Cultural Resources Survey of the Proposed Bushy Park Extension Pipeline Project

Berkeley County, South Carolina



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Final Report

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Prepared for:
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and

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Abstract

In March 2018, Brockington and Associates, Inc., conducted a cultural resources survey of the proposed Bushy Park Extension Pipeline Project in Berkeley County, South Carolina. This survey was conducted for Geosyntec Consultants, Inc., on behalf of Dominion Energy Carolina Gas Transmission, LLC. The proposed gas line corridor is located in the Bushy Park industrial area near South Carolina Electric & Gas's AM Williams Station. The Area of Potential Effect (APE) includes a 2000-foot-long corridor that is 50 feet wide, and two approximately 1-acre temporary construction staging areas at the corridor's southern and northern ends.

We documented one historic architectural resource (Resource 1275) and one archaeological site (Site 38BK3140) during the survey. Resource 1275 is a portion of a road associated with the eighteenth- through twentieth-century Cote Bas Plantation. Site 38BK3140 is a small surface and subsurface scatter of discarded artifacts associated with former twentieth-century tenant housing. Artifacts were documented in the field and not collected. We recommend both Resource 1275 and archaeological Site 38BK3140 not eligible for the National Register of Historic Places. There are no recorded historic properties within one-half mile of the APE, and there are no previous recorded extant structures within the APE. The proposed Bushy Park Extension Pipeline Project will have no effect on historic properties.

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1.0 Introduction and Methods

1.1 Introduction

In March 2018, Brockington and Associates, Inc., (Brockington) conducted a Phase I cultural resources survey of the proposed Bushy Park Extension Pipeline Project in Berkeley County, South Carolina. This survey was conducted for Geosyntec Consultants, Inc., on behalf of Dominion Energy Carolina Gas Transmission, LLC (DECG). The survey was conducted in compliance with Section 106 of the National Historic Preservation Act of 1966, as administered by the Federal Energy Regulatory Commission (FERC) to determine if historic properties will be affected by the undertaking. The survey was conducted in compliance with the state's standards and guidelines for cultural resources investigations and regulatory programs administered through the FERC.

The proposed gas line corridor is located in the Bushy Park industrial area near South Carolina Electric & Gas's (SCE&G) AM Williams Station. The Area of Potential Effect (APE) includes a 2000-foot-long corridor that is 50 feet wide centered over existing access roads, and two approximately 1-acre temporary construction staging areas at the corridor's southern and northern ends. Figure 1.1 presents the proposed pipeline project on the United States Geological Survey (USGS) (1979) *Kittredge, SC* quadrangle.

We documented one historic architectural resource (Resource 1275) and one archaeological site (Site 38BK3140) during the survey. We recommend both these sites not eligible for the National Register of Historic Places (NRHP). There are no recorded historic properties within one-half mile of the APE. The proposed Bushy Park Extension Pipeline Project will have no effect on historic properties.

The remainder of Chapter 1 presents the methods employed during the background research, field investigation, and NRHP eligibility assessment. Chapter 2 presents an overview of the natural and cultural setting. Chapter 3 presents the results of the survey and our management recommendations. The site descriptions include recommendations of the NRHP eligibility of all sites. Appendix A includes the Statewide Survey Form for Resource 1275. Appendix B includes all SHPO correspondence.

1.2 Methods of Investigation

1.2.1 Project Objectives

Project objectives included an attempt to locate all cultural resources within the proposed route to determine the potential effect that the proposed pipeline extension might have on historic properties. Tasks performed to accomplish these objectives include archival background research, archaeological field survey, laboratory analyses, NRHP assessment, and curation. Methods employed for each of these tasks are described below.

1.2.2 Background Research

Background research included a review of ArchSite, the state's online database for cultural resources. Investigators also reviewed several previous studies in the immediate project area for various utility corridor projects, DuPont (James and Moore 2015), SCE&G, and the Charleston Naval Weapons Station. Brockington's survey by Bailey (2006) of a proposed coal dock at the AM Williams Station was particularly useful because it was part of Cote Bas Plantation, as was the current project corridor.

1.2.3 Field Methods

The field investigations were focused on locating and documenting all cultural resources and isolated occurrences along the survey areas of the Bushy Park Extension Pipeline Project. Archaeologists examined the 2000-foot-wide corridor by placing two parallel transects spaced no more than 100 feet apart along the corridor. In the northern portion of the APE, a third transect was added for optimal coverage of the portions of the corridor that extended west. In the southern portion of the APE, a fourth and fifth transect was added for optimal coverage of the non-disturbed portions of the APE. All portions of the APE disturbed by industrial development, including the northern and southern staging areas, were surveyed by walkover inspection. The systematic pedestrian survey was conducted according to the South Carolina Standards and Guidelines for Archaeological Investigations (South Carolina Department of Archives and History [SCDAH] 2013). Figure 1.2 presents the survey coverage of the APE on an aerial photograph.

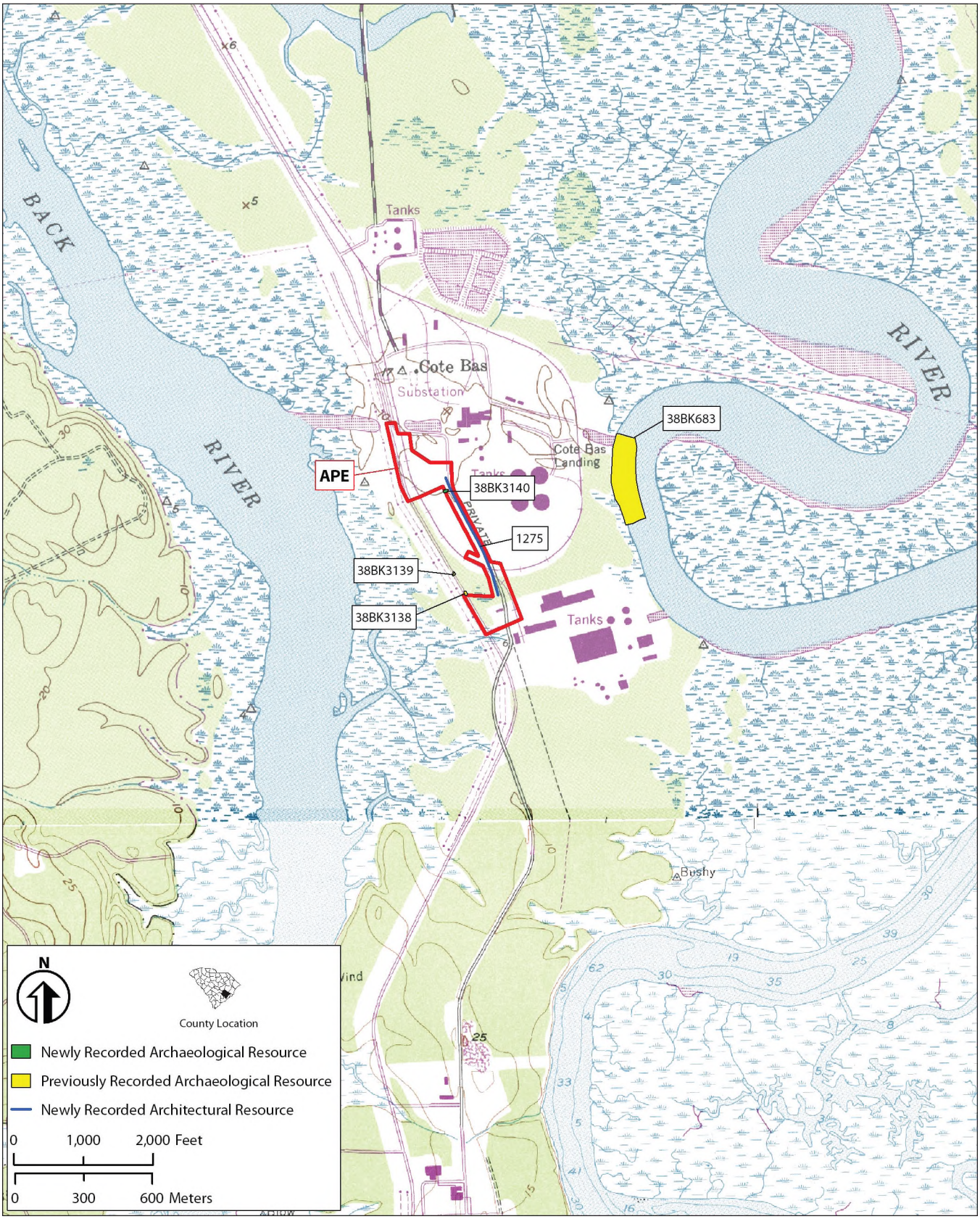

Figure 1.1. The proposed DECG Bushy Park Extension Pipeline on the USGS (1979) *Kittredge*, *SC* quadrangle.

Figure 1.2. Shovel test coverage of the Bushy Park Extension Pipeline Project APE.

Each shovel test measured approximately one foot in diameter and was excavated until reaching culturally sterile soil, the depth of which varied across the survey area. The fill from all shovel tests was sifted through ¼-inch mesh hardware cloth. Investigators recorded information relating to each shovel test and soil profile in field notebooks. This information included the content (e.g., presence or absence of cultural materials) and context (e.g., soil color, texture, stratification) of each test. Also noted was the environmental setting near each shovel test (e.g., hardwoods, marsh). Investigators also visually inspected the ground surface where possible. All shovel tests were backfilled upon completion.

An archaeological site is a locale yielding three or more prehistoric or historic artifacts within a 100-foot (30 meter) radius. Locales that produce less than three contemporaneous artifacts are identified as isolated finds (SCDAH 2013). Also, obviously redeposited artifacts (even if greater than three in number) are typically defined as an isolated find rather than a site unless there is a compelling reason for doing otherwise. Investigators defined site boundaries by excavating additional shovel tests at reduced intervals of 50 feet (15 meters) around the positive tests until two consecutive shovel tests failed to produce artifacts.

The site was recorded with a Trimble Pathfinder Pro XRS. The global positioning system (GPS) receiver was calibrated to the 1927 North American Datum (NAD27) to coordinate with the appropriate USGS 7.5-minute quadrangle. The Universal Transverse Mercator (UTM) coordinates obtained from the GPS readings were entered in the ArcView® software program. These coordinates were plotted on the digital USGS quadrangle for the tract. We prepared a South Carolina Institute of Archaeology and Anthropology (SCIAA) site inventory record for the newly identified site. We submitted this site form to SCIAA for the assignment of a permanent site number.

The project architectural historian conducted an intensive architectural survey of all aboveground cultural resources within the architectural APE. The survey attempted to identify, record, and evaluate all historic architectural resources (buildings, structures, objects, designed landscapes, and/or sites with aboveground components) in the project area. Field survey methods complied with the *Survey Manual: South Carolina Statewide Survey of Historic Properties* (SCDAH 2015) and National Register Bulletin 24, *Guidelines for Local Surveys: A Basis for Preservation Planning* (Parker 1985). In accordance with the scope of work and standard SCDAH survey practice, the project architectural historian drove every street and road in the architectural APE and conducted a pedestrian inspection of the APE.

The principal criterion used by the SCDAH to define historic architectural resources is a 50-year minimum age; however, that rule does not always allow for the recordation of all historically significant resources. This could include resources related to the civil rights movement, the Cold War, or the development of tourism in South Carolina. In addition, certain other classes of architectural resources may be recorded (SCDAH 2015:9):

- Architectural resources representative of a particular style, form of craftsmanship, method of construction, or building type
- Properties associated with significant events or broad patterns in local, state, or national history
- Properties that convey evidence of the community's historical patterns of development
- Historic cemeteries and burial grounds
- Historic landscapes such as parks, gardens, and agricultural fields
- Properties that convey evidence of significant "recent past" history (i.e., civil rights movement, Cold War, etc.)
- Properties associated with the lives or activities of persons significant in local, state, or national history
- Sites where ruins, foundations, or remnants of historically significant structures are present

For a resource to be eligible for documentation, the architectural historian must determine that it retains some degree of integrity. According to the SCDAH (2015:10), a resource that has integrity,

> retains its historic appearance and character… [and] conveys a strong feeling of the period in history during which it achieved significance.

> Integrity is the composite of seven qualities: location, design, setting, materials, workmanship, feeling, and association. To have a reasonable degree of integrity, a property must possess at least several of these qualities.

Also, integrity is evaluated in the context of the local region.

The architectural resource in the project APE was recorded on South Carolina Statewide Survey (SCSS) forms in digital format using the survey database (Microsoft Access 2016™). At least one digital photograph was taken of the resource. The location of the architectural resource was recorded on the USGS topographic map (see Figure 1.1). The completed forms, including the various maps and photographs, were prepared for SCDAH for review.

1.2.4 Assessing NRHP Eligibility

All cultural resources encountered are assessed as to their significance based on the criteria of the NRHP. As per 36 CFR 60.4, there are four broad evaluative criteria for determining the significance of a particular resource and its eligibility for the NRHP. Any resource (building, structure, site, object, or district) may be eligible for the NRHP that:

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

A resource may be eligible under one or more of these criteria. Criteria A, B, and C are most frequently applied to historic buildings, structures, objects, non-archaeological sites (e.g., battlefields, natural features, designed landscapes, or cemeteries), or districts. The eligibility of archaeological sites is considered with respect to Criterion D. Also, a general guide of 50 years of age is employed to define "historic" in the NRHP evaluation process. That is, all resources greater than 50 years of age may be considered. However, more recent resources may be considered if they display "exceptional" significance (Sherfy and Luce 1998).

Following *National Register Bulletin: How to Apply the National Register Criteria for Evaluation* (Savage and Pope 1998), evaluation of any resource requires a twofold process. First, the resource must be associated with an important historical context. If this association is demonstrated, the integrity of the resource must be evaluated to ensure that it conveys the significance of its context. The applications of these steps are discussed in more detail below.

Determining the association of a resource with a historical context involves five steps (Savage and Pope 1998). First, the resource must be associated with a particular facet of local, regional (state), or national history. Secondly, one must determine the significance of the identified historical facet/context with respect to the resource under evaluation. A lack of Native American archaeological sites within a project area would preclude the use of contexts associated with the prehistoric use of a region.

The third step is to demonstrate the ability of a particular resource to illustrate the context. A resource should be a component of the locales and features created or used during the historical period in question. For example, early nineteenth-century farmhouses, the ruins of African American slave settlements from the 1820s, and/or field systems associated with particular antebellum plantations in the region would illustrate various aspects of the agricultural development of the region prior to the Civil War. Conversely, contemporary churches or road networks may have been used during this time period but do not reflect the agricultural practices suggested by the other kinds of resources.

The fourth step involves determining the specific association of a resource with aspects of the significant historical context. Savage and Pope (1998) define how one should consider a resource under each of the four criteria of significance. Under Criterion A, a property must have existed at the time that a particular event or pattern of events occurred, and activities associated with the event(s) must have

occurred at the site. In addition, this association must be of a significant nature, not just a casual occurrence (Savage and Pope 1998). Under Criterion B, the resource must be associated with historically important individuals. Again, this association must relate to the period or events that convey historical significance to the individual, not just that this person was present at this locale (Savage and Pope 1998). Under Criterion C, a resource must possess physical features or traits that reflect a style, type, period, or method of construction; display high artistic value; or represent the work of a master (an individual whose work can be distinguished from others and possesses recognizable greatness) (Savage and Pope 1998). Under Criterion D, a resource must possess sources of information that can address specific important research questions (Savage and Pope 1998). These questions must generate information that is important in reconstructing or interpreting the past (Butler 1987; Townsend et al. 1993). For archaeological sites, recoverable data must be able to address specific research questions.

After a resource is associated with a specific significant historical context, one must determine which physical features of the resource reflect its significance. One should consider the types of resources that may be associated with the context, how these resources represent the theme, and which aspects of integrity apply to the resource in question (Savage and Pope 1998). As in the antebellum agriculture example given above, a variety of resources may reflect this context (farmhouses, ruins of slave settlements, field systems, etc.). One must demonstrate how these resources reflect the context. The farmhouses represent the residences of the principal landowners who were responsible for implementing the agricultural practices that drove the economy of the South Carolina area during the antebellum period. The slave settlements housed the workers who conducted the majority of the daily activities necessary to plant, harvest, process, and market crops.

Once the above steps are completed and the association with a historically significant context is demonstrated, one must consider the aspects of integrity applicable to a resource. Integrity is defined in seven aspects of a resource; one or more may be applicable depending on the nature of the resource under evaluation. These aspects are location, design, setting, materials, workmanship, feeling, and association (36 CFR 60.4; Savage and Pope 1998). If a resource does not possess integrity with respect to these aspects, it cannot adequately reflect or represent its associated historically significant context. Therefore, it cannot be eligible for the NRHP. To be considered eligible under Criteria A and B, a resource must retain its essential physical characteristics that were present during the event(s) with which it is associated. Under Criterion C, a resource must retain enough of its physical characteristics to reflect the style, type, etc., or work of the artisan that it represents. Under Criterion D, a resource must be able to generate data that can address specific research questions that are important in reconstructing or interpreting the past.

2.0 Environmental and Cultural Settings

2.1 Environmental Setting

The Bushy Park Extension Pipeline Project is located in the southeastern portion of Berkeley County, northeast of Goose Creek and southeast of Moncks Corner. It is between the Cooper River to the east and Back River to the west. Bushy Park Road borders the corridor to the west and a transmission line corridor extends along the APE's east edge. Vegetation across the corridor consists of a mixed wooded and low-lying areas with moderate understories in an otherwise industrial area. The staging areas include a recreational baseball field located on the northern end of the APE and a graded and disturbed industrial boatyard located on the southern end of the APE. Figure 2.1 shows typical views of the Bushy Park Extension Pipeline Project.

Berkeley County is located in the southern portion of South Carolina and has among the mildest climates in the state (Stuck 1980). The climate is subtropical, with long, hot, and humid summers followed by short, mild winters. Rainfall is frequent and well-distributed throughout the year. An abundance of moist, warm, unstable air frequently produces scattered showers and thunderstorms.

Average annual rainfall in Berkeley County is approximately four feet. The average daily maximum temperature reaches a peak of 80.1°F in July, although average highs are in the 80°F range from May through September. A mean high of 46.8°F characterizes the coldest month, January. Berkeley County averages 249 frost-free days per year, with first and last frosts occurring by November 2 and April 3, respectively (Long 1980:46; Miller 1971).

The tropical storm season runs from June through October. Hurricanes are rare for the area, but tropical storms with winds up to 80 kilometers per hour occur on an average of every two to three years. Tornado season runs from March through October, but April and May are the months of greatest tornado hazard (Stuck 1980).

Soil types present within the Bushy Park Extension Pipeline Project include Caroline, Craven, Duplin, Lenoir, and Meggett series soils (Stuck 1980). Caroline soils are well-drained and occur in gently sloping, low-lying areas (Stuck 1980:13). Craven and Duplin soils are moderately well-drained and occur in gently sloping areas within Coastal Plain sediment (Stuck 1980:16-17). Lenoir soils are somewhat poorly drained and occur in broad low flats (Stuck 1980:19-20). Meggett soils are poorly drained and commonly occur along the Coastal Plain (Stuck 1980:22).

2.1.1 Holocene Changes in the Environment

Regional research in palynology, historic biogeography, and coastal geomorphology allows a general reconstruction of the Holocene changes in the environment. Data from Florida, Georgia, North Carolina, and Virginia indicate that the Late Pleistocene was a time of transition from full glacial to Holocene environmental conditions (Gardner 1974; Watts 1980; Whitehead 1965, 1973). Upper Coastal Plain forests of the Late Pleistocene (as reflected in the White Pond pollen record) were dominated by oak, hickory, beech, and ironwood (Watts 1980). The deciduous forest occurred in a cooler, moister climate than exists in the region today (Barry 1980; Braun 1950).

The general warming trend at the onset of the Holocene is reflected in sea level changes. Beginning approximately 17,000 years before present (BP), sea level began to rise from its Late Pleistocene low of approximately 100 meters below modern mean sea level (Brooks et al. 1989; Colquhoun and Brooks 1986; Howard et al. 1980). By 7,000 BP, sea level rose to within 6.5 meters of present levels. Figure 2.2 summarizes these more recent fluctuations in the region.

As drier and warmer conditions became prevalent during the Early Holocene, pines and other species suited to more xeric conditions increased. The southern forest at 7,000 BP was beginning to resemble that of modern times (Watts 1980). The Early Holocene also was a period of extinction for many large Pleistocene mammals. On a regional level, vegetation and climate have remained effectively static since the Early Holocene.

Figure 2.1 View of the project vegetation, facing west (top), and staging areas on the northern (middle) and southern (bottom) ends of the APE, facing southwest, and west, respectively.

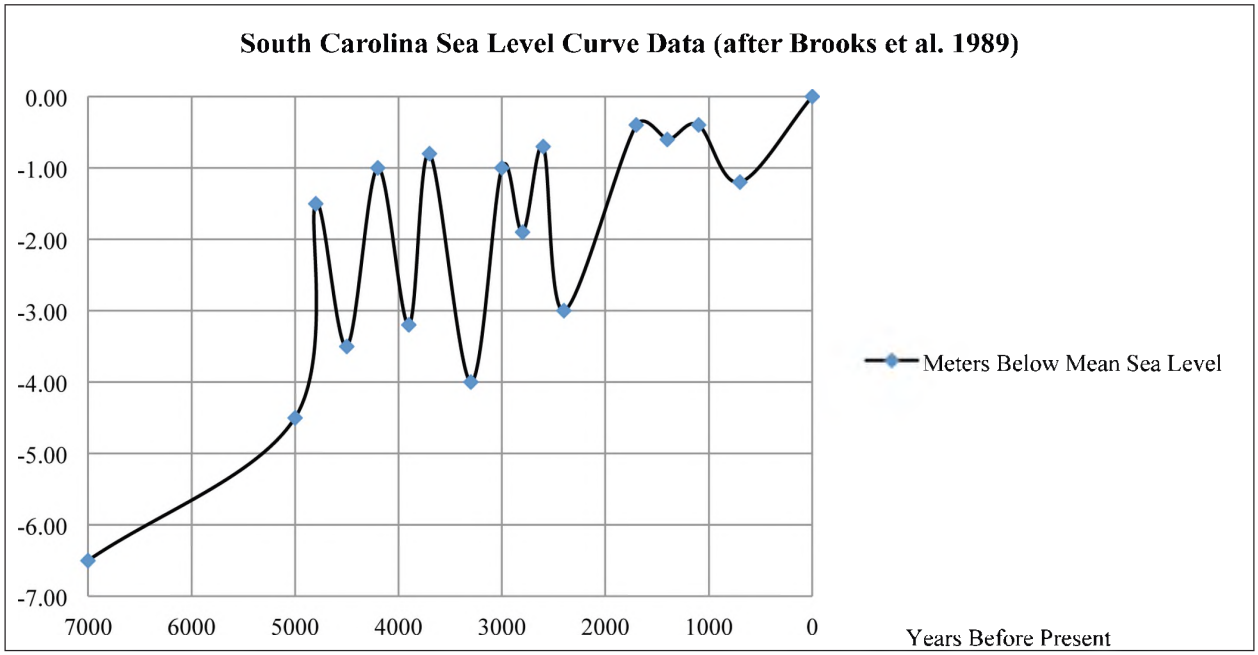

Figure 2.2 South Carolina sea level curve data (after Brooks et al. 1989).

2.2 Cultural Setting

The cultural history of North America generally is divided into three eras: Pre-Contact, Contact, and Post-Contact. The Pre-Contact era refers primarily to the Native American groups and cultures that were present for at least 10,000 to 12,000 years prior to the arrival of Europeans. The Contact era refers to the time of exploration and initial European settlement on the continent. The Post-Contact era refers to the time after the establishment of European settlements, when Native American populations usually were in rapid decline. Within these eras, finer temporal and cultural subdivisions have been defined to permit discussions of particular events and the lifeways of the peoples who inhabited North America at that time.

2.2.1 Pre-Contact Era

In South Carolina, the Pre-Contact era is divided into four stages (after Willey and Phillips 1958). These include the Lithic, Archaic, Woodland, and Mississippian. Specific technologies and strategies for procuring resources define each of these stages, with approximate temporal limits also in place. Within each stage, with the exception of the Lithic stage, there are temporal periods that are defined on technological bases as well. A brief description of each stage follows, including discussions of the temporal periods within each stage. Within these eras, finer temporal and cultural subdivisions are defined to permit discussions of particular events and the lifeways of the peoples who inhabited North America at that time. Table 2.1 summarizes these eras. Readers are directed to Goodyear and Hanson (1989) for more detailed discussions of particular aspects of these stages and periods in South Carolina.

Lithic Stage. The beginning of the human occupation of North America is unclear. For most of the twentieth century, archaeologists believed that humans arrived on the continent near the end of the last Pleistocene glaciation, termed the Wisconsinan in North America, a few centuries prior to 10,000 BC. The distinctive fluted projectile points and blade tool technology of the Paleoindians (described below) occurs throughout North America by this time. During the last few decades of the twentieth century, researchers began to encounter artifacts and deposits that predate the Paleoindian period at a number of sites in North and South America. To date, these sites are few in number. The most notable are Meadowcroft Rock Shelter in Pennsylvania (Adovasio et al. 1990; Carlisle and Adovasio 1982), Monte Verde in Chile (Dillehay 1989, 1997; Meltzer et al. 1997), Cactus Hill in Virginia (McAvoy and McAvoy 1997), and most recently, the Topper/Big Pine Tree site in

Table 2.1 Cultural sequence for Coastal South Carolina.

Period/Era	Date	Ceramic Types
Ceramic Late Archaic	2500-1000 BC	Stallings Drag and Jab Punctate, Finger Pinched, Incised, Simple Stamped, Plain
		Thom's Creek Drag and Jab Punctate, Finger Pinched, Incised, Simple Stamped, Plain
Early Woodland	1500-1000 BC	Refuge Dentate Stamped, Incised, Punctate, Simple Stamped, Plain
	1000-200 BC	Deptford Brushed, Check Stamped, Simple Stamped, Plain
Middle Woodland	200 BC-AD 200	Deptford Brushed, Check Stamped, Simple Stamped, Plain
	AD 200-500	Wilmington Check Stamped, Cord Marked, Fabric Impressed, Plain
		Deptford Brushed, Check Stamped, Cord Marked, Fabric Impressed, Plain
		Berkeley Check Stamped, Cord Marked, Fabric Impressed, Plain
Late Woodland	AD 500-900	Berkeley Cord Marked, Fabric Impressed, Plain
		Deptford Cord Marked, Fabric Impressed
		McClellanville Cord Marked, Fabric Impressed
		Wando Check Stamped, Cord Marked, Fabric Impressed, Simple Stamped
		Wilmington Cord Marked, Fabric Impressed, Plain
	AD 900-1100	St. Catherines Cord Marked, Fabric Impressed, Net Impressed
		McClellanville Cord Marked, Fabric Impressed
		Santee Simple Stamped
		Wando Check Stamped, Cord Marked, Fabric Impressed, Simple Stamped
		Wilmington Cord Marked
Early Mississippian	AD 1100-1400	Savannah/Jeremy Burnished Plain, Check Stamped, Complicated Stamped
Late Mississippian	AD 1400-1550	Pee Dee Burnished Plain, Complicated Stamped, Incised
Contact	AD 1550-1715	Ashley Burnished Plain, Complicated Stamped, Cob Marked, Line Block Stamped

Allendale County, South Carolina (Goodyear 1999). All these sites contain artifacts in stratigraphic locales below Paleoindian deposits. Radiocarbon dates indicate occupations at the Meadowcroft and Topper/Big Pine Tree sites that are 10,000 to 20,000 years earlier than the earliest Paleoindian occupations. Cactus Hill produced evidence of a blade technology that predates Paleoindian sites by 2,000 to 3,000 years. Monte Verde produced radiocarbon dates comparable to those at North and South American Paleoindian sites but reflects a very different lithic technology than that evidenced at Paleoindian sites. Similarly, the lithic artifacts associated with the other pre-Paleoindian deposits discovered to date do not display the blade technology so evident during the succeeding period. Unfortunately, the numbers of artifacts recovered from these sites are too small at present to determine if they reflect a single technology or multiple approaches to lithic tool manufacture. Additional research at these and other sites will be necessary to determine how they relate to the better-known sites of the succeeding Paleoindian period, and how these early sites reflect the peopling of North America and the New World.

Paleoindian Period (10,000-8000 BC). An identifiable human presence in the South Carolina Coastal Plain began about 12,000 years ago with the movement of Paleoindian hunter-gatherers into the region. Initially, the Paleoindian period is marked by the presence of distinctive fluted projectile points and other tools manufactured on stone blades. Excavations at sites throughout North America have produced datable remains that indicate that these types of stone tools were in use by about 10,000 BC.

Goodyear et al. (1989) review the evidence for the Paleoindian occupation of South Carolina. Based on the distribution of the distinctive fluted spear points, they see the major sources of highly workable lithic raw materials as the principal determinant of Paleoindian site location, with a concentration of sites at the Fall Line possibly indicating a

subsistence strategy of seasonal relocation between the Piedmont and Coastal Plain. Based on data from many sites excavated in western North America, Paleoindian groups generally were nomadic, with subsistence focusing on the hunting of large mammals, specifically the now-extinct mammoth, horse, camel, and giant bison. In the east, Paleoindians apparently hunted smaller animals than their western counterparts, although extinct species (such as bison, caribou, and mastodon) were routinely exploited where present. Paleoindian groups were probably small, kin-based bands of 50 or fewer persons. As the environment changed at the end of the Wisconsinan glaciation, Paleoindian groups had to adapt to new forest conditions in the Southeast and throughout North America.

Archaic Stage. The Archaic stage represents the adaptation of southeastern Native Americans to Holocene environments. By 8000 BC, the forests had changed from sub-boreal types common during the Paleoindian period to more modern types. The Archaic stage is divided into three temporal periods: Early, Middle, and Late. Distinctive projectile point types serve as markers for each of these periods. Hunting and gathering was the predominant subsistence mode throughout the Archaic periods, although incipient use of cultigens probably occurred by the Late Archaic period. Also, the terminal Archaic witnessed the introduction of a new technology, namely, the manufacture and use of pottery.

Early Archaic Period (8000-6000 BC). The Early Archaic corresponds to the adaptation of native groups to Holocene conditions. The environment in coastal South Carolina during this period was still colder and moister than at present, and an oak-hickory forest was establishing itself on the Coastal Plain (Watts 1970, 1980; Whitehead 1965, 1973). The megafauna of the Pleistocene became extinct early in this period, and more typically modern woodland flora and fauna were established. The Early Archaic adaptation in the South Carolina Lower Coastal Plain is unclear, as Anderson and Logan (1981:13) report:

> At the present, very little is known about Early Archaic site distribution, although there is some suggestion that sites tend to occur along river terraces, with a decrease in occurrence away from this zone.

However, Anderson and Hanson (1988) developed a settlement model for the Early Archaic period (8000–6000 BC) in South Carolina involving movement of small groups (bands) on a seasonal basis within major river drainages. Archaic groups probably moved within a regular territory on a seasonal basis; exploitation of wild plant and animal resources was well planned and scheduled. The Charleston region is located within the range of the Saluda/Broad band. Anderson and Hanson (1988) hypothesize that Early Archaic use of the Lower Coastal Plain was limited to seasonal (springtime) foraging camps and logistic camps. Aggregation camps and winter base camps are suggested to have been near the Fall Line.

Recent excavations conducted on federal properties, including Francis Marion National Forest (Baluha and Poplin 2012; Cable 1993, 2001, 2003; Poplin et al. 2011) and Shaw Air Force Base (Cable and Cantley 1998) in South Carolina and Fort Bragg (Cable and Cantley 2005; Cable et al. 2005) in North Carolina, have expanded our knowledge but have done little to alter Anderson and Logan's (1981) original theories. Generally, Early Archaic sites are small, indicating a high degree of mobility. Early Archaic finds in the Lower Coastal Plain are typically corner- or side-notched projectile points, determined to be Early Archaic through excavation of sites in other areas of the Southeast (Claggett and Cable 1982; Coe 1964).

Middle and Preceramic Late Archaic Period (6000-2500 BC). The trends initiated in the Early Archaic (i.e., increased population and adaptation to local environments) continued through the Middle Archaic and Preceramic Late Archaic. Climatically, the region was still warming, and an oak-hickory forest dominated the coast until after 3000 BC, when pines became more prevalent (Watts 1970, 1980). Stemmed projectile points and ground stone artifacts characterize this period, and sites increased in size and density through the period.

Blanton and Sassaman (1989) reviewed the archaeological literature on the Middle Archaic period. They document an increased simplification of lithic technology during this period, with increased

use of expedient, situational tools. Furthermore, they argue that the use of local lithic raw materials is characteristic of the Middle and Late Archaic periods. Blanton and Sassaman (1989:68) conclude,

> The data at hand suggest that Middle Archaic populations resorted to a pattern of adaptive flexibility as a response to 'mid-Holocene environmental conditions' such as variable precipitation, sea level rise, and differential vegetational succession.

These processes resulted in changes in the types of resources available from year to year.

Ceramic Late Archaic Period (2500-1000 BC). By the end of the Late Archaic period, two developments occurred that changed human lifeways on the South Carolina Coastal Plain. Sea level rose to within one meter of present levels and the extensive estuaries now present were established (Colquhoun et al. 1981). These estuaries were a reliable source of shellfish, and the Ceramic Late Archaic period saw the first documented emphasis on shellfish exploitation. It was also during this time that the first pottery appeared on the South Carolina coast. In the project region, this pottery is represented by the fiber-tempered Stallings series and the sand-tempered or untempered Thom's Creek series. Decorations include punctation, incising, finger pinching, and simple stamping.

The best-known Ceramic Late Archaic-period sites are shell rings, which occur frequently along tidal marshes. These are usually round or oval rings of shell and other artifacts, with a relatively sterile area in the center. Today many of these rings are in tidal marsh waters. Some archaeologists have interpreted these sites as actual habitation loci adjacent to or within productive shellfish beds. More recent research suggests that these sites had some ceremonial function and represent monumental architecture along the southeast Atlantic seaboard (Saunders 2002). These sites attest to a high degree of sedentism, at least seasonally, by Ceramic Late Archaic peoples.

Woodland Stage. The Woodland stage is marked by the widespread use of pottery, with many new and regionally diverse types appearing, and changes in the strategies and approaches to hunting and gathering. Native Americans appear to be living in smaller groups than during the preceding Ceramic Late Archaic period, but the overall population likely increased. The Woodland is divided into three temporal periods (Early, Middle, and Late), marked by distinctive pottery types. Also, there is an interval when Ceramic Late Archaic ceramic types and Early Woodland ceramic types were being manufactured at the same time, often on the same site (see Espenshade and Brockington 1989). It is unclear at present if these coeval types represent distinct individual populations, some of whom continued to practice Archaic lifeways, or technological concepts that lingered in some areas longer than in others.

Early Woodland Period (1500 BC-AD 200). In the Early Woodland period, the region was apparently an area of interaction between widespread ceramic decorative and manufacturing traditions. Paddle stamping dominated the decorative tradition to the south, and fabric impressing and cord marking dominated to the north and west (Blanton et al. 1986; Caldwell 1958; Espenshade and Brockington 1989).

The subsistence and settlement patterns of the Early Woodland period suggest population expansion and the movement of groups into areas minimally used in the earlier periods. Early and Middle Woodland sites are the most common on the South Carolina coast and generally consist of shell middens near tidal marshes, along with ceramic and lithic scatters in a variety of other environmental zones. It appears that group organization during this period was based on the semipermanent occupation of shell midden sites, with the short-term use of interior coastal strand sites.

The sea level change at this time caused major shifts in settlement and subsistence patterns. The rising sea level and estuary expansion caused an increase in the dispersal of resources such as oyster beds and a corresponding increase in the dispersal of sites. Semipermanent shell midden sites continue to be common in this period, although overall site frequency appears to be lower than in the Early Woodland. Instead, there appears to be an increase

in short-term occupations along the tidal marshes. Espenshade et al. (1994) state that at many of the sites postdating the Early Woodland period, the intact shell deposits appear to represent short-term activity areas rather than permanent or semipermanent habitations.

Middle Woodland Period (200 BC-AD 500). The extreme sea level fluctuations that marked the Ceramic Late Archaic and Early Woodland periods ceased during the Middle Woodland period. The Middle Woodland period began as sea level rose from a significant low stand at 300 BC, and for the majority of the period the sea level remained within one meter of current levels (Brooks et al. 1989). The comments of Brooks et al. (1989:95) are pertinent in describing the changes in settlement:

> It is apparent that a generally rising sea level, and corresponding estuarine expansion, caused an increased dispersion of some resources (e.g., small inter-tidal oyster beds in the expanding tidal creek network...). This hypothesized change in the structure of the subsistence resource base may partially explain why these sites tend to be correspondingly smaller, more numerous, and more dispersed through time.

Survey and testing data from a number of sites in the region clearly indicate that Middle Woodland-period sites are the most frequently encountered throughout the region, and this project is no exception. These sites include small, single-house shell middens, larger shell middens, and a wide variety of shell-less sites of varying size and density in the interior, such as those we encountered on the project tract. The present data from the region suggest seasonal mobility, with certain locations revisited on a regular basis (e.g., 38GE46 [Espenshade and Brockington 1989]). Subsistence remains indicate that oysters and estuarine fish were major faunal contributors, while hickory nut and acorn have been recovered from ethnobotanical samples (Drucker and Jackson 1984; Espenshade and Brockington 1989; Trinkley 1980).

The Middle Woodland period witnessed increased regional interaction and saw the incorporation of extralocal ceramic decorative modes into the established Deptford technological tradition. As Caldwell (1958) first suggested, the period apparently saw the expansion and subsequent interaction of groups of different regional traditions (Espenshade 1986, 1990).

Late Woodland Period (AD 500–1100). The nature of Late Woodland adaptation in the region is unclear due to a general lack of excavations of Late Woodland components, but Trinkley (1989:84) offers this summary:

> In many respects the South Carolina Late Woodland may be characterized as a continuation of previous Middle Woodland cultural assemblages. While outside the Carolinas there were major cultural changes, such as the continued development and elaboration of agriculture, the Carolina groups settled into a lifeway not appreciably different from that observed for the past 500 to 700 years.

The Late Woodland represents the most stable Pre-Contact period in terms of sea level change, with sea level for the entire period between 0.4 and 0.6 meters below the present high marsh surface (Brooks et al. 1989). It would be expected that this general stability in climate and sea level would result in a well-entrenched settlement pattern, but the data are not available to address this expectation. In fact, the recognition/interpretation of Late Woodland adaptations in the region is hindered by past typological problems.

Overall, the Late Woodland is noteworthy for its lack of check-stamped pottery. However, recent investigations by Poplin et al. (2003) indicate that the limestone-tempered Wando series found along the Wando and Cooper rivers near Charleston Harbor displays all the Middle Woodland decorative elements, including check stamping, but appears to have been manufactured between AD 700 and 1000. Excavations at the Buck Hall site (38CH644) in the Francis Marion National Forest suggest that McClellanville and Santee ceramic types were employed between AD 500 and 900 and represent the dominant ceramic assemblages of this period (Poplin et al. 1993).

Mississippian Stage (AD 1000-1550s). The final stage of the Pre-Contact era in South Carolina, the Mississippian, begins around AD 1000 and ends with the arrival and colonization of the area by Europeans in the 1500s and 1600s. Although a tremendous amount of diversity existed in the cultural practices of Mississippian societies, archaeologists generally assign the classification based on certain shared traits. These traits include a heavy reliance on corn agriculture, the construction of earthen platform mounds, and participation in extensive long-distance trade networks involving exotic raw materials and ornately crafted goods (Marcoux 2007; Scarry 1996; Smith 1987; Welch 1991). In addition to these traits, formulations of "Mississippian" describe these societies as chiefdoms and imply that some form of social and political inequality existed among members of the society.

In general, Mississippian chiefdoms are further classified as either simple or complex based on three factors: population size, the degree to which status differences were expressed among community members, and the number of levels of administrative hierarchy (i.e., decision-making levels) that existed above the local community (Steponaitis 1978). The common practice in the Southeast has been to classify chiefdoms as simple or complex based on the degree of hierarchy apparent in regional settlement patterns (Anderson 1994; Hally 1994; Steponaitis 1978, 1991). Simple Mississippian chiefdoms have been defined by a regional settlement pattern containing a small single-mound center and scattered farmsteads representing a single level of decision-making above the household. Complex Mississippian chiefdoms with two levels of decision-making above the household, on the other hand, have been defined by a hierarchical settlement pattern including a single large multiple-mound center, numerous single-mound "subsidiary" centers, and scattered farmsteads.

With the notable exception of Cofitachequi, Mississippian chiefdoms located north of the Savannah River in South Carolina appear to have been of the simple variety. Ferguson (1971) proposed a model of Mississippian settlement involving political centers surrounded by smaller villages and farmsteads. Major centers apparently were spaced about 100 kilometers apart; hypothesized centers in the project region were located at Town Creek mound in North Carolina and near Camden, Lake Marion, Charleston, Augusta, and Savannah. Since this model was published, Anderson (1989) and DePratter (1989) have identified large political centers on the Wateree River near Camden, on the Oconee River in central Georgia, and near Savannah. All these centers, except for the one located near Charleston, contained one or more large mounds on which temples were built. Smaller mound sites with possible Mississippian origins have also been identified in South Carolina's Coastal Plain, including several in the Beaufort area (Judge 2000; Moore 1998 [1898]), Magnolia Mound (Lansdell 2005a), and Fort Watson Mound (Ferguson 1975). The final component of a typical Mississippian regional settlement hierarchy, small hamlets and individual homesteads/farmsteads, has also been identified in the study area (Brooks and Canouts 1984).

While the highly centralized and hierarchical sociopolitical model of Mississippian societies described above seems to fit the archaeological data for groups located in the inland river valleys, there is a growing consensus that Mississippian groups living along the coast of South Carolina and Georgia did not evince the same degree of sociopolitical complexity (Crook 1986; King and Meyers 2002; Larson 1980; Pluckhahn and McKivergan 2002). Instead, researchers have noted a paucity of mounds and large population centers along the coast (Judge 2000). Some have suggested that the soils along the coast were unsuitable for large-scale agriculture and that coastal Mississippian groups migrated seasonally to different wild resource areas as an alternative subsistence strategy (Crook 1986; Larson 1980). More recent investigations of coastal homesteads/farmsteads (Keene 2004) and bioarchaeological data (Hutchinson et al. 1998), however, have shown that, while wild resources comprised a large part of the coastal Mississippian diet, these groups also relied heavily on agriculture.

Changes in ceramic decorations and technology permit the identification of Early and Late periods within the Mississippian stage of the Georgia and South Carolina Coastal Zone. Early Mississippian ceramics associated with the Savannah I phase (circa AD 1150-1200) and the Savannah II phase (circa AD 1200-1300) are characterized by a continuation of Woodland decorations and technology,

such as cord marking and check stamping; however, the period is also marked by a significant increase in frequency of carved paddle-stamped surface treatments (in complicated motifs) and burnishing (Braley 1990). Early Mississippian vessel assemblages include jars with plain and noded rims and plain carinated bowls. Late Mississippian ceramics associated with the Charles Towne series (circa AD 1300-1600) are characterized by the Lamar ceramic tradition (Hally 1986, 1994; South 2002; Williams and Shapiro 1990). The Lamar culture is easily recognized by a regional ceramic style that is distributed across South Carolina and Georgia. The general chronological trends within the Lamar ceramic tradition include monotonic increases in the relative frequencies of curvilinear complicated stamped and incised surface treatments through time, along with concomitant decreases in the quality of the execution of stamped and incised motifs. Vessel assemblages associated with this period include jars with punctations or nodes on the rims as well as jars with appliqué notched rim strips. Late Mississippian vessel assemblages also include carinated bowls with incised scroll motifs. While most researchers agree that Late Mississippian ceramics along the central South Carolina coast fall within the definition of the Lamar ceramic tradition, there is considerable confusion as to which regional typology, particularly Irene or Pee Dee, applies (Judge 2000; South 2002; Trinkley 1981).

2.2.2 Contact Era

The Contact era begins in South Carolina with the first Spanish explorations into the region in the 1520s. Native American groups encountered by the European explorers and settlers probably were living in a manner quite similar to the late Pre-Contact Mississippian groups identified in archaeological sites throughout the Southeast. Indeed, the highly structured Native American society of Cofitachequi, formerly located in central South Carolina and visited by DeSoto in 1540, represents an excellent example of the Mississippian social organizations present throughout southeastern North America during the late Pre-Contact period (Anderson 1985). However, the initial European forays into the Southeast contributed to the disintegration and collapse of the aboriginal Mississippian social structures; disease, warfare, and European slave raids all contributed to the rapid decline of the regional Native American populations during the sixteenth century (Dobyns 1983; Ramenofsky 1982; Smith 1984). By the late seventeenth century, Native American groups in coastal South Carolina apparently lived in small, politically and socially autonomous, semi-sedentary groups (Waddell 1980). By the middle eighteenth century, very few Native Americans remained in the region; all had been displaced or annihilated by the ever-expanding English colonial settlement of the Carolinas (Bull 1770 [in Anderson and Logan 1981:24-25]).

The ethnohistoric record from coastal South Carolina suggests that the Contact-era groups of the region followed a seasonal pattern that included summer aggregation in villages for planting and harvesting domesticates, and dispersal into one- to three-family settlements for the remainder of the year (Rogel 1570 [in Waddell 1980:147-151]). This coastal adaptation is apparently very similar to the Guale pattern of the Georgia coast, as reconstructed by Crook (1986:18). Specific accounts of the Contact-era groups of the region, the Sewee and the Santee, have been summarized by Waddell (1980). It appears that both groups included horticultural production within their seasonal round but did not have permanent, year-round villages. Trinkley (1981) suggests that Sewee groups produced a late variety of Pee Dee ceramics in the region; this late variety may correspond to the Ashley ware initially described by South (1973, 2002; see also Anderson et al. 1982). Recent excavations at 38BK1633 on Daniel Island exposed the remnants of a Contact-era hamlet or farmstead. Ashley Complicated Stamped, Cob Marked, and Line Block Stamped ceramics dominate the assemblage. The site contains portions of three separate houses, a probable corncrib, and large fire/refuse pits. Substantial volumes of animal bone and ethnobotanical remains occur in these pits, including charred corncobs and peach pits (Lansdell 2005b, 2005c).

Waddell (1980) identified 19 distinct groups between the mouth of the Santee River and the mouth of the Savannah River in the middle of the sixteenth century. Anderson and Logan (1981:29) suggest that many of these groups probably were controlled by Cofitachequi, the dominant Mississippian center/

polity in South Carolina, prior to its collapse. By the seventeenth century, all were independently organized. These groups included the Coosaw, Kiawah, Etiwan, and Sewee "tribes" near the Charleston peninsula. The Coosaw inhabited the area to the north and west along the Ashley River. The Kiawah were apparently residing at Albemarle Point and along the lower reaches of the Ashley River in 1670 but gave their settlement to the English colonists and moved to Kiawah Island; in the early eighteenth century they moved south of Combahee River (Swanton 1979:96). The Etiwans were mainly settled on or near Daniel Island to the northeast of Charleston, but their range extended to the head of the Cooper River. The territory of the Sewee met the territory of the Etiwan high up the Cooper and extended to the north as far as the Santee River (Orvin 1973:14). Mortier's map of Carolina, prepared in 1696, shows the Sampas (Sompa) between the Cooper and Wando rivers, to the northeast of Daniel Island, and the Wando tribe and Sewel [sic] tribe fort east of the Wando River, northeast of Daniel Island (St. Thomas Isle).

2.2.3 The Post-Contact Era

Regional Overview. European colonization of South Carolina began with temporary Spanish and French settlements in the sixteenth century. These settlements were in the Beaufort area at the southern end of the coast. The English, however, were the first Europeans to establish permanent colonies. In 1663, King Charles II made a proprietary grant to a group of powerful English courtiers who had supported his return to the throne in 1660 and who sought to profit from the sale of the new lands. These Lords Proprietors, including Sir John Colleton, Sir William Berkeley, and Sir Anthony Ashley Cooper, provided the basic rules of governance for the new colony. They also sought to encourage settlers, many of whom came from the overcrowded island of Barbados in the early years. These Englishmen from Barbados first settled at Albemarle Point on the west bank of the Ashley River in 1670. By 1680, they moved their town down the river to Oyster Point, the present location of Charleston, and called it Charles Towne. These initial settlers, and more who followed them, quickly spread along the central South Carolina coast. By the second decade of the eighteenth century, they had established settlements from Port Royal Harbor in Beaufort County northward to the Santee River in Georgetown County.

The colony's early settlements grew slowly, and despite its geographic spread, the South Carolina Lowcountry contained only around 5,000 European and African inhabitants in 1700. The earliest South Carolina economy centered around naval stores, beef and pork, and trade with the Native American populations. However, by the end of the seventeenth century, colonists began to experiment with rice cultivation. The regular flood conditions of the immediate tidal area proved valuable, and production for export increased rapidly. By 1715, Charles Towne exported more than 8,000 barrels of rice annually; this number increased to 40,000 by the 1730s. In the 1740s, residents of the Lowcountry began to experiment with growing and processing indigo, a blue dye that was very popular in Europe and became one of South Carolina's principal exports during the eighteenth century. Both indigo and rice were labor-intensive and laid the basis for South Carolina's dependence on African slave labor, much as tobacco had done in the Virginia colony (Coclanis 1989; Wood 1974).

One of the important commercial ventures in the early settlements of the Lowcountry was the raising of cattle. The climate in South Carolina allowed year-round grazing, and the many necks of land surrounded by rivers and creeks along the coast provided naturally bounded cow pens and allowed the cattle to range freely. Cattle ranching also was a low-capital industry, with a natural market in the West Indies sugar plantations. Cattle ranching in South Carolina began in the late seventeenth century in the Charleston area, and by the early eighteenth century it had extended into what is now Colleton County, between the Edisto and Combahee rivers (Rowland et al. 1996:85-88).

Early settlers also took advantage of the extensive woodlands of the region, harvesting the timber cleared from the land for the production of naval stores. Lumber, tar, turpentine, and resin all were produced from the forests cleared for agricultural lands (Gregorie 1961:20; Orvin 1973). Evidence of these harvesting activities includes many small, circular tar kilns found throughout the region (Hart 1986). The lumber industry has continued to be very important in the economy of the Charleston area.

The early economic development of the region also focused on the Indian trade. In his accounts, Henry Woodward mentions that Maurice Mathews had opened trade from Fair Lawn, near Moncks Corner, by July 1678 (Fagg 1970). This was east of the project area, farther up the Cooper River. However, agricultural industries soon replaced the fur trade in the region. Trade with the Indians was pursued aggressively through the beginning of the eighteenth century, but by 1716 conflicts with the Europeans and disease had drastically reduced or displaced the local native population. Trade with the interior Catawba and Cherokee would continue throughout the eighteenth century.

Large purchases of land throughout the Lowcountry for agriculture and for cattle pasturage created problems between the white settlers and the Yamasee Indians, whose lands were steadily and rapidly encroached upon. Angered by a combination of mistreatment from traders and encroachments on their land, the Indians attacked in the Yamasee War in 1715 but did not succeed in dislodging the English (Covington 1978:12). While the Yamasee staged a number of successful raids through the 1720s, by 1728 the English had routed them and made the area more accessible for renewed English settlement.

With the rapidly increasing wealth in the South Carolina Lowcountry and with the Yamasee War behind them, the population began to swell. By 1730 the colony had 30,000 residents, at least half of whom were black slaves. A 1755 magazine, cited by Peter Wood, estimates that by 1723 South Carolina residents had imported over 32,000 slaves (Wood 1974). The growing population, compounded by the growing black majority in the Lowcountry, increased pressure for territorial expansion. Fears of a slave rebellion, along with fears of attack from the Indians such as the Yamasee War in 1715, led Charles Towne residents to encourage settlement in the backcountry.

The capacity of the Lords Proprietors to govern the colony effectively declined in the early years of the eighteenth century. Governance under the Lords Proprietors became increasingly arbitrary, while wars with Indians arose and the colonial currency went into steep depreciation. According to one historian of colonial South Carolina, "proprietary attitudes and behavior... convinced many of the dissenters—who at one time had composed the most loyal faction—that the crown was a more reliable source of protection against arbitrary rule" (Weir 1983:94). South Carolina's legislature sent a petition to Parliament in 1719, requesting that royal rule supplant that of the Lords Proprietors. After several years in limbo, South Carolinians received a degree of certainty in 1729 when the crown purchased the proprietors' interests, and in 1730 when the new royal governor, Robert Johnson, arrived in the colony.

The Church Act of 1706 established the parish as the local unit of government. Counties or districts within Carolina were divided into parishes, with the local church serving as the administrative center. The project tract is located in St. John Berkeley Parish, which extends northwest from the Cooper and Back rivers.

Colonial Period. Many of the early settlements and plantations in the Carolina colony focused on the Cooper and Wando rivers. Areas adjacent to the rivers provided the best opportunity for profitable agricultural production (i.e., rice cultivation), and the rivers were the best avenues of transportation to Charleston or other settlements in the region (South and Hartley 1985). Interior tracts also were opened as timber harvesting cleared more lands.

Indigo was intensively cultivated as a cash crop between 1741 and 1776 (Pinckney 1976). The indigo crop was prized for the dye that was extracted from it. The dye was used in expensive linen and silk cloth; most particularly, the dye was desirable for the dark-blue color used in wool military uniforms (Lawson 1972:3). The British government, formerly dependent on French colonies for this dye, heavily subsidized the crop in America in 1748. The Revolutionary War ended the bounty on indigo, however, making it unprofitable (Lawson 1972).

Rice was the most profitable and stable commodity of the region during the eighteenth century. Lowcountry plantation owners constructed elaborate dams and irrigation systems for the rice fields. Slaves were brought from western Africa to perform the many tasks necessary to produce cash crops on the plantations. Slave labor was essential for rice production, with knowledgeable slaves (i.e., those taken from African rice-producing societies) conducting

(and directing) most of the activities associated with rice growing and harvesting (Joyner 1984).

Many rice plantation owners used their available slave labor to manufacture brick. The proper clay for brickmaking existed on many plantations along the banks of the Cooper, Wando, and Ashley rivers. Bricks were needed locally for the construction of plantation buildings, as well as for the planters' townhouses in Charleston. The brickyards usually were located near boat landings, as the rivers provided a suitable means for transportation to Charleston. The Charleston brick market expanded dramatically in the 1740s when the local building code was changed to require all new construction to use fireproof materials.

Antebellum Period. Plantations devoted to staple-crop agriculture, surrounded by legions of small, yeoman-owned farms, dominated the Lowcountry landscape from the late eighteenth century until the time of the Civil War in the 1860s (McCurry 1995). Rice and cotton were the chief staples, and both crops were grown on many plantations, with the low-lying areas used as rice fields and the higher and drier upland areas plowed and planted in cotton. Large-scale agricultural production was achieved through the operation of plantations that employed slave labor. Agricultural products remained the primary industry of the region throughout the early nineteenth century, though brickmaking constituted a significant minority of industrial activity. Most plantations in the area depended increasingly on cotton and rice production (and their large profits) toward the middle of the nineteenth century.

Plantations owners in and near the project area were devoted primarily to cotton and corn, although rice was grown extensively along nearby rivers. By 1860, for example, Peter Gaillard Stoney at Medway Plantation produced 79,500 kilograms of rice, while Daniel DeSaussure Graves at Back River Plantation produced 22,727 kilograms of the staple. Others had more modest production: Benjamin Gadsden produced 2,273 kilograms at his plantation between Foster Creek and Goose Creek in 1860, while Charles Tennent, presumably at Parnassus Plantation, produced 682 kilograms in 1860 (US Census 1860). All these plantations produced subsistence crops as well, including corn, potatoes, peas, and beans. Small armies of slaves worked these plantations. Peter Gaillard Stoney owned 130 slaves in 1850, while many other landowners in the project area owned from 20 to 80 slaves (US Census 1850).

The APE was part of Cote Bas Plantation, which lay between the Back River to the west and the Cooper River to the east. The plantation settlement was just north of the APE. Figure 2.3 is an 1811 plat of Cote Bas Plantation showing the settlement, the landing on Back River, and the APE superimposed.

Civil War Period. Extensive military action occurred around Charleston during the Civil War. These operations occurred south and southwest of the project area, however, and no military activities occurred within the project tract during the conflict. The project area was located well behind the primary Confederate defense lines, and there is very little probability that earthworks were constructed there.

Postbellum Period. Following the Civil War, the mode of production shifted from plantations with slave labor to small family-owned and tenant or sharecropped plots in most of the region. As a result, the population became dispersed throughout the landscape as individual families became responsible for smaller tracts of land. Most of the rice lands were abandoned after the Civil War since adequate pools of labor and capital were not available to continue the crop's profitable cultivation. The trend of population dispersal continued into the twentieth century. The 1918 *Cordsville* quadrangle of the area shows several structures north and east of the APE (Figure 2.4).

By the early twentieth century, large landholding had again become common in many Lowcountry areas. Sportsmen seeking good hunting lands, timber companies seeking vast tracts of pine forests, northern industrialists seeking the idealized "Old South," and local landowners seeking profits from the area's small tenant farmers all found what they sought in the South Carolina Lowcountry.

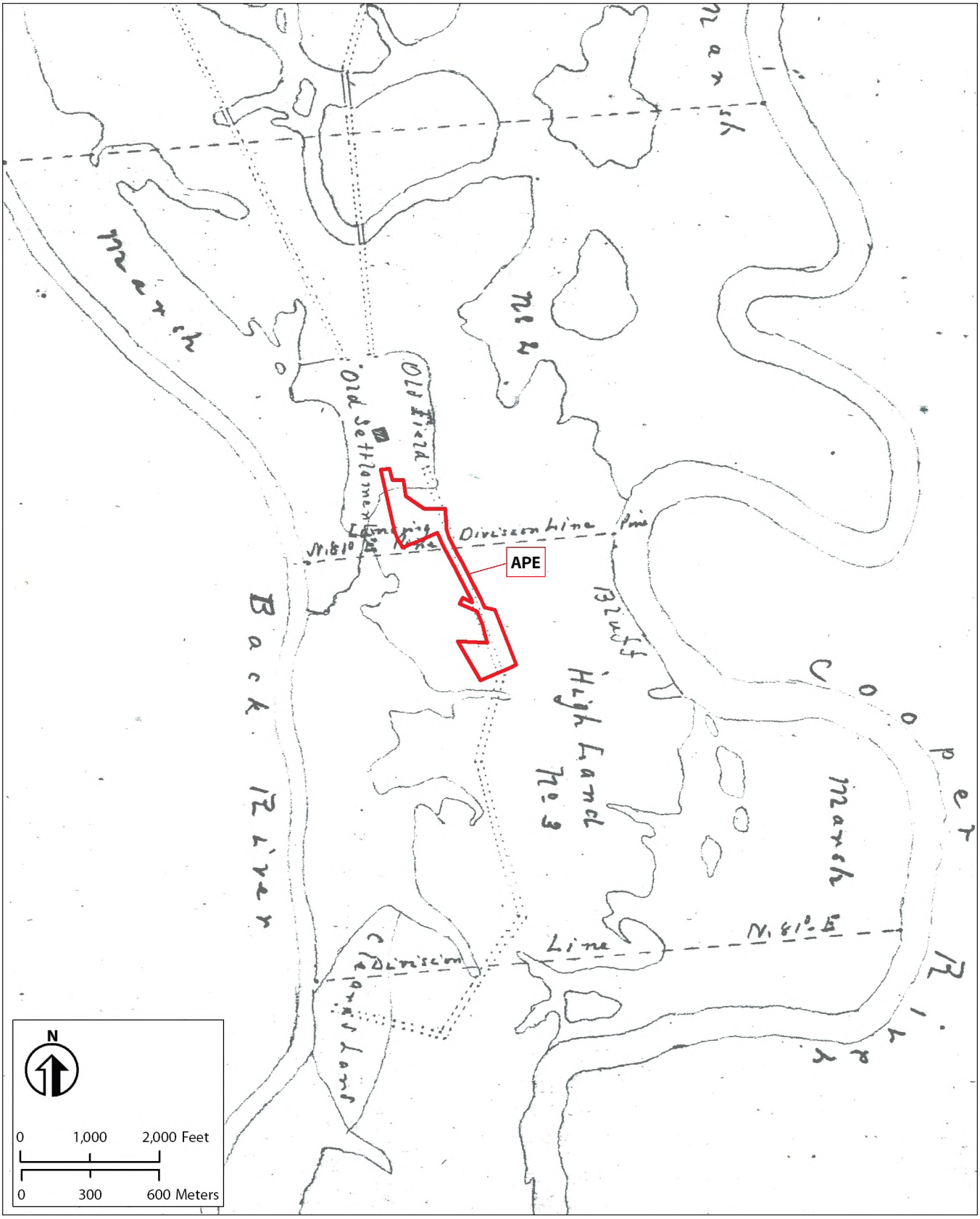

Figure 2.3 1811 plat of Cote Bas Plantation with the Bushy Park Pipeline Project superimposed (Smith n.d.).

2.3 Previous Investigations in the Project Area

There are three archaeological sites (38BK683, 38BK3138, and 38BK3139) recorded within one-half mile of the APE (see Figure 1.1). Site 38BK683 is a collection of underwater artifacts recorded by Ralph Wilbanks in 1983. Archaeologists and hobby divers have been collecting artifacts along the bank of the river in this area for many years. Wilbanks reported a possible old dock piling at the site. He also reported that various people have spent hundreds of hours collecting fossils, historic glass, unknown prehistoric artifacts, and random surface scatter of artifacts over an area approximately 300 feet wide extending approximately 1,300 feet along the bank (SCIAA site file). No formal assessment of the site was made, but Wilbanks recommended additional work to include archival research.

Bailey (2006) conducted research on this site as part of a project for a proposed coal dock at the location. Archival research indicated that the APE has served as a landing since the mid-1800s. Since the 1970s, SCE&G has excavated a water discharge canal just north of the APE and a large dock just south of the APE. The APE itself had been graded and riprapped.

In February 2018, Brockington conducted a survey for an alternative route associated with the Bushy Park gasline extension. We documented two archaeological sites (Sites 38BK3138 and 38BK3139) during the survey. Site 38BK3138 is an unidentified subsurface scatter of prehistoric pottery. Site 38BK3139 is a subsurface scatter of prehistoric artifacts including Oemler and Deptford pottery associated with the Middle Woodland Period. We recommend both of these sites not eligible for the NRHP.

In February 2018, Brockington conducted a cultural resources survey of a 200-foot-wide corridor that is 2.070 feet long along Bushy Park Road. This work was conducted for planning purposes in order to explore alternative strategies for the proposed undertaking. We documented two archaeological sites (Sites 38BK3138 and 38BK3139) during the survey. Site 38BK3138 is an unidentified subsurface scatter of prehistoric pottery. Site 38BK3139 is a subsurface scatter of prehistoric artifacts including Oemler and Deptford pottery associated with the Middle Woodland Period. We recommend both these sites not eligible for the NRHP. Sites 38BK3138 and 38BK3139 are outside of the project APE. The proposed undertaking will not impact these sites; therefore, no formal Determination of Eligibility is required.

Figure 2.4 Map showing the project area in 1918 on the US War Department *Cordsville , SC* quadrangle (on file, Brockington and Associates, Inc., Mt. Pleasant, SC).

3.0 Results and Recommendations

Archaeologists identified one architectural resource and one small, surface and subsurface historic artifact scatter within the APE. The historic resource and archaeological site are described and assessed below.

3.1 Historic Architectural Resource 1275

Date: *ca. 1800-present*
Resource Name/ Location: *Cote Bas Plantation Road/2242 Bushy Park Road (south side of SCE&G Williams Station)*
Type/Style: *Plantation road*
Integrity/Notes: *Low*
NRHP/Management Recommendations: *Not eligible/ no further management*

Resource 1275 is a portion of a raised roadbed associated with the eighteenth- through nineteenth-century Cote Bas Plantation (see Chapter 2). According to historical quadrangle maps and aerial photography, the former plantation roadway has been maintained as a private road for over 170 years. The road originated at the Cote Bas settlement area and extended southward through "high land" and terminated near "cleared land" on the east bank of the Black River (see Figure 2.3). By 1918, the road appears to continue as a private road for the plantation (see Figure 2.4). By the 1970s, the road is improved for the new Williams Plant facility and nearby industrial parks. By the 1980s, Bushy Park Drive was constructed, and the road was maintained in segments as parcels of former plantation lands were subdivided and sold for industrial development (see Figure 1.1).

Today, portions of Resource 1275 can still be traced along Bushy Park Road using Google Earth imagery. Within the APE, Resource 1275 survives as a raised roadbed that extends from the southern terminus of the SCE&G Williams Gas Plant facility approximately 1837 feet (560 meters) south-southeast to the limits of Shipyard Lane (see Figure 1.2). The roadbed was recorded in two distinct segments (north and south) that is bisected by a facility rail line that runs along the southern portion of the plant property. The northern segment is approximately 30 feet wide and is raised approximately three feet above the surrounding lowlands. Two 30-40-foot-wide ditches run parallel with the segment and appear to have been widened over time. The northern segment exhibits the most obvious 1970s improvements with a linear pavement of rock gravel for heavy vehicle passage. This northern segment has been maintained by SCE&G for access from the plant to the railroad line. The southern segment is approximately 22 feet wide and is also a raised roadway with two opposing ditches above a surrounding lowland located at the southern end of the SCE&G property. This portion of the plantation road was likely never improved after the late 1980s and is currently is encased with thick foliage and trees. Figure 3.1 provides a view of the two segments of Resource 1275.

We assessed the NRHP eligibility of Resource 1275 with respect to Criteria A-D (see Section 1.2.4). As noted above, Resource 1275 was formerly a roadway associated with the eighteenth- through nineteenth-century Cote Bas Plantation. Today, portions serve as an access road for the SCE&G Williams Plant rail line and have been altered and improved for this purpose; the road no longer reflects its original function as a plantation road. During background research, we identified no events or people that would qualify the resource for inclusion under Criteria A (*events*) or B (*people*). It does not embody the distinctive characteristics of its type, period, or method of construction and thus does not qualify under Criterion C (*architecture*). There is no known potential for the resource to qualify under Criterion D (*information potential*). We recommend Resource 1275 ***not eligible*** for the NRHP.

Figure 3.1 View of Resource 1275, northern (top) and southern (bottom) segments.

3.2 Archaeological Site 38BK3140

Cultural Affiliation: *Early twentieth century*
Site Type: *Artifact scatter*
Elevation: *5 meters amsl*
Nearest Water Source: *Cooper River*
Site Dimensions: *5 meters n/s by 5 meters e/w*
Present Vegetation: *Mixed hardwood/pine forest*
NRHP/Management Recommendations: *Not eligible/ no further management*

Site 38BK3140 is a surface and subsurface scatter of discarded brick piers and one historic ceramic sherd situated in the eastside embankment of the dirt road, located at the northern end of the project APE. It is bordered to the east by the dirt road, to the south and west by undeveloped woods, and to the north by the limits of the Williams Plant (see Figure 1.1). Mapped soils at the site consist of Lenoir fine sandy loam. Lenoir soils are somewhat poorly drained and occur in broad low flats (Stuck 1980:19-20). Vegetation at the site is mixed pine and hardwood forest.

Archaeologists encountered a set of three articulated brick piers along the east embankment of the northern portion of the dirt road. Archaeologists excavated eight shovel tests at 50-foot (15-meter) intervals in and around the site; one of these eight was positive. Figure 3.2 is a plan of Site 38BK3140. The soils at the site were disturbed and consisted of grayish-brown loamy sand from 0-2 inches (0-5 centimeters) below the ground surface (bs), underlain by yellowish-brown very compact clay from 2-8 inches (5-20 centimeters) bs. Several push piles were noted in and around Site 38BK3140. Surface inspections documented a scatter of three articulated brick pier fragments in and amongst the push piles (Figure 3.3). Our sub-surface investigation of 38BK3140 recovered one small, white porcelain ceramic sherd (< 1.0 g) located 50 feet west of the brick piers. Excavation around the piers showed no soil changes that might be indicative of intact, buried features. Because of the poor context and site integrity, all artifacts were documented in the field and not collected.

After studying the porcelain sherd and the brick piers, investigators determined the discarded artifacts were associated with the twentieth-century tenant houses illustrated on the 1918 quadrangle map (see Figure 2.4). According to this map, the group of four houses were once located on the east side of the dirt roadway (Resource 1275). The illustration of these house sites suggests a row of small, raised, wooden tenant houses commonly associated with the late nineteenth- and early twentieth-century farming practices in Berkeley County and the South Carolina Lowcountry (see Brockington et al. 1985). A thorough review of the grounds surrounding Site 38BK3140 and in the project APE revealed no intact evidence of these houses. Site 38BK3140 most likely is associated with the demolition of these houses that occurred during the development of the SCE&G Williams Station Plant.

Archaeologists assessed Site 38BK3140 under Criterion D. Based upon the lack of artifacts and contextual integrity, we determine that Site 38BK3140 lacks the ability to provide important, new information. Therefore, we recommend Site 38BK3140 ***not eligible*** for the NRHP. Additional management of this resource is not warranted.

3.3 Project Summary

We documented one new architectural resource (Resource 1275) and one new archaeological site (Site 38BK3140) during the survey. We recommend both these sites ***not eligible*** for the NRHP. There are no recorded historic properties within one-half mile of the APE. The proposed Bushy Park Extension Pipeline Project will have no effect on historic properties.

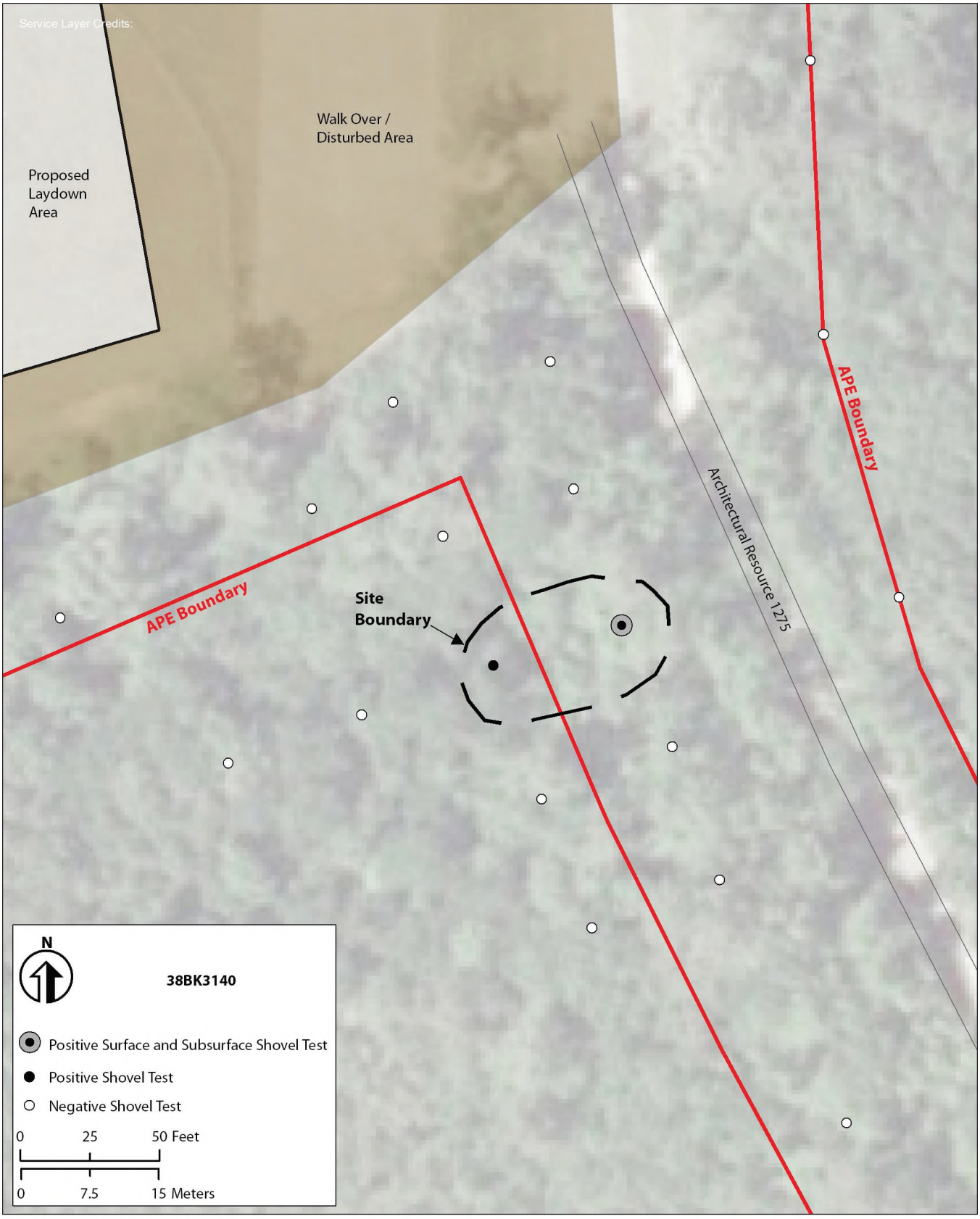

Figure 3.2 Plan of Site 38BK3140.

Figure 3.3 View of three brick piers at Site 38BK3140, facing west.

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Appendix A
South Carolina
Statewide Survey of Historic Properties Form

Statewide Survey of Historic Properties

State Historic Preservation Office
South Carolina Department of Archives and History
8301 Parklane Road
Columbia, SC 29223-4905 (803) 896-6100

U / 1275 Revisit: ☐
Status Site No.

Quadrangle Name: Kittredge

Tax Map No.: 237-00-00-003

Survey Form

Identification

Historic Name: Portion of raised road

Common Name:

Address/Location: Approximately 2242 Bushy Park Road; S of SCE&G Williams Station

City: Goose Creek Vicinity of ☑ County: Berkeley

Ownership: Corporate Category: Structure

Historical Use: Transportation Historical Use (if Other):

Current Use: Transportation Current Use (if Other):

SHPO National Register Determination of Eligibility:

Property Description

Construction Date: c. 1800

Construction: Construction (if Other):

Historic Core Shape: Historic Core Shape (if Other):

Exterior Walls: Exterior Walls (if Other):

Foundation: Foundation (if Other):

Commercial Form: Commercial Form (if Other):

Roof Shape: Roof Shape (if Other):

Roof Materials: Roof Materials (if Other)

Stories: Stories (if Other):

Porch Width: Porch Width (if Other):

Porch Shape: Porch Shape (if Other)

Description/Significant Features: Road approx 30 ft. across and raised approx 3 ft. above the surrounding lowlands; extends approx 1680 ft. SE from S terminus of SCE&G Williams Gas Plant facility to the limits of Shipyard Lane; approx. 30 ft. wide drainage ditches flank the raised roadbed; roadbed is bisected by a rail line towards the S end; N segment is still in use and is improved w gravel; S segment is approx 20 ft. across, not in use and overgrown w vegitation

Alterations (include date(s), if known Widening of N segment and addition of gravel c. 1970s

Architect(s)/Builder(s):

Historical Information

Historical Information: Associated with the Cote Bas Plantation

Source of Information: Cultural Resources Survey of the Proposaed Bushy Park Extension Pipelin Project; James 2018

Digital Photo ID(s):

Digital Photo ID 01: 01275001.JPG	Digital Photo ID 06:
View 01	View 06
Digital Photo ID 02: 01275002.JPG	Digital Photo ID 07:
View 02	View 07
Digital Photo ID 03:	Digital Photo ID 08:
View 03	View 08
Digital Photo ID 04:	Digital Photo ID 09:
View 04	View 09
Digital Photo ID 05:	Digital Photo ID 10:
View 05	View 10

Program Management

Recorded by: LJ Organization: Brockington

Date Recorded: 03/21/2018

Appendix B
SHPO Correspondence

May 29, 2018

SOUTH CAROLINA DEPARTMENT OF ARCHIVES & HISTORY

Richard Kopec
Environmental Consultant
Dominion Energy Carolina Gas Transmission LLC
121 Moore Hopkins Lane
Columbia, SC 29210

Re: Dominion Energy Carolina Gas Transmission LLC, Bushy Park Extension Project
Berkeley County, South Carolina
SHPO No. 18-EJ0040

Dear Mr. Kopec:

We received the April 25, 2018 letter from Richard B. Gangle regarding the above-referenced project on April 30. We also received the Section 106 Project Review Form, *Plan and Procedures for the Unanticipated Discovery of Cultural Resources and Human Skeletal Remains* and the draft report, *Cultural Resources Survey of the Proposed Bushy Park Extension Pipeline Project, Berkeley County, South Carolina* as supporting documentation. The State Historic Preservation Office (SHPO) is providing comments to the Federal Energy Regulatory Commission (FERC) via its applicant Dominion Energy Carolina Gas Transmission pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR 800. Consultation with the SHPO is not a substitution for consultation with Tribal Historic Preservation Offices, other Native American tribes, local governments, or the public.

The project involves establishing a new pipeline right-of-way (ROW) and the construction and installation of: approximately 2,450 linear feet of eight-inch-diameter natural gas pipeline; a new valve station, and new meter and regulation station. The Area of Potential Effect (APE) is defined as approximately 8.7 acres in the South Carolina Electric and Gas (SCE&G) Williams Station power plant and adjacent industrial complex known as the Charleston International Manufacturing Center at Bushy Park.

The cultural resources survey investigated portions of the APE including the 2000-ft-long corridor and two approximately one-acre temporary construction staging areas. The survey identified one newly recorded architectural resource (SHPO Site No. 1275) and one newly recorded archaeological site (38BK3140). SHPO Site No. 1275 and Site 38BK3140 are recommended as not eligible for listing in the National Register of Historic Places (NRHP).

Our office has additional technical comments on the report that we ask to see addressed (please see attached). We will accept the report as final once these comments are addressed; there is no need to send a revised draft. To complete the reporting process, please provide at least three (3) hard copies of a final report: one (1) bound hard copy and a digital copy in ADOBE Acrobat PDF format for the SHPO; one (1) bound and one (1) unbound hard copies and a digital copy in ADOBE Acrobat PDF format for SCIAA. Investigators should send all copies directly to the SHPO. The SHPO will distribute the appropriate copies to SCIAA.
Please ensure that a copy of our comments letter is included in the Appendices and Attachments of the final report.

Please provide GIS shapefiles for the surveyed area (and architectural sites as applicable). Shapefiles for identified archaeological sites should be coordinated with SCIAA. Shapefiles should be compatible with ArcGIS (.shp file format) and should be sent as a bundle in .zip format. Please see our GIS Data Submission Requirements and shapefile templates that are available in the left side bar on the following webpage http://shpo.sc.gov/research/Pages/ArchSite.aspx. SHPO recommends e-mailing the shapefiles to the address link on the noted webpage or using a File Transfer Protocol website such as WeTransfer.com to send large files.

Please also provide an electronic PDF copy of the architectural survey form. The photographs can be provided as JPEG files, labeled by their SHPO Site Number, or they can be provided as imbedded images on the survey form PDFs and/or a continuation sheet.

Based on the description of the APE, the identification of historic properties within the APE, and the description of the project, our office concurs with the assessment that **no properties listed in or eligible for listing in the NRHP will be affected** by this project.

If archaeological materials are encountered during construction, the procedures codified at 36 CFR 800.13(b) will apply and the Dominion Energy Carolina Gas Transmission *Plan and Procedures for the Unanticipated Discovery of Cultural Resources and Human Skeletal Remains*. Archaeological materials consist of any items, fifty years old or older, which were made or used by man. These items include, but are not limited to, stone projectile points (arrowheads), ceramic sherds, bricks, worked wood, bone and stone, metal and glass objects, and human skeletal materials. The federal agency or the applicant receiving federal assistance should contact our office immediately.

Thank you for the opportunity to provide comments. Please refer to SHPO Project Number 18-EJ0040 in any future correspondence regarding this project. If you have any questions, please contact me at (803) 896-6181, or KLewis@scdah.sc.gov.

Sincerely,

Keely Lewis

Keely Lewis
Archaeologist
State Historic Preservation Office

Technical Comments

- Pg. 2, Figure 1.1- Site 38BK3138 appears to overlap with the APE. Please include the evaluation for this site or additional information about why this site was not considered within the APE.

- Pg. 20: Will the work and eligibility recommendations for 38BK3138 and 38BK3139, conducted in association with this project, be submitted to our office for review and concurrence for the eligibility recommendations? If not, please clarify that the eligibility recommendations for these sites have not been submitted to SHPO for review.