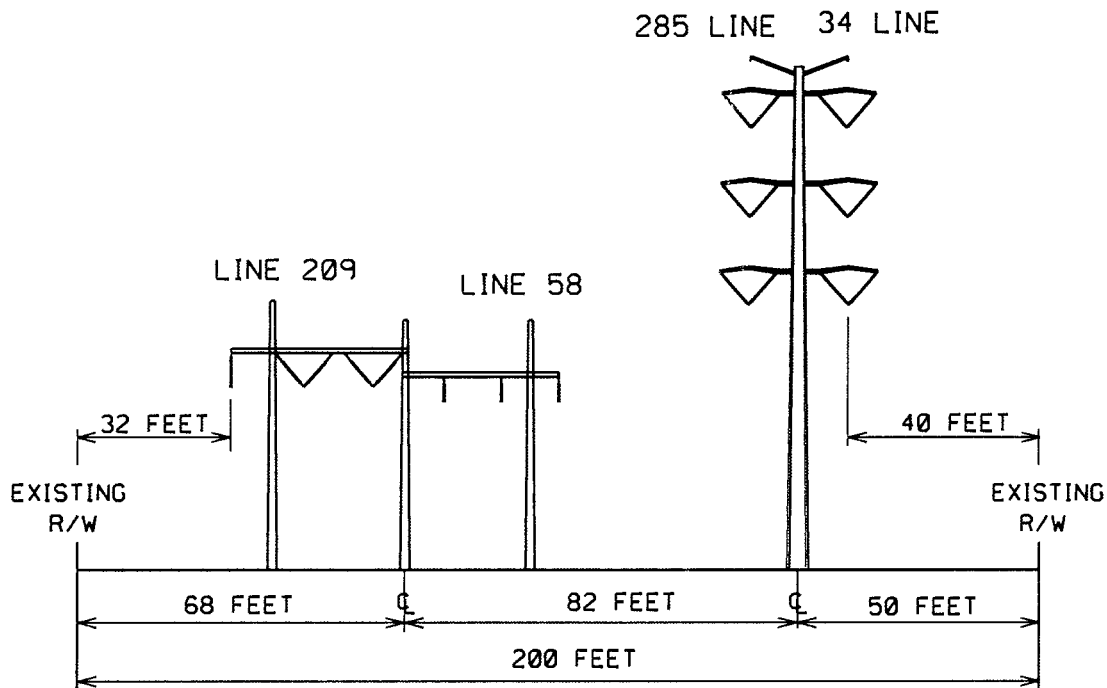
(C) MP 24.94 - 29.95

PROPOSED CONFIGURATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE:	GALVANIZED POLE	PAINTED POLE
FOUNDATION :	PILES/CONCRETE	EXISTING
APPROXIMATE HEIGHT:	125 FEET	105 FEET
WIDTH AT CROSSARM:	60 FEET	32 FEET
WIDTH AT BASE:	7 FEET	5 FEET
AVERAGE SPAN LENGTH:	800 FEET	725 FEET
CONDUCTOR TYPE:	ALUMINUM	ALUMINUM
RIGHT OF WAY WIDTH:	200 FEET	200 FEET
APPROXIMATE LENGTH:	5.01 MILES	5.01 MILES



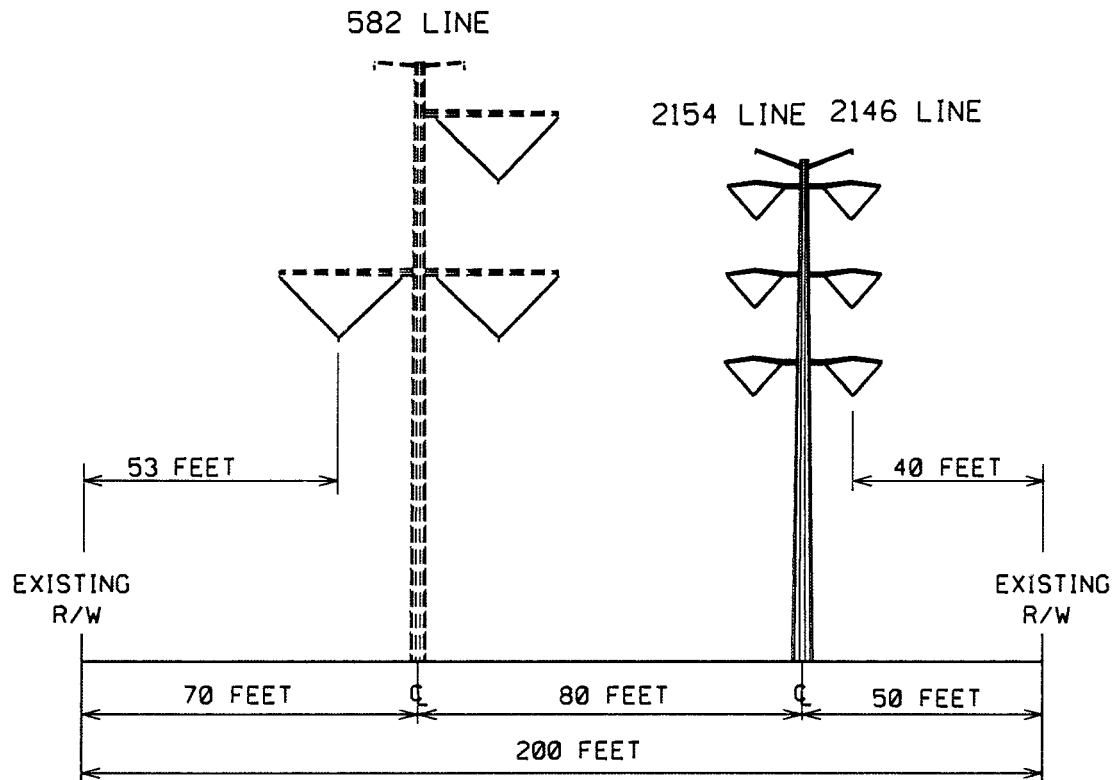
(C) MP 29.95 - 35.17

EXISTING CONFIGURATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE:	3 POLE WOOD	PAINTED POLE
FOUNDATION :	DIRECT BURIED	EXISTING
APPROXIMATE HEIGHT:	56.5 FEET	105 FEET
WIDTH AT CROSSARM:	68 FEET	32 FEET
WIDTH AT BASE:	53 FEET	5 FEET
AVERAGE SPAN LENGTH:	575 FEET	725 FEET
CONDUCTOR TYPE:	ALUMINUM	ALUMINUM
RIGHT OF WAY WIDTH:	200 FEET	200 FEET
APPROXIMATE LENGTH:	5.22 MILES	5.22 MILES

\$DONSPEC\$

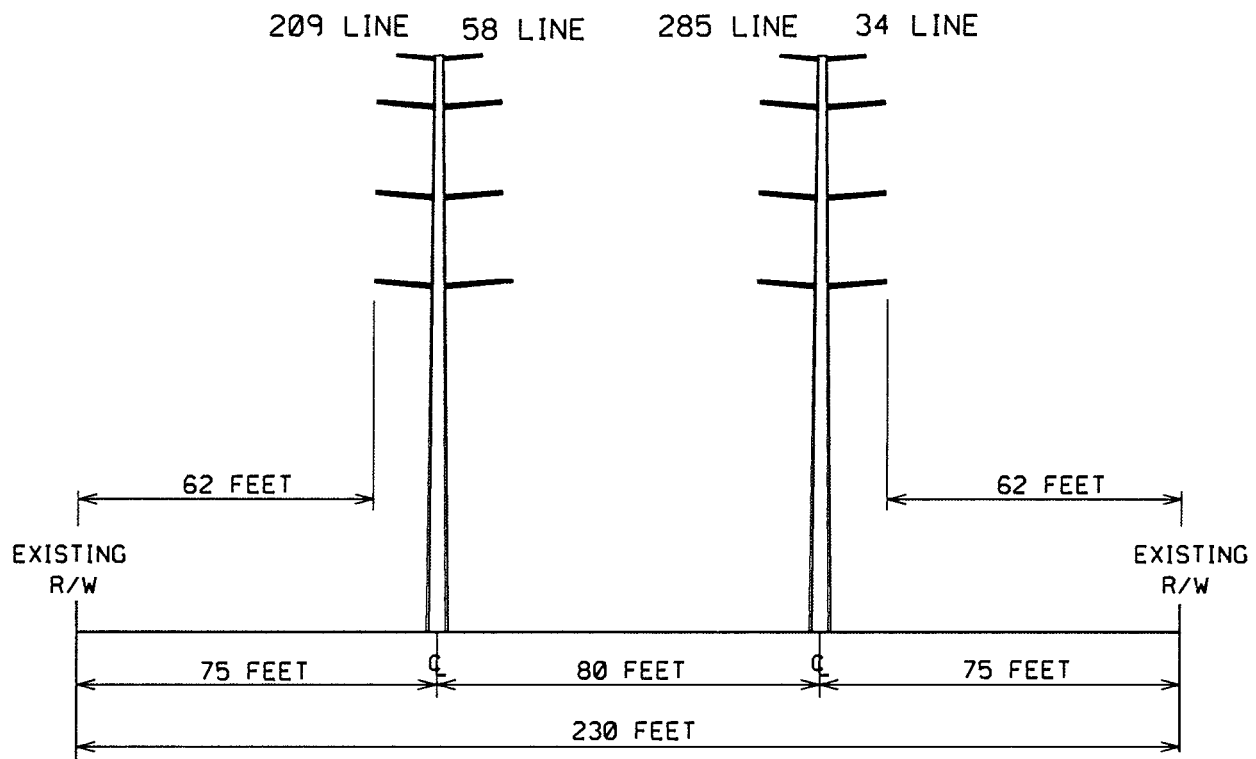
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PROPOSED CONFIGURATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE:	GALVANIZED POLE	PAINTED POLE
FOUNDATION :	PILES/CONCRETE	EXISTING
APPROXIMATE HEIGHT:	125 FEET	105 FEET
WIDTH AT CROSSARM:	60 FEET	32 FEET
WIDTH AT BASE:	7 FEET	5 FEET
AVERAGE SPAN LENGTH:	800 FEET	725 FEET
CONDUCTOR TYPE:	ALUMINUM	ALUMINUM
RIGHT OF WAY WIDTH:	200 FEET	200 FEET
APPROXIMATE LENGTH:	5.22 MILES	5.22 MILES

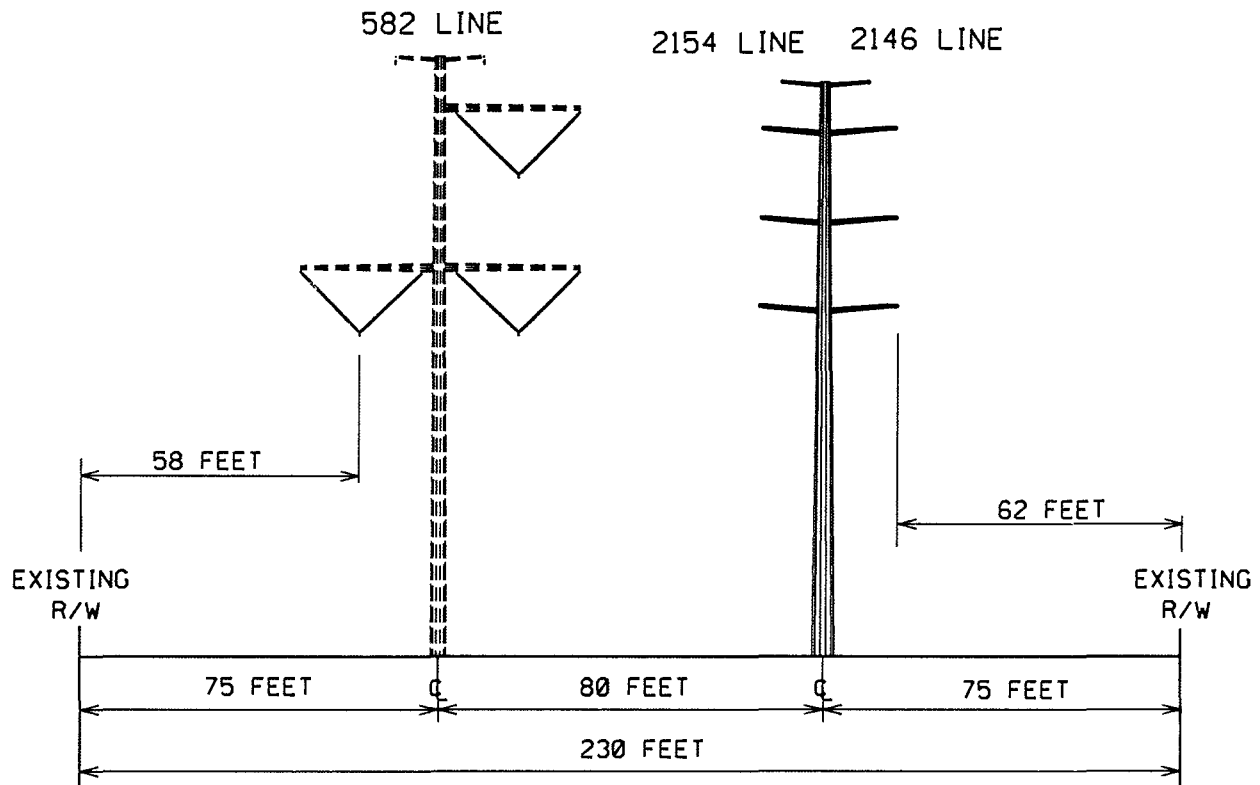


(C) MP 35.17 - 35.78

EXISTING CONFIGURATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE:	GALVANIZED POLE	GALVANIZED POLE
FOUNDATION :	EXISTING	EXISTING
APPROXIMATE HEIGHT:	120 FEET	120 FEET
WIDTH AT CROSSARM:	27 FEET	27 FEET
WIDTH AT BASE:	5 FEET	5 FEET
AVERAGE SPAN LENGTH:	770 FEET	770 FEET
CONDUCTOR TYPE:	ALUMINUM	ALUMINUM
RIGHT OF WAY WIDTH:	230 FEET	230 FEET
APPROXIMATE LENGTH:	0.61 MILES	0.61 MILES

(C) MP 35.17 - 35.78



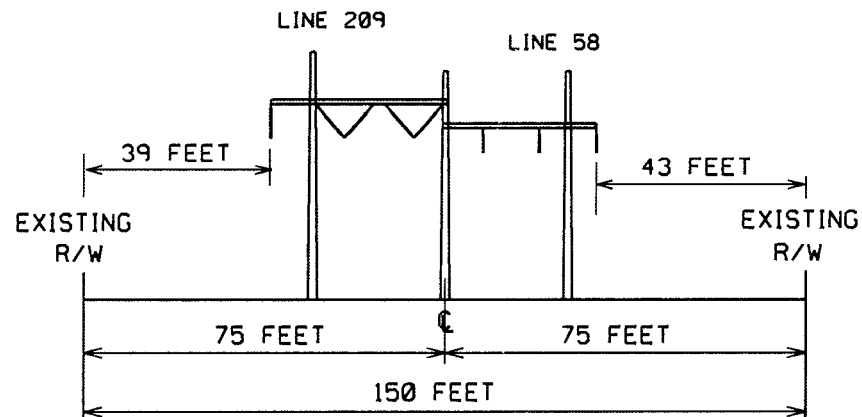
### PROPOSED CONFIGURATION

#### TYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE:	GALVANIZED POLE	GALVANIZED POLE
FOUNDATION :	PILES/CONCRETE	EXISTING
APPROXIMATE HEIGHT:	125 FEET	120 FEET
WIDTH AT CROSSARM:	60 FEET	27 FEET
WIDTH AT BASE:	7 FEET	5 FEET
AVERAGE SPAN LENGTH:	770 FEET	770 FEET
CONDUCTOR TYPE:	ALUMINUM	ALUMINUM
RIGHT OF WAY WIDTH:	230 FEET	230 FEET
APPROXIMATE LENGTH:	0.61 MILES	0.61 MILES



(C) MP 35.78 - 37.89

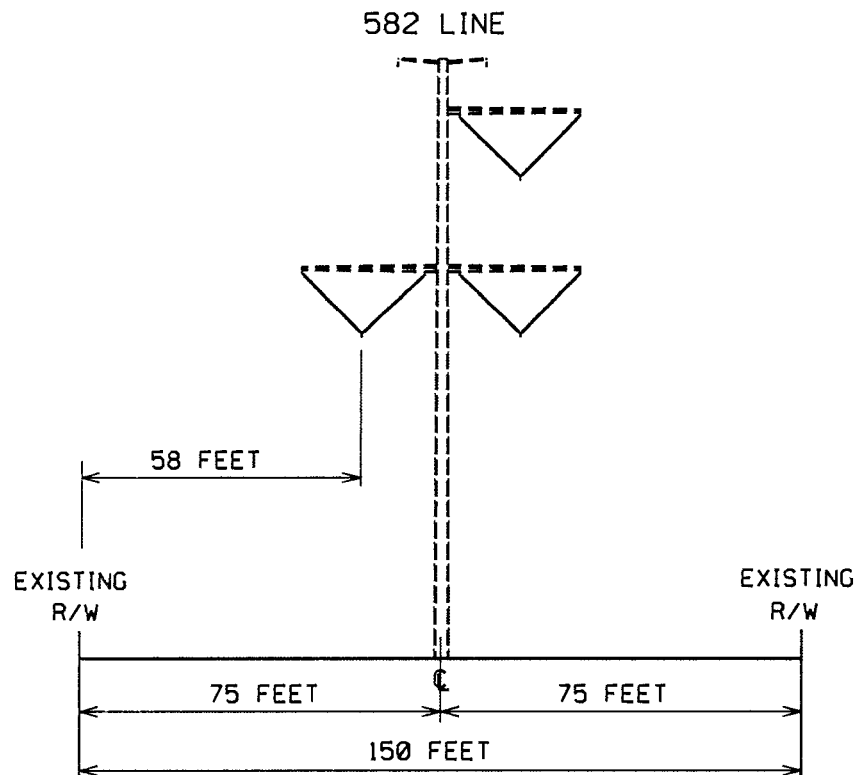


### EXISTING CONFIGURATION

### TYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE :	3-POLE WOOD
FOUNDATION :	DIRECT BURIED
APPROX. AVERAGE HEIGHT :	52 FEET
WIDTH AT CROSSARM :	68 FEET
WIDTH AT BASE :	53 FEET
AVERAGE SPAN LENGTH :	489 FEET
CONDUCTOR TYPE :	ALUMINUM
RIGHT-OF-WAY WIDTH :	150 FEET
APPROXIMATE LENGTH:	2.11 MILES

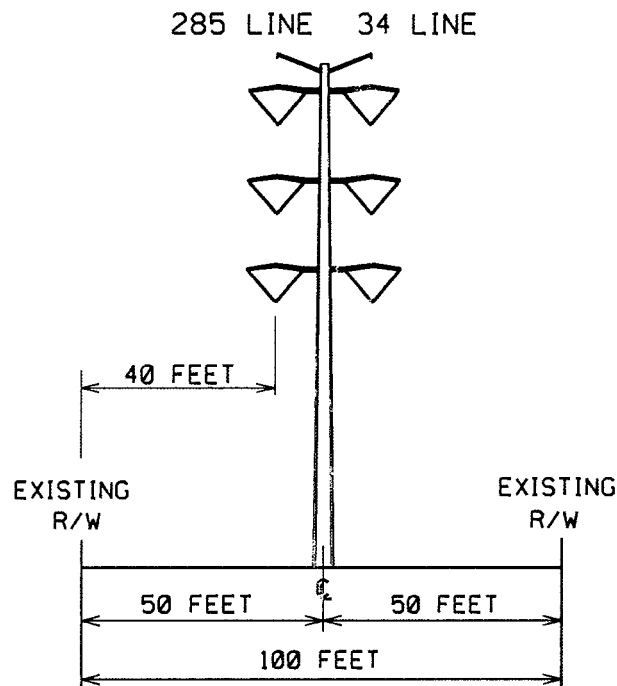
(C) MP 35.78 - 37.89

PROPOSED CONFIGURATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE :	GALVANIZED POLE
FOUNDATION :	PILES/CONCRETE
APPROX. AVERAGE HEIGHT :	125 FEET
WIDTH AT CROSSARM :	60 FEET
WIDTH AT BASE :	7 FEET
AVERAGE SPAN LENGTH :	800 FEET
CONDUCTOR TYPE :	ALUMINUM
RIGHT-OF-WAY WIDTH :	150 FEET
APPROXIMATE LENGTH:	2.11 MILES



(K) MP 0.00 - 2.04

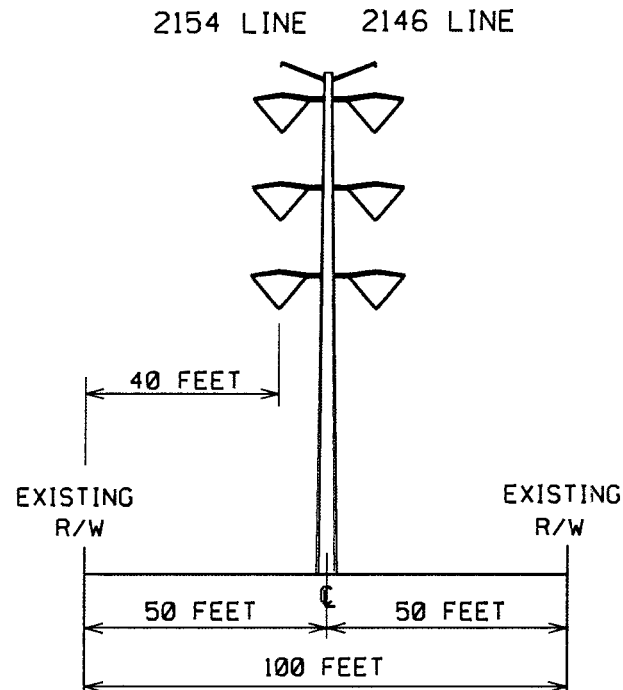


### EXISTING CONFIGURATION

#### TYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE :	PAINTED POLE
FOUNDATION :	EXISTING
APPROX. AVERAGE HEIGHT :	105 FEET
WIDTH AT CROSSARM :	32 FEET
WIDTH AT BASE :	5 FEET
AVERAGE SPAN LENGTH :	740 FEET
CONDUCTOR TYPE :	ALUMINUM
RIGHT-OF-WAY WIDTH :	100 FEET
APPROXIMATE LENGTH:	2.04 MILES

(K) MP 0.00 - 2.04

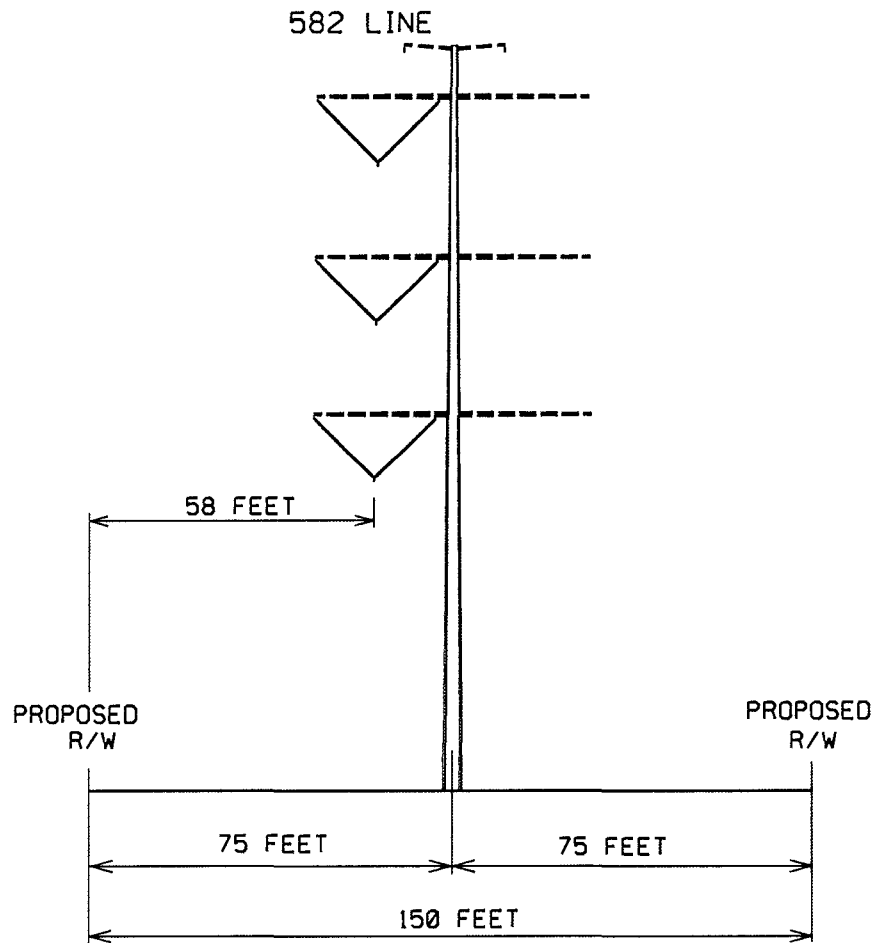
PROPOSED CONFIGURATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE :	PAINTED POLE
FOUNDATION :	EXISTING
APPROX. AVERAGE HEIGHT :	105 FEET
WIDTH AT CROSSARM :	32 FEET
WIDTH AT BASE :	5 FEET
AVERAGE SPAN LENGTH :	740 FEET
CONDUCTOR TYPE :	ALUMINUM
RIGHT-OF-WAY WIDTH :	100 FEET
APPROXIMATE LENGTH:	2.04 MILES



## **SURRY ALTERNATIVE**

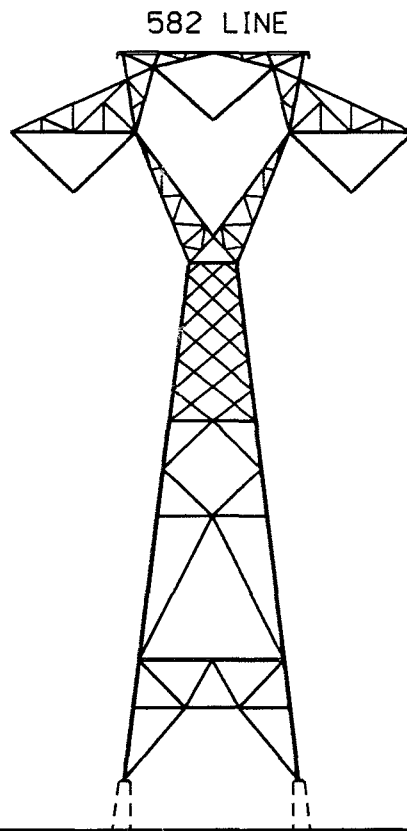
(S) MP 0.00 to 1.60

PROPOSED CONFIGURATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

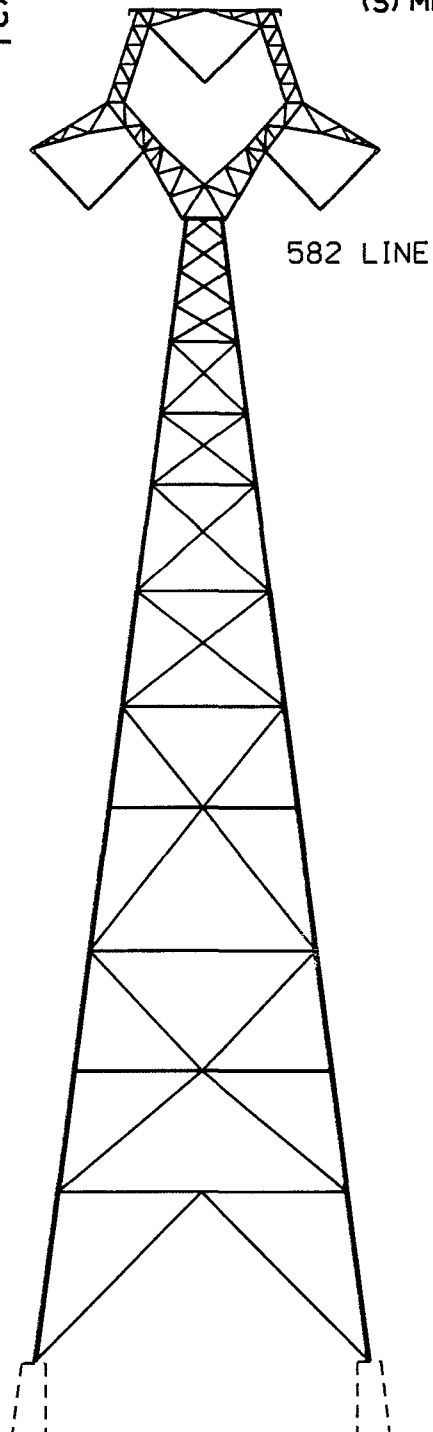
TYPE OF STRUCTURE:	GALVANIZED POLE
FOUNDATION :	PILES/CONCRETE
APPROXIMATE HEIGHT:	155 FEET
WIDTH AT CROSSARM:	60 FEET
WIDTH AT BASE:	7 FEET
AVERAGE SPAN LENGTH:	655 FEET
CONDUCTOR TYPE:	ALUMINUM
RIGHT OF WAY WIDTH:	150 FEET
APPROXIMATE LENGTH:	1.60 MILES



(S) MP 1.60 to 2.72, 3.20 to 3.90 &amp; 4.40 to 5.07

JAMES RIVER CROSSINGPROPOSED CONFIGURATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

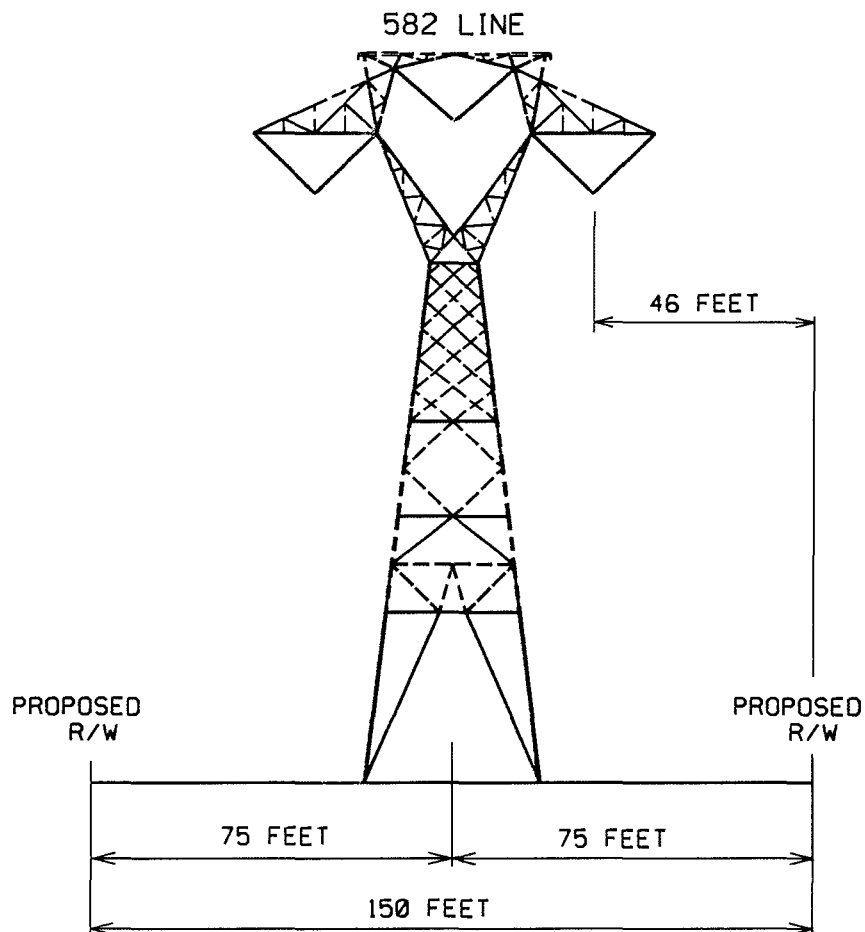
TYPE OF STRUCTURE:	GALVANIZED TOWER
FOUNDATION :	PILES/CONCRETE
APPROXIMATE HEIGHT:	160 FEET (INCLUDES FOUNDATION)
WIDTH AT CROSSARM:	84 FEET
WIDTH AT BASE:	38 FEET
AVERAGE SPAN LENGTH:	1400 FEET
CONDUCTOR TYPE:	ALUMINUM
RIGHT OF WAY WIDTH:	BY PERMIT
APPROXIMATE LENGTH:	2.49 MILES

JAMES RIVER CHANNEL CROSSING(S) MP 2.72 to 3.20  
3.90 to 4.40

TYPE OF STRUCTURE:	GALVANIZED TOWER
FOUNDATION :	PILES/CONCRETE
APPROXIMATE HEIGHT:	295 FEET (INCLUDES FOUNDATION)
AVERAGE SPAN LENGTH:	1400 FEET
CONDUCTOR TYPE:	ALUMINUM
RIGHT OF WAY WIDTH:	BY PERMIT
APPROXIMATE LENGTH:	0.98 MILES

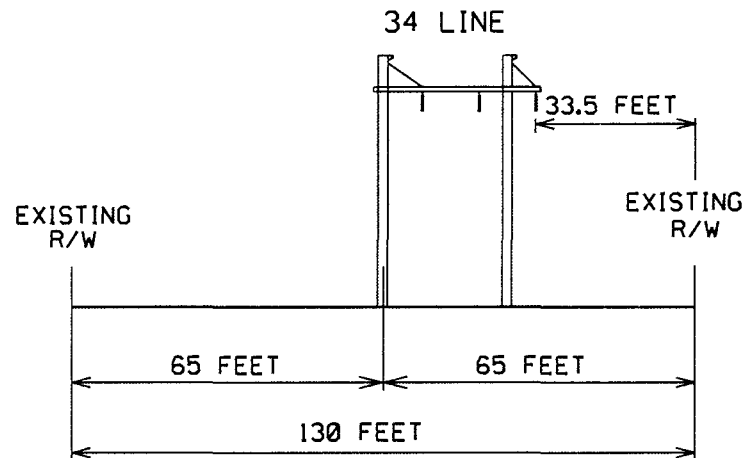


(S) MP 5.07 to 5.73

PROPOSED CONFIGURATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE:	GALVANIZED TOWER
FOUNDATION :	PILES/CONCRETE
APPROXIMATE HEIGHT:	150 FEET
WIDTH AT CROSSARM:	84 FEET
WIDTH AT BASE:	36 FEET
AVERAGE SPAN LENGTH:	1000 FEET
CONDUCTOR TYPE:	ALUMINUM
RIGHT OF WAY WIDTH:	150 FEET
APPROXIMATE LENGTH:	0.66 MILES

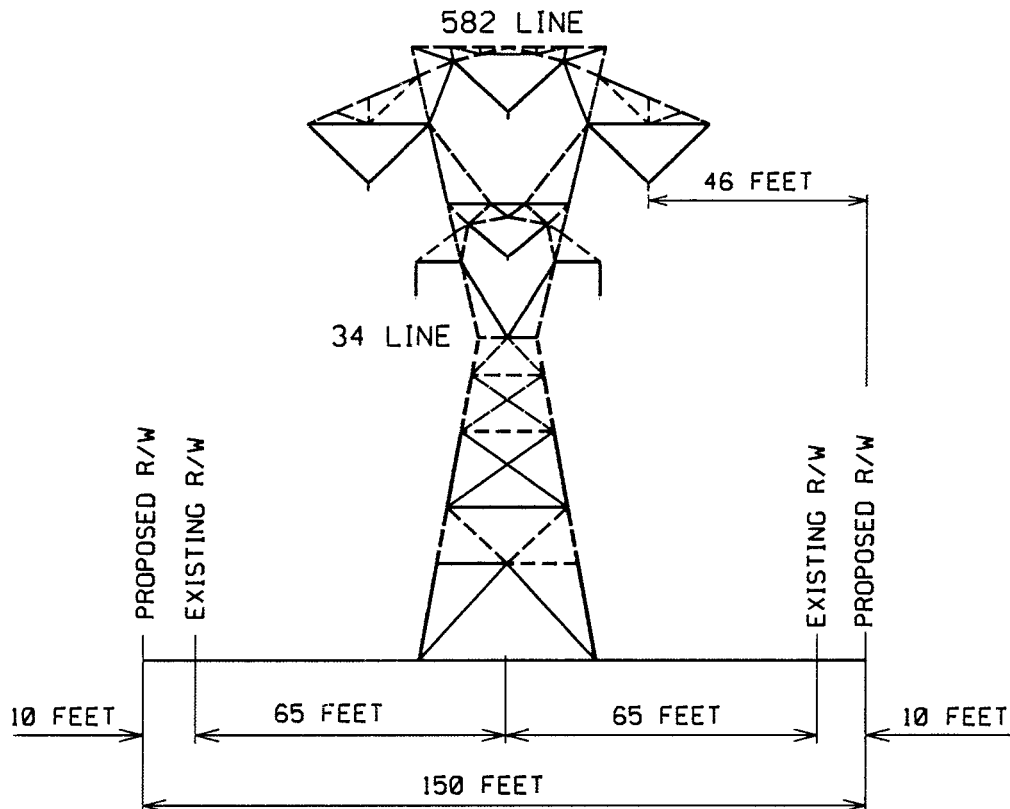
(S) MP 5.73 to 6.70

EXISTING CONFIGURATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE:	WOOD H-FRAME
FOUNDATION :	DIRECT BURIED
APPROXIMATE HEIGHT:	52 FEET
WIDTH AT CROSSARM:	34 FEET
WIDTH AT BASE:	26 FEET
AVERAGE SPAN LENGTH:	550 FEET
CONDUCTOR TYPE:	ALUMINUM
RIGHT OF WAY WIDTH:	130 FEET
APPROXIMATE LENGTH:	0.97 MILES

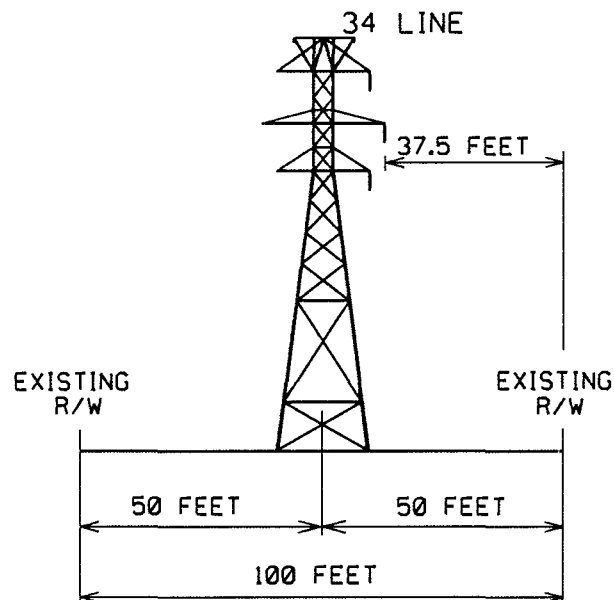


(S) MP 5.73 to 6.70

PROPOSED CONFIGURATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE:	GALVANIZED TOWER
FOUNDATION :	PILES/CONCRETE
APPROXIMATE HEIGHT:	128 FEET
WIDTH AT CROSSARM:	84 FEET
WIDTH AT BASE:	36 FEET
AVERAGE SPAN LENGTH:	1000 FEET
CONDUCTOR TYPE:	ALUMINUM
RIGHT OF WAY WIDTH:	150 FEET
APPROXIMATE LENGTH:	0.97 MILES

(S) MP 6.70 to 6.82  
7.08 to 7.21



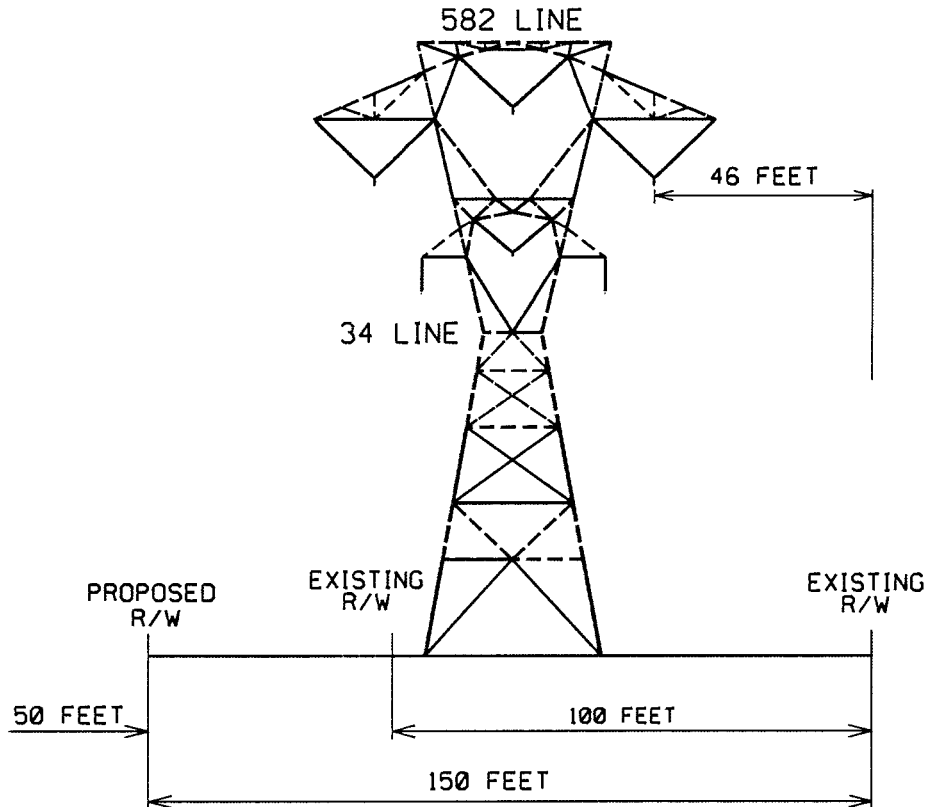
### EXISTING CONFIGURATION

### TYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE:	GALVANIZED TOWER
FOUNDATION :	EXISTING
APPROXIMATE HEIGHT:	85 FEET
WIDTH AT CROSSARM:	25.5 FEET
WIDTH AT BASE:	19.5 FEET
AVERAGE SPAN LENGTH:	690 FEET
CONDUCTOR TYPE:	ALUMINUM
RIGHT OF WAY WIDTH:	100 FEET
APPROXIMATE LENGTH:	0.25 MILES



(S) MP 6.70 to 6.82  
7.08 to 7.21

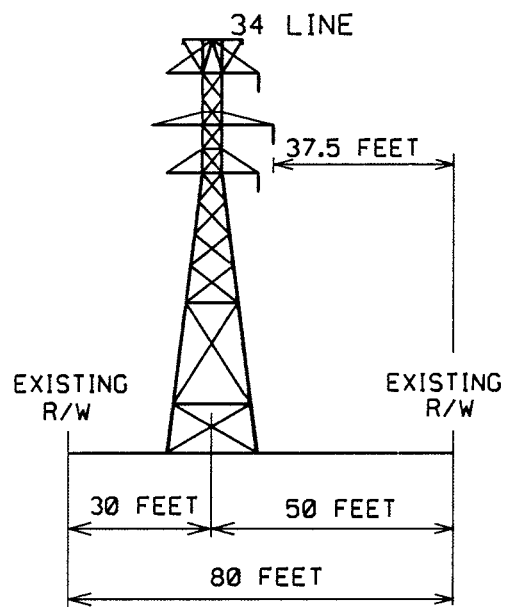


### PROPOSED CONFIGURATION

### TYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE:	GALVANIZED TOWER
FOUNDATION :	PILES/CONCRETE
APPROXIMATE HEIGHT:	128 FEET
WIDTH AT CROSSARM:	84 FEET
WIDTH AT BASE:	36 FEET
AVERAGE SPAN LENGTH:	1000 FEET
CONDUCTOR TYPE:	ALUMINUM
RIGHT OF WAY WIDTH:	150 FEET
APPROXIMATE LENGTH:	0.25 MILES

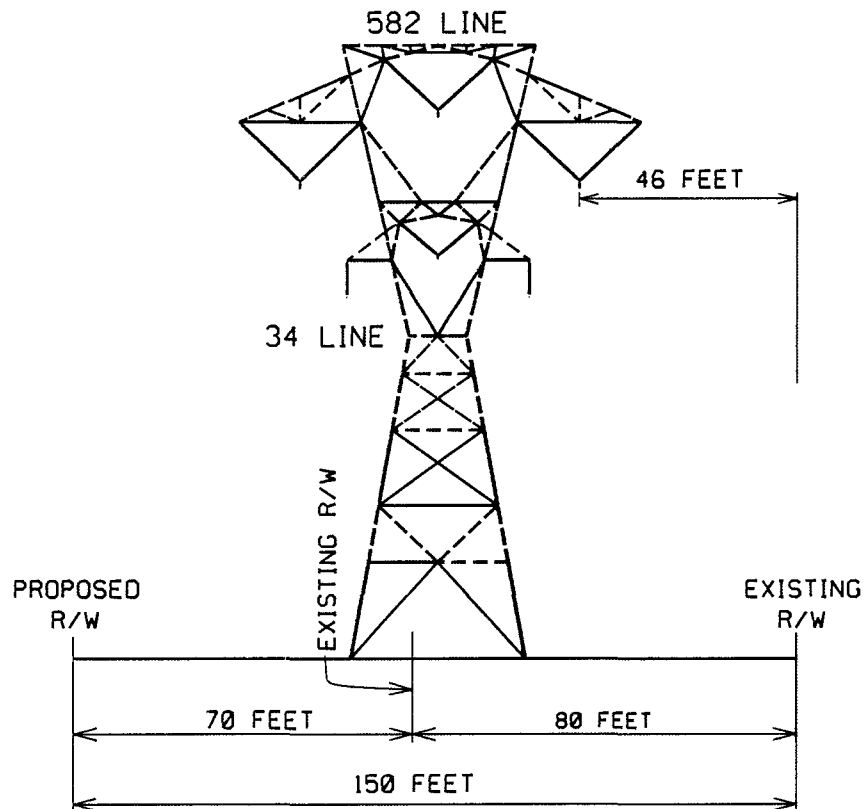
(S) MP 6.82 to 7.08

EXISTING CONFIGURATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE:	GALVANIZED TOWER
FOUNDATION :	EXISTING
APPROXIMATE HEIGHT:	85 FEET
WIDTH AT CROSSARM:	25.5 FEET
WIDTH AT BASE:	19.5 FEET
AVERAGE SPAN LENGTH:	690 FEET
CONDUCTOR TYPE:	ALUMINUM
RIGHT OF WAY WIDTH:	80 FEET
APPROXIMATE LENGTH:	0.26 MILES



(S) MP 6.82 to 7.08

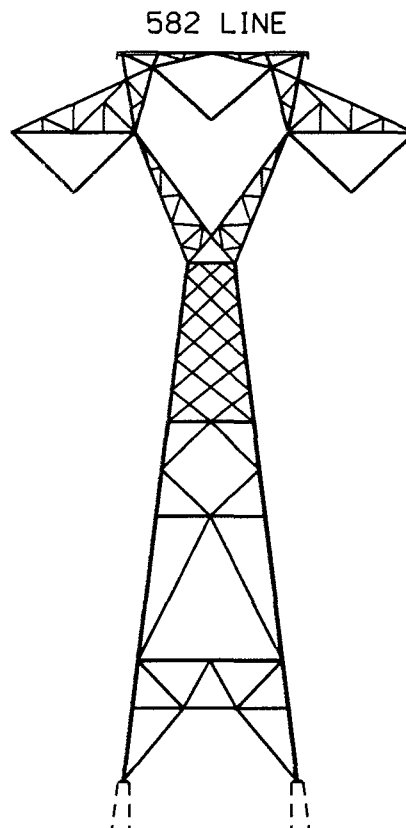
PROPOSED CONFIGURATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE:	GALVANIZED TOWER
FOUNDATION :	PILES/CONCRETE
APPROXIMATE HEIGHT:	128 FEET
WIDTH AT CROSSARM:	84 FEET
WIDTH AT BASE:	36 FEET
AVERAGE SPAN LENGTH:	1000 FEET
CONDUCTOR TYPE:	ALUMINUM
RIGHT OF WAY WIDTH:	150 FEET
APPROXIMATE LENGTH:	0.26 MILES

## JAMES RIVER CROSSING VARIATION 1



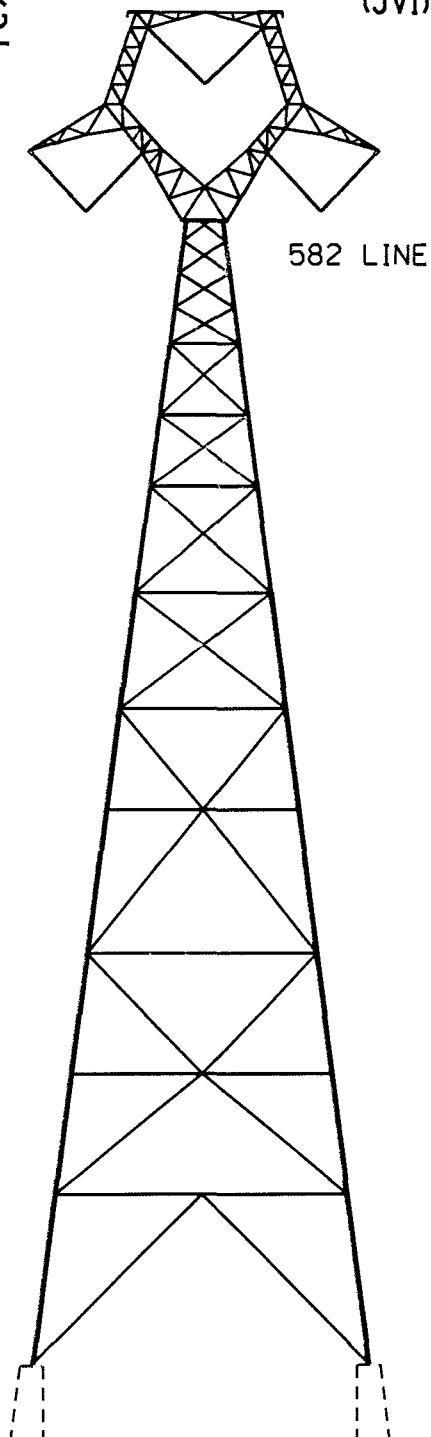
(JVI) MP 0.00 to 1.65, 2.14 to 2.95 and 3.35 to 4.00

JAMES RIVER CROSSINGPROPOSED VARIATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE:	GALVANIZED TOWER
FOUNDATION :	PILES/CONCRETE
APPROXIMATE HEIGHT:	160 FEET (INCLUDES FOUNDATION)
WIDTH AT CROSSARM:	84 FEET
WIDTH AT BASE:	38 FEET
AVERAGE SPAN LENGTH:	1000 FEET
CONDUCTOR TYPE:	ALUMINUM
RIGHT OF WAY WIDTH:	BY PERMIT
APPROXIMATE LENGTH:	3.11 MILES

JAMES RIVER CHANNEL CROSSING

(JVI) MP 1.65 to 2.14

VARIATION

TYPE OF STRUCTURE:

GALVANIZED TOWER

FOUNDATION :

PILES/CONCRETE

APPROXIMATE HEIGHT:

295 FEET (INCLUDES FOUNDATION)

AVERAGE SPAN LENGTH:

1575 FEET

CONDUCTOR TYPE:

ALUMINUM

RIGHT OF WAY WIDTH:

BY PERMIT

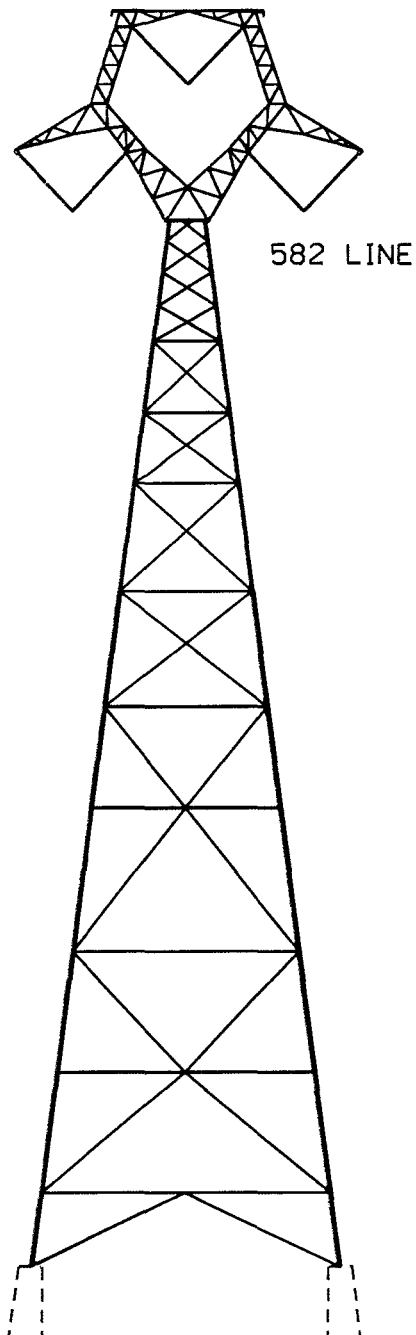
APPROXIMATE LENGTH:

0.49 MILES



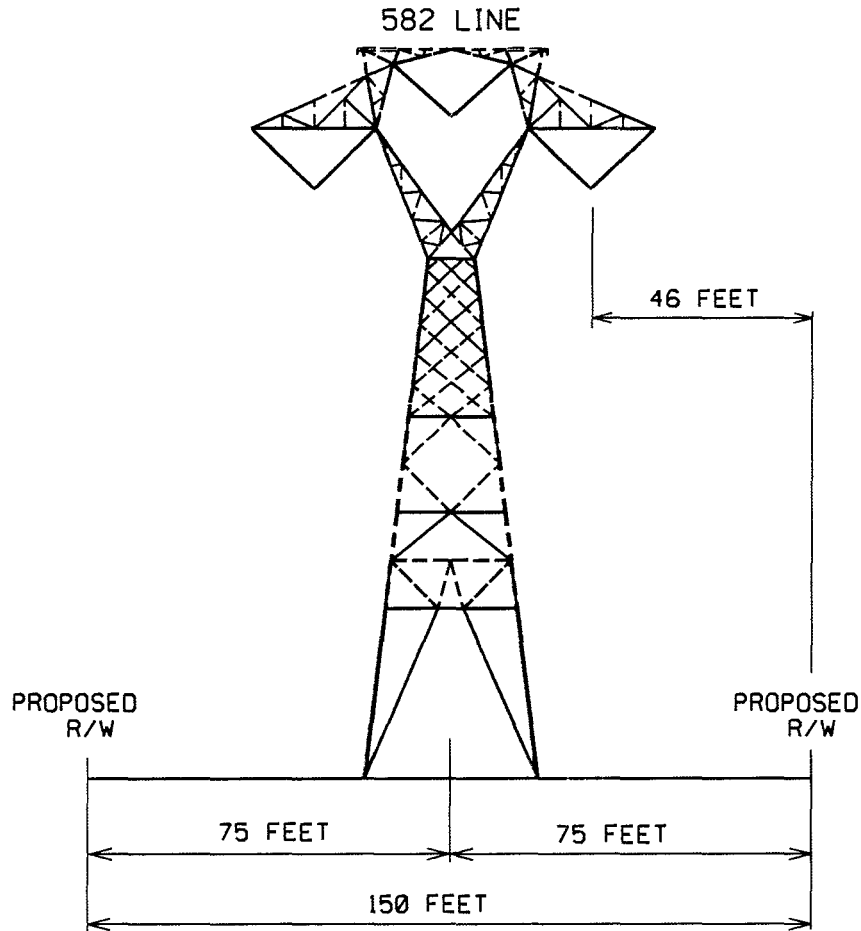
JAMES RIVER CHANNEL CROSSING

(JVI) MP 2.95 to 3.35

VARIATION

TYPE OF STRUCTURE:	GALVANIZED TOWER
FOUNDATION :	PILES/CONCRETE
APPROXIMATE HEIGHT:	275 FEET (INCLUDES FOUNDATION)
AVERAGE SPAN LENGTH:	1575 FEET
CONDUCTOR TYPE:	ALUMINUM
RIGHT OF WAY WIDTH:	BY PERMIT
APPROXIMATE LENGTH:	0.40 MILES

(JVI) MP 4.00 to 4.04

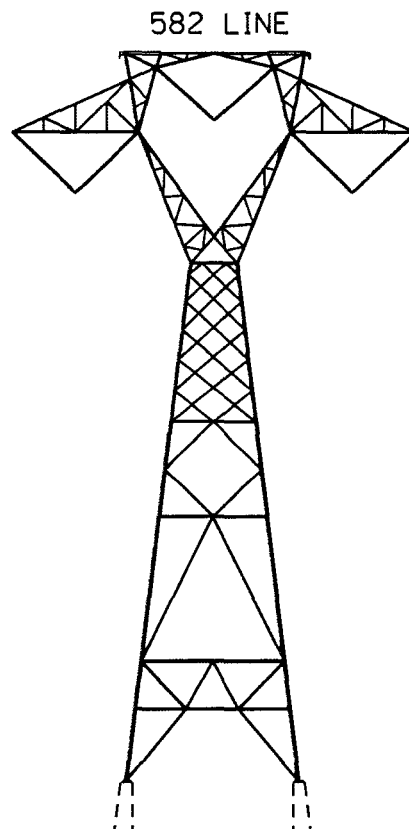
PROPOSED VARIATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE:	GALVANIZED TOWER
FOUNDATION :	PILES/CONCRETE
APPROXIMATE HEIGHT:	150 FEET
WIDTH AT CROSSARM:	84 FEET
WIDTH AT BASE:	36 FEET
AVERAGE SPAN LENGTH:	1000 FEET
CONDUCTOR TYPE:	ALUMINUM
RIGHT OF WAY WIDTH:	150 FEET
APPROXIMATE LENGTH:	0.04 MILES



## JAMES RIVER CROSSING VARIATION 2

(JV2) MP 0 to 1.17, 1.66 to 2.55 &amp; 3.00 to 3.72

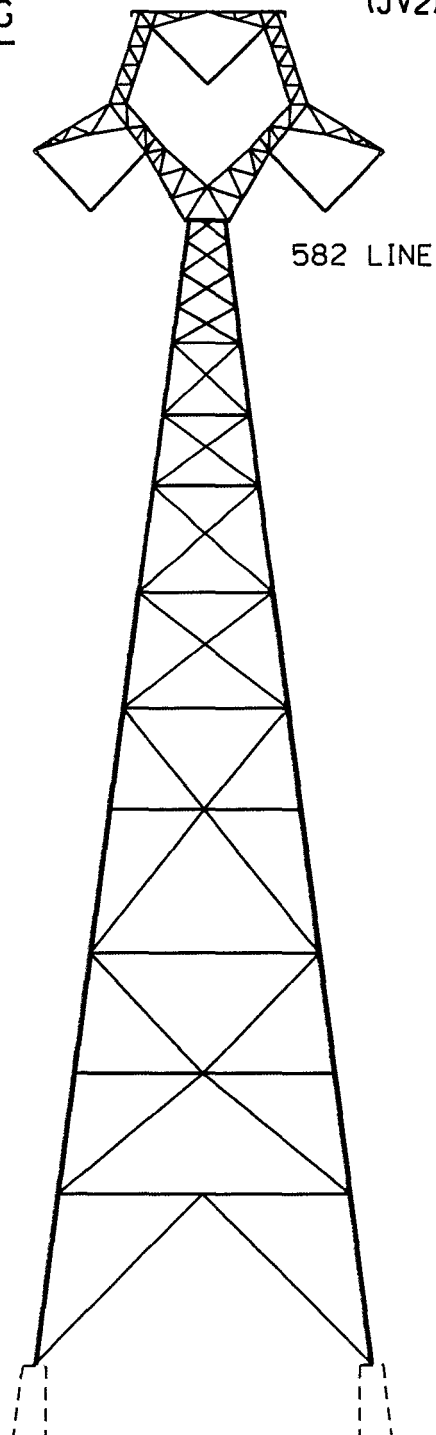
JAMES RIVER CROSSINGPROPOSED CONFIGURATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE:	GALVANIZED TOWER
FOUNDATION :	PILES/CONCRETE
APPROXIMATE HEIGHT:	160 FEET (INCLUDES FOUNDATION)
WIDTH AT CROSSARM:	84 FEET
WIDTH AT BASE:	38 FEET
AVERAGE SPAN LENGTH:	1400 FEET
CONDUCTOR TYPE:	ALUMINUM
RIGHT OF WAY WIDTH:	BY PERMIT
APPROXIMATE LENGTH:	2.78 MILES



JAMES RIVER CHANNEL CROSSING

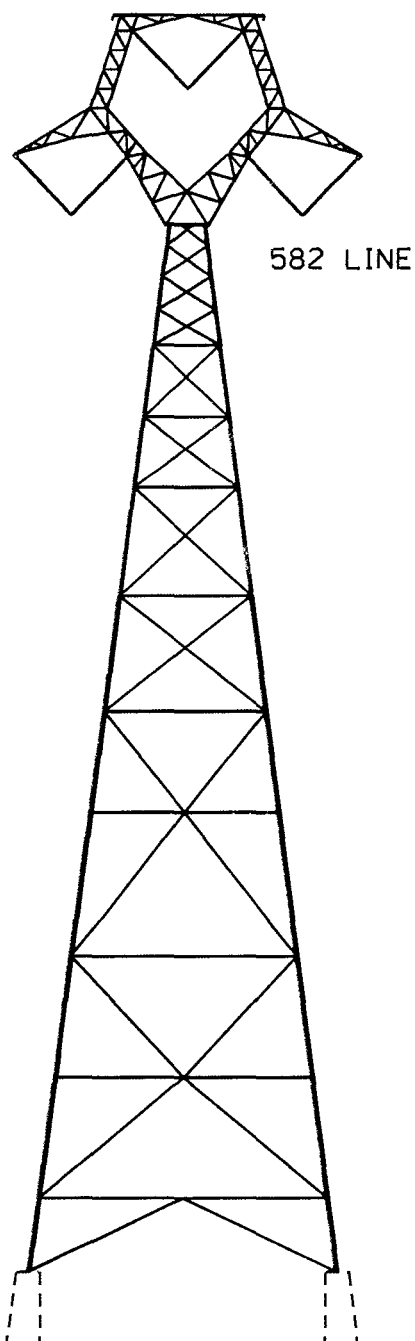
(JV2) MP 1.17 to 1.66



TYPE OF STRUCTURE:	GALVANIZED TOWER
FOUNDATION :	PILES/CONCRETE
APPROXIMATE HEIGHT:	295 FEET (INCLUDES FOUNDATION)
AVERAGE SPAN LENGTH:	1400 FEET
CONDUCTOR TYPE:	ALUMINUM
RIGHT OF WAY WIDTH:	BY PERMIT
APPROXIMATE LENGTH:	0.49 MILES

JAMES RIVER CHANNEL CROSSING

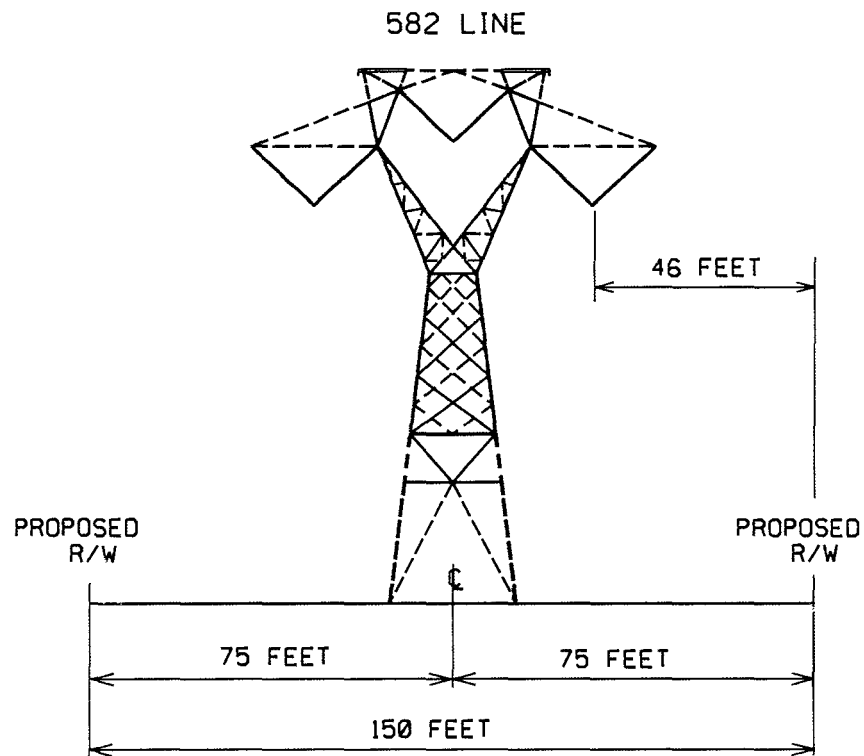
(JV2) MP 2.55 to 3.00



TYPE OF STRUCTURE:	GALVANIZED TOWER
FOUNDATION :	PILES/CONCRETE
APPROXIMATE HEIGHT:	275 FEET (INCLUDES FOUNDATION)
AVERAGE SPAN LENGTH:	1400 FEET
CONDUCTOR TYPE:	ALUMINUM
RIGHT OF WAY WIDTH:	BY PERMIT
APPROXIMATE LENGTH:	0.45 MILES

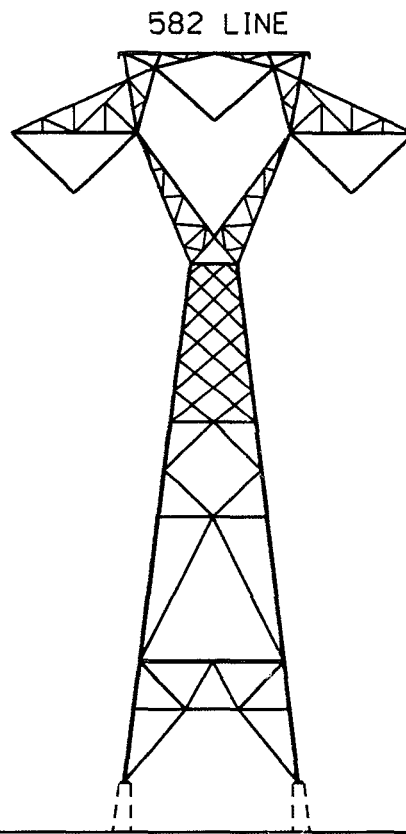


(JV2) MP 3.72 to 4.52

PROPOSED CONFIGURATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE:	GALVANIZED TOWER
FOUNDATION :	PILES/CONCRETE
APPROXIMATE HEIGHT:	111 FEET
WIDTH AT CROSSARM:	84 FEET
WIDTH AT BASE:	27 FEET
AVERAGE SPAN LENGTH:	835 FEET
CONDUCTOR TYPE:	ALUMINUM
RIGHT OF WAY WIDTH:	150 FEET
APPROXIMATE LENGTH:	0.80 MILES

(JV3) MP 0 to 1.47, 1.96 to 2.90 &amp; 3.35 to 4.05

JAMES RIVER CROSSINGPROPOSED CONFIGURATIONTYPICAL RIGHT OF WAY LOOKING TOWARD SKIFFES CREEK

TYPE OF STRUCTURE:	GALVANIZED TOWER
FOUNDATION :	PILES/CONCRETE
APPROXIMATE HEIGHT:	160 FEET (INCLUDES FOUNDATION)
WIDTH AT CROSSARM:	84 FEET
WIDTH AT BASE:	38 FEET
AVERAGE SPAN LENGTH:	1190 FEET
CONDUCTOR TYPE:	ALUMINUM
RIGHT OF WAY WIDTH:	BY PERMIT
APPROXIMATE LENGTH:	3.11 MILES



**APPENDIX B: PREVIOUSLY RECORDED ARCHITECTURAL RESOURCES WITHIN A  
0.5 MILE BUFFER**

**Appendix B: Previously Recorded Architectural Resources Within a 0.5-Mile of the Chickahominy Alternative**

VDHR #	Resource Type	Date	Reference	VDHR/NRHP Status	CRI Recommendation For Visual Effects
018-0018	Poplar Springs	1809	Gordineer 1994	NRHP Listed 1994	Visual Effect Assessment as Required under Guidelines
018-0038	Cary Hill	Post 1750	Edwards 1989	Not Evaluated	No Further Work
018-0063	Piney Grove	1800	Gordineer 1985	NRHP Listed 1985	Visual Effect Assessment as Required under Guidelines
018-0066	Moss Side	1850	Edwards 1987	Eligible VDHR 1991	Visual Effect Assessment as Required under Guidelines
018-0067	Meadow Spring	c. 1770	Edwards 1987	Not Evaluated	No Further Work
018-0090	J.K. Wynne Farm	c. 1870	Edwards 1989	Not Evaluated	No Further Work
018-0091	Meredith Holmes House	c. 1930	Edwards 1989	Not Evaluated	No Further Work
018-0132	Ella Mae Jones House & Store	c. 1900	Edwards 1989	Not Evaluated	No Further Work
018-0133	Cedar Grove Church	c. 1920	Edwards 1989	Not Evaluated	No Further Work
018-0134	House, Rt. 618	c. 1900	Edwards 1989	Not Evaluated	No Further Work
018-0137	Green Yard	c. 1870	Edwards 1989	Not Evaluated	No Further Work
018-0152	Store, Rt. 155	c. 1900	Edwards 1989	Not Evaluated	No Further Work
018-0159	Charles City Methodist Episcopal Chapel	No Date	No Information	Not Evaluated	No Further Work
018-0187	Gill's House & Store	c. 1910	Edwards 1989	Not Evaluated	No Further Work
018-0204	Mount Airy	1847	Edwards 1989	Not Evaluated	No Further Work
018-0205	Fellowship Hunting Lodge	c. 1900	Edwards 1989	Not Evaluated	No Further Work
018-0207	Walker House	c. 1870	Edwards 1989	Not Evaluated	No Further Work
018-5004	Saint Mary's Church Battlefield (Samaria Church)	1864	CWSAC 1993	Eligible ABBP-2007	Visual Effect Assessment as Required under Guidelines
018-5101	Old Main Road Rural Historic District	Post 1800	Edwards 1989	Not Evaluated	Visual Effect Assessment as Required under Guidelines
047-0001	Carter's Grove	c. 1750	VHLC 1969	NRHP-Listed 1969; NHL-Listed 1970	Visual Effect Assessment as Required under Guidelines
047-0002	Colonial National Historic Park/Colonial Parkway	Post 1931	Not Listed	NRHP-Listed 1966	Visual Effect Assessment as Required under Guidelines



**Appendix B: Previously Recorded Architectural Resources Within a 0.5-Mile of the Chickahominy Alternative**

VDHR #	Resource Type	Date	Reference	VDHR/NRHP Status	CRI Recommendation For Visual Effects
047-0005	Ewell Plantation (Ewell Hall)	c. 1858	Wiggins 1958; Loth 1970; Del Sordo 2001	Not Evaluated	No Further Work
047-0040	Jones Store, 8569 Pocahontas Trail	No Date	Stephenson 1997	Not Eligible 2001	No Further Work
047-0052	Confederate Peninsula Defense-Fort 6	1862	Chappell 1971	Not Evaluated	No Further Work
047-0069	Lane Farm (Lilliput)	c. 1750	Chappell 1972; Upton 1976	Not Evaluated	No Further Work
047-0101	Ashby House	1920	WMCAR	Not Evaluated	No Further Work
047-0102	Burr House	1920	WMCAR	Not Evaluated	No Further Work
047-0103	Roadside Cafe	1945	WMCAR	Not Evaluated	No Further Work
047-0104	Harrod House	1930	WMCAR	Not Evaluated	No Further Work
047-0105	Lee House	1920	WMCAR	Not Evaluated	No Further Work
047-0106	Grove Barber Shop	1940	WMCAR	Not Evaluated	No Further Work
047-0107	House, Rt. 60	1945	WMCAR	Not Evaluated	No Further Work
047-0108	Warren Old Lee Homestead	c. 1900	WMCAR 1996	Not Evaluated	No Further Work
047-0109	Hailey's Estate	c. 1900	WMCAR 1996	Not Evaluated	No Further Work
047-0110	Mt. Gilead Baptist Church	1944	WMCAR 1996	Not Evaluated	No Further Work
047-0111	House, Route 60	1945	WMCAR 1996	Not Evaluated	No Further Work
047-0113	Sherry House	c. 1930	WMCAR 1996	Not Evaluated	No Further Work
047-0117	Wright House	1920	WMCAR	Not Evaluated	No Further Work
047-5046	Corby S. Rogers House	c. 1900	Griffitts 1999	Not Eligible 2001	No Further Work
047-5047	Thomas Lee House	1947	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5048	Rosa Travis House	c. 1945	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5049	Sally Blondell Lee House	1940	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5050	Sanford/Johnson House	c. 1900	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5055	Margaret Scarborough House, 8750 Pocahontas Trail	c. 1900	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5056	Henry Arndt House, 8792 Pocahontas Trail	1947	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5057	Rose Marie Hall House #1, 8820 Pocahontas Trail	c. 1930	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5058	Rose Marie Hall House #2, 8838 Pocahontas Trail	c. 1930	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5059	Spray King Car Wash, 8956 Pocahontas Trail	1942	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5060	David Short House, 8978 Pocahontas Trail	c. 1900	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5065	Old Capital Lodge 629	c. 1925	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work

**Appendix B: Previously Recorded Architectural Resources Within a 0.5-Mile of the Chickahominy  
Alternative**

<b>VDHR #</b>	<b>Resource Type</b>	<b>Date</b>	<b>Reference</b>	<b>VDHR/NRHP Status</b>	<b>CRI Recommendation For Visual Effects</b>
047-5066	Maurice Peterson House	1944	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5067	W.H. Washington House	c. 1950	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5068	Barbara Givens House	1939	Griffitts 1999	Not Eligible 2001	No Further Work
047-5069	Harvey Johnson House	1936	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5070	Coretha Johnson House	c. 1900	Griffitts 1999	Not Eligible 2001	No Further Work
047-5071	Herman Washington House	1927	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5072	Marlon Cowles House, 163 Howard St	c. 1900	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5073	Redell Roberts House	1936	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5074	Margaret Carpenter House	1903	Griffitts 1999	Not Eligible 2001	No Further Work
047-5075	Herman Washington House #2	c. 1900	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5076	Grace Radcliffe House	c. 1900	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5077	Clyde Roberts House	1946	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5078	Shelley Lee House	1945	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5079	James Banks House	c. 1900	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5080	Alfred Jackson House	c. 1900	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5081	George Wallace House	1948	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5082	Martha Tucher House	1945	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5083	Irving Wright House	c. 1900	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5084	Elise Wright House	c. 1900	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5085	Pearl Jackson House	c. 1900	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5086	Geraldine Ward House	c. 1900	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5087	Beverly Shearin House, 109 Grove Heights	1905	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5088	James Bird House	1948	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5089	Evangelina Bishop House	1949	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5090	Edward Dodds House	1948	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work



**Appendix B: Previously Recorded Architectural Resources Within a 0.5-Mile of the Chickahominy Alternative**

VDHR #	Resource Type	Date	Reference	VDHR/NRHP Status	CRI Recommendation For Visual Effects
047-5091	Irene Lee House #1	c. 1900	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5092	Irene Lee House #2	1942	Griffitts 1999; Moyer 2007	Not Eligible 2001	No Further Work
047-5110	House, 154 Howard St	c. 1900	Griffitts 1999; Moyer 2007	Not Evaluated	No Further Work
047-5121	L.L. Hunt Club (Grove School/William Palmer House)	c. 1900	VDOT 1999; Del Sordo 1999; Wellford 2006; Moyer 2007	Not Eligible	No Further Work
047-5124	Board & Batten House, 8569 Pocahontas Trail	c. 1930	Del Sordo 1999; Moyer 2007	Not Evaluated	No Further Work
047-5125	Grove Store	c. 1940	Del Sordo 1999; Moyer 2007	Not Evaluated	No Further Work
047-5126	Rear Tenant House, 8569 Pocahontas Trail	c. 1940	Del Sordo 1999; Moyer 2007	Not Evaluated	No Further Work
047-5127	White Cottage, 8569 Pocahontas Trail	c. 1940	Del Sordo 1999; Moyer 2007	Not Evaluated	No Further Work
047-5129	Morning Star Baptist Church	1930	Griffitts 1999; MAAR 1999; Moyer 2007	Not Eligible	No Further Work
047-5192	House, 6361 Centerville Road	c. 1900	MAAR 2000; Moyer 2007	Not Evaluated	No Further Work
047-5233	House, 5917 Centerville Road	c. 1895	Del Sordo 2000; JRIA 2005	Not Eligible VDHR 2006	No Further Work
047-5295	House, 6068 Centerville Road	c. 1920	Moyer 2007	Not Evaluated	No Further Work
047-5296	House, Centerville Road	c. 1930	Moyer 2007	Not Evaluated	No Further Work
047-5310	House, 8800 Pocahontas Trail	c. 1970	Circa 2010	Not Evaluated	No Further Work
099-0038	Confederate Peninsular Defenses Fort 7	No Date	Chappell 1971	Not Evaluated	No Further Work
099-0039	Confederate Peninsular Defenses Fort 8	No Date	Chappell 1971	Not Evaluated	No Further Work
099-0040	Confederate Peninsular Defenses Fort 9 (Redoubt #9)	c. 1862	Chappell 1971	NRHP-Eligible 2009	Demolished; No Further Work
099-0041	Confederate Peninsular Defenses Fort 10	No Date	Chappell 1971	Not Evaluated	No Further Work
099-0064	Hubbard Lane Site	No Date	Not Listed	Not Evaluated	No Further Work



**Appendix B: Previously Recorded Architectural Resources Within a 0.5-Mile of the Chickahominy Alternative**

VDHR #	Resource Type	Date	Reference	VDHR/NRHP Status	CRI Recommendation For Visual Effects
099-0065	Bryan Manor Plantation Site	c. 1757	WMCAR 1977	NRHP-Listed 1978	Visual Effect Assessment as Required under Guidelines
099-0122	Mershon Farm, Route 60	c. 1910	Boyd 1996	Not Evaluated	No Further Work
099-5001	Hogge House, 1995 Merrimac Trail	1900	Stephenson 1997	Not Eligible 1997	No Further Work
099-5002	Dodrill House, 1997 Merrimac Trail	1920	Stephenson 1997	Not Eligible 1997	No Further Work
099-5003	Hogge House & Woodworks, 1999 Merrimac Trail	1948	Stephenson 1997	Not Eligible 1997	No Further Work
099-5006	Bridge #2005, I-64 spanning Colonial Parkway	No Date	Not Listed	Not Evaluated	No Further Work
099-5007	Bridge #2006, I-64 spanning Colonial Parkway	No Date	Not Listed	Not Evaluated	No Further Work
099-5091	Oak Grove Baptist Church	c. 1925	Not Listed	Not Evaluated	No Further Work
099-5092	House, Waller Mill Rd	c. 1920	Not Listed	Not Evaluated	No Further Work
099-5093	House, Waller Mill Rd	1934	Not Listed	Not Evaluated	No Further Work
099-5094	House, Penniman Rd	1947	Not Listed	Not Evaluated	No Further Work
099-5095	House, Penniman Rd	1920	Not Listed	Not Evaluated	No Further Work
099-5096	Semple Farm House	1890	Not Listed	Not Evaluated	No Further Work
099-5097	Heritage Free Will Baptist Church	c. 1925	Not Listed	Not Evaluated	No Further Work
099-5098	House, Queens Creek Rd	c. 1870	Not Listed	Not Evaluated	No Further Work
099-5099	House, 450 Queens Creek Rd	c. 1905	Not Listed	Not Evaluated	No Further Work
099-5100	House, 450-B Queens Creek Rd	c. 1935	Not Listed	Not Evaluated	No Further Work
099-5101	House, 458 Queens Creek Rd	1945	Not Listed	Not Evaluated	No Further Work
099-5102	House, 1373 Penniman Rd	c. 1890	Not Listed	Not Evaluated	No Further Work
099-5103	Randall House, 1445 Penniman Rd	1936	Traver 1999; Clarke 2010	Not Eligible 2010	No Further Work
099-5153	Jacobson Farm	c. 1880	Not Listed	Not Evaluated	No Further Work
099-5154	House, Queens Creek Rd	1919	Not Listed	Not Evaluated	No Further Work
099-5158	Melvin Parker House, 2427 Pocahontas Trail	c. 1935	Not Listed	Not Eligible 2001	No Further Work
099-5167	Water Filtration Plant	1944	Not Listed	Not Evaluated	No Further Work
099-5177	Bridge, Route 143, Queens Creek	1944	Not Listed	Not Evaluated	No Further Work
099-5178	House, Waller Mill Road	1941	Not Listed	Not Evaluated	No Further Work
099-5217	Arthur Minkins House, 2431 Pocahontas Trail	c. 1925	Griffitts 1999	Not Eligible 2001	No Further Work



**Appendix B: Previously Recorded Architectural Resources Within a 0.5-Mile of the Chickahominy Alternative**

VDHR #	Resource Type	Date	Reference	VDHR/NRHP Status	CRI Recommendation For Visual Effects
099-5218	Terrance A. Cleary House, 2429 Pocahontas Trail	1941	Griffitts 1999	Not Eligible 2001	No Further Work
099-5219	Gerald L. Stewart House, 2425 Pocahontas Tr	c. 1930	Griffitts 1999	Not Eligible 2001	No Further Work
099-5241	Yorktown and Yorktown Battlefield (Colonial National Monument/ Historical Park)	Post 1691	Sundberg 1991	Potentially Eligible 2007	No Further Work
099-5261	House, 1311 Penniman Rd	1953	Cook 2005	Not Eligible 2005	No Further Work
099-5262	House, 1313 Penniman Rd	1932	Cook 2005	Not Eligible 2005	No Further Work
099-5263	House, 1315 Penniman Rd	c. 1951	Cook 2005	Not Eligible 2005	No Further Work
099-5273	Bryan-Lee Cemetery, situated between State Highway 64 and Panther Paw Place	c. 1760	Fesler 2006	Not Evaluated	No Further Work
099-5275	Burwell's Mill/ Whittaker's Mill Archaeological Site	c. 1720	Quarstein 2007	NRHP-Listed 2008	Visual Effect Assessment as Required under Guidelines
099-5282	Battle of Williamsburg (Civil War)	1862	NPS 1993 and 2009; Tyrer 2011	Not Evaluated	No Further Work
099-5295	House, 1453 Pennimen Rd	1922	Clarke 2010	Not Eligible 2011	No Further Work
137-0056	Capitol Landing/ Queen Mary's Port, Capitol Landing Rd.	c. 1699	Hudgins 1977	VLR-Listed 1977	Archaeology Site Only; Visual Assessment not Applicable
137-0081	House, 1037 Capitol Landing Road	1920	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0082	House, 1038 Capitol Landing Road	1850	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0083	House, 1031 Capitol Landing Road	1920	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0084	The Beeches, 1030 Capitol Landing Rd.	1910	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0085	House, 1018 Capitol Landing Road	1940	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0086	House, 1011 Capitol Landing Road	1919	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0087	House, 1009 Capitol Landing Road	1940	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0088	Motel Rochambeau, 929 Capitol Landing Rd.	1940	Frazier Assoc. 1992	Not Evaluated	No Further Work

**Appendix B: Previously Recorded Architectural Resources Within a 0.5-Mile of the Chickahominy Alternative**

VDHR #	Resource Type	Date	Reference	VDHR/NRHP Status	CRI Recommendation For Visual Effects
137-0089	House, 908 Capitol Landing Road	1930	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0090	House, 819 Capitol Landing Road	1940	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0091	House, 811 Capitol Landing Road	1920	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0092	House, 806 Capitol Landing Road	1939	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0093	House, 805 Capitol Landing Road	1915	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0094	Pocahontas Motel, 800 Capitol Landing Rd.	1939	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0118	House, 505 Parkway Drive	1940	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0119	House, 503 Parkway Drive	1936	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0120	House, 703 Page Street	1890	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0121	House, 109 Jefferson Street	1938	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0129	House, 708 Monumental Street	1941	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0130	House, 710 Monumental Street	1940	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0131	House, 714 Monumental Street	1941	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0132	House, 5 Grove Avenue	1941	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0133	House, 7 Grove Avenue	1941	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0141	House, 717 Hamilton Street	1939	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-0450	House, 1002 Capitol Landing Road	1880	Frazier Assoc. 1992	Not Evaluated	No Further Work
137-5013	Bridge #1804, Routes 31 and 5, Colonial Parkway	No Date	Not Listed	Not Evaluated	No Further Work
137-5014	Bridge #1811, Rt 143, Colonial Parkway	No Date	Not Listed	Not Evaluated	No Further Work
137-5020	Colonial Parkway Bridge, Rt 163	No Date	Not Listed	Not Evaluated	No Further Work
137-5031	Campsite of Rochambeau's Forces in Williamsburg	1781	Selig 2008	Not Evaluated	No Further Work
137-5032	Continental Army Campsite in Williamsburg	1781	Selig 2008	Not Evaluated	No Further Work

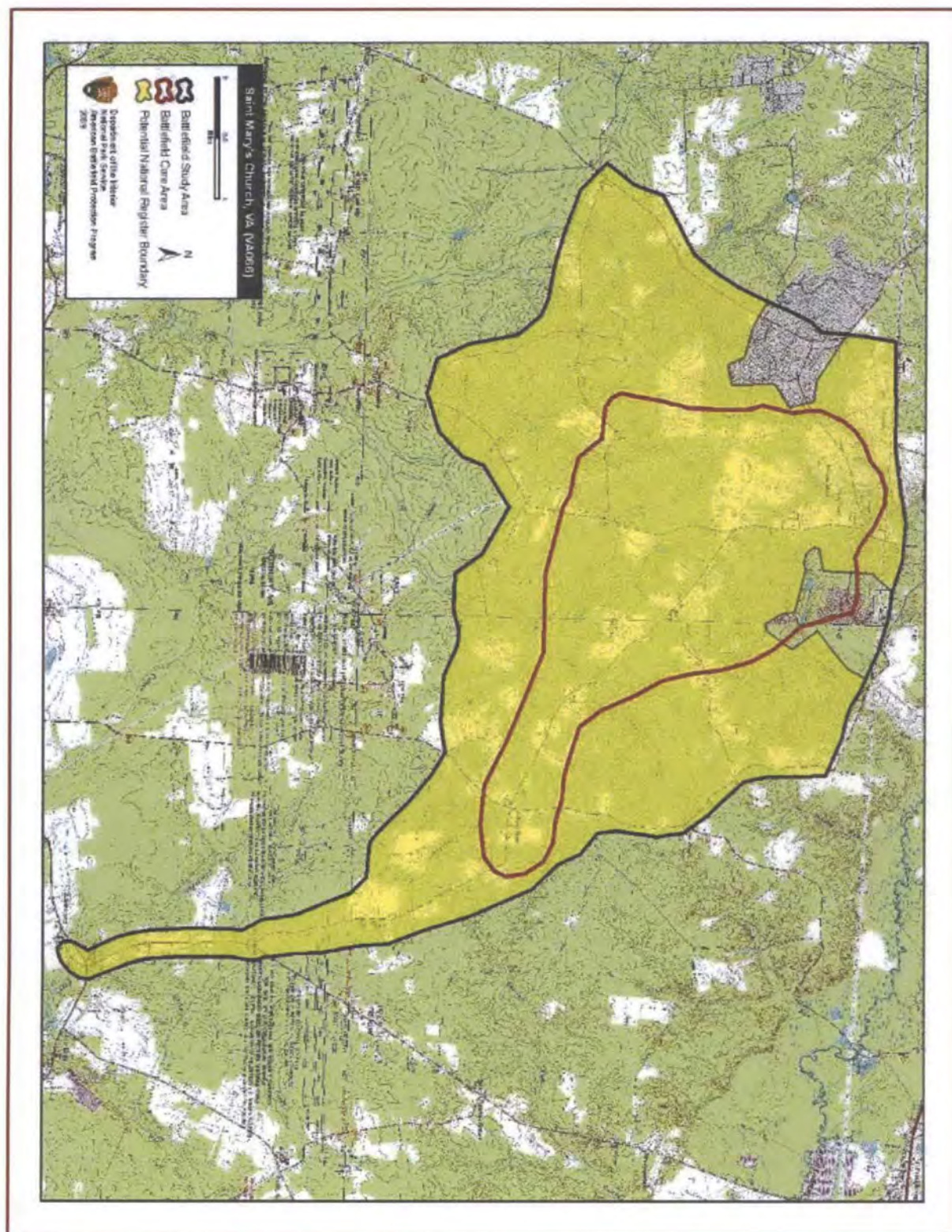


**Appendix B: Previously Recorded Architectural Resources Within a 0.5-Mile of the Surry Alternative and James River Crossing Variations**

VDHR #	Resource Type	Date	Reference	VDHR/NRHP Status
047-0001	Carter's Grove	c. 1750	VHLC 1969	NRHP-Listed 1969; NHL-Listed 1970
047-0015	Poplar Hall	N/A	N/A	Demolished; Not Eligible
047-0113	Sherry House	c. 1940	WMCAR 1996	Not Evaluated
047-5057	Rose Marie Hall House #1, 8820 Pocahontas Trail			Not Eligible
047-5058	Rose Marie Hall House #2, 8838 Pocahontas Tr			Not Eligible
047-5059	Spray King Car Wash, 8956 Pocahontas Trail	1942	Griffitts 1999; Moyer 2007	Not Eligible 2001
047-5060	David Short House, 8978 Pocahontas Trail	c. 1900	Griffitts 1999; Moyer 2007	Not Eligible 2001
047-5061	Robert Anderson House, 8995 Pocahontas Tr			Not Eligible
047-5129	Morning Star Baptist Church	1930	Griffitts 1999; MAAR 1999; Moyer 2007	Not Eligible
047-5307	Artillery Landing Site at Trebell's Landing			also 000-9800-0094
047-5310	House, 8800 Pocahontas Trail			
090-0026	Lawnes Creek Church Site (Archaeological Site)	Unknown	MacCord 1967	Not Evaluated
090-0027	Brick Kiln (Drewry) (Archaeological Site)	Unknown	MacCord 1967	Not Evaluated
090-0121	Hog Island Wildlife Management Area and Buildings	Varied	Schwab 1992	Not Evaluated

## **APPENDIX C: ABPP MAPPING FOR BATTLEFIELD SITES**



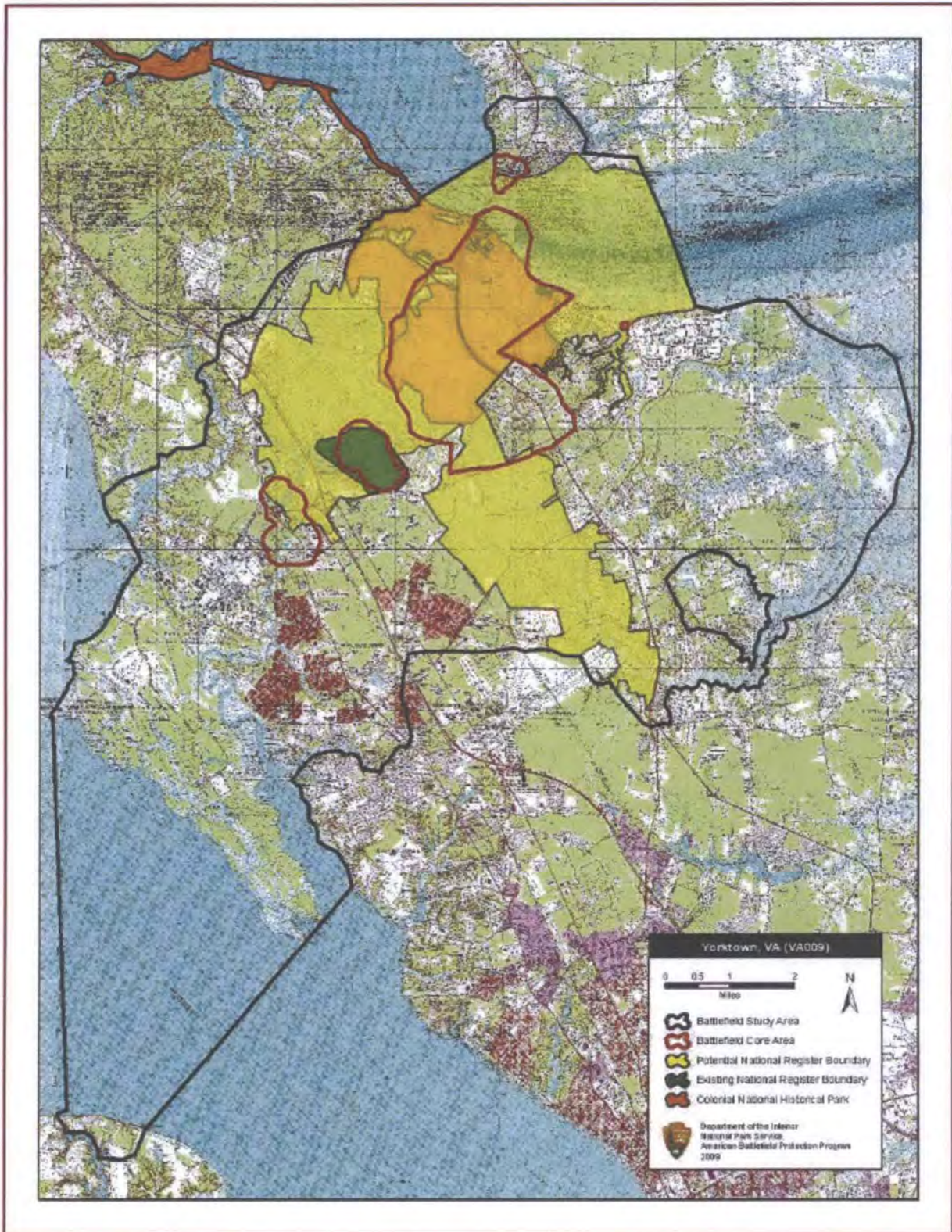


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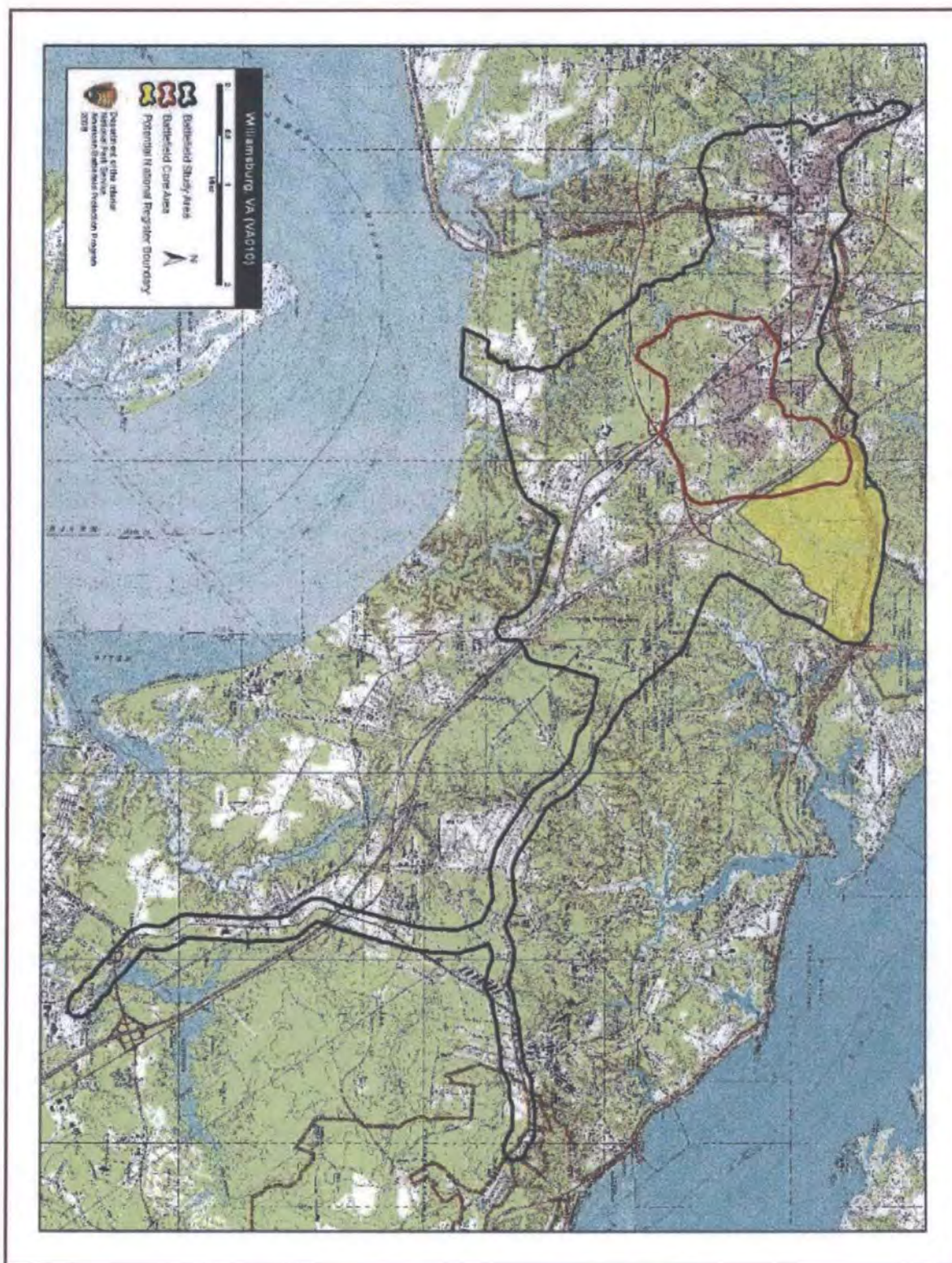
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Appendix C.1: ABPP Map of the Saint Mary's Church Battlefield (ABPP 2009).









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Appendix C.3: ABPP Mapping for the Williamsburg Battlefield (ABPP 2009).