counties were rapidly abandoning tobacco in the post-Revolutionary era, this staple crop was becoming even more dominant in Southside, including Lunenburg County. By 1840, the region was responsible for over 60 percent of Virginia's annual tobacco production (Chen et al. 6-7).

By 1800, enslaved African Americans comprised half of Lunenburg's residents; and by 1820, Blacks outnumbered Whites by a factor of two to one. Tobacco production continued to increase throughout the first half of the nineteenth century, while local farmers also supplemented their incomes through raising corn and livestock. In 1852, Virginia passed an act to promote infrastructure improvement projects, and Lunenburg took advantage of the support to develop the Lunenburg Plank Road from Black's and White's (now Blackstone) to the Meherrin River. The Richmond and Danville Railroad was built across the county, giving rise to the village of Meherrin around the depot at Moore's Ordinary (Chen et al. 2005: 8-10).

With a high proportion of enslaved African Americans, most White Lunenburg residents supported secession, and many enlisted in local military units when Virginia joined the Confederacy in 1861. Although more than 1,000 Lunenburg men would take up arms during the war years, no actual fighting occurred in the county until June 1864, when generals James H. Wilson and August V. Kautz led a continent of 7,000 Union troops to destroy the Southside and Danville railroads to cut off supplies to Richmond. After a fight at the Roanoke River, they returned via Lunenburg County, crossing the Meherrin River on their way to the Boydton Plank Road, and foraging for food and horses, and liberating enslaved African Americans, along the route (Chen et al. 2005: 10-11).

The immediate postwar period proved difficult for Lunenburg's White residents, as emancipation resulted in a drastic decline in available farm labor. Overall agricultural production dropped by more than half, while tobacco production was only a quarter of its peak total. In fact, it was not until 1900 that tobacco production returned to pre-war levels. Still, the population continued to increase between 1870 and 1910, with African Americans perennially exceeding White residents. In 1902, a group of investors began planning a railroad to link the coalfields of West Virginia with the port of Norfolk. Completed in 1909, the Virginian Line Railroad passed through the town of Kenbridge. Originally know as Tinkling, the town was established in 1906 around a post office and store. It was incorporated by an act of the General Assembly in 1908, and was renamed Kenbridge in honor of W.F. Kennedy and Willie Bridgforth, who owned most of the land on which the town was established. The railroad attracted considerable industrial and commercial development, and Kenbridge's tobacco warehouses accommodated the fourth-largest tobacco market in the Commonwealth (Chen et al. 2005: 11-12).

In 1920, Lunenburg had a population of 15,260 residents, and there were 2,108 farms, with 9,633 acres devoted to tobacco production. Although tobacco dominated the local economy, chickens and dairy products were also valuable commodities. However, the population and the number of farms declined steadily over the next 40 years. The largest single factor which affected the county was the loss of the Virginian Line Railroad, which merged with the Norfolk & Western to become Norfolk Southern in 1959. The

depot at Kenbridge was demolished in the 1970s, and all the former tracks had been taken up by the 1990s. During the modern era, the inmates at the Lunenburg Correctional Center have accounted for the majority of the population's growth. The correctional center, Virginia Marble Corporation, Kenbridge Construction Company, were the largest employers in the county at the turn of the millennium. The Barnes Manufacturing Company was a leading lumber processing business which represented the growing forestry industry in the area. Tobacco also remains an important fixture in the local economy (Chen et al. 2005: 13-14).

Site-Specific History

During the late nineteenth and early twentieth centuries, the project area was associated with the Gee family, which had branches throughout Lunenburg County. The earliest detailed maps of the county produced during the Civil War era do not indicate any occupation of the project area (Figure 10). While there were Gee households to the north and northeast, the nearest farmstead was occupied by the Moore family on the west side of Oral Oaks Road.

Although it was never depicted on any of the available maps of Lunenburg County, it is clear that A. L. (Louis) Gee, his wife Cornelia, and their children lived in a house on the project parcel, the remains of which were recorded by WMCAR as Site 44LU0033. As described more fully in Chapter IV, this site includes the graves of A.L. and Cornelia Gee. According to the 1910 U.S. Federal Census, A.L. Gee was a 60-year-old White farmer who owned his own farm and hired laborers. At that time, his household included his wife Cornelia (53), daughter Cornelia B. (16), and son Nevil (13) (1910 U.S. Federal Census, Ancestry.com).

In January 1919, A.L. Gee deeded his property to William A. Hawthorne, William A. Hawthorne, Jr., and Lewis Hawthorne as tenants in common (Lunenburg County Deed Book [LCDB] 62: 135). The deed specifically reserved access to the family cemetery on the property, which by then included the remains of Cornelia Gee, who had died in 1916. A.L. Gee would later be buried there after his death in 1922. The property remained in the Hawthorne family throughout the twentieth century, and ultimately came into the possession of the current owner, Virginia Hawthorne Wilson, as the result of several transactions and bequests between 1986 and 2013 (Lunenburg County Will Book 26: 519; LCDB 197: 594; LCDB 371: 332).

A USGS aerial photograph dated November 1950 indicates that the majority of the project area was wooded at that time. The only cleared portions consisted of an area directly east of Oral Oaks Road in the vicinity of the current residence; an area in the west-central portion of the property; and a smaller area in the central part of the tract (Figure 11). At least two buildings or structures were visible on the property. These most likely represented agricultural buildings such as barns or sheds, as they were not depicted on the USGS 7.5' Kenbridge West topographic quadrangle map published in 1955; however, they were still there at that time, as they are also visible on a USGS aerial photograph taken in December 1959 (Figures 12-13). These buildings were not depicted



Figure 10. Location of the project area on detail of *Preliminary Map of Lunenburg County, Virginia* (Hotchkiss 1871).



Figure 11. Location of the project area on a 1950 USGS aerial photograph (EDR/Lightbox).



Figure 12. Location of the project area on USGS Kenbridge West topographic quadrangle map, 1955.



Figure 13. Location of the project area on a 1959 USGS aerial photograph (EDR/Lightbox).

on USGS topographic quadrangle maps from the mid-1960s through the mid-1970s, nor are they visible on a USGS aerial photograph dated March 1976 (Figures 14-16).

The most significant alteration to the project area occurred in the early 1990s, when virtually the entire parcel was clear-cut. A USGS aerial photograph taken in January 1994 clearly shows several logging/access roads, with the main road traversing the property from the northwest corner towards the southeast, with smaller branches leading from it (Figure 17). Aside from the main dwelling in the western portion of the project parcel, there were no other buildings, structures, or other significant features visible within the project area after the timbering had been conducted. The property has since been reforested with planted pine.



Figure 14. Location of the project area on USGS Kenbridge West topographic quadrangle map, 1966.



Figure 15. Location of the project area on USGS Kenbridge West topographic quadrangle map, 1974.



Figure 16. Location of the project area on a 1976 USGS aerial photograph (EDR/Lightbox).



Figure 17. Location of the project area on a 1994 USGS aerial photograph (EDR/Lightbox).

III. RESEARCH DESIGN

OBJECTIVES

The Phase I survey was designed to identify all archaeological resources present within the designated testing areas and to obtain sufficient information to make recommendations concerning their potential eligibility for inclusion in the National Register. An archaeological site is deemed significant if it is greater than 50 years old and meets at least one of the following criteria:

- **A.** It is associated with events that have made a significant contribution to the broad patterns of our history.
- **B.** It is associated with the lives of persons significant in our past.
- **C.** It embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction.
- **D.** It has yielded, or may be likely to yield, information important in prehistory or history.

Criterion D—and occasionally Criterion A—typically applies to archaeological sites. In order to yield important information about the past, an archaeological site generally must possess artifacts, soil strata, structural remains, or other cultural features which make it possible to test historical hypotheses, corroborate and amplify currently available information, or reconstruct the sequence of the local archaeological record.

DEFINITIONS

Two designations for identified archaeological resources were used in this Phase I survey: *archaeological site* and *archaeological location*. As outlined in the DHR's *Guidelines for Conducting Historic Resources Survey in Virginia* (2017), an archaeological site is defined as the physical remains of any area of human activity greater than 50 years old for which a boundary can be established, and often is manifested by the presence of artifacts and/or cultural features. This definition does not apply to cultural material that has been recently redeposited or reflects casual discard. Any occurrence of artifacts which does not qualify for a site designation is termed an archaeological location. In application, defining these types of resources requires a certain degree of judgment in the field and consideration of a number of variables. Contextual factors such as prior disturbance and secondary deposition must be taken into account. The representative nature of the sample as measured by such factors as the degree of surface exposure and shovel test interval also must be considered.

Methods

Field Methods

All Phase I archaeological fieldwork was conducted according to the DHR's *Guidelines for Conducting Historic Resource Survey in Virginia* (2017), under the direct supervision of a qualified archaeologist who meets the Secretary of the Interior's *Professional Qualifications Standards* (48 FR 44738-9). The survey included pedestrian survey of the project area, followed by the excavation of screened shovel tests along regular transects at 50-foot intervals within the designated testing areas. Four radial shovel tests were excavated at 25 feet in the four cardinal directions around each isolated positive shovel test yielding cultural materials. Each shovel test measured approximately 16 inches in diameter or larger and was excavated into sterile subsoil. The backfill was sifted through $\frac{1}{4}$ -inch screen mesh. Representative soil profiles were drawn at 1 inch = 1 foot scale and recorded on standardized forms using Munsell color designators and U. S. Department of Agriculture soil texture terminology. The location of each shovel test was recorded on a 1 inch = 100 feet scale map, and all shovel tests were assigned an individual Shovel Test (ST) number. Representative shovel test and surface feature locations were recorded with a handheld Trimble GPS unit.

Laboratory Analysis and Curation

All archaeological data and specimens collected during the Phase I survey were transported to JRIA's laboratory in Williamsburg, Virginia, for processing and analysis. Prior to washing, artifacts from a given provenience were first emptied into a screened basket and sorted. Next, the provenience information from the field bags were confirmed with the bag catalog and transferred onto bag tags. Stable objects were washed with tap water using a soft brush. Edges of ceramics and glass were thoroughly cleaned to aid in the identification of body type and to assist in mending. Washed items then were placed by provenience on a drying rack.

Once dry, the artifacts were re-bagged by provenience and material type. Artifacts of a given provenience were placed in clean 2 ml thick polyethylene zip-lock bags that have been perforated to allow air exchange. Each grouped material type was placed in a separate plastic bag (i.e., all glass in one bag, all brick fragments in one bag, etc.) and each of these individual type bags were then placed in a larger bag with the bag tag noting the provenience.

After processing and re-bagging, the entire artifact assemblage was cataloged for analysis. Stylistic attributes of diagnostic artifacts were described using current terminology and were recorded by count into a database for analysis. Non-diagnostic artifacts such as brick and oyster shell were weighed, not counted. Once all the artifacts were cataloged, ceramics were pulled from their bags and marked with correct provenience information. Diagnostic ceramics were sorted and grouped together based on type or ware and/or vessel or function and checked for crossmends. Analysis of historic artifacts was aided by reference works such as *The Parks Canada Glass Glossary* (Jones and Sullivan 1989), the *Guide to Artifacts of Colonial America* (Noël Hume 1969), and the *Colonial Williamsburg Foundation Laboratory Manual* (Pittman et al. 1987).

At the conclusion of the investigation, all artifacts and other associated project materials were returned to the property owner.

IV. PHASE I TESTING RESULTS

As stipulated in the Phase I archaeological testing plan, JRIA archaeologists first conducted a pedestrian survey of the project area to identify potential surface features, and to determine the testing locations within the defined areas of moderate and low archaeological potential. The pedestrian survey was hampered to some extent by the current conditions throughout much of the project area. As a result of past logging and clearing activities, the property is characterized by an understory of young pines, hardwoods, and opportunistic vines, and offers virtually no surface visibility. Movement was also hampered by fallen timber throughout. No landscape features, artifact concentrations, or other potentially significant cultural resources were identified during the pedestrian survey.

The JRIA Field Director then designated the specific testing areas to include 21 acres, expanding slightly on the originally proposed 20-acre total to address specific site conditions (Figure 18). The three high-potential areas included Survey Area 1 (one acre), Survey Area 2 (0.2 acre), and Survey Area 3 (one acre). The moderate potential areas included Survey Area 6 (2.9 acres), Survey Area 7 (2.9 acres), and Survey Area 9 (nine acres). Finally, the low probability areas included Survey Areas 4, 5, and 8, each encompassing one acre. The subsequent shovel testing confirmed that soil stratigraphy throughout the project area was significantly deflated, and some areas had little to no remaining topsoil.

Survey Area 1

Survey Area 1 was situated within the central portion of the project area, approximately 200 feet south of the overhead power line easement and immediately southwest of a small cleared area. Testing focused on the map-projected location of a possible outbuilding depicted in 1950s aerial photographs. JRIA archaeologists excavated 16 shovel tests within this area, none of which was positive (Figure 19). Significant portions of this area had been disturbed by past logging and clearing activities, and no surface or subsurface evidence of the map-projected structure were identified. Typical soil stratigraphy within this area consisted of approximately 0.5 foot of dark grayish brown (10YR 4/2) sand over strong brown (7.5Y 5/8) culturally sterile clay subsoil (Figure 20).

Survey Area 2

Survey Area 2 was centered on a berm complex located just south of an east-west trail, and 300 feet south of the overhead power line easement. Four shovel tests were excavated radially around the center point of the complex, none of which was positive (See Figure 19). Closer examination of the berm complex identified a deep logging road running along its southern edge, with several push piles adjacent to it. Given its evident association with the logging road and push piles, it appears likely that these berms represent modern features resulting from timbering activities. Typical soil stratigraphy within this area was highly deflated, and consisted of approximately 0.1 foot of very dark grayish brown (10YR 3/2) sand over strong brown (7.5Y 5/8) culturally sterile clay subsoil (see Figure 20).



Figure 18. Location of the survey areas.



Figure 19. Location of shovel tests in Survey Areas 1, 2, 7, and 8.



Figure 20. Representative shovel test profiles, Survey Areas 1 and 2.

Survey Area 3

Survey Area 3 was located approximately 200 feet east of a maintained clearing, and was centered on the projected location of a possible outbuilding depicted in 1950s aerial photographs. JRIA archaeologists initially excavated 16 shovel tests within this area, none of which was positive (Figure 21). In the course of shovel testing, two fragments of twentieth-century, colorless, non-leaded, machine-molded glass, most likely from a bowl, were recovered on the ground surface just east of Shovel Test 3A4 (Appendix A). Four radial shovel tests were then excavated around Shovel Test 3A4, one of which (3A4S) yielded two fragments of twentieth-century colorless non-leaded hollowware glass. There was no surface or subsurface evidence of a structure in this location, and the handful of non-architectural artifacts recovered most likely represented a single episode of casual loss or discard of domestic refuse. As a result, these finds were designated as an archaeological location (Location 1). Typical soil stratigraphy within this area consisted of approximately 0.3 foot of dark grayish brown (10YR 4/2) sand over yellowish brown (10Y 5/8) and strong brown (7.5Y 5/8) culturally sterile clay subsoil (Figure 22).

Survey Area 4

Survey Area 4 was located in an area of low archaeological potential near the southwest corner of the project area, roughly 200 feet south of a maintained clearing. JRIA archaeologists excavated 16 shovel tests in this area (see Figure 21). Two of the shovel tests (4B1 and 4C1) were not completed because they were within hydric wetland soils. None of the shovel tests was positive and no surface artifacts or features were identified. Typical soil stratigraphy within this area consisted of approximately 0.4 foot of dark grayish brown (10YR 4/2) sand and 0.6 foot of light yellowish brown (10YR 6/4) sand "E" horizon over brownish yellow (10Y 6/8) culturally sterile clay subsoil (see Figure 22).



Figure 21. Location of shovel tests in Survey Areas 3, 4, and 9.



Figure 22. Representative shovel test profiles, Survey Areas 3 and 4.

Survey Area 5

Survey Area 5 was located in an area of low archaeological potential near the southeast corner of the project area, on a slope of approximately ten percent leading down to an intermittent drainage. JRIA archaeologists excavated 16 shovel tests in this area. None of the shovel tests was positive, and no surface artifacts or features were identified (Figure 23). Typical deflated soil stratigraphy within this area consisted of approximately 0.1 foot of very dark grayish brown (10YR 3/2) sand over brownish yellow (10Y 6/6) and strong brown (7.5Y 5/6) culturally sterile clay subsoil (Figure 24).

Survey Area 6

Survey Area 6 was situated in an area of moderate archaeological potential within the eastern portion of the project area. JRIA archaeologists excavated 49 shovel tests in this area. None of the shovel tests was positive, and no surface artifacts or features were identified (see Figure 23). Typical deflated soil stratigraphy within this area consisted of approximately 0.1 foot of dark grayish brown (10YR 4/2) sand over light yellowish brown (10YR 6/6) and strong brown (7.5YR 5/8) culturally sterile clay subsoil (see Figure 24).

Survey Area 7

Survey Area 7 was situated in an area of moderate archaeological potential within the central portion of the project area. JRIA archaeologists excavated 49 shovel tests in this area, none of which was positive, and no surface artifacts or features were identified (see Figure 19). Significant ground disturbances were observed within the northern portion of the survey area, and along a cleared trail running through its western half. Typical deflated soil stratigraphy within this area consisted of approximately 0.2 foot of dark grayish brown (10YR 4/2) sand over strong brown (7.5Y 5/8) culturally sterile clay subsoil (Figure 25).



Figure 23. Location of shovel tests in Survey Areas 5 and 6.



Figure 24. Representative shovel test profiles, Survey Areas 5 and 6.



Figure 25. Representative shovel test profiles, Survey Areas 7 and 8.

Survey Area 8

Survey Area 8 was located in an area of low archaeological potential on a modest slope in the central portion of the project area. JRIA archaeologists excavated 16 shovel tests in this area, none of which was positive, and no surface artifacts or features were identified (see Figure 19). Typical soil stratigraphy consisted of approximately 0.5 foot of grayish brown (10YR 5/2) sand over strong brown (7.5YR 5/8) and red (2.5YR 4/8) culturally sterile silty clay/clay subsoil (see Figure 25).

Survey Area 9

Survey Area 9 was situated in an area of moderate archaeological potential within the northwest portion of the project area. JRIA archaeologists initially excavated 154 shovel tests in this area, one of which (9N7) yielded a single sherd of ironstone whiteware ceramic (ca. 1842-present) (see Figure 21). In order to further investigate this find, JRIA archaeologists excavated an additional 11 shovel tests extending beyond the defined testing area. Of these, three (9N7S, 9N8, 9N8E) were positive, yielding various domestic artifacts including colorless non-leaded glass fragments (one hollowware, one flatware, one table glass, and two bottle), one amber glass bottle fragment, two solarized pressed glass hollowware fragments, 17 fragments of whiteware "Ironstone/Granite" hollowware (evidently from the same vessel), and 1.8 g of charcoal. This relatively small cluster of domestic artifacts was situated just within the wood line surrounding the maintained clearing, and was recorded in the DHR's Virginia Cultural Resource Information System (V-CRIS) as Site 44LU0073. No surface remains or features were identified within the site area. Typical soil stratigraphy within this area varied, with brown (10YR 5/3) and gravish brown (10YR 5/2) sand topsoil with depths of 0.2-0.5 foot over culturally sterile subsoil of strong brown (7.5YR 5/6 or 7.5YR 5/8) clay/silty clay and red (2.5YR 4/8) clay (Figure 26).



Figure 26. Representative shovel test profiles, Survey Area 9.

V. CONCLUSIONS AND RECOMMENDATIONS

JRIA identified one site (44LU0073) and one archaeological location as a result of the Phase I archaeological survey, which included pedestrian survey and shovel testing within 21 acres of defined areas of high, moderate, and low archaeological probability.

Site 44LU0073 was manifested by a relatively small cluster of ceramics and glasswares along the fringes of a maintained clearing. The low density of artifacts, combined with the absence of any surface or subsurface evidence of architectural remains or other significant features, suggest that these materials represent an isolated episode of refuse disposal sometime between the late nineteenth century and the mid-twentieth century, rather than a domestic occupation or some other sustained activity. Similarly, there is no documentary evidence of a significant domestic occupation in this location during that period. This site lacks interpretable artifact deposits or features which would provide meaningful data concerning the historic use and occupation of this property. As a result, JRIA recommends that Site 44LU0073 is not eligible for listing in the National Register of Historic Places, and that no further investigation is warranted.

A small cluster of artifacts identified in Survey Area 3 evidently were the result of casual loss or discard and so were designated as an archaeological location (Location 1). By definition, archaeological locations are ineligible for listing in the National Register, and JRIA recommends no further testing. No architectural evidence was identified in either location of the map-projected ca. 1950s-era structures, while the berm complex most likely resulted from modern timbering activities.

Based on the results of the probability-based sampling strategy, JRIA recommends that no significant archaeological resources will be affected by the proposed solar project.

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APPENDIX A: ARTIFACT CATALOG

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State Site #	

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-ST 9N7	CEARTHENWARE	WHITE IRONSTONE/GRANITE	HOLLOWWARE	RIM FRAGMENT	1	0.0		n
SZN6 T2-:	CEARTHENWARE	WHITE IRONSTONE/GRANITE	HOLLOWWARE	FRAGMENT	16	0.0		7
SZN6 T2-:	PCHARCOAL		CHARCOAL	FRAGMENT	1	1.2		4
2-ST 9N7S	SGLASS	GLASS COLORLESS NON- LEADED	FLAT GLASS	FRAGMENT	Ţ	0.0		9
2-ST 9N7S	SGLASS	GLASS COLORLESS NON- LEADED	HOLLOWWARE	FRAGMENT	1	0.0		ъ
2-ST 9N8	CEARTHENWARE	WHITE IRONSTONE/GRANITE	HOLLOWWARE	FRAGMENT	1	0.0		∞
-ST 9N8E	PCHARCOAL		CHARCOAL	FRAGMENT	1	0.6		13
:-ST 9N8E	SGLASS	GLASS AMBER	BOTTLE	FRAGMENT	1	0.0		12
2-ST 9N8E	SGLASS	GLASS COLORLESS NON- LEADED	BOTTLE	FRAGMENT	2	0.0		11
2-ST 9N8E	SGLASS	GLASS COLORLESS NON- LEADED	TABLE GLASS	FRAGMENT	1	0.0		6
2-ST 9N8E	SGLASS	GLASS SOLARIZED, PRESSED	HOLLOWWARE	FRAGMENT	1	0.0		10
State Site # AL-1								
Provenience: ype Context Layer Oth	_{er} Material 1	Material 2	Form	Portion/Element	Qty Size	Wgt (g)	Notes	Artifact No.
L-SC 3A4	SGLASS	GLASS COLORLESS NON- LEADED	HOLLOWWARE	FRAGMENT	2	0.0		T.
2-ST 3A4S	SGLASS	GLASS COLORLESS NON- LEADED	BOWL	BASE/BODY FRAGMENT	2	0.0	20th century machine-molded	7

SC: Surface Collection ST: Shovel Test TU: Test Unit Fe: Feature Tr: Trench AT: Auger Test MD: Metal Detection

Page 1 of 1

James River Institute for Archaeology, Inc.

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APPENDIX B: V-CRIS RECORD FOR SITE 44LU0073

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Virginia Department of Historic Resources Archaeological Site Record

Snapshot

Date Generated: November 02, 2022

Site Name:	No Data	Site Evaluation Status
Site Classification:	Terrestrial, open air	
Year(s):	No Data	Not Evaluated
Site Type(s):	Artifact scatter	
Other DHR ID:	No Data	
Temporary Designation:	Site 1	

Locational Information USGS Quad: KENBRIDGE WEST **County/Independent City:** Lunenburg (County) **Physiographic Province:** Piedmont **Elevation:** 470 Aspect: Facing South **Drainage:** Albemarle-Chowan 2 - 6 Slope: Acreage: 0.150 Landform: Terrace **Ownership Status:** Private

Site Components

Government Entity Name:

No Data

Component 1

Site Type: Artifact scatter	
Cultural Affiliation: Indeterminate	
Cultural Affiliation Details: No Data	
DHR Time Period: Reconstruction and Growth, The New Dominion, World War I	to World War II
Start Year: No Data	
End Year: No Data	
Comments: This small scatter of domestic refuse evidently dates to the first	half of the twentieth century.

Bibliographic Information

Bibliography:

No Data

Informant Data:

No Data

CRM Events

Event Type: Survey: Phase I

Project Staff/Notes:

The Principal Investigator for the project was JRIA Partner and Senior Researcher Matthew R. Laird, Ph.D., RPA. The archaeological fieldwork was conducted by Field Directors Anthony W. Smith, M.A., and Allison Romo, M.A., RPA, with the assistance of Kira Alfano, Michelle Bouquet, Chloe Scalf, and Colleen Wampler. Dr. Laird conducted the documentary research for the project and authored the final report with contributions from Mr. Smith. The artifacts were processed by Barry Phelps and cataloged by JRIA Curator Kelly Ladd-Kostro.

Project Review File Number:	No Data
Sponsoring Organization:	No Data
Organization/Company:	James River Institute for Archaeology, Inc.
Investigator:	Matthew Laird
Survey Date:	10/4/2022

Survey Description:

Based on the results of a Phase IA cultural resources assessment, JRIA prepared an archaeological probability model which divided the project area into areas of high, moderate, and low probability for significant archaeological resources, and detailed a proposed Phase I archaeological work plan with a probability-based sampling strategy.

JRIA recommended that the Phase I archaeological testing plan should be organized around a probability-based testing strategy. Three defined areas of high archaeological potential (one acre) would be investigated through visual inspection and the excavation of screened shovel tests at intervals of 50 feet or less. For the defined areas of moderate archaeological potential, JRIA recommended that a 50-percent sample of the total area (16 acres) should be tested through shovel testing along regular transects at intervals not exceeding 50 feet. The remaining areas would then be subjected to visual survey. For areas of defined low potential, shovel testing would be conducted within a 10-percent sample area (three acres), with the remainder investigated through visual survey. In areas of moderate and low potential, any potential sites identified through shovel testing and/or visual inspection and/or would then be fully investigated and defined through shovel testing at 50- and 25-foot intervals. Any wetland areas within the project area would be visually inspected, but no shovel testing would be conducted unless visible evidence of potential archaeological resources was observed.

In September 2022, Cultural Resources Specialist Chris Egghart of the Virginia Department of Environmental Quality (DEQ) concurred with JRIA's proposed probability-based testing strategy, and JRIA completed the Phase I archaeological survey in October 2022. The research design for the Phase I survey was to identify all archaeological resources present within the defined testing areas and to obtain sufficient information to make recommendations concerning the potential eligibility of each resource for inclusion in the National Register of Historic Places (National Register). The documentary research and fieldwork were conducted at a level in compliance with the Secretary of the Interior's standards (Department of the Interior 1983, 48 FR 44720-44723), as well as the Virginia Department of Historic Resources (DHR) Guidelines for Conducting Historic Resources Survey in Virginia (2017).

Current Land Use Forest	Date of Use 10/5/2022 12:00:00 AM	Comments No Data
Threats to Resource:	None Known	n
Site Conditions:	No Surface I	Deposits but With Subsurface Integrity
Survey Strategies:	Subsurface 7	Testing
Specimens Collected:	Yes	
Specimens Observed, Not Collected:	No	

Artifacts Summary and Diagnostics:

Artifacts recovered from the four positive shovel tests included colorless non-leaded glass fragments (one hollowware, one flatware, one table glass, and two bottle), one amber glass bottle fragment, two solarized pressed glass hollowware fragments, 17 fragments of Ironstone whiteware, evidently from the same hollowware vessel, and 1.8 g of charcoal.

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

No Data	
Current Curation Repository:	JRIA
Permanent Curation Repository:	DHR
Field Notes:	Yes
Field Notes Repository:	DHR
Photographic Media:	Digital
Survey Reports:	Yes
Survey Report Information:	
Matthew R. Laird and Anthony W. Smith, Ph	ase I Archaeological Survey of 20 Acres of the Proposed Kenbridge Solar Project Area, Lunenburg

 County, Virginia_. James River Institute for Archaeology, Inč., Williamsburg, Virginia.

 Survey Report Repository:
 DHR

 DHR Library Reference Number:
 No Data

 Significance Statement:
 This small site evidently represents an episode of refuse disposal sometime between the late nineteenth- and mid-twentieth centuries, rather than a domestic occupation or some other

sort of sustained activity. Because it offers no further research potential, JRIA recommends that the site is not eligible for listing in the National Register of Historic Places, and that no further investigation is warranted.

Surveyor's Eligibility Recommendations: Surveyor's NR Criteria Recommendations, : Surveyor's NR Criteria Considerations: Recommended Not Eligible

No Data No Data





COMMONWEALTH of VIRGINIA

Travis A. Voyles Acting Secretary of Natural and Historic Resources **Department of Historic Resources**

2801 Kensington Avenue, Richmond, Virginia 23221

February 3, 2023

Stephen Quina VHB 115 South 15th Street, Suite 200 Richmond, Virginia 23219

RE:

Kenbridge Solar Facility Lunenburg County, Virginia DHR File No. 2022-5270

Dear Mr. Quina:

We have received for review the Ameresco – Kenbridge Solar Architectural Survey Summary Report Lunenburg County, VA, prepared by Ameresco. We provide the following comments in support of an application to the Department of Environmental Quality (DEQ) for a Permit-by-Rule to construct and operate a small solar project in Lunenburg County, Virginia.

The survey identifies five historic architectural resources within the area of study. There is currently no record of this property in the Virginia Cultural Resources Information System (VCRIS), and the two previously surveyed properties in the report do not appear to have been updated.

In order to review eligibility, a survey meeting DHR's standards must be completed. The survey must be conducted by qualified professionals in accordance with DHR's, "Guidelines for Conducting Historic Resources Survey in Virginia" (October 2011, Revised 2017). https://www.dhr.virginia.gov/wp-content/uploads/2018/06/SurveyManual_2017.pdf Two hardcopies and one digital copy of the resulting report should be submitted to our office for review and approval prior to any ground disturbance. Once we have the results of the survey, we will be able to advise you whether any further investigations and/or mitigative actions are warranted.

Two bound copies and one digital copy of the resulting report should be submitted to our office for review and approval prior to proceeding with the project. It should be noted that all archival material for the architectural study must be submitted and approved by our Archives before we can complete our review of the report. Once we have the results of the surveys, we will be able to advise you whether any further investigations and/or other actions are warranted.

Western Region Office 962 Kime Lane Salem, VA 24153 Tel: (540) 387-5443 Fax: (540) 387-5446 Northern Region Office 5357 Main Street PO Box 519 Stephens City, VA 22655 Tel: (540) 868-7029 Fax: (540) 868-7033 Eastern Region Office 2801 Kensington Avenue Richmond, VA 23221 Tel: (804) 367-2323 Fax: (804) 367-2391 Julie V. Langan Director Tel: (804) 367-2323 Fax: (804) 367-2391 www.dhr.virginia.gov Page 2 DHR File No. 2022-5270 February 3, 2023

If you have any questions regarding these comments, please contact me at 804-482-8091 or via email, jennifer.bellville-marrion@dhr.virginia.gov.

Sincerely,

hun

Jenny Bellville-Marrion, Project Review Archaeologist Review and Compliance Division

cc. Adrienne Birge-Wilson, DHR Chris Egghart, DEQ Matthew Laird

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Ameresco – Kenbridge Solar Architectural Survey Summary Report

Lunenburg County, VA

PREPARED FOR



111 Speen Street Framingham, MA 01701 508.661.2200

PREPARED BY



351 McLaws Circle Suite 3 Williamsburg, VA 23693 757.220.0500

June 2022

Table of Contents

1	Introduction	2
	Project Summary	2
	Area of Potential Effects	2
2	Identification of Historic Properties	4
	Previously Identified Resources	4
	Field Survey Methodology	4
	Desktop Review and Background Research	4
	Field Survey	5
	National Register of Historic Places Evaluation Criteria	5
	Survey Results	6
	LU01, 1080 Unity Road (DHR ID# 055-0154)	8
	LU02, 1067 Unity Road	9
	LU03, Unity Road	11
	LU04, 5644 Oral Oaks Road (DHR ID# 055-0145)	12
	LU05, Oral Oaks Road	13
	Summary and Recommendations	14

Introduction

Ameresco, Inc. is proposing a potential solar farm development project on an undeveloped parcel of land at 5874 Oral Oaks Road located in Kenbridge, Lunenburg County, Virginia. On behalf of Ameresco, Inc., VHB conducted an architectural survey to identify potential historic properties within the vicinity of the potential solar farm site. This report summarized the results of that survey.

Project Summary

The proposed solar farm would consist of an approximately 16-megawatt direct current (MWdc) ground-mounted photovoltaic facility on approximately 114 acres of land on the east side of Oral Oaks Road in Kenbridge. The project is proposed to include portions of County Parcels 058-0A-0-29 and 058-0A-0-31 located south of the bisecting transmission lines right-of-way. The equipment on the site would be no taller than 15 feet, and the solar panels used would be no-glare or low-glare. The exterior of the site would be enveloped in a vegetation buffer of at least 50 feet in width and 15 feet in height to limit the views of the solar farm from adjacent properties. Existing canopy trees would be used to create the buffer, and supplemental plantings would be added as needed to ensure a sufficient visual buffer.

To support this project, an architectural survey was conducted on June 13, 2022, to identify any structures, buildings, or objects 50 years old or older that may be affected by the project, consistent with the Virginia Department of Environmental Quality (DEQ) Solar Permit by Rule (PBR) Guidance as well as the Virginia Department of Historic Resource (DHR) *Guidelines for Conducting Historic Resources Survey In Virginia*.

Area of Potential Effects

Prior to conducting the field survey, an area of potential effects (APE) for historic properties was delineated. The APE defines the area in which the project may affect historic properties if any exist. The APE for this project includes the area of disturbance for the proposed solar farm development, as well as a buffer around the site to account for potential setting, visual, or other indirect impacts from construction activities. A half-mile buffer was used as a screening tool to determine from where the potential solar site would be visible. Properties within that buffer from where the potential site would not be visible due to topography or heavy vegetation were excluded from the APE, per PBR Guidance, Section II Methodology. As a result of this screening, the APE for the potential solar farm in Kenbridge is roughly 560 acres in size and is depicted on Figure 1 below.

Figure 1: Area of Potential Effect

Ameresco - Kenbridge Solar Site | Lunenburg County, Virginia





LEGEND

Project Area Half Mile Buffer of Project Area Area of Potential Effect

Source: ESRI Imagery Basemap

Identification of Historic Properties

The following sections detail VHB's efforts to identify any potential historic properties within the APE, including resources previously identified. This was achieved through a combination of desktop review and field survey.

Previously Identified Resources

Prior to conducting the field survey, VHB did a search of the DHR online Virginia Cultural Resource Information System (V-CRIS) to identify any previously identified historic resources within the APE. Three properties were identified in the V-CRIS system as having been previously surveyed, but all were determined to be not eligible for listing in the National Register of Historic Places (National Register).¹ The first (DHR ID# 055-0145) is a single-family, 2-story, I-house built circa 1870 that is typical and characteristic to the region. The second (DHR ID# 055-0154) is a mid-19th century halland-parlor farmhouse built circa 1846. It is associated with a farmstead that has been converted to a modern sheep farm; several outbuildings of the sheep farm are extant. The third resource (DHR ID# 055-0153) was a typical I-house constructed circa 1900 that was demolished prior to 2002.

Field Survey Methodology

The primary objectives during this field survey were to identify any previously unrecorded resources over 50 years old within the APE, assess the integrity of any newly recorded resources, and then to evaluate those resources through the application of criteria set forth by the National Register. VHB used the DEQ Solar PBR Guidance as well as the DHR *Guidelines for Conducting Historic Resources Survey In Virginia* to develop methodology for conducting the field survey. The Virginia DEQ Solar PBR Guidance, Section II Methodology states that the architectural survey data "should be current within seven years of the submission date." As such, VHB surveyed and documented all properties 43 years old or older because they would reach the 50-year-old threshold within seven years.

Desktop Review and Background Research

Prior to undertaking the survey, a desktop review was undertaken to identify the potential resources 43 years old or older with the APE. Historic aerial photographs were analyzed and compared to current aerial photographs, as were historic USGS topographic maps of the APE and vicinity. Field maps were created identifying those resources suspected to be 43 years old or older to be confirmed in the field. Additional background research was conducted in order to place the APE in its historical context. This research guided the field methods, provided data pertaining to changes in the natural and built landscape, and provided a context for the National Register eligibility recommendations. Numerous sources were consulted, including but not limited to, cultural and historic studies, local histories, building and tax records, previously recorded cultural surveys and recorded resources, maps, and aerial photographs.

¹ Virginia Department of Historic Resources (DHR). 2022. "V-CRIS, Virginia Cultural Resources Information System." Available at <u>https://www.dhr.virginia.gov/v-cris/</u>, accessed June 27, 2022.

Field Survey

A pedestrian and vehicular survey was undertaken to locate properties 43 years old or older within the APE, per the PBR Guidance. The survey was conducted in accordance with the *Secretary of the Interior's Standards and Guidelines for Identification and Evaluation* as well as DHR's *Guidelines for Conducting Historic Resources Survey In Virginia.*² Field maps created based on the desktop review discussed above were consulted during the survey and additional resources not identified during desktop review were surveyed and recorded. Each identified resource was photographed, mapped, and described in field notes to assist in documenting material, style, and construction details. The survey was conducted from the public right-of-way; the surveyors did not enter any private property.

National Register of Historic Places Evaluation Criteria

Based on the information collected on each resource, VHB evaluated the resources 43 years old or older within the APE using the National Register criteria for eligibility. These criteria are specified in the Department of the Interior Regulations 36 CFR Part 60.4, Criteria for Evaluation. According to Regulation 36 CFR Part 60.4, cultural resources can be determined eligible if they:

- A. Are associated with events that have made a significant contribution to the broad patterns of history;
- B. Are associated with the lives of persons significant in the past;
- c. Embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, possesses high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction, or;
- D. Have yielded, or are likely to yield, information important to prehistory or history.

In addition to the above criteria, the National Register also stipulates that in order to be considered eligible, a property must possess integrity of location, design, setting, materials, workmanship, feeling, and association. According to the National Register Bulletin, *How to Apply the National Register Criteria for Evaluation*, integrity is defined as the resource's ability to convey its significance.³ Integrity is considered relative to whatever significance the cultural resource can still adequately convey. While it is possible to correlate the above aspects of integrity with historic properties, there is no universally-applied standard. Historic properties must be evaluated within their respective historic contexts. For a resource to retain sufficient historic integrity, it will always possess several, and usually most, of the following seven aspects:

- 1. Location The place where the historic property was constructed or the place where the historic event occurred.
- 2. Design The combination of elements that create the form, plan, space, structure, and style of a property.
- 3. Setting The physical environment of a historic property. Setting includes elements such as topographic features, open space, viewshed, landscape, vegetation, and artificial features.

² Virginia Department of Historic Resources (DHR). 2011. *Guidelines for Conducting Historic Resources Survey in Virginia*. Revised September 2017. Available at https://www.dhr.virginia.gov/wp-content/uploads/2018/06/SurveyManual_2017.pdf, accessed June 27, 2022.

³ Andrus, Patrick W. and Rebecca H. Shrimpton. 1990. *How to Apply the National Register Criteria for Evaluation, National Register Bulletin.* Revised 1991, 1995, and 1997. National Park Service, Interagency Resources Division, National Register Branch.

- 4. Materials The physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property,
- 5. Workmanship The physical evidence of the labor and skill of a particular culture or people during any given period in history.
- 6. Feeling A property's expression of the aesthetic or historic sense of a particular period of time.
- 7. Association The direct link between an important historic event or person and a historic property. Under Criterion D, it is measured in the strength of association between data and important research questions.

Survey Results

A total of five resources 43 years old or older were documented within the APE during the field survey. Three properties are agricultural in nature, one is residential, and one is an electrical substation. Table 1 below provides a summary of the properties surveyed within the APE. Details of each property are discussed below, accompanied by representative photographs. Heavy vegetation and topography limited visibility of some resources from the public right of way, but each resource was photographed and documented to the extent possible. Field identification numbers were given to each resource for tracking purposes (LU01-LU05) and are used in the discussion below. Figure 2 below shows the location of the surveyed properties within the APE.

Field ID No.	DHR ID No.	Address	Construction Date	Property Type	Eligibility
LU01	055-0154	1080 Unity Rd.	ca. 1846	Agricultural	Not Eligible
LU02	n/a	1067 Unity Rd.	early 20th c.	Agricultural	Not Eligible
LU03	n/a	Unity Rd.	early 20th c.	Agricultural	Not Eligible
LU04	055-0145	5644 Oral Oaks Rd.	ca. 1870	Residential	Not Eligible
LU05	n/a	Oral Oaks Rd.	ca. 1976	Electrical Substation	Not Eligible

Table 1 Summary of Properties Surveyed within APE

Figure 2: Location of Surveyed Resources

Ameresco - Kenbridge Solar Site | Lunenburg County, Virginia





Half Mile Buffer of Project Area Project Area

Area of Potential Effect Surveyed Resources П

Source: ESRI Imagery Basemap

LU01, 1080 Unity Road (DHR ID# 055-0154)

This property was previously surveyed in 1992 for the *Phase I Architectural Survey of the Proposed Clover to Carson 500KV Transmission Line* and was determined to be not eligible for listing in the National Register. It is recorded in the V-CRIS system as DHR ID# 055-0154.⁴

This property is agricultural in nature with a residential building and numerous outbuildings. The property is split into two county tax parcels with the same owner and address. Combined, the property comprises over 48 acres.⁵ The property consists of a mid-19th century frame house on a farmstead that has been converted to a modern sheep farm. In addition to the dwelling, the property contains approximately eight outbuildings supporting the farm, including what appears to be a tenant house. Generally, the outbuildings are concentrated around the dwelling near Unity Road, with the exception of the tenant house which is located roughly 800 feet to the northwest. A retention pond is located at the southeast corner of the property.

The dwelling is a two-story, two-bay, hall-and-parlor house with a central brick chimney that was constructed circa 1846. The dwelling faces north towards Unity Road, and is set back approximately 120 feet from the road. The house sits on foundation of fieldstone piers infilled with concrete block. It has a side gable roof covered in asphalt shingles that replaced its standing seam metal roof sometime after the 1992 survey.⁶ The exterior is clad in wood shingles that replaced the vinyl siding reported in the 1992 survey.⁷ A full-width, one-story covered front porch is located on the façade with a shed roof supported by square wood posts and a wood floor. The primary entrance is located under this porch consisting of a contemporary door with decorative oval light. The windows on the house are replacement 1-over-1 double hung sash aluminum windows. Louvered shutters that were recorded in the 1992 survey are no longer extant.⁸ A rear ell extends from the south elevation, which was enlarged after 2009, based on a review of recent aerial photographs.

The outbuildings appear to be a combination of historic (over 50 years of age) and contemporary buildings, and all are supporting structures for the working farm. They include barns, a silo, storage areas, and a carport. They are generally of wood construction clad in corrugated metal or wood siding. Many of the outbuildings were visually obscured from the roadway due to topography and vegetation. The tenant building, located to the northwest of the other structures, is a one-story, three-bay house that appears to be vacant and is in deteriorated condition. It has a side-gable roof covered in standing seam metal and the exterior is clad in a rolled asphalt siding in a faux-brick pattern. The windows are 2-over-2 wood sash with missing glass panes. The primary entrance is centralized on the façade and appears to retain the original paneled wood door, through it was dislodged from its hinges. A portion of the wall on the façade was missing, exposing the wood framing. Overgrown vegetation obscured much of the house from view.

The vernacular hall-and-parlor house is a typical and commonplace residential type in agricultural properties of Lunenburg County. The house retains its integrity of location and setting, as it remains

⁴ Beckett, A.S., L. McFaden, and C. McDaid. 1992. A Phase I Architectural Survey of the Proposed Clover to Carson 500KV Transmission Line, Halifax, Charlotte, Lunenburg, Mecklenburg, Brunswick, and Dinwiddie Counties, Virginia. The William and Mary Center for Archaeological Research, Department of Anthropology, The College of William and Mary, Williamsburg, Virginia.

⁵ Lunenburg County. 2022. "Online Tax Parcel System." Available at <u>https://www.lunenburgva.org/online tax_parcel_system/index.php</u>, accessed June 27, 2022.

⁶ Beckett, McFaden, and McDaid. 1992. p. 209.

⁷ Beckett, McFaden, and McDaid. 1992. p. 209.

⁸ Beckett, McFaden, and McDaid. 1992. p. 210.

in its place of construction in a rural, agricultural areas. Although the house retains and conveys its historic form, the replacement windows and large rear ell addition have resulted in a loss of integrity of design, materials, workmanship, and feeling. These substantial alterations have diminished its overall integrity and it no longer conveys the feeling and aesthetic of its period of construction. The outbuildings on the property, including the tenant house, are common and unexceptional examples of farm buildings found throughout Lunenburg County. No change is recommended for its eligibility and the property remains not eligible for listing in the National Register.



Photo LU01-1: View of front (north) and west side elevations of the dwelling with large rear ell and outbuilding, facing S.



Photo LU01-2: View of outbuildings and rear of dwelling from Unity Road; note larger rear ell on dwelling, facing N.



Photo LU01-3: View of large barn (front) and smaller outbuilding (rear right) from Unity Road, facing W.



Photo LU01-4: View of front elevation of deteriorated tenant house with dense vegetation, facing S.

LU02, 1067 Unity Road

This property is agricultural in nature with a residential building and numerous outbuildings on a 50acre lot.⁹ The lot has a combination of dense woods and agricultural fields. It is currently a working sheep farm. The buildings on the lot are concentrated on the southwest end along Unity Road. The

⁹ Lunenburg County. 2022.

residential building was constructed in 1983 and consists of a one-story, four-bay Ranch house with a side-gable roof and integrated carport. The house faces southwest toward Unity Road and is set back approximately 100 feet from the road. The exterior is clad in brick veneer and the roof is covered in asphalt shingles. A central pediment projection creates a covered porch over the primary entrance on the façade, which is accessed up a set of brick steps. Topography and heavy vegetation visually obscured much of the house from the road.

The outbuildings appear to be a combination of historic (over 50 years of age) and contemporary structures, and all are supporting structures for the working farm. They include barns and storage buildings of various sizes. Due to topography and vegetation, some of the outbuildings were visually obscured from the road. The largest and most visually prominent outbuildings are of hewn log wood construction on concrete block foundations topped with standing seam metal roofs. Many of these structures are in deteriorated condition; several have heavily damaged or destroyed roofs. Remnants of a completely collapsed outbuilding was evident near the southeastern end of the parcel.

The property retains its integrity of location and setting as it remains in its place of construction within a rural, agricultural setting and continues to function as a working farm. Its integrity of association is somewhat diminished because it has lost its original residence, which would have been considered its "main house," and it was replaced with a typical 20th century Ranch house in 1983. The current house on the property is less than 43 years old and is not of exceptional importance to qualify it for eligibility for listing in the National Register under Criteria Consideration G: Properties that have Achieved Significance within the Last Fifty Years. The outbuildings on the property are common and unexceptional examples of farm buildings found throughout Lunenburg County. While they do retain some integrity of materials, the high level of deterioration of the structures has resulted in a diminished integrity of design, workmanship, and feeling. The current state of the property has diminished the farm's overall integrity and it no longer conveys the feeling and aesthetic of its period of construction. Therefore, it is recommended to be not eligible for listing in the National Register.



Photo LU02-1: View of façade of main house, visually obscured by topography and vegetation, facing N.



Photo LU02-2: View of the setting of the property with the main house at left and outbuildings at right, facing N.



Photo LU02-3: View of several outbuildings in their setting with ruins at far right, facing SE.



Photo LU02-4: View of two heavily deteriorated outbuildings, facing E.

LU03, Unity Road

This property is agricultural in nature and consists of a former residence on a 37-acre lot. According to available Lunenburg tax records, no mailing address appears to be associated with this property.¹⁰ The lot consists of a large, open agricultural field or pasture in the northern portion and dense vegetation surrounding a smaller open field in the south. A power transmission line bisects the lot running east to west. Only one structure is located on the property, and it appears to be vacant.

The building is a one-story, three-bay vernacular structure with no architectural type or style; based on its form and appearance, it was possibly used as a dwelling in the past. It sits on a concrete pier foundation and is topped with a side gable roof covered in standing seam metal. An interior brick chimney rises from the ridgeline; a few bricks are missing from the top of the chimney. The exterior is clad in wide, horizontal wood paneling that is covered in what appears to be rolled asphalt veneer. The veneer is failing and large pieces are missing. A one-story shed roof wing extends from the north side elevation. A door opening is located on this wing, but the door is missing and the door frame is falling off. A large hole through the exterior wall is visible adjacent to the door near the foundation. Another entrance door is located under the gable of the west elevation that consists of a 6-light wood door; plywood closes off the lower half of the door. Two windows consisting of 6-over-1 wood sash are located on the south elevation; other window openings are covered with standing seam metal panels.

The property retains integrity of location and setting. The property remains at its historic construction site and remains in a rural, agricultural setting. The integrity of design is retained because the historic form is evident. The integrity of materials and workmanship has been lost because although the historic materials are evident, they are in very poor condition, including deteriorated siding, damaged and missing doors, and damaged windows. The building does not appear to be in use and therefore does not retain its historic association. The disuse and deteriorated condition of the structure has resulted in an inability to convey its historic use and it no longer conveys the feeling and aesthetic of its period of construction. Therefore, it is recommended to be not eligible for listing in the National Register.

¹⁰ Lunenburg County. 2022.



Photo LU03-1: View of north and west elevations of the structure, facing SE. Note the missing door at center.



Photo LU03-2: View of south and west elevations and surrounding setting, facing NE.

LU04, 5644 Oral Oaks Road (DHR ID# 055-0145)

This property was previously surveyed in 1992 for the *Phase I Architectural Survey of the Proposed Clover to Carson 500KV Transmission Line* and was determined to be not eligible for listing in the National Register. It is recorded in the V-CRIS system as DHR ID# 055-0145.¹¹

This property is residential in nature and consists of a single-family home on a 5.24-acre lot. Dense vegetation is located along the side and rear of the property, visually screening the surrounding area from view of the house. Open lawn comprises the parcel in front of the house and a dirt driveway provides access to the house from Oral Oaks Road. No outbuildings were visible from the roadway.

The house is a two-story, three-bay vernacular I-house with a central front gable that was constructed circa 1870. The house faces west toward Oral Oaks Road and is set back from the road approximately 175 feet. The house sits on a concrete block foundation. The roof is covered in pressed tin and a pair of interior brick chimneys rise from the ridgeline, one at each end of the roof. The exterior is clad in wood clapboards. A one-story front porch is located on the façade (west elevation) and is covered in a hipped roof with standing-seam metal. Turned wood spindle posts support the roof, and the porch has been enclosed with plywood and mesh screening. The primary entrance is located under the porch but was visually obscured. Windows consists of 1-over-1 replacement vinyl sash; there is no fenestration on either north or south side elevations. These windows replaced 2-over-2 wood sash windows that were documented in a 1992 survey of the property.¹² There is a one-story frame rear addition was likely added around 1940.¹³

The vernacular I-house is a typical and commonplace residential type in the agricultural area of Lunenburg County. The house retains its integrity of location and setting, as it remains in its place of construction in a rural, agricultural areas. Although the house retains and conveys its historic form, the enclosure of the front porch and the replacement windows have resulted in a loss of integrity of design, materials, workmanship, and feeling. These substantial alterations have diminished its overall integrity

¹¹ Beckett, McFaden, and McDaid. 1992. p. 199.

¹² Beckett, McFaden, and McDaid. 1992. p. 199.

¹³ Lunenburg County. 2022.



Photo LU04-1: View of front (west) and north side elevations of the dwelling with dense vegetation, facing SE.



Photo LU04-2: View of façade of dwelling, facing E.

LU05, Oral Oaks Road

This property consists of an electrical distribution substation adjacent to a power transmission line that was constructed between 1976 and 1979, based on available historic aerials. A sign on the property identifies it as the Gary Substation, which is run by the Southside Electric Co-op, headquartered in Crewe, Virginia. Remnants of former letters on that sign indicate that the substation was formerly named the Martin Substation. Background research did not uncover any additional information regarding the construction of this substation.

The resource is located on the east side of Oral Oaks Road and is set back roughly 30 feet from the roadway. A transmission line connects to the substation, running to the east for roughly 1,000 feet before turning to the northeast. Another high-voltage transmission line is connected to the substation immediately to the south, running in an east to west alignment. This southern transmission line was constructed in the 1990s. The substation is accessed via a gravel driveway connecting to Oral Oaks Road; a metal stockade gate restricts access to the driveway. This substation provides power to properties in the area via overhead power lines that extend from the substation in several directions.

The substation consists of a gravel pad roughly 160 feet by 75 feet with transformers, switchgear, and other electrical equipment enclosed in a metal chain link fence topped with barbed wire. Additional equipment is housed on a much smaller dirt pad surrounded by a similar fence at the southwest corner of the main substation. No buildings appear to be associated with this substation. The footprint of the substation is mostly unchanged since construction, based on historic and contemporary aerial photographs; however, it is likely that system and equipment upgrades have been undertaken at some point since its initial construction to accommodate changes to the power grid, as evidenced by the high-voltage transmission line that was constructed and connected to the substation in the 1990s.

The Gary Substation retains its historic integrity of location, setting, design, materials, workmanship, feeling, and association. The substation is a typical and common example of an outdoor electrical distribution substation, and it does not possess characteristics of demonstrable significance of an infrastructure type with respect to design, construction, or use of materials. There are no indications

that this substation was associated with a significant event or person in history, and it does not appear to have led to the development of the area. The Gary Substation does not possess the individual significance and is therefore recommended as not eligible for listing in the National Register.



Photo LU05-1: View of Gary Substation from Oral Oaks Road, facing SE.



Photo LU05-2: View of Gary Substation from Oral Oaks Road, facing NW.

Summary and Recommendations

During the course of the survey of the APE for this project, a total of five properties 43 years old or older were identified. As described above, none are recommended as eligible for listing in the National Register. As such, there would be *no historic properties affected* for architectural resources as a result of this project.



C Appendix C

Environmental Impacts Narrative

Environmental Impacts Narrative

VHB has conducted a desktop analysis of the approximately 128.2-acre site being developed for Kenbridge Solar. The study was performed in compliance with the Lunenburg County Solar Ordinance Conditional Use Permit Application requirements and aims to assist the proposed Kenbridge Solar Site. The study contains an analysis on the potential impacts and existing conditions of the surrounding water and air quality.

I. Water Quality Review

This water quality review was conducted to assess water quality in the vicinity of the site using publicly available information from the Virginia Department of Environmental Quality (DEQ) as directed in the Lunenburg County Solar Ordinance. The How's My Waterway? tool was created by DEQ and designed to inform the public with information about the condition of local waters based on data that local and state agencies have provided to the EPA. Adjacent to the Site and the defining feature of the east project property boundary is an unsegmented portion of watershed CM09. The unsegmented waters of K03, see report Attachment 1, have not been evaluated for any impairments under the four categories analyzed by the EPA: Aquatic Life, Fish Consumption, Recreation and Wildlife. There are no probable sources of impairment that can be identified in this waterbody, based on review of DEQ information. Crooked Creek, which is approximately 0.3 miles downstream of the Site, is the closest evaluated waterway to the site found in in good condition when analyzed for Aquatic Life, see report Attachment 2. There were no samples taken from the site and this report utilizes publicly available resources to determine the general condition of waterways that will receive discharge from the Project Area. The condition of a waterbody is dynamic and can change at any time, and the information from the How's My Waterway? Tool should only be used for general reference for analyzing this Project and the larger watershed (Hydrologic Unit Code 030102040302).

Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations. A desktop analysis had previously been performed VHB and did not identify any conservation lands or easements within the study area. There was an additional 2-mile buffer of the site studied which identified a Virginia Department of Forestry (DOF) conservation easement. Given the distance of the identified resource from the proposed project, it is anticipated that the development of the study area as a solar generation facility would not adversely impact the identified resource.

VHB has received a Preliminary Jurisdictional Determination from the United States Army Corps of Engineers (USACE). Offsite research was conducted utilizing the Natural Resources Conservation Service (NRCS) Web Soil Survey, the U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI), and the U.S. geological Survey (USGS) Quadrangle Maps for Kenbridge West, VA. The results of the WOTUS Delineation indicated that there are jurisdictional aquatic resources that are present in the project area, see Attachment 3. All wetlands that are identified in the project area and confirmed by the USACE will be avoided when possible and best management practices will be implemented to minimize impacts to nearby waterbodies. The Project will prepare a SWPPP to ensure that any ground disturbing activity during construction does not negatively impact the water quality or quantity to the surrounding waterbodies.

II. Air Quality Review

DEQ's Environmental Data Mapper was used in the air quality analysis in the vicinity of the project area. Active air sites in Virginia are facilities that adhere to the air program details and report their pollutant emissions. The Disposal and Recycling Services of Lunenburg is the closest active air site and is approximately 3.5 miles Northwest of the project area, see Attachment 5. This facility is categorized as "true minor" site which infers that the site has the potential to emit regulated New Source Review pollutants in amounts less than the major source threshold. It is unlikely that the Site would affect or be affected by any of these regulated facilities.

The proposed solar facility would have no negative impact on surrounding air quality. In comparison with traditional fossil-fuel methods of energy generation, this solar facility will avoid the release of emissions and negative air quality impacts. EPA's Avoided Emissions and Generation Tool (AVERT) was utilized to calculate the regional beneficial air quality impacts if the site was to be constructed. Annual avoided impacts were calculated using Mid-Atlantic Regional data and assuming a 12 MW project and are as follows:

Pollutant	Annual Avoided Impacts (lb.)		
Sulfur Dioxide (SO ₂)	-23,540		
Nitrous Oxide (NO _x)	-16,150		
Carbon Dioxide (CO ₂)	-17,700		
Particulate Matter (PM _{2.5})	-2,240		
Volatile Organic Compounds (VOCs)	-480		
Ammonia (NH₃)	-590		

III. Summary and Conclusions

This desktop review of water and air quality of the project area and within a 2.5-mile radius of the site was conducted using sources recommended in the Ordinance for Solar Energy Facilities in Lunenburg County. On-site water resources that were identified will be protected using best management practices and devices from the DEQ Erosion & Sediment Control Handbook.

Attachments

- Attachment 1 Waterbody Report Unsegmented Portion of Watershed CM09
- Attachment 2 Waterbody Report Crooked Creek
- Attachment 3 Wetland Delineation Map
- Attachment 4 Active Air Site Vicinity Map



How's My Waterway?

Waterbody Report





Assessment Information from 2020 State or Tribal Nation specific designated uses: Collapse All 🕨 Aquatic Life Not Assessed v Identified Issues for Use

No impairments evaluated for this use.

Other Water Quality Parameters Evaluated

No other parameters evaluated for this use.

Fish Consumption

Identified Issues for Use No impairments evaluated for this use.

Other Water Quality Parameters Evaluated No other parameters evaluated for this use.

Recreation

Identified Issues for Use No impairments evaluated for this use.

Other Water Quality Parameters Evaluated No other parameters evaluated for this use.

Wildlife

Not Assessed

Identified Issues for Use No impairments evaluated for this use.

Other Water Quality Parameters Evaluated No other parameters evaluated for this use.

Probable sources contributing to impairment from 2020:

No probable sources of impairment identified for this waterbody.

Assessment Documents

No documents are available

Plans to Restore Water Quality

What plans are in place to protect or restore water quality?

No plans specified for this waterbody.

Not Assessed

Not Assessed 🗸 🗸

No impairments evaluated for this use.

How's My Waterway?

Waterbody Report





Assessment Information from 2020 State or Tribal Nation specific designated uses: Collapse All 🕨 Aquatic Life Good V Identified Issues for Use

Other Water Quality Parameters Evaluated

No other parameters evaluated for this use.

Fish Consumption

Identified Issues for Use No impairments evaluated for this use.

E Other Water Quality Parameters Evaluated No other parameters evaluated for this use.

Recreation

Identified Issues for Use No impairments evaluated for this use.

Other Water Quality Parameters Evaluated No other parameters evaluated for this use.

Wildlife

V

Identified Issues for Use No impairments evaluated for this use.

E Other Water Quality Parameters Evaluated No other parameters evaluated for this use.

Probable sources contributing to impairment from 2020:

No probable sources of impairment identified for this waterbody.

Assessment Documents

No documents are available

Plans to Restore Water Quality

What plans are in place to protect or restore water quality?

No plans specified for this waterbody.

Not Assessed v

Not Assessed v

Not Assessed



DEPARTMENT OF THE ARMY US ARMY CORPS OF ENGINEERS NORFOLK DISTRICT FORT NORFOLK 803 FRONT STREET NORFOLK VA 23510-1011

August 29, 2022

PRELIMINARY JURISDICTIONAL DETERMINATION

Southern Virginia Regulatory Section NAO-2022-01263 (Crooked Creek)

Ms. Virginia Wilson 5844 Oral Oaks Road Kenbridge, VA 23944

Dear Ms. Wilson:

This letter is in regard to your request for a preliminary jurisdictional determination of the aquatic resources (e.g., wetlands, streams, and ponds), on an approximately 105acre property located at 5874 Oral Oaks Road, known as Kenbridge Solar, in Lunenburg County, Virginia (tax map parcel #058-0A-0-29) hereinafter referred to as project area.

The map entitled "Ameresco – Kenbridge Solar Site, Preliminary Jurisdictional Determination", by VHB received by the U.S. Army Corps of Engineers (Corps) on August 19, 2022 (copy enclosed) provides the locations of the aquatic resources within the project area referenced above. This letter is not confirming the Cowardin classifications of these aquatic resources.

These aquatic resources exhibit wetland criteria as defined in the 1987 Corps of Engineers Wetland Delineation Manual, and the Eastern Mountains and Piedmont Regional Supplement. This site also contains aquatic resources with an ordinary highwater mark (or high tide line).

This preliminary jurisdictional determination and associated aquatic resource delineation map may be submitted with a permit application.

Please be aware that you may be required to obtain a Corps permit for any discharge of dredged and/or fill material, either temporary or permanent, into a water of the U.S. In addition, you may be required to obtain a Corps permit for certain activities occurring within, under, or over a navigable water of the U.S. subject to the Section 10 of the Rivers and Harbors Act. Furthermore, you may be required to obtain state and local authorizations, including a Virginia Water Protection Permit from the Virginia Department of Environmental Quality (DEQ), a permit from the Virginia Marine Resources Commission (VMRC), and/or a permit from your local wetlands board.

This delineation and preliminary jurisdictional determination may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. Therefore, if you or your tenant are US Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should discuss the applicability of a certified wetland determination with the local USDA service center, prior to starting work.

The Norfolk District has relied on the information and data provided by the requestor or agent to make this preliminary determination. If it is determined such information and data are materially false or materially incomplete, a new preliminary determination would be necessary.

This is a preliminary jurisdictional determination and is not a legally binding determination regarding whether Corps jurisdiction applies to the aquatic resources in question. To determine Corps' jurisdiction, you may request and obtain an approved jurisdictional determination.

This delineation of aquatic resources can be relied upon for no more than five years from the date of this letter. New information may warrant revision. Enclosed is a copy of the "Preliminary Jurisdictional Determination Form". Please review the document, sign, and return one copy to the Corps by email at julie.s.hamilton@usace.army.mil.

If you have any questions, please contact the office either by telephone at (804) 436-4725 or by email at julie.s.hamilton@usace.army.mil.

Sincerely,

Julie S. Hamilton

Julie S. Hamilton Environmental Scientist Southern Virginia Regulatory Section

Enclosure(s):

cc: VHB VDEQ-Piedmont



ATTACHMENT 4

Environmental Data Mapper Web Map



Active Air Sites (Daily)

Major/Potential Major

Virginia County Boundaries

True Minor

DEQ Offices (2020)

Synthetic Minor

Virginia Department of Environmental Quality, Esri, NASA, NGA, USGS, FEMA, This EPA Geospatial data set is generated from the following national environmental programs: Superfund National Priorities Provided by Virginia Department of Environmental Quality Terms of use: https://geohub-vadeq.hub.arcgis.com/pages/terms-of-use

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D Appendix D

Wildlife Impacts Narrative

Wildlife Impacts Narrative

VHB performed a full desktop analysis of potential wildlife impacts in line with Lunenburg County's Solar Ordinance requirements. The desktop review of the Kenbridge Solar project, a proposed solar energy electric power generation facility, was conducted to report the potential impacts on wildlife and wildlife habitats at the site and within a two and one-half-mile (2.5) radius of the proposed facility. The 128.2-acre site is in Lunenburg County, Virginia adjacent to Oral Oaks Road. The publicly available data from the Virginia Department of Wildlife Resources was used to identify any constraints that would limit the development of the solar facility in compliance with the comprehensive plan.

I. Threatened and Endangered Species Database Search

This endangered species report was conducted to gain information regarding the proximity of any Endangered Species Act listed species as well as state species within the project limits. The following agencies and associated databases were reviewed for threatened and endangered species:

- U.S. Fish and Wildlife Services (USFWS) Information, Planning and Consultations system (IPaC)
- Virginia Department of Wildlife Resources (VDWR) Virginia Fish and Wildlife Information Service (VaFWIS)
- Virginia Department of Wildlife Resources (VDWR) Northern Long Eared Bat (NLEB) Winter Habitat & Roosts Locator
- Virginia Department of Wildlife Resources (VDWR) Little Brown Bat and Tri-colored Bat Winter Habitat & Roosts Locator
- Virginia Department of Conservation and Recreation (VDCR) Natural Heritage Data Explorer (NHDE)
- Virginia Department of Environmental Quality (VDEQ) Coastal Geospatial and Education Mapping System (GEMS)
- Center for Conservation Biology (CCB) VA Eagles Nest Locator
- U.S. Fish and Wildlife Services (USFWS) Bald Eagle Concentration Areas

The complete database search found that there is one species that is protected at both the state and federal level. A summary of the endangered species that could be found within the project area can be found in the following table.

Common Name	Scientific Name	Status	Agency Source
Northern Long-eared Bat	Myotis	Federal Threatened	USFWS
-	septentrionalis	State Threatened	
Monarch Butterfly	Danaus plexippus	Candidate	USFWS

According to the results from USFWS IPaC, there is potential for the federally and state threatened northern long-eared bat (NLEB) to exist within the project limits. Utilizing the publicly available data from the VDWR NLEB Winter Habitat & Roost Locator there were no known maternity roosts or hibernaculum located within or near the Project Site. The NLEB is being re-classified (effective 12/30/22) and could result in impacts to project schedule as well as require both habitat and species surveys if any tree clearing is required.

According to the results from USFWS IPaC the monarch butterfly has the potential to occur on the site. The monarch butterfly is a candidate species but not currently listed as a federally or state threatened or endangered. A candidate species is a species that is under consideration for official listing but does not have sufficient information, therefore there is no further consultation with USFWS required. It is recommended that agencies take advantage of any opportunity there is to conserve the species.

According to the VDWR the Little Brown Bat and Tri-colored Bat Winter Habitat & Roosts Locator, both species do not have hibernacula within range of the Site. The locator shows that that these species are typically known to populate western Virginia and there will be no potential impacts that would have ramifications for this development.

According to the VDCR results obtained by VHB, there were no natural heritage sites found with the project limits and the project buffer. These sites are defined as the habitat of plant and animal species that are rare, threatened and endangered as well as unique natural communities and significant geologic formations. The preliminary results from this analysis do not require any further correspondence with the VDCR.

The GEMS report provides a gateway to Virginia's coastal resource values as well as a growing inventory of water and land based natural resources to serve as a planning tool to protect Virginia's coastal ecosystems. Since this project is in Lunenburg County, it does not fall within a Coastal Area Protection Zone (CAPZ) and no further consideration is needed.

The Center for Conservation Biology's Eagle Nest Locator found no nests in the vicinity of the project. Additionally, the USFWS Bald Eagle Concentration Map does not identify any areas of importance near the project area and no further actions are required.

II. Summary and Conclusions

This review has utilized all the publicly available data in the planning and consideration of the wildlife impacts that could occur in the construction and facilitation of the proposed solar energy generation facility. Any work that is proposed within the limits of jurisdictional wetlands or waters of the U.S., would require Section 401 and Section 404 Clean Water Act Permits. Submittal of a Section 404 Clean Water Act Permit will provide a federal nexus that will engage a review of threatened and endangered species that could further impose timeline restrictions or reduce the developable footprint of the project. In accordance with the conceptual design plan dated 12/16/2022, the facility does not propose impacts to any Waters of the U.S. and Kenbridge Solar will be able to progress without any wildlife impact considerations.

Attachments

Attachment 1 - Threatened and Endangered Species Database Searches

THREATENED AND ENDANGERED SPECIES DATABASE SEARCHES

IPaC resource list

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

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

Location

Lunenburg County, Virginia



Local office

Virginia Ecological Services Field Office

<a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><a><