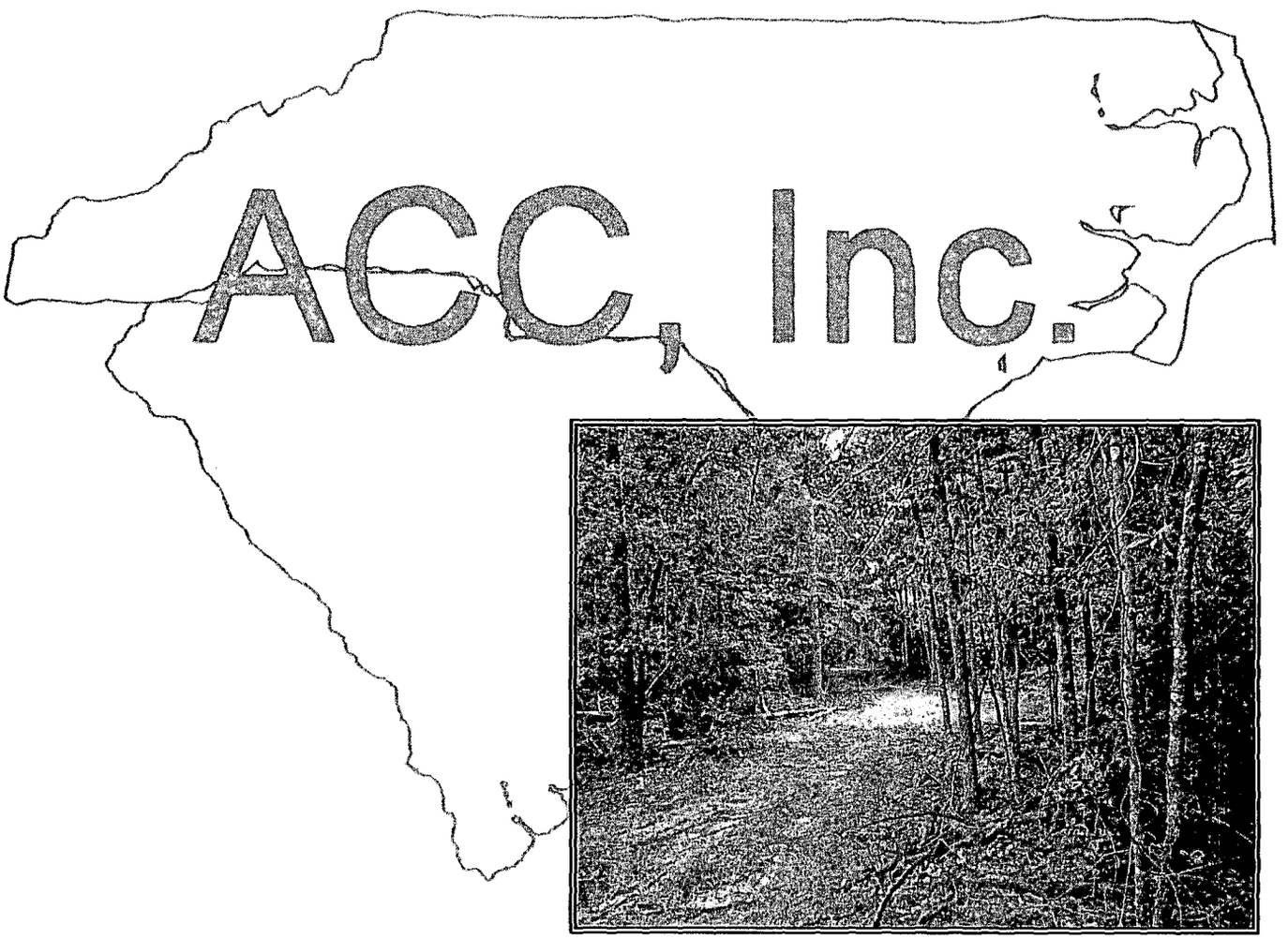
REDACTED VERSION

Report submitted under 10 CFR 2.390(a)(3). Portions of this report are withheld under Section 304 of the Archaeological Resources Protection Act (16 U.S.C. 470w-3(a)).

Cultural Resources Survey of the Proposed William States Lee III Nuclear Station 230 kV and 525 kV Transmission Lines Cherokee and Union Counties, South Carolina



Archaeological Consultants of the Carolinas, Inc.
2009

Cultural Resources Survey of the Proposed William States Lee III Nuclear Station 230 kV and 525 kV Transmission Lines Cherokee and Union Counties, South Carolina

Prepared for

Duke Energy

Prepared by

Dawn Reid
Senior Archaeologist

April Montgomery
Architectural Historian

Michael K. O'Neal
Senior Archaeologist

Rachel Tibbetts
Laboratory Director

and

Bobby Southerlin
Principal Investigator

Archaeological Consultants of the Carolinas, Inc.

2009

Abstract

In May and June 2009, Archaeological Consultants of the Carolinas, Inc. (ACC), conducted a cultural resources investigation of two proposed routes for the William States Lee III Nuclear Station 230 kV and 525 kV transmission lines in Cherokee and Union counties, South Carolina. This project was conducted on behalf of Duke Energy and was undertaken in anticipation of compliance with state and federal cultural resource regulations including Section 404 of the Clean Water Act of 1948 (33 USC 1344), as amended; and Section 106 of the National Historic Preservation Act of 1966 (16 USC 470), as amended. The objectives of this survey were to identify all cultural resources within the project's established Area of Potential Effect (APE), evaluate their significance based on National Register of Historic Places (NRHP) criteria, and determine the potential impacts of the proposed transmission line on these resources.

This cultural resources investigation consisted of intensive archaeological survey of two proposed transmission line corridors totaling approximately 50.28 km (31.22 miles) and architectural survey of the project's APE. One previously recorded archaeological site, 38CK52, was situated within the survey corridors, but could not be relocated. This archaeological survey identified 37 archaeological sites and 15 isolated finds. None of these resources meet NRHP eligibility criteria. However, one of the identified sites (38CK172) is a possible grave and is protected under state and federal burial laws.

The architectural survey identified 37 historic properties. Three of these, the Reid-Walker-Johnson Farm and its two associated cemeteries are considered to be Eligible for the NRHP. These resources will not be directly impacted by the proposed transmission line placement. The potential indirect impacts (i.e., viewshed modifications) to these resources and three previously recorded NRHP Eligible properties (Ninety-Nine Islands Hydro Plant, Dam, and the Smith's Ford Farm), were also evaluated. Sufficient tree cover surrounds the Reid-Walker-Johnson Farm so that the transmission line will not be visible but caution should be exercised during placement of the transmission line towers and the clearing associated with the line's construction to insure that there are no unintended impacts to the resource's viewshed. Encroachment on the viewsheds of the Ninety-Nine Islands resources will not be adverse. However, the Smith's Ford Farm has areas of unimpeded view across the Broad River. Line design should avoid placing towers directly across the river from the Smith's Ford Farm.

Acknowledgments

The authors would like to acknowledge the assistance of a number of individuals during the course of this project. Project coordinators with HDR/DTA Scott Fletcher and James McRacken provided maps and logistical support. Jason Isbanioly, also with HDR/DTA, went the extra mile to get us keys to gates saving miles of walking. Carmen Beard, ArchSite Coordinator with the South Carolina Institute of Anthropology and Archaeology, patiently worked with us as we learned the new online ArchSite system. Finally, Duke personnel addressed questions and concerns quickly, allowing the project to move forward smoothly.

The field crew for this survey was Michael Hayden, John Molenda, Amy Nash, Kenny Pinson, Vanessa Poling, Jay Stevens, and Graeme Wright. They toiled through some very poor field conditions without complaint. Bobby Southerlin served as Field Director and Principal Investigator. Laboratory analysis was completed by Kimberly Villemez and Rachel Tibbetts. Ms. Tibbetts also completed all report graphics. Graeme Wright assisted with entering site form data. April Montgomery of Circa, Inc., conducted all architectural survey and evaluations.

Table of Contents

List of Figures

List of Figures, cont.

List of Tables

Chapter 1. Introduction and Investigative Methods

Introduction

In May and June 2009, Archaeological Consultants of the Carolinas, Inc. (ACC), conducted a cultural resources investigation of two proposed routes for the William States Lee III Nuclear Station 230 kV and 525 kV transmission lines in Cherokee and Union counties, South Carolina. This project was conducted on behalf of Duke Energy and was undertaken in anticipation of compliance with state and federal cultural resource regulations including Section 404 of the Clean Water Act of 1948 (33 USC 1344), as amended; and Section 106 of the National Historic Preservation Act of 1966 (16 USC 470), as amended. The objectives of this survey were to identify all cultural resources within the project's established Area of Potential Effect (APE), evaluate their significance based on National Register of Historic Places (NRHP) criteria, and determine the potential impacts of the proposed transmission line on these resources.

During the planning process, an intensive siting study was conducted by Facilities Planning & Siting, LLC (FPS 2007). This siting study sought to examine and evaluate a combination of environmental and cultural resource factors in order to minimize the proposed project's impact as much as possible. Based on the results of this siting study, two transmission line route options that would connect the Lee Nuclear Station with existing 230 kV and 525 kV transmission lines south of the proposed nuclear plant location were selected, Routes K and O. Subsequently, ACC developed a study plan that was tailored to the specific conditions along these two alternative routes. This study plan was reviewed and accepted by the State Historic Preservation Office (SHPO) in April 2009.

The Project Corridors

Route K is 28.03 km (17.41 miles) in length, of which 12.79 km (7.94 miles) is 99 meters (325 ft) in width and 15.24 km (9.46 miles) is 61 meters (200 ft) in width. This corridor crosses numerous areas of steep slope, several small drainages, and apparent wetlands associated with Thicketty Creek. It also traverses high ridge tops and the floodplain of the Pacolet River. Route O is 22.32 km (13.86 miles) in length, of which 11.41 km (7.09 miles) is 99 meters (325 ft) in width and 10.91 km (6.78 miles) is 61 meters (200 ft) in width. This corridor also crosses many areas of steep slope; however, it also traverses numerous ridge tops overlooking waterways. Figure 1 presents a map of both corridors.

Methods of Investigation

This investigation comprised four separate tasks: Background Research, Field Investigations, Laboratory Analysis, and Report Production. Each of these tasks is described below.

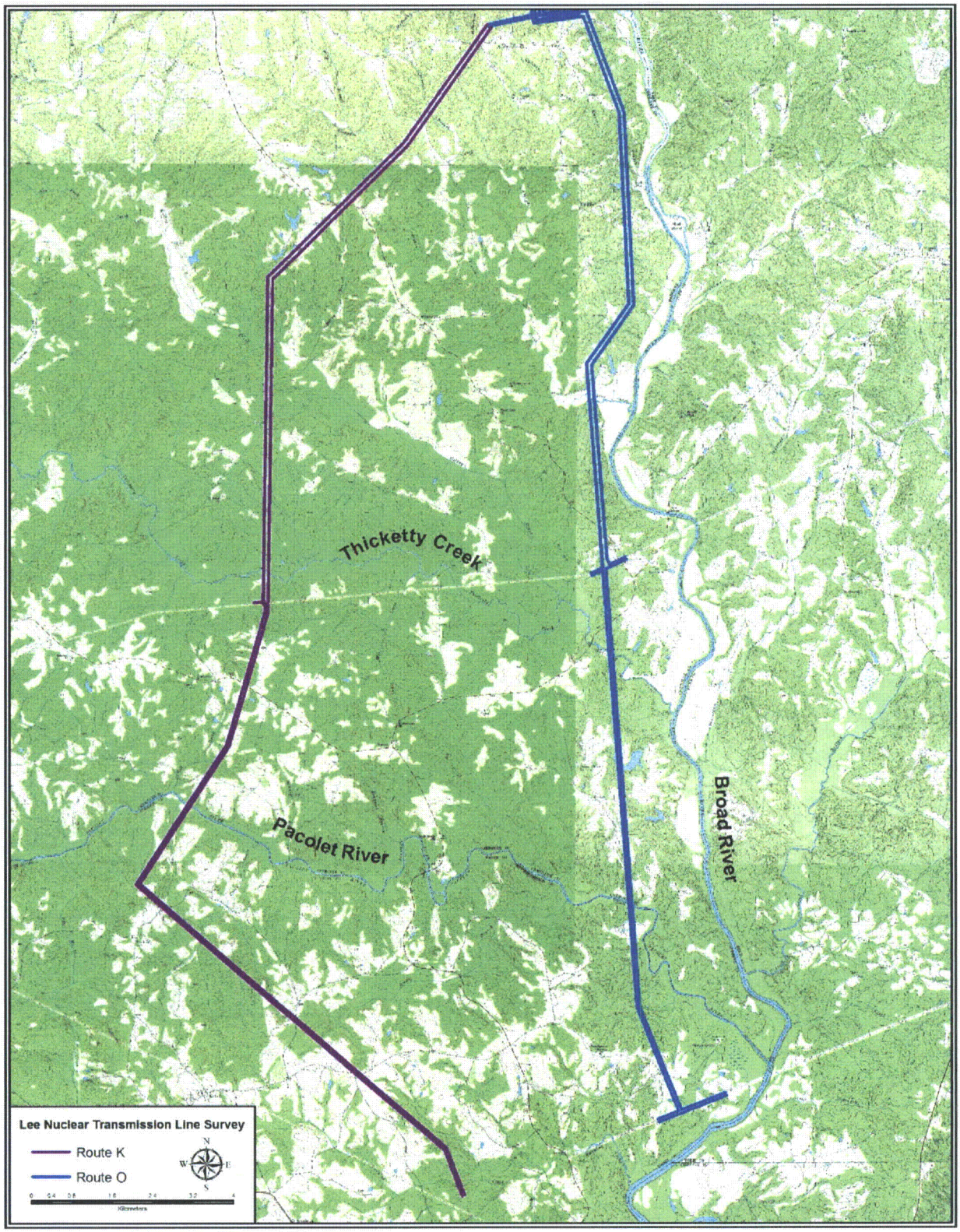


Figure 1. Map of Routes K and O (1971 *Blacksburg South, SC*, 1972 *Hickory Grove, SC*, 1969 *Kelton, SC*, 1971 *Kings Creek, SC*, 1972 *Lockhart, SC*, and 1968 *Wilkinsville, SC* USGS 7.5 minute topographic quadrangles).

Background Research

Background Research began with a review of archaeological site forms, maps, and reports on file at the South Carolina State Site Files, located at the South Carolina Institute of Archaeology and Anthropology (SCIAA) in Columbia. This review served to identify previously recorded resources in the project vicinity and to provide data on the prehistoric and historic context of the project tract. Records at the South Carolina Department of Archives and History (SCDAH) in Columbia were also reviewed. These resources include the listing of all resources that have been placed on the NRHP. Research was also conducted at the South Caroliniana Library, also in Columbia. Historic maps such *Mills' Atlas* (1825) and the *Map of Historic Sites & Places in Cherokee County, South Carolina* produced by the Cherokee Historical and Preservation Society in 2004, historic land plats, soil survey maps for Cherokee and Union counties (1905, 1913, 1958, and 2009), topographic maps (1909, 1928, and 1960/70s), and highway maps (1938) of the project vicinity were examined. The Cherokee County and Union County Soil Surveys were consulted to determine soil types within the project corridors.

Field Investigation

Area of Potential Effect

For this investigation, one of the first steps necessary was to determine an Area of Potential Effect (APE) for the proposed construction. Generally the APE for archaeological concerns is confined to the actual transmission line corridors. However, the APE for historic resources (i.e., buildings and structures) is set by the federal permitting agency involved in consultation with the SHPO. After having reviewed the project maps, with a particular focus on the topographic setting of the two proposed transmission line corridors, we proposed an APE of 0.8 km (0.5 miles) from the proposed corridors' center lines. With an anticipated average structure height of 42.7 meters (140.1 ft), it was our view that an APE of this size would encompass all significant resources that could be either directly or indirectly impacted by the proposed placement of the transmission lines. This proposed APE was subsequently approved by the SHPO.

Archaeological Survey

The field methods employed for the archeological survey portion of this investigation consisted of shovel testing along parallel transects spaced 30 meters (98 ft) apart. Shovel tests were excavated at 30 meter (98 ft) intervals along these transects. Corridor segments that are 99 meters (325 ft) wide required three parallel transects to insure complete coverage. Though corridor segments that are 61 meters (200 ft) wide required only two parallel transects, shovel testing was conducted along three transects spaced 20 meters (66 ft) apart.

Shovel tests measured approximately 30 cm (12 in) in diameter and were excavated into sterile subsoil. All fill was screened through 0.63 cm (0.25 in) hardware cloth. Artifacts recovered were placed in resealable bags and labeled with appropriate location data. The soil stratigraphy and artifact content of each shovel test were recorded in field notebooks.

Following the *South Carolina Standards and Guidelines for Archaeological Investigations* (SCDAH 2005), a site is defined as an area containing three or more artifacts of a possible single occupation within a 30 meter (98 ft) diameter of surface exposure; or where at least two shovel tests within a 30 meter (98 ft) diameter are positive (i.e., contain artifacts); or where surface or subsurface cultural features are present. Artifacts and/or features less than 50 years in age would not be considered a site without a specific research or management reason. Locations with fewer than three artifacts and no features are typically classified as *isolated finds* or *isolates*. However, this classification can be modified at the discretion of the Principal Investigator in exceptional cases. Although isolates are rarely considered to meet NRHP eligibility criteria, their locations and settings are documented.

Site significance is based on the site's ability to contribute to our understanding of past lifeways, and its subsequent eligibility for listing on the NRHP. Department of Interior regulations (36 CFR Part 60) established criteria which must be met for an archaeological site or historic resource to be considered significant, or Eligible for the NRHP (Townsend et al. 1993). Under these criteria, a site can be defined as significant if it retains integrity of "location, design, setting, materials, workmanship, feeling, and association" and if it *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 distinctive characteristics of a type, period, or method of construction, or represents the work of a master, possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; or *D)* has yielded, or is likely to yield, information important in history and prehistory. Archaeological sites are most frequently evaluated pursuant to Criterion D. However, some historic period archaeological sites can be considered under all four criteria.

One of the important goals of this field investigation was to evaluate the potential research value or significance of all identified archaeological resources. Although the determination of site significance is made by the SHPO, whenever possible, sufficient data was gathered to allow us to make a significance recommendation. Sites that exhibited little or no further research potential are recommended *ineligible* for the NRHP and no further investigation would be proposed. Sites for which insufficient data could be obtained at the survey level are recommended *Potentially Eligible* and preservation or more in-depth investigation would be advocated. It is rare for ample data to be recovered at the survey level of investigation to definitively determine that a site meets NRHP eligibility criteria. However, when this occurs, the site is recommended *Eligible* for the NRHP. Again, preservation of the resource would be advocated. If preservation is not possible, mitigation options (e.g., data recovery) would need to be considered.

Architectural Survey

Another goal of this survey was to identify all historic resources (i.e., buildings, structures, historic landscapes) within the project established APE and to evaluate each as to its NRHP eligibility. Architectural survey was comprised of both vehicular and pedestrian reconnaissance of the established APE in order to identify all historic buildings and structures within it. All qualifying resources identified in the APE were photographed and recorded on survey forms according to the SCDAH (2005) Standards and Guidelines. Each identified resource was evaluated for possible inclusion on the NRHP. A GIS program was utilized to determine the visibility of the proposed transmission line from all historic resources deemed to be Eligible for the NRHP.

A comprehensive evaluation of the proposed transmission line's potential impacts to the NRHP listed resources recorded within the project APE was also conducted. As none of these resources would be directly affected, this evaluation focused on potential impacts to the resource's viewsheds. To this end, photographs were taken from each of these resources looking towards the proposed project corridors and from the corridors looking toward each resource. Had it been necessary, computer simulations of the viewshed would have been developed and ground-truthed, but the on-site evaluation provided sufficient opportunity to fully examine the resources' viewsheds.

Laboratory Analysis

Laboratory Analysis began with washing all recovered artifacts. A provenience number, based on the context of the artifact (i.e., surface or subsurface), was assigned to each positive shovel test location, surface location, or feature (e.g., debris pile, push pile). Within each provenience, each individual artifact or artifact class was then assigned a number. Artifacts were cataloged based on specific morphological characteristics such as material in the case of lithics. Historic ceramics were compared to published type descriptions and cataloged by type when possible. Artifact descriptions, counts, and weights were recorded. All diagnostic and cross-mended artifacts were labeled with a solution of Acryloid B-72 and acid-free permanent ink.

At the conclusion of this project, all project related material, including field notes, artifacts, and project maps, will be prepared for curation based on standards set forth in 36 CFR 79 (*Curation of Federally Owned and Administered Archaeological Collections: Final Rule)*. These standards require that all project-related material be placed in archivally stable storage bags and boxes. Upon acceptance of the final project report by the SHPO, the project material will be submitted to SCIAA for permanent curation.

Report Preparation

Report Preparation involved the compilation of all data gathered during the previous tasks. The following chapter provides environmental and cultural overviews for the project area. Next, the results of the field investigation are discussed. Each identified site is described, shown on project

maps, and NRHP eligibility recommendations are advanced. The data obtained through laboratory analysis is included in site descriptions. Finally, a summary of the overall project is presented along with management recommendations, as appropriate.

Chapter 2. Environmental and Cultural Overview

The natural environment, technological development, and ideological values are all intertwined in shaping the way humans live. In this chapter, details about the local environment and cultural development in the region are presented to provide a context within which archaeological sites and architectural resources can be assessed. This basic framework is an important tool in evaluating the National Register of Historic Places (NRHP) eligibility of cultural resources.

Environmental Overview

The project area is situated in the Piedmont, which is characterized by a series of gently rolling ridges interrupted by the valleys of larger streams and rivers (Kovacik and Winberry 1987). Elevations in the project area range between approximately 120 to 230 meters (394 to 755 ft) above mean sea level.

Figure 2. Map of the greater Santee River Watershed showing the approximate location of the project corridors.

The project area is located in the upper Santee River watershed (Figure 2), which is the second largest watershed in the eastern United States (Kovacik and Winberry 1987). The Broad River falls within the greater Santee basin and has its headwaters in North Carolina. It then flows south into South Carolina and converges with the Saluda River to form the Congaree River. The Congaree then combines with the Wateree to form the Santee River, which flows into the Atlantic Ocean on the border between Georgetown and Charleston counties. The Broad River basin itself encompasses over 13,000 km^2 (5,000 $miles^2$). The Pacolet River, which is crossed by both survey corridors, is one of the largest tributaries of the Broad River.

The climate in the project area is mild and temperate. The average annual high is 72.8° Fahrenheit (F), with a peak of 90.6° F in July. The average annual low is 48.5° F, with a minimum of 29.7° F in January. Approximately 117 cm (46 in) of precipitation falls each year, of which 8 cm (3 in) is snowfall (Jones 1962).

During the late nineteenth and early twentieth centuries, much of the Piedmont was deforested to make way for cotton production. The intensive cotton farming during this period led to severe loss of top soil and erosion throughout much of the region. Today, many of the soils present across the Piedmont are shallow ultisols overlying thick saprolites and weathered bedrock (Jones 1962).

There are twelve soil types present along the Route K transmission line corridor (Table 1). The Cartecay-Toccoa complex and Congaree soils form on flood plains and are located in proximity to the waterway crossings of the survey corridor. The Wickham soils are also associated with the water crossings of the corridor as they form primarily on stream terraces. Cecil, Lockhart, Tatum, and Wilkes soils all form on ridges and side slopes. The remaining soil types form in uplands and are predominantly well-drained (USDA 2009).

Table 1. Summary of Soils Present in the Route K Vicinity (USDA 2009).

Soil Type	Characteristics
Cartecay-Toccoa complex	poorly drained; forms on streams and flood plains
Cecil sandy loam	well-drained; deep; forms on ridges and side slopes; slope ranges: 2-6%
Congaree fine sandy loam and silt loam	well-drained; deep; forms in flood plains
Iredell fine sandy loam	moderately well drained; shallow; forms on uplands; slope ranges: 6-10%
Lloyd loam and clay loam	well-drained; deep; forms on uplands; slope ranges: 2-25%
Lockhart clay loam and coarse sandy loam	well-drained; very deep; forms on narrow ridged and irregular slopes; slope ranges: 2-25%
Madison sandy loam and clay loam	well-drained; very deep; forms on upland slopes; slope ranges: 2-15%
Mecklenburg loam and clay loam	well-drained, very deep; forms on uplands; slope ranges: 6-15%
Tatum very fine sandy loam and silty clay loam	well-drained; deep; forms on ridges; slope ranges: 2-35%
Wickham sandy loam	well-drained; forms on stream terraces; slope ranges: 2-6%
Wilkes sandy loam	well-drained; shallow; forms on narrow; ridges and side slopes; slope ranges: 2-35%
Worsham sandy loam	poorly drained; very deep; forms on uplands; slope ranges: 0-6%

There are thirteen soil types present along the Route O transmission line corridor (Table 2). The Altavista, Cartecay-Toccoa, and Congaree soils all form on stream terraces and flood plains and are associated with the waterway crossings of the survey corridor. The Cecil, Lockhart, and Wilkes soils form on ridges and side slopes and tend to be eroded. The remaining soil types form on uplands and all are well-drained (USDA 2009).

Table 2. Summary of Soils Present in the Route O Vicinity (USDA 2009).

Soil Type	Characteristics
Altavista fine sandy loam	moderately well-drained; very deep, forms on streams and terraces; slope ranges: 2-6%
Cartecay-Toccoa complex	poorly drained; forms on streams and flood plains
Cecil clay loam, sandy clay loam, and sandy loam	well-drained; very deep; forms on uplands, ridges and side slopes; slope ranges: 2-35%
Congaree fine sandy loam and silt loam	well-drained; deep; forms in flood plains
Iredell fine sandy loam and clay loam	moderately well drained; shallow; forms on uplands; slope ranges: 2-10%
Lloyd loam and clay loam	well-drained; deep; forms on uplands; slope ranges: 2-35%
Lockhart clay loam	well-drained; very deep; forms on narrow ridged and irregular slopes; slope ranges: 10-15%
Madison sandy loam and sandy clay loam	well-drained; very deep; forms on upland slopes; slope ranges: 2-15%
Manteo channery silt loam	excessively well-drained; shallow; forms on uplands; slope ranges: 2-35%
Mecklenburg loam, sandy loam, and clay loam	well-drained, very deep; forms on uplands; slope ranges: 2-25%
Nason very fine sandy loam	well-drained; deep; forms on uplands; slope ranges: 10-15%
Tatum silty clay loam and very fine sandy loam	well-drained; deep; forms on ridges; slope ranges: 2-35%
Wilkes sandy loam	well-drained; shallow; forms on narrow ridges and side slopes; slope ranges: 2-35%

Soil types are often used in predictive models for site locations. For example, well-drained soils tend to be linked with site occurrences. The type of soil present may also affect the preservation of archaeological deposits. For example, rapidly deposited soils in floodplains can encapsulate a site. Other factors include degree of slope and proximity to water. Considering these factors, much of both survey corridors are considered to have high potential for archaeological resources.

The Kings Mountain Belt extends from Spartanburg and Cherokee counties north into North Carolina. Quartz, quartzite, and rhyolite are all present in this geologic zone. A large deposit of Gaffney marble is present just south of the town of Gaffney, west of the northern extremes of this project's survey corridors (Butler 1965).

Cultural Overview

Humans have inhabited the Southeast for more than 12,000 years. This time frame has been broken down into distinct temporal units, based on archaeological and historic data. Familiarity with this history helps us to put a project area and its resources into a cultural context. The cultural chronology for the South Carolina Piedmont is discussed below. This discussion includes environmental changes that took place, as well as the distinct cultural traits and characteristic technologies for each period.

Prehistoric Background

Paleoindian Period (12,000 - 8,000 BC). The Paleoindian Period refers to the earliest human occupations of the New World, the origins and age of which remain a subject of debate. The most accepted theory dates the influx of migrant bands of hunter-gatherers to approximately 12,000 years ago. This time period corresponds to the exposure of a land bridge connecting Siberia to the North American continent during the last ice age (Driver 1998; Jackson et al. 1997). Research conducted over the past few decades has begun to cast doubt on this theory.

Investigations at Paleoindian sites have produced radiocarbon dates predating 12,000 years. The Monte Verde site in South America has been dated to 10,500 BC (Dillehay 1997; Meltzer et al. 1997). In North America, the Meadowcroft Rockshelter in Pennsylvania had deposits dating to 9,500 BC. Current research conducted at the Topper Site indicates occupations dating between 15,000 to 19,000 (or more) years ago (Goodyear 2006). Two sites, 44SM37 and Cactus Hill, in Virginia have yielded similar dates. One contentious point about these early sites is that the occupations predate what has been recognized as the earliest New World culture, Clovis. Artifacts identified at pre-Clovis sites include flake tools and blades, prismatic blades, bifaces, and lanceolate-like points (Adovasio et al. 1998; Goodyear 2006; Johnson 1997; McAvoy and McAvoy 1997; and McDonald 2000).

The major artifact marker for the Clovis period is the Clovis lanceolate fluted point (Gardner 1974, 1989; Griffin 1967). First identified in New Mexico, Clovis fluted points have been recovered throughout the United States. However, most of the identified Clovis points have been found in the eastern United States (Ward and Davis 1999). Most Clovis points have been recovered from surface contexts, although some sites (e.g., Cactus Hill and Topper sites) have contained well-defined subsurface Clovis contexts.

The identification of pre-Clovis sites, higher frequencies of Clovis points on the east coast of the United States (the opposing side of the continent where the land bridge was exposed during the last glaciation), and the lack of predecessors to the Clovis point type have led some researchers to hypothesize other avenues of New World migration (Bonnichsen et al. 2006). These alternative migration theories contend that the influx of people to the Americas occurred prior to the ice-free corridor 12,000 years ago and that multiple migration episodes took place. These theories include overland migrations similar to the one presumed to have occurred over the Bering land bridge and water migrations over both the Atlantic Ocean and the Pacific rim (Stanford et al. 2006). Coastal migration theories envision sea faring people using boats to make the journey, evidence for which has not been identified (Adovasio and Page 2002).

In the southeastern United States, Clovis was followed by smaller fluted and nonfluted lanceolate spear points, such as Dalton and Hardaway point types, that are characteristic of the later Paleoindian Period (Goodyear 1982). The Hardaway point, first described by Coe (1964), is seen as a regional variant of Dalton (Oliver 1985; Ward 1983). In Cherokee and Union counties, several Paleoindian Period projectile points have been recovered. Goodyear et al. (1989) note that dark chert points tend to be smaller than points produced from other materials, suggesting that the cores were small nodules that likely originated in eastern Tennessee.

Most Paleoindian materials occur as isolated surface finds in the eastern United States (Ward and Davis 1999); this indicates to many scholars that population density was extremely low during this period and that groups were small and highly mobile (Meltzer 1988). It has been noted that group movements were probably well-scheduled and that some semblance of territories was probably maintained to ensure adequate arrangements for procuring mates and maintaining population levels (Anderson and Hanson 1988).

O'Steen (1996) analyzed Paleoindian settlement patterns in the Oconee River valley in northeastern Georgia and noted a pattern of decreasing mobility throughout the Paleoindian period. Sites of the earliest portion of the period seem to be restricted to the floodplains, while later sites were distributed widely in the uplands, showing an exploitation of a wider range of environmental resources. If this pattern holds true for the Southeast in general, it may be a result of changing environments trending toward increased deciduous forest and decreasing availability of Pleistocene megafauna and the consequent increased reliance on smaller mammals for subsistence; population growth may have also been a factor.

Early Archaic Period (7,500 to 6,000 BC). The Early Archaic was a time of response to the end of the glacial climate and the extinction of numerous large animals. Material culture of this period includes Kirk (Coe 1964) and possibly bifurcate base projectile points (Oliver 1985; Ward 1983). During the Kirk phase, there may have been an emphasis on white-tailed deer and nuts (Ward 1983), and a collector strategy has been suggested by regional researchers (Anderson and Hanson 1988; Blanton and Sassaman 1989; Chapman 1975; Chapman 1977; Claggett and Cable 1982; O'Steen 1983). The prevalence of non-local lithic material recovered from Early Archaic sites in the

Piedmont strongly suggests that people were highly mobile (Anderson and Joseph 1988) although Anderson (1996) argues that maintaining marriage bonds between small bands was the primary factor influencing that mobility rather than availability of lithic resources or food sources.

Middle Archaic Period (6,000 to 3,000 BC). The Middle Archaic is divided into the Stanly, Morrow Mountain, and Guilford phases, as defined by Coe (1964). Oliver (1985) views the Stanly projectile point type as a technological transition between the earlier Kirk points and the Savannah River points of the Late Archaic. The Morrow Mountain and Guilford technologies are seen as possibly intrusive developments (Oliver 1985). Regardless of origin and relationships, all the traditions of the Middle Archaic are marked by a high site frequency and a dramatic increase in the use of locally available lithic resources (Blanton 1983; Claggett and Cable 1982). Ward (1983) observes:

> An increase in population occurred from the Early to Late Archaic period, and more and more diverse and specialized ecological niches were exploited as adaptive efficiency increased through time. This "forest efficiency" (Caldwell 1958) is generally believed to have been enhanced by scheduling resource procurement in a tightly structured seasonal round.

Late Archaic (3,000 to 1,000 BC). The Late Archaic witnessed still increasing localization and specialization, augmented by incipient horticulture (Ward 1983). The most prevalent diagnostic tool of the Late Archaic is the broad, square-stemmed Savannah River projectile point (Coe 1964; Oliver 1985). While the coastal zone saw a dramatic increase in site size and complexity in the Late Archaic, the Piedmont witnessed a basic continuation of Middle Archaic adaptations. The Late Archaic did begin to see a breakdown in the localization patterns of the Middle Archaic, as steatite and lithic resources were traded interregionally. The first ceramic production has been documented for this time frame, although it is not common in the Piedmont. The earliest pottery is represented by the fiber tempered Stallings series and the sand tempered or untempered Thoms Creek series. Decorations include punctation, incising, finger pinching, and possibly simple stamping and dentate stamping.

Early Woodland (1,000 BC to 300 BC). The Early Woodland period is marked by the institution of widespread production of pottery in the South Carolina Piedmont, and by the first use of triangular projectile points, assumed to indicate the presence of the bow and arrow. Badin projectile points, as defined by Coe (1964), are the hallmarks of the Early Woodland in the Carolina Piedmont. Badin points are triangular and "crudely flaked" (Ward and Davis 1999). The ceramics attributed to this period are most commonly sand tempered with occasional pebble inclusions and are attributed to the Badin series. Cord marking and fabric impression are the most common Badin surface treatments. More recent research has resulted in the Yadkin ceramics series, that Coe (1964)

had attributed to the Middle Woodland, being considered an Early through Middle Woodland technology (Gunn and Stanyard 1999).

By the end of the Early Woodland, Deptford wares become commonplace. This ceramic series has fine to coarse sand temper and a wide variety of surface decorations. Many of these decorations are applied with a carved paddle, a method that would continue into the Contact Period.

Middle Woodland (300 BC to AD 800). The Middle Woodland in the Piedmont of South Carolina is distinguished from the Early Woodland by increased cultural complexity, increased site size and density, the appearance of elaborate burial mounds, and a complex interregional trade network. Interaction between different groups of Native Americans appears to have led to widespread exchange of ideas and technologies. Larger settlements focused on major river flood plains. The overall subsistence strategy remained focused on the availability of native cultigens, as well as vertebrate and invertebrates species. Encouragement of several species, such as sunflower and squash/gourd, possibly in small household gardens, is well-documented (Hastorf and Johannessen 1994).

As noted above, Yadkin ceramics continue into the Middle Woodland subperiod, as do Deptford ceramics. Yadkin ceramics differ from the earlier Badin wares primarily by temper. Yadkin wares contain crushed quartz temper. Surface treatments are dominated by check stamping and fabric impressing. Yadkin triangular projectile points and other varieties of small stemmed and notched points are also characteristic of the Middle Woodland subperiod (Braley 1993; Coe 1964; Sassaman 1993; and Sassaman et al. 1990).

Late Woodland (AD 800 - 1100). Described as a transitional period, the Late Woodland is largely characterized by the continued expansion of populations. Settlement during the Late Woodland was widely dispersed but the larger sites continued to focus on river flood plains. During most of the Late Woodland, people continued to practice subsistence strategies similar to those used during the Middle Woodland (Trinkley 1990:22). Maize agriculture, while flourishing elsewhere, did not gain a level of significance in the South Carolina Piedmont until the end of the Late Woodland (Anderson 1989), when it was adopted into the existing agricultural system focused on indigenous cultigens. Based on stable isotopic studies of human bone, maize entered the "core diet" around A.D. 1000 (Hastorf and Johannessen 1994).

Mississippian Period (AD 1100 - 1600). Characteristics of the Mississippian Period include complicated stamped ceramics, small triangular projectile points, a reliance on farming, political stratification, and elaborate ceremonialism. Sites from this time frame include large village sites, sometimes with earthen mounds, and associated small, scattered farmsteads. Site locations tend to be located on flood plains and rises overlooking river and stream valleys, primarily to facilitate agricultural activities (Hargrove 1990; Keel 1976; May 1989; Oliver 1992; and Ward 1965).

Decoration of ceramic utilized carved paddles with curvilinear and rectilinear designs. Series such as Pee Dee and Pisgah are complicated and check stamped. Burnishing and incising are also common ceramic decorations. Vessel rims are often elaborately decorated with rim strips, notches, and attached nodes. Projectile points tend to be small triangulars.

Historic Overview

European colonization into South Carolina began with temporary Spanish and French settlements in the Beaufort area during the sixteenth century. Spanish explorers Hernando de Soto and Juan Pardo were the first Europeans to pass through the region. They met a small tribe called the Catawba living on the river near the North and South Carolina border. Following the Spanish expeditions, Europeans were virtually absent from the region until the eighteenth century.

The English 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 new lands. These Lords Proprietors encouraged settlers, many of whom came from the overcrowded island of Barbados in the early years. These Englishmen from Barbados first settled in 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.

The capacity of the Lords Proprietors to govern the colony effectively declined in the early years of the eighteenth century, largely due to the ineffective protection of the settlers from Indians (e.g., Yemassee). 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 Proprietor's interests, and the new royal governor, Robert Johnson, arrived in the colony in 1730.

Johnson arrived with a plan to create townships throughout the colony as a way to ensure the orderly settlement of the backcountry. Johnson permitted the settlement of these areas on the headright system, which apportioned 20 hectares (50 acres) of land to every individual who settled there. Many of these settlers established plantations that were directed toward the production of cash crops. However, settlement proceeded slowly until the 1750s when the South Carolina backcountry population was approximately 20,000, about one-third of the total Lowcountry population (Wallace 1961). Many of the settlers were Scotch-Irish migrating down the great Wagon Road from Pennsylvania (Morgan 2006). Many others came to the area following the circa 1750 expedition of Governor Tryon of North Carolina. Governor Tryon led an expedition westward from Mecklenburg to establish additional trade opportunities with the Cherokee (Moss 1972). Following Tryon's expedition small pockets of frontiersmen followed, settling along the river banks with proximity to trading paths.

Though relatively small in numbers, early settlers and traders to the South Carolina Piedmont had a great impact on the native population in the area. The Catawba Nation, whose people lived east of the project area along the Catawba River Valley in North and South Carolina, traded with the Europeans. The Catawbas traded deerskins for muskets, knives, kettles, and cloth. Along with trade goods, Europeans brought diseases to the Catawbas. After a smallpox outbreak in the 1759, the fourth such outbreak in a century, the Catawba population declined to 1,000 by 1760 (Catawba Indian Nation [CIA] 2008).

Despite this swelling in population in the backcountry, all important judicial functions had to be handled in Charleston, the seat of colonial authority. By the 1760s, population growth and limited judicial facilities combined to generate severe lawlessness and discontent in the backcountry. The Regulator Movement was a response to the situation. Most of the leaders of the Regulator Movement were commercially-oriented farmers and slave owners, who sought to maintain control of the region in the absence of an official colonial presence. In the process, they called for more local courts and for a vigilante response to the banditry (King 1981:8-10; Klein 1990). In response to this violence in the backcountry, colonial authorities in Charleston agreed to set up a series of judicial districts throughout this area. In 1769, the governor authorized seven districts throughout the colony. The project area was located in the Ninety-Nine District. The Ninety-Nine District was bounded by the Broad and Congaree rivers to the east and Indian land on the east (South Carolina Archives and History Center 2008).

During the late eighteenth century, iron mining became an important activity in this region and the state government began to encourage the establishment of iron mills. Establishment of iron mills had been discouraged up to this point by the Iron Act, passed by British parliament in 1750 when iron production in the colonies threatened Britain's own iron industry. The Iron Act prohibited the manufacture of finished iron products in the colonies; however, as the American Revolution approached, these restrictions were ignored. The iron industry was able to flourish in the project area due to the presence of five important resources: iron ore, hardwood forests, fast flowing waterways, marble (metamorphosed limestone), and metamorphic crystalline rocks suitable for building. The area became known as the Old Iron District. Skilled iron makers, pattern makers, and forgemen frequently moved from other iron-producing areas such as Piedmont North Carolina, Virginia, Pennsylvania, and even central Europe to work at the South Carolina ironworks (Ferguson and Cowan 1997). The Nesbitt and Kings Mountain companies were established in Cherokee County, north of the project area. Both of these firms held large tracts of land bordering the Broad River.

At the onset of the Revolutionary War, both the British and the Americans sought to win the support of the Cherokees, and, in doing so, they ventured more and more into Cherokee territory. In the spring of 1776, Cherokees began attacking the patriot forces. Leaders in Charleston, in coordination with leaders in North Carolina and Virginia, commenced counterattacks. By the end of the summer of 1776, the Cherokees had been defeated (Huff 1995:20-26).

During the Revolutionary War, Earl Cornwallis focused much of his army's strength on dividing the north and the south somewhere along the Virginia line but was hindered by the low

number of Loyalist supporters in the area as well as their minimal knowledge of the land (Carrington 1974). In their push to advance into North Carolina on their way to Virginia, the British met American forces at Cowpens, north of the project area. Daniel Morgan, commanding the American forces, spent a week prior to the battle choosing the location and tactics to use against the British. Morgan's tactics were designed to trap, isolate, and weaken the British forces under the command of Banastre Tarlton (Babits 2001). An American post was established at Grindal Shoals, a well-known Pacolet River crossing approximately 4.0 km (2.5 miles) west of where Route K crosses it (Figure 3). Grindal Shoals was the main base of General Daniel Morgan's Flying Army but detachments also camped at Burr's Mill on Thicketty Creek approximately 8.0 km (5.0 miles) west of Route K's crossing. Morgan's forces occupied the Grindal Shoals and Burr's Mill camps until

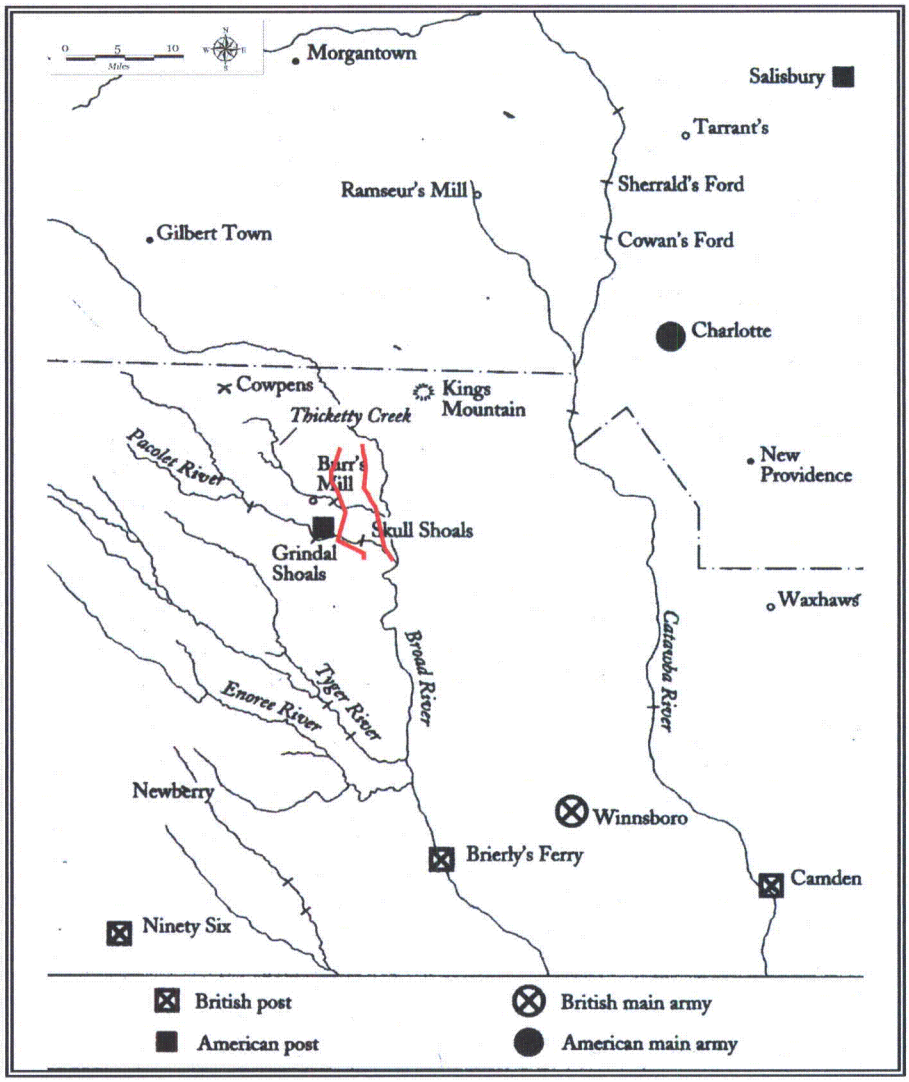


Figure 3. Map showing the locations of Grindal Shoals and Burr's Mill in relation to the survey corridors (adapted from Babits 2001:4).

January 14, 1781, when they began their move towards Cowpens. Colonel Banastre Tarleton's British forces moved up the Broad River and re-occupied the Burr's Mill camp on January 15, 1781.

The Battle of Cowpens began on January 17, 1781 and was over by midnight. Just over a week later, Morgan wrote to William Snickers, "I was desirous to have a stroke at Tarlton...& I have Given him a devil of a whiping [sic]" (Babits 2001:1). The victory at Cowpens dealt a significant blow to the British. The subsequent Battle of King's Mountain led to the defeat of Colonel Patrick Ferguson's Tory troops by several companies including the Overmountain Men, who crossed the Broad River north of Gaffney (Alderman 1986). These defeats lead to the surrender of the British at Yorktown (Babits 2001).

Union County was formed in 1785 from what had been the Ninety-Six District (Stauffer 1994). It was named for the old Union Church that had been erected in 1765 to serve both Presbyterians and Episcopalians in the area (County of Union 2009). The town of Unionville, later shortened to Union, was established as the county seat.

The South Carolina backcountry remained a contentious place throughout the late 1780s and 1790s, as conflicts with Native Americans lingered. In response to calls for better protection, the State Commissioners reorganized the judicial districts into smaller units. The Pinckney District was created in 1791 from the northern half of the Ninety-Six District (Stauffer 1994) and a location at the junction of the Broad and Pacolet rivers was chosen for the new district courthouse. A trading post had operated at this location since 1752. The new town was to be called Pinckneyville, and there were high hopes that it would become a "great metropolis of the up-country of South Carolina" (Greer 1968). Construction on the courthouse and jail had just begun when the area flooded, prompting the Commissioners to relocate Pinckneyville to an elevated area on the southwest side of the Broad River. By 1795, Pickneyville had a post office, several stores, two inns, a log schoolhouse, and numerous houses (Greer 1968). A stagecoach road ran through the town, having crossed the Broad River at Pinckney Ferry (Figure 4). The judicial district system was abolished in 1800 and the state was divided into small "districts" or counties. The court house in Pinckneyville was used for the last time in 1802. In 1813, the public buildings and lands were sold. Although people continued to live there, the Pinckneyville post office was closed in 1833 and mail was routed to the nearby town of Union (Greer 1968). Today the ruins of the Pinckneyville jail are listed on the National Register of Historic Places.

Prior to 1800, settlements in the project area were largely subsistence farms because of their distance from markets. Keel boats, barges and rafts were used to transfer lightweight products to market, but larger trade was limited to the wagon roads. The construction of locks and canals improved navigation along upcountry rivers in the early 1800s, and shifted the focus from subsistence to crop farming. The introduction of crop farming led to the development of plantations in the project area. Deed and tax records show several large land holders in the area and a volume of crop production that suggests a plantation economy. The introduction of foundries and grain mills followed the shift to crop farming and transformed the area as these facilities were built along the river banks (National Register Nomination form, on file).

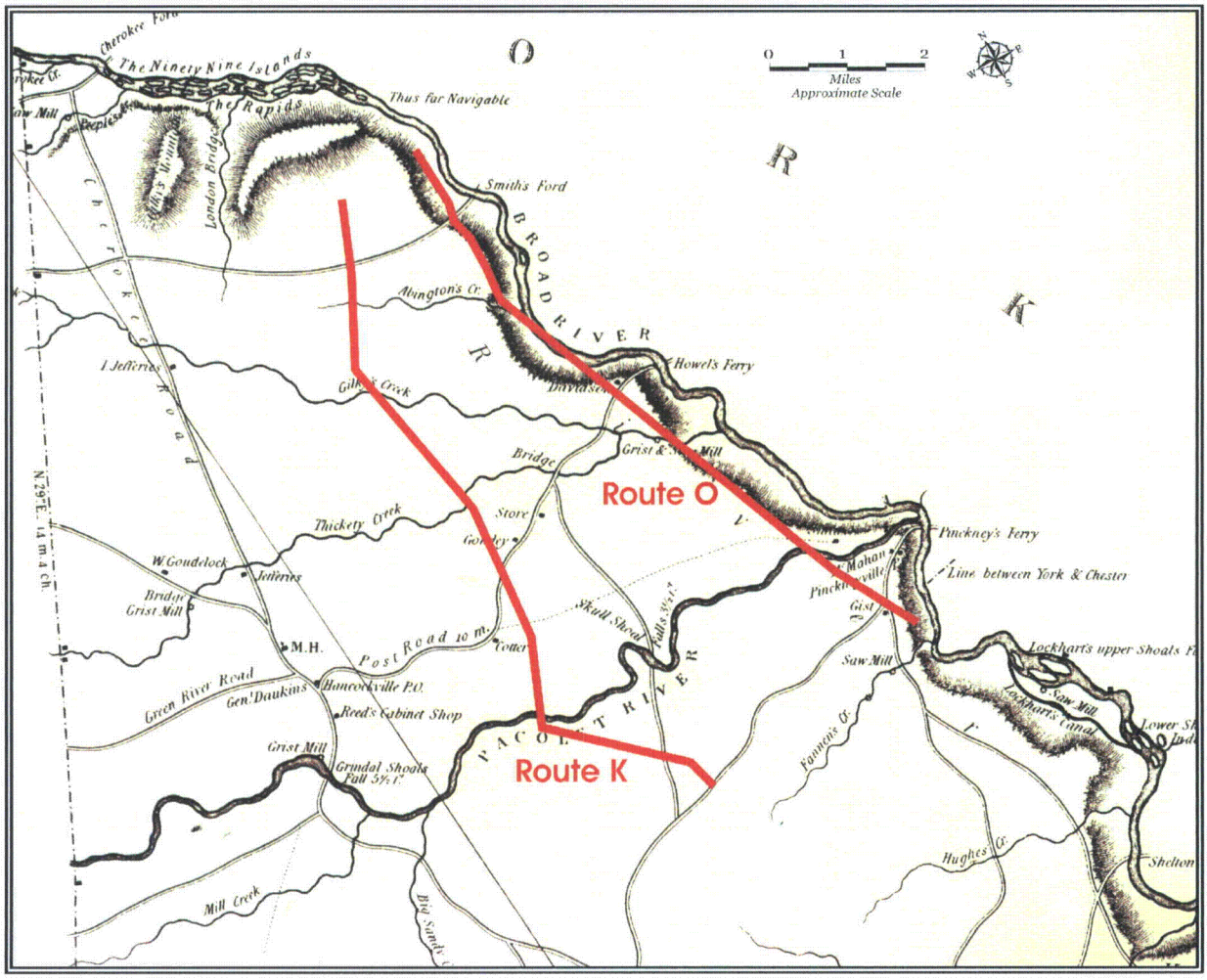


Figure 4. Map showing project vicinity in the early nineteenth century (Mills 1825).

In the 1830s, the United States began removing Indian populations from the southeast and sending them on a forced march to Oklahoma. The routes taken to Oklahoma have been given the name "The Trail of Tears." The Catawbas, who still resided in the project region, made a treaty with South Carolina. In exchange for relinquishing 58,274 hectares (144,000 acres) of their homeland, South Carolina offered the Catawbas $5,000 to buy land of their choosing, or would provide $5,000 cash to leave their homeland and an additional $1,500 a year for five years. Despite the treaty, Catawbas remained in the area. After losing federal recognition in 1959, the Catawbas began petitioning for reinstatement in the 1970s. Federal recognition was granted on November 20, 1993. Today the Catawba reservation is located in York County, east of the project area (CIA 2008).

There were few towns of any size throughout the South Carolina backcountry during the early and mid-nineteenth century. By 1850, barely 2.5 percent of the state's population outside of

Charleston lived in communities of over 1,000 people; the rest lived scattered throughout the countryside. As railroads began to spread throughout the state in the 1850s, towns emerged as depots and commercial centers. In addition, some areas, particularly those with mineral springs, were popular resort areas for lowcountry residents (South Carolina State Library [SCSL] 2004).

The project area was again used as a transportation corridor during the Civil War. On April 28th and 29th, 1865, the Confederate cavalry crossed the Broad River at Smith's Ford during their retreat toward the Mississippi River. In an effort to separate himself from the larger assemblage, Jefferson Davis and a small party crossed the ferry at Pickneyville. Ten members of the cavalry were captured by Brevet Brigadier General William J. Palmer at Smith's Ford. Information gleaned from these prisoners would later lead to the capture of Jefferson Davis less than two-weeks later in Irwinville, GA, more than 322 km (200 miles) southwest, on May 10, 1865 (Moss 1972).

During the latter part of the nineteenth century, mining again became a contributor to the area's economy. Copper and gold mines operated in the immediate vicinity of the project corridors. Historic maps show a copper mine near Route O, west of the Broad River at its confluence with Kings Creek and one just south of Thicketty Creek near Route K. Gold mines were established along Thicketty Creek and surrounding the community of Wilkinsville (Colton and Colton 1883; Figure 5).

In the years leading up to the turn of the twentieth century, upstate South Carolina saw a major shift from an agricultural to an industrial economy. In 1893 plans for Lockhart Mills were announced. The mill was to be constructed on the west bank of the Broad River just south of the Broad and Pacolet rivers (Moss 1972). Lockhart was the first mill in Union County but was joined by Union Cotton Mills before construction was completed in 1894. The presence of mills along upcountry rivers became ubiquitous and by the early decades of the 1900s Pacolet, Limestone, Hamrick, Broad River, and Cherokee Falls were just a few of the mills located in Cherokee, Union and York counties. At the turn of the twentieth century Union County alone had approximately 4,000 mill workers (Moss 1972). The presence of these mills transformed the region. In addition to mills, mill villages were constructed to house the workers and rail lines were built to deliver their products to markets. The area between the mills remained rural and local farms produced increasing amounts of cotton to satisfy the mills' demand.

While the production of cotton increased rapidly, the price of cotton fell to new lows. Many small farmers found that they could not make a living and moved to the new towns to work in the mills. Early mill owners, seeking both to provide for their workers and to control them such that they would be a stable, undemanding work force, generally provided housing to their workers. As a result, mill villages began to spring up on the edges of towns adjacent to the textile mills throughout the region. Many of these mill villages offered schools, stores, churches, and recreational activities for

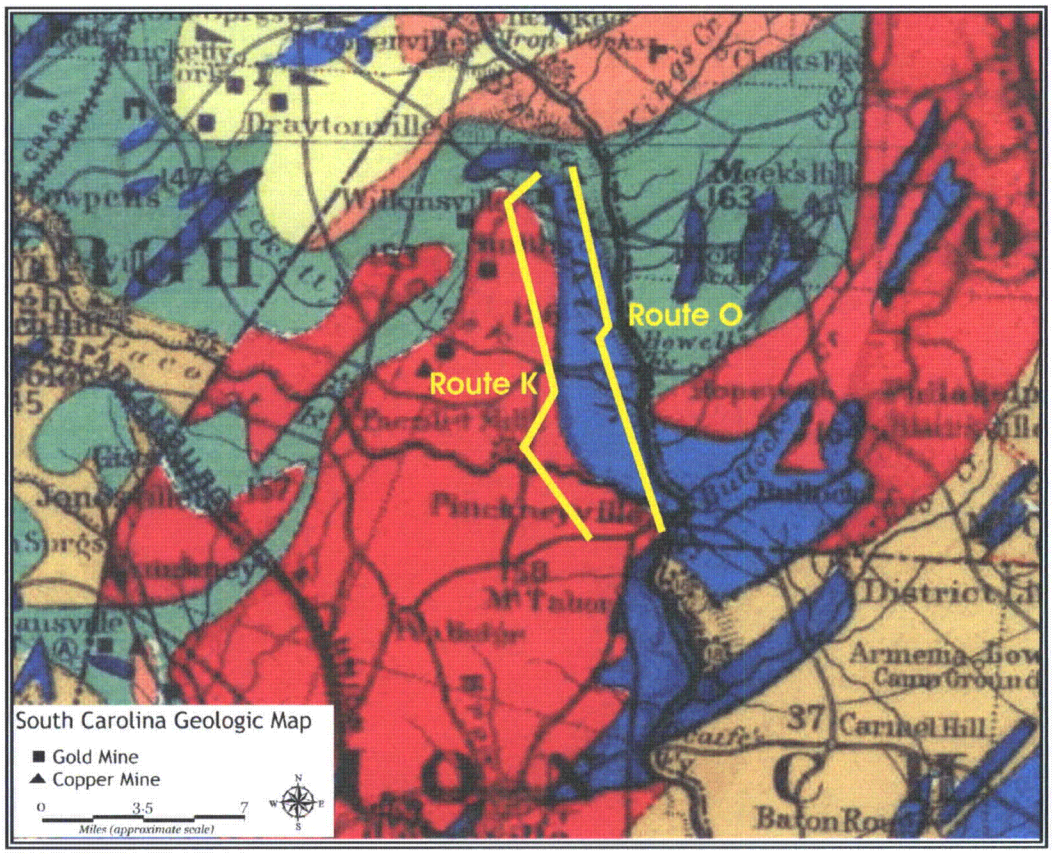


Figure 5. Geologic map of northern South Carolina showing the project vicinity (Colton and Colton 1883).

their workers and their families. Thomas Cary Duncan opened the first textile (cotton) mill in Union County in 1893 in the town of Union. He later opened a second mill at Buffalo, north of Union. He subsequently began his own railroad company to link his mills (Union Chamber of Commerce 2009).

One of the most important side effects of the textile boom in the Piedmont was the creation of a new class of citizens, the mill operatives. For the first time in southern towns and cities, there were spatially and socially distinct blue-collar neighborhoods (Carlton 1982: 129-170; Hanchett 1998: 89-114). The new class of mill operatives was a potentially threatening force to those who were still unsure about the rapid social changes of the 1880s, 1890s, and 1900s. As one scholar noted, the creation of mill villages and the attendant schools and churches was at one level a public relations gambit. "Cotton mill paternalism," as it was called, "was the principal means by which the new industrialists and their apologists sought to reassure their fellow citizens that they have nothing to fear from the creation of a wage-earning white industrial class" (Carlton 1982:89).

In the fall of 1895 Walton Lipscomb, Joe McArthur, Henry Smith and Willie Thompson began the survey of a new county; their survey began at Smith's Ford (Moss 1972). While many attempts to create a new county in the region had begun in the years following the Civil War, all prior efforts

had failed. The 1895 survey was the first step toward the successful creation of Cherokee County. The survey created a new county from a large portion of Spartanburg County and smaller portions of Union and York counties. After much controversy and political maneuvering, a vote of the proposed county population was held on December 8, 1896. The Cherokee County electorate approved the creation of the new county by a vote of 1,432 to 442. The creation of Cherokee County was approved by the legislature on February 17, 1897 (Moss 1972)

The Progressive Era for South Carolina began around 1903 with child labor laws being passed in the General Assembly. Children less than ten years of age could not be employed in a factory, mine, or mill (Edgar 1998:462-63). The age increased to twelve by 1905. Across the state issues such as schools, libraries, hospitals, parks and playgrounds, water and sewer systems, and local government reform were adamantly pursued by politicians and the general public alike. The main topic of education improvement was on primary and secondary schools.

The Great Depression caused further economic hardship in the county. Many textile mills and other industries were forced to be closed permanently. For those people who had jobs, the pay was low. Mill workers went on strike to protest reduced pay and/or extended work hours. The reduced production of the mills had a direct effect on the rural populations as the demand for crops, such as cotton, decreased. This led to a shift back toward the region's early settlement days of subsistence farming. Census records indicate that in 1929 Union County farmers consumed 17 percent of their yield. By 1939 this amount doubled to 35 percent. The mills eventually rebounded from the depression and remained a major employer in the region well into the late-twentieth century. Several of the mills, or their successors, remain in the region today.

Many farms had been subdivided and rented out on shares, but the lack of credit during the depression led many former sharecroppers to become farm workers in exchange for housing, use of a garden plot, and a share of the cash crop. By this time the farmland was eroded and productivity was low. These problems were somewhat overcome near the end of the depression with the development of federal crop support programs, mechanization, crop rotation, and crop diversification (Goldfield 1982). Population in the project area increased between the 1920s and the 1950s. This was due in part to the post-World War II baby boom and to increased industry following the war.

Today both Cherokee and Union counties rely heavily on agriculture and manufacturing. Manufacturing alone accounts for 42 percent of the labor force in Cherokee County. Wholesale and retail trades make up the second largest segment of the labor force at nearly 20 percent (Cherokee County Development Board 2009).

Chapter 3. Investigation Results

Background Research Results

As detailed in Chapter 1, background research was conducted at a number of repositories and a wide variety of resources were examined. There have been a number of archaeological investigations conducted in the project vicinity, the majority of which have been related to either road improvements or the proposed William S. Lee III nuclear plant (Table 3). Several historic (i.e., architectural) resources studies have also been conducted in the project vicinity. These include countywide architectural surveys of both Union County and neighboring York County. All of the project reports that were available were reviewed.

Table 3. Summary of Reports on Cultural Resource Investigations Conducted in the Project Vicinity.

Author(s)	Report Title	Year
Damon A. Jackson and David Dellenbach	*Cultural Resources Survey of the Lee Utility Corridor*, in progress	2009
Ralph Bailey, Andrew Agha and Ed Salo	*Cultural Resources Survey of the Proposed Lee Nuclear Station, Cherokee County, South Carolina*	2007
Jennifer Revels	*Historical and Architectural Survey of Union County, South Carolina*	2005
Bruce Harvey	*Intensive Architectural Survey of the Gaston Shoals Plant and Ninety-Nine Islands Plant, Cherokee County*	2001
Christopher A. Bergman and Gary Perkins	*Phase I Cultural Resources Report for Transcontinental Gas Pipe Line Corporation's 14.92 Mile Natural Gas Pipeline Loop and Workspace Areas, Cherokee County, South Carolina*	1995
The Jaeger Company	*York County Historic and Architectural Inventory Survey Report*	1991
Valetta Canouts	*Predictive Modeling: An Archaeological Assessment of Duke Power Company's Proposed Cherokee Transmission Lines*	1981
Lee Tippett and Michael Trinkley	*Archaeological Reconnaissance of the S-13 Project Corridor*	1979
Travis L. Bianchi	*Archaeological Survey of the Duke Power Company's Proposed X-81 Plant, Site B*	1974
Richard F. Carrillo	*Excavations at Pinckneyville, Site of Pinckney District, 1791-1800*	1972

Fifteen archaeological sites were previously recorded within the APE of the two project corridors (Table 4). These sites contain occupations ranging from the Archaic Period through the middle twentieth century, reflecting human settlement in the project area spanning 10,000 years. Many of these sites were recorded by Bianchi (1974) during his reconnaissance of a proposed Duke Power (now Duke Energy) power plant tract that encompassed much of the present day William State Lee III Nuclear Facility. Canouts (1981) conducted a reconnaissance and assessment of proposed transmission line corridors associated with the Bianchi project tract. Her project corridors were very similar to the Route O corridor. Based on her reconnaissance, during which five sites were identified and examined, Canouts (1981) speculated that the overall disturbance to the landscape was severe enough to limit the research potential for archaeological sites in the area.

Table 4. Previously Recorded Archaeological Sites Within the Project's APE.

Site Number	Site Type	NRHP Eligibility
38CK5	Middle Archaic artifact scatter; 19th - 20th century artifact scatter	Potentially Eligible
38CK6	Early, Middle, and Late Archaic artifact scatter; 19th - 20th century artifact scatter	Potentially Eligible
38CK7	19th century house site	Ineligible
38CK8	Middle Archaic and Middle Woodland artifact scatter	Potentially Eligible
38CK9	Isolated find	Ineligible
38CK11	Middle Archaic lithic scatter	Ineligible
38CK12	19th century house site	Ineligible
38CK13	Prehistoric lithic scatter	Ineligible
38CK14	Middle and Late Archaic artifact scatter; 19th - 20th century artifact scatter	Ineligible
38CK15	Middle and Late Archaic artifact scatter; 19th - 20th century artifact scatter	Ineligible
38CK16	Borden's Ferry site	Potentially Eligible
38CK19	Stroup Family Cemetery (19th century)	Ineligible, but protected under burial laws
38CK52	Prehistoric lithic scatter	Unassessed
38CK138	Prehistoric artifact scatter; Historic artifact scatter	Ineligible
38CK141	Moss Cemetery (late 19th century)	Ineligible, but protected under burial laws

There is only one previously recorded site that is situated directly on the proposed transmission line route. This site, 38CK52, is located near the northern terminus of Route K. There are a number of discrepancies in the descriptions of this site. The site form (on file) notes one rhyolite flake and one Guilford projectile point; however, the artifact catalog page attached to the site form lists two quartz flakes. Finally, the letter report submitted by Tippett and Trinkley (1979) state that one quartz flake and one quartz biface were recovered from the site area. No NRHP eligibility recommendation was advanced for this site.

Seventeen historic resources have been recorded within the project APE (Table 5). The majority of these historic resources are not considered to be significant. However, the Ninety-Nine Islands Hydro facility and its associated dam have been determined to be Eligible for the NRHP. This

Table 5. Previously Recorded Historic Resources Within the Project's APE.

Resource Number	Description	NRHP Eligibility
Route K: 040-0061.00-.01	c. 1930 house and outbuilding	Ineligible
040-0065	c. 1930 house	Ineligible
040-0066	c. 1930 house	Ineligible
040-0067	c. 1930 house	Ineligible
040-0068.00-.03	McKowns Mtn. Baptist Church & Cemetery	Ineligible
264-0171	c. 1910-1915 house	Ineligible
264-0199	c. 1910 house	Ineligible
264-0200	c. 1905 house	Ineligible
264-0241	c. 1900-1910 house	Ineligible
264-0242	c. 1910-1915 house	Ineligible
264-0243	c. 1890 house	Ineligible
264-0244	c. 1920 house	Ineligible
Route O: 269-0042.00-.01	Ninety-Nine Islands Hydro Plant and Dam (1910)	Eligible
040-0062	c. 1930 house	Ineligible
040-0063	c. 1900 house	Ineligible
040-0064	c. 1930 house	Ineligible
229-1018	c. 1750 Smith's Ford Farm	Eligible

facility was constructed in 1910 and is an excellent example of the architecture and engineering standards of such facilities for that time. The hydro facility and dam are located north of the northern terminus of Route O, and will therefore not be directly impacted. The proposed transmission lines' potential indirect impacts are discussed later in this document.

Smith's Ford Farm has also been determined to be Eligible for the NRHP. This mid-eighteenth farm complex is located across the Broad River from Route O and the complex itself is outside of this project's APE. However, extensive acreage has been recorded as part of the farm resource and much of this acreage falls within this project's APE. No direct impacts to this resource will be incurred; however, it was necessary to evaluate the potential for indirect impacts. This evaluation is also discussed later in this document.

Archaeological Survey Results

Route K

Route K traverses a wide range of settings. The corridor crosses numerous small streams, as well as Thicketty Creek (Figure 6) and the Pacolet River. The majority of the waterway floodplains are poorly developed and exhibit evidence of frequent flooding. The corridor also runs along severely eroded ridge tops, many of which have been logged (Figure 7), and through pastures and feed plots. There are also numerous areas of planted pines along its length (Figure 8). Overall, erosion is severe along the survey route and gullies are common (Figure 9).

Figure 6. View of where Route K crosses the Thicketty Creek floodplain.

Figure 7. Logged ridge top along Route K.

Figure 8. Planted pines along Route K.

Figure 9. Eroded gully along Route K.

A total of 12 sites (Table 6) and eight isolated finds were identified in this Route K corridor, resulting in a site density of one site per 2.3 km (1.4 miles) and a resource density of one resource per 1.4 km (0.9 miles). All of these resources are shown in Figures 10 through 12 and are discussed below. These figures also show the locations of the previously recorded resources in the project Area of Potential Effect (APE), as well as the locations of identified historic resources that will be discussed later in this chapter. Previously recorded site 38CK52, located at the northern end of this corridor, could not be relocated.

Table 6. Summary of Sites Identified in the Route K Corridor.

Site Number	Site Type	NRHP Recommendations
38CK174	Late 19th to Early 20th Century House Site	Ineligible
38CK175	Prehistoric Lithic Scatter	Ineligible
38CK176	Prehistoric Lithic Scatter	Ineligible
38CK177	Late 19th to Early 20th Century House Site	Ineligible
38CK178	Prehistoric Lithic Scatter	Ineligible
38CK179	Prehistoric Lithic Scatter; Isolated Historic Ceramic	Ineligible
38CK180	Isolated Prehistoric Lithic (possibly Early Archaic); Late 19th to Early 20th Century House Site	Ineligible
38CK181	Late 19th to Early 20th Century House Site	Ineligible
38UN1443	Prehistoric Lithic Scatter	Ineligible
38UN1444	Late 19th to Early 20th Century House Site	Ineligible
38UN1445	Prehistoric Lithic Scatter	Ineligible
38UN1446	Prehistoric Lithic Scatter	Ineligible

Figure withheld under Section 304 of the Archaeological Resources Protection Act (16 U.S.C. 470w-3(a))

Figure withheld under Section 304 of the Archaeological Resources Protection Act (16 U.S.C. 470w-3(a))

Figure withheld under Section 304 of the Archaeological Resources Protection Act (16 U.S.C. 470w-3(a))

As with site 38UN1445, this site has undergone severe disturbance. The artifacts are confined to the ground surface and there is little potential for intact subsurface deposits or preserved cultural features. No temporally diagnostic artifacts were recovered. However, the recovery of a core suggests that the quartz source may not be far away and that this location was used for tool production and maintenance. Overall, 38UN1446 has fulfilled its research potential at the survey level of investigation and is recommended ineligible for the NRHP.

Isolated Finds

During the course of this survey, each positive shovel test and surface find was further examined through close interval shovel testing. As discussed earlier in this document, isolated finds are settings that yielded fewer than three artifacts and did not contain cultural features. The eight Route K isolated finds range from individual flakes to three pieces of stoneware that mend to form a single sherd (Table 12). As these artifacts occur in relative isolation, they rarely have research potential beyond their identification. All are recommended ineligible for the NRHP.

Table 12. Summary of Isolated Finds Identified in the Route K Corridor.

Isolated Find Number	Description	NRHP Recommendations
Isolate 1-1	one translucent quartz flake	Ineligible
Isolate 3-1	one translucent quartz flake	Ineligible
Isolate 3-2	one milky quartz flake	Ineligible
Isolate 6-1	one undecorated whiteware ceramic	Ineligible
Isolate 6-2	one undecorated pearlware ceramic	Ineligible
Isolate 6-3	one brown salt glazed stoneware ceramic, one sponged whiteware ceramic	Ineligible
Isolate 6-5	one amethyst bottle glass, one clear bottle glass	Ineligible
Isolate 6-6	three alkaline glazed stoneware ceramic (mend)	Ineligible

Route O

Route O traversed many of the same settings as Route K. This corridor ran nearer to the Broad River and traversed numerous eroded ridge tops and pasture areas (Figure 25). This corridor also crosses the Pacolet River along a section of low-lying and frequently flooded floodplain (Figure 26). And, as along Route K, areas with planted pines were frequent (Figure 27).

Figure 25. Pasture area along Route O.

Figure 26. View of where Route O crosses the Pacolet River floodplain.

Figure 27. Planted pines along Route O.

A total of 25 sites and seven isolated finds were identified in the Route O corridor (Table 13). Site density is one site per 0.89 km (0.55 miles). Resource density along Route O was one resource per 0.69 km (0.43 miles), which is over double the resource density of Route K. The difference may be due to the proximity of Route O to the Broad River. These resources, as well as the previously recorded resources and the historic resource documented during this investigation, are shown in Figures 28 through 30 and discussed below.

Table 13. Summary of Sites Identified in the Route O Corridor.

Site Number	Site Type	NRHP Recommendations
38CK149	Mississippian Artifact Scatter	Ineligible
38CK150	Prehistoric Lithic Scatter	Ineligible
38CK151	Prehistoric Lithic Scatter	Ineligible
38CK154	Late 19th - Early 20th Century House Site	Ineligible
38CK155	Middle and Late Archaic Lithic Scatter	Ineligible
38CK156	Prehistoric Lithic Scatter	Ineligible
38CK157	Middle Archaic Lithic Scatter	Ineligible

Site Number	Site Type	NRHP Recommendations
38CK158	Possible Historic Prospector Pit	Ineligible
38CK159	Prehistoric Lithic Scatter	Ineligible
38CK160	Middle Archaic Lithic Scatter	Ineligible
38CK161	Prehistoric Lithic Scatter; Late 19th - Early 20th Century House Site	Ineligible
38CK162	Middle Archaic Lithic Scatter; Late 19th - Early 20th Century House Site	Ineligible
38CK163	Prehistoric Lithic Scatter, Late 19th - Early 20th Century House Site	Ineligible
38CK164	Prehistoric Lithic Scatter	Ineligible
38CK165	Prehistoric Lithic Scatter; Late 19th - Early 20th Century House Site	Ineligible
38CK166	Prehistoric Lithic Scatter, Isolated 19th Century Ceramic	Ineligible
38CK167	Prehistoric Lithic Scatter	Ineligible
38CK168	Prehistoric Lithic Scatter	Ineligible
38CK169	Prehistoric Lithic Scatter, 19th - Early 20th Century Ceramic Scatter	Ineligible
38CK170	Prehistoric Lithic Scatter, Isolated 19th Century Ceramic	Ineligible
38CK171	Prehistoric Lithic Scatter	Ineligible
38CK172	Possible Grave Site	Potentially Eligible
38CK173	Prehistoric Lithic Scatter	Ineligible
38UN1441	Prehistoric Lithic Scatter	Ineligible
38UN1442	Early, Middle, and Late Archaic Lithic Scatter	Ineligible

Figure withheld under Section 304 of the Archaeological Resources Protection Act (16 U.S.C. 470w-3(a))

Figure withheld under Section 304 of the Archaeological Resources Protection Act (16 U.S.C. 470w-3(a))

Figure withheld under Section 304 of the Archaeological Resources Protection Act (16 U.S.C. 470w-3(a))

This lithic reduction site yielded a number of diagnostic tools, allowing us to determine the range of occupation of the site. Unfortunately, the site deposits are largely confined to surface contexts and lack spatial integrity. The shallowness of the subsoil suggests that intact deposits and preserved cultural features are not likely to be present. Because of poor site integrity, 38UN1442 has no research potential beyond the survey level of evaluation an is recommended ineligible for the NRHP.

Isolated Finds

The Route O isolated finds include both prehistoric debitage and historic domestic debris (Table 21). As noted above, isolated finds rarely have further research potential beyond their identification and all seven of the Route O isolates are recommended ineligible for the NRHP. However, it is likely that several of these isolates are associated with sites that are located nearby. For example, Isolate A-1 is located near site 38CK149 and may represent displaced deposits. Isolate D-4 is adjacent to site 38CK165. Again, these two occurrences may well be associated with the nearby sites.

Table 21. Summary of Isolated Finds Identified in the Route O Corridor.

Isolated Find Number	Description	NRHP Recommendations
Isolate A-1	one translucent quartz flake, one translucent quartz flake fragment	Ineligible
Isolate D-1	one undecorated ironstone ceramic	Ineligible
Isolate D-2	two dark olive green bottle glass	Ineligible
Isolate D-3	metavolcanic flake fragment	Ineligible
Isolate D-4	one translucent quartz flake fragment	Ineligible
Isolate D-5	one crystal quartz flake, one translucent quartz flake	Ineligible
Isolate E-1	two undecorated whiteware ceramic, one chert shatter	Ineligible

Architectural Survey Results

The Area of Potential Effect (APE) for historic resources (buildings and structures) is 0.8 km (0.5 miles) from the proposed corridors' centerlines. This APE results in a 1.6 km (1.0-mile) wide area being examined for the presence of significant historic resources. The majority of the study area for historic resources lies within Cherokee and Union counties. However, the proximity of transmission line O to the Broad River and York County line means that a small portion of York County, near Smith's Ford, is included in the APE.

The field survey was completed on May 21-22 and June 9-10, 2009. All roads, paved, gravel and dirt, within in the APE were driven to identify all properties over fifty years of age. Posted "No Trespassing" signs and locked gates were not crossed unless express permission was given by the property owner. All properties were photographed to South Carolina Historic Preservation Office digital photography standards and recorded on South Carolina Statewide Survey forms.

Thirty-nine properties were identified and recorded in the field. Seventeen of these were previously recorded properties and have been discussed earlier in this chapter. One of these previously recorded properties (040-0063) is no longer standing and the owner of a second previously recorded resource (040-0065) would not allow photos to be taken of the property. The remaining 22 properties were documented and assessed for their NRHP eligibility (Table 22). The locations of these resources are on shown on Figures 10 through 12 and 28 through 30.

Table 22. Summary of Historic Resources Documented Along Survey Corridors.

Resource Number	Resource Description	NRHP Eligibility
021-040-0152	c. 1910 house	ineligible
021-229-0135	c. 1900 store	ineligible
021-229-0136	c. 1900 house	ineligible
021-229-0137	c. 1940 house	ineligible
021-229-0138	Pleasant Grove Cemetery, c. 1800	associated with 0140
021-229-0140	Reid-Walker-Johnson Farm, c. 1810	Eligible
021-229-0141	c. 1900 house	ineligible
021-229-0150	c. 1900 house	ineligible
021-229-0151	c. 1900 house	ineligible
021-269-0153	c. 1900 house	ineligible
021-556-0139	c. 1900 house	ineligible
021-556-0142	c. 1910 house	ineligible
021-556-0143	c. 1920 house	ineligible
021-556-0144	c. 1930 house	ineligible
021-556-0145	c. 1930 house	ineligible
021-556-0146	c. 1930 house	ineligible
021-556-0147	c. 1940 house	ineligible
021-556-0148	c. 1940 house	ineligible
021-556-0149	c. 1930 house	ineligible
021-556-0154	c. 1940 house	ineligible
087-264-1377	c. 1930 house	ineligible
087-264-1378	c. 1940 house	ineligible

Determinations of Eligibility

Ninety-Nine Island Facility. The Ninety-Nine Islands Hydro Plant and Dam remains Eligible for listing in the NRHP. Constructed in 1910 by Southern Power Company, the predecessor of Duke

Power Company, the plant and dam are intact representative examples of resources related to the development of rivers in the Piedmont of North and South Carolina for hydroelectric power. A boundary for the plant and dam was not delineated in the previous determination of eligibility. The footprint of each structure is an appropriate boundary based on their significance and continued use.

Smith's Ford Farm. The circa 1750 Smith's Ford Farm located in [redacted] remains Eligible for inclusion in the NRHP as an intact and representative example of a mid-eighteenth century farmstead. [redacted] A boundary for the farm was not delineated in the previous determination of eligibility. An appropriate boundary for this property would include the main house, associated outbuildings, and acreage surrounding the house, continuing down to the banks of the Broad River and encompassing the remnants of the old ford.

Reid-Walker-Johnson Farm. The Reid-Walker-Johnson Farm, affectionately referred to by its occupants as Elmwood, is located at [redacted]. The main house and outbuildings sit on a separate parcel from the associated agricultural buildings located less than 152 meters (500 ft) to the south, although they are under the same ownership. The Reid-Walker-Johnson farm is anchored by a circa 1840 Greek Revival House and includes an extensive collection of outbuildings, agricultural buildings, cemeteries, and old road beds.

Deeds, plats, or other specific land records were not found for the Reid-Walker-Johnson Farm property prior to its transference to the Johnsons in the 1940s. Historic texts on the area, local historians and the current property owners are sources of the Reid-Walker association. Early Union County records show a handful of Reid property owners, Jethro, William, John and James, buying land near the junction of the Broad and Pacolet Rivers from the 1780s into the 1820s. Because only one of these records has an associated plat, the exact location of these holdings are not known, but references to their proximity to one or both of the rivers illustrates that they owned large land holdings in the area. Furthermore, the presence of the Reid Cemetery on the parent parcel of the Reid-Walker-Johnson Farm with headstones dating to the early nineteenth-century confirm the family's presence on the site.

According to Annie Laura Hamrick, owner of the Smith's Ford Farm, the marriage of one of the Reid daughters to a Walker transferred the ownership of the farm to the Walker name in the early 1800s. It was at this time that the earliest structures associated with the Reid family were removed from the property and moved to Smith's Ford Farm. This includes the large two-story attached house on the rear of the main house at Smith's Ford Farm as well as a few outbuildings, including a barn. The circa 1840 main house and outbuildings are associated with the Walker's ownership of the property.

When the property became part of Cherokee County in 1897 Minnie Walker, the farm's resident, moved to the town of Union stating that she simply could not be a resident of any other county. There are no records of anyone residing on the property between Ms. Walker's departure and the sale of the property in 1946 to the Johnson family. The Walker family continued to own the land,

but it is believed that it was tended by tenants. After taking ownership of the property in the 1940s, the Johnson family has never used it as a permanent residence. They have maintained the structures, using them for family gatherings. Since their purchase of approximately 202 hectares (500 acres) in the mid-twentieth century, the Johnsons have amassed more than 2,024 hectares (5,000 acres). The land has not been used for crop farming for at least 60 years. The Johnsons raise beef cattle and harvest timber for their Shelby, North Carolina-based sawmill.

The housing and agricultural complexes of the farm sit in close proximity to one another. Their layout is reflected in Figure 57. The circa 1840 main house is a two-story, three-bay, frame hipped roof dwelling in the Greek Revival style. The house retains original weatherboard siding, six-over-six double hung sash windows with shutters and front and rear entry doors. The one-story hipped roof porch is slightly narrower than the full façade and is supported by painted brick piers. The porch has been enclosed as a sunroom with full-height fixed-glass windows. Two one-story additions have been added to the rear façade. The first is a gable-roof ell that is perpendicular to the main block and serves as a hyphen to the second addition, a one-story shed roof wing parallel to the rear elevation of the main block. Both additions appear to date from the early twentieth-century and are finished with materials present on the main block of the house. The rear porch of the shed roof section has been enclosed in the same manner as the front porch.

Figure 57. Layout of the Reid-Walker-Johnson Farm building complex.

The original kitchen sits directly behind the main house, separated by a narrow drive. According to the current owner, Carter Johnson, the kitchen pre-dates the main house by approximately thirty years, circa 1810. It is a one-story, frame, side gable structure with a substantial chimney at the southeast end. A one-story shed roof addition has been added to the rear of the structure. While the exposed rafter tails in the eaves suggest an early-twentieth century date, the finish of the weatherboard siding, doors, windows, and chimney are more appropriate to the earlier date, circa1810 suggested by the property owner. It is possible that the roof on the kitchen was replaced in the early twentieth century.

At the edge of the drive sits a one-and-one-half story guest house. Clad in vinyl siding with replacement windows and doors, two front gable dormers, and a carport attached to the rear, the guest house is the most altered structure on the site. The current owner claims the structure was part of the earlier complex associated with the same era as the kitchen, but no early plats, maps, or deeds on the property were found to substantiate that claim.

The main house, kitchen, and guest house all sit within an area enclosed by iron fencing with brick piers. This area is extensively landscaped with mature magnolias, boxwoods, oaks, azaleas, privet, and many other species. Outbuildings located within the fenced area include: a one-story frame pyramidal roof shed; a one-and-one-half story frame front gable barn with weatherboard siding and tin roof flanked by two shed roof rooms; a diminutive frame front gable garden shed, a long one-story, frame garage and storage building; a small, one-story brick well house; a modern two-bay garage; and a modern gazebo.

Across [redacted] from the main house complex is a circa 1930 tenant house. The two-story section perpendicular to the drive was likely the original main block with a one-story rear-ell. At a later date the house was reconfigured so the side façade became the primary façade. The porch was probably added at that time. The house retains original six-over-six double-hung sash windows and half-glazed entry door. The vertical siding and asphalt shingle roof are later replacements. Adjacent to the tenant house on the south side sits a small stone cooling shed with a flat roof.

The agricultural complex can be accessed from the main house by continuing down Walker Farm Road or by following a narrow drive from the back of the main house complex, accessed by an iron gate. Immediately outside of the iron gate is a one-story, frame, board-and-batten structure with an inset porch supported by timber posts. The placement and design of the structure suggest its use as an office for the farm. Further down the drive, flanked by corrugated metal sheds is a two-story, frame, side gable structure clad in weatherboard siding and topped with a tin roof. The finish of the structure suggests it dates from the mid-nineteenth century. Set on a cinderblock pier foundation the structure appears to have been moved to its current location in recent decades.

The agricultural complex contains a collection of pole sheds topped with tin roofs to house tractors and other farm equipment, metal storage silos, and remnants of a concrete block grain silo (deteriorated). The only two early structures are a one-story frame shed immediately adjacent to

[redacted] at the fence line and a two-story, frame, front gable livestock barn with shed roof rooms attached to each side. Each of the earlier structures retains its original finish materials.

[redacted] historically served as part of the road from Gaffney to Pinckney's Ferry. Established cedars line the road from Lee's Farm Road southeast to the river. Located on private property, the primary use of the road is as a farm path and is only accessible with a four-wheel drive vehicle. [redacted]

Delineated by a stacked stone wall, the Reid Cemetery dates to the earliest known settlers on the property, the Reid family. Only two headstones are visible on the site but the size of the wall suggests there are more burials within. Both headstones indicate dates of death that pre-date the main house, and confirm that there was settlement on the property prior to 1840.

The Reid-Walker-Johnson Farm is Eligible for inclusion in the NHRP under Criterion C for Architecture as a representative example of a mid-nineteenth century farmstead. Because no original field patterns remain and the deed history on the parcel is incomplete, the boundary for this property should include just the house, outbuildings and adjacent agricultural structures. In addition, the Reid Cemetery and the Pleasant Grove Cemetery (African-American) are also determined Eligible for their association with the property, but with discontiguous boundaries.

The remaining thirty-six recorded properties, including the 16 previously recorded, do not have the requisite integrity or significance to be determined Eligible for inclusion in the NRHP.

Determination of Effects

The proposed transmission line locations will have no effect on the Ninety-Nine Islands Hydro Plant and Dam. The proposed transmission lines do not physically cross the property associated with the historic plant and dam but will be visible in the viewshed. However, given the association of the properties to electrical generation and the transmission systems that already exist in association with the historic plant and dam, the visibility of the proposed transmission lines will not affect the historic resources.

Route O has the potential to impact the circa 1750 Smith's Ford Farm. While the proposed transmission lines do not physically cross the property, [redacted] The house and associated outbuildings sit on a rise under established tree cover with small pockets of views across the river. Appropriate placement of the transmission line towers with consideration of the Smith's Ford Farm viewshed in coordination with the property owner and the State Historic Preservation Office (SHPO) staff may result in a finding of No Adverse Effect.

Route O also has the potential to impact the Reid-Walker-Johnson Farm, which has been determined Eligible through this study. The proposed transmission line corridor physically crosses

the parent parcel of this historic resource, but does so outside of the proposed historic boundaries. The identified cemeteries are both located within significant tree cover and will have no viewshed impacts as a result of the proposed transmission line locations. [redacted] Appropriate placement of the transmission line towers, and limited clearing associated with the line's construction in this vicinity would result in a benign impact to the Reid-Walker-Johnson house and outbuildings viewshed. Coordination of this design with property owners and the SHPO staff may result in a finding of No Adverse Effect.

Summary and Recommendations

This investigation has resulted in the documentation and evaluation of 37 archaeological sites and 15 isolated finds. The single previously recorded site within the survey corridors, 38CK52 in Route K, was not relocated. Twenty-two historic resources were documented and assessed and 15 of the 17 previously recorded historic resources were revisited. The remaining two previously recorded resources either are no longer standing or could not be accessed.

None of the archaeological resources meet National Register of Historic Places (NRHP) eligibility criteria. No further work is considered to be warranted at any of these locations. However, all impacts to the possible grave site (38CK172) should be avoided. The Reid-Walker-Johnson farm complex is considered to be eligible for the NRHP and placement of transmission line towers and corridor clearing should be planned in such a way as to avoid impacting the resource's viewshed. Likewise with the Smith Ford Farm, which is listed on the NRHP, is located directly across the Broad River from the Route O corridor. Tower placement planning should consider the potential visibility of the towers from this resource. With these caveats, we recommend that cultural resources clearance to proceed with the proposed construction be granted.

Chapter 4. Discussion and Recommendations

Archaeological Resource Frequency

The archaeological resource frequency for Route K is the equivalent of one resource (either site or isolated find) per 10.98 hectares (27.13 acres) and for Route O it is the equivalent of one resource per 5.6 hectares (13.8 acres). Both are significantly lower than that for projects conducted in the vicinity and discussed by Canouts (1981), which have site frequencies ranging from one site per 2.7 hectares (6.7 acres) and one site per 1.2 hectares (2.97 acres). Canouts (1981) notes that the site frequencies resulting from the Gaffney By-Pass survey and the nuclear plant tract, both conducted in the immediate vicinity of this investigation area, are unexpectedly high. Her own landform-focused reconnaissance of the proposed transmission line corridors roughly mirroring Route O resulted in a site frequency of one site per 15.5 hectares (38.3 acres) (Canouts 1981). She attributes this relatively low frequency to, among other factors, the degree of survey intensity and ground cover conditions and speculated that more comprehensive survey coverage of the corridors should result in site frequencies closer to one site per 6 to 10 hectares (15 to 25 acres). (Canouts 1981). By utilizing standard interval shovel testing, our survey both met and exceeded Canounts expectations.

Human Settlement in the Project Area

Human occupation in the project area spans over 12,000 years. In considering past human occupation in the study region, archaeological data can be used to speculate as to the intensity of settlement of the project area. Table 23 presents a summary of all recorded sites within this project's Area of Potential Effect (APE) by temporal and cultural component. This includes data from previously recorded sites as well as data from the current field investigations. Several sites contain multiple components and are noted on multiple rows. Based on this compilation, it is apparent that populations have fluctuated and there appears to be periods when the project corridors were not settled at all.

The most common prehistoric site type is the ubiquitous lithic scatter. Twenty-three non-diagnostic lithic scatters were identified during the current study, 16 in Route O and seven along Route K. Three previously recorded sites are also non-diagnostic lithic scatters. All of these sites yielded primarily quartz debitage, with an occasional non-diagnostic biface fragment. No temporal affiliation can be assigned to these sites.

Although no Paleoindian sites were identified in the project vicinity, 31 Paleoindian points have been identified from the four counties (Cherokee, Chester, Union, and York) bordering the upper Broad River (Charles and Michie 1992). Only one Paleoindian point has been found in Cherokee County and six have been identified from Union County, all of which are from private

Table 23. Summary of Archaeological Sites in the Project's APE by Component.

Chronological Association	Number of Components	Comments
Unknown Prehistoric	26	lithic scatters
Paleoindian	0	none in APE but 1 recovered from Smith's Ferry ~0.75 km (0.5 miles) east of Route O
Early Archaic	3	lithic activity areas
Middle Archaic	11	lithic activity areas
Late Archaic	5	lithic activity areas
Early Woodland	0	-
Middle Woodland	1	-
Late Woodland	0	-
Mississippian	1	camp site
Historic Indian	0	-
Eighteenth Century	0	-
Nineteenth Century	7	most are small house sites, some with associated outbuildings
Nineteenth/Twentieth Century	15	most are small house sites, some with associated outbuildings
Unknown Historic	5	artifact scatters

collections. A Paleoindian Suwanee point collected near [redacted] (Charles and Michie 1992: Appendix A), [redacted], indicates some form of Paleoindian activity along the Broad River in the project vicinity, but no Paleoindian components were identified along the project corridors. During this time, humans would have cleared small seasonal or short term campsites and small villages. Territorial spheres probably included large areas as hunting grounds. It is possible that fire was used to clear settlement sites or possibly to use in hunting to drive game (as documented by John Lawson in coastal pocosins [swamps/Carolina Bays] during the early 1700s).

The earliest confirmed human presence within the project area occurred during the Early Archaic (8,000-6,000 BC). Two sites from the current investigations, 38CK180 and 38UN1442, and one previously recorded site, 38CK6, are associated with an Early Archaic component and indicate at least limited use of the uplands during this time. It is possible that some of the 26 non-diagnostic lithic scatters are linked to the Early Archaic Period. The paucity of Early Archaic components

suggests that they would have had little impact on the landscape other than clearing for small camp sites.

The number of sites in the project vicinity appears to increase significantly during the Middle Archaic Period. Six previously recorded sites in the project vicinity have Middle Archaic components. Middle Archaic components were identified at five additional sites (38CK155, 38CK157, 38CK160, 38CK162, and 38UN1442) during the current field investigations, all along Route O. Diagnostics are comprised of quartz Morrow Mountain points and fragments with the exception of one Ridge and Valley chert. Again, some of the 26 non-diagnostic lithic sites could be associated with Middle Archaic peoples but this cannot be confirmed. As noted in Chapter 2, the Middle Archaic is characterized by high site frequency and an increase in the use of locally available lithic resources (Blanton 1983; Claggett and Cable 1982), in this case quartz.

During the following Late Archaic Period, there is a decrease in the number of sites. There are three previously recorded sites with Late Archaic components. We identified two sites (38CK155 and 38UN1442) with Late Archaic components, both on Route O. The decrease in site density and, presumably, population in the project vicinity during the Late Archaic could be due to the increased practice of horticulture. As simple encouragement of plant species moved toward incipient agriculture, it is likely that people would have sought out more fertile lands closer to waterways.

If Late Archaic peoples were moving out of the uplands onto the floodplains, it would be expected that subsequent settlement would also focus on those settings. If this is the case, few such sites would be present in the project vicinity. Indeed, based on background research and our field investigations, ceramic period (Woodland, Mississippian, and Historic Indian) sites are rare in the project vicinity. No Woodland Period sites were identified during this investigation, nor have any been previously recorded in the project's APE, although one previously recorded site has a reported Middle Woodland component.

Larger Mississippian village sites are typically located along the bottomlands of major drainages such as the Broad River. Smaller farmsteads and special activity sites tend to be scattered around these population centers in both upland and bottomland settings. Only one Mississippian Period site was identified during this survey and no others have been recorded in the immediate project vicinity. This site, 38CK149, was identified based on recovery of a punctated rim fragment, a common Mississippian rim treatment. Only three artifacts were collected from here, all from a single shovel test despite our excavation of a 5 meter (16 ft) interval grid of shovel tests.

No Historic Indian Period sites were identified in the project vicinity either during the field survey or from background research. As the Cherokee were present to the west and the Catawba to the east, it is possible that the project area was largely uninhabited and served as a buffer between these two groups who were often on hostile terms.

For most of the prehistoric period, extending up to the middle 1700s, Native American population in the project area seems to have remained relatively small. By the late seventeenth

century, their population was decreasing as the European population was increasing. The Great Wagon Road facilitated settlement of the backcountry of the Carolina Piedmont during the eighteenth century and fords and ferries, including Borden's Ferry located within the project APE, dating to this period are fairly common along the Broad River. Pinckneyville was established by the late eighteenth century. However, no eighteenth century sites haven been documented in the project vicinity. Once again, this may be a result of survey bias, as early settlement probably focused on the fertile river bottomlands. Also, upland settlements tend to be established along roads, which would have been poorly established in this region during the eighteenth century.

By the nineteenth century, for the most part Native Americans were no longer living in the project area. Four sites previously recorded in the project vicinity have nineteenth century components. Ten of the sites identified during the archaeological survey have late nineteenth-early twentieth century components. In addition, eight houses and one store dating to this same time frame were recorded as historic resources during this investigation. This increase in site density likely reflects the rise of the tenant farm system, although Bianchi (1974) speculated that the project area's dense population during this period may have been related to the iron industry and the Scots-Irish migration into the area. Indeed, the Reid-Walker-Johnson Farm was established around 1810 by members of the Reid family. The surname Reid is a Scottish spelling of the English word for "red" (Clan Scot Society, Inc. 2006), so it is probable that the Reid's were Scottish immigrants.

Although the architectural survey identified and documented 10 houses dating to between 1920 and 1940, as Cherokee County became caught up in the rural to urban migration, late nineteenth through early twentieth century houses began disappearing from the project vicinity. Numerous standing buildings were reflected on late twentieth century topographic maps but often the only evidence remaining of these houses is archaeological deposits or the presence of large yard trees. In many site areas, push piles and exposed subsoil testify to the machine clearing of these once standing houses. Even small towns present during the early twentieth century no longer exist. The town of Abingdon is an example of a community that grew up during the late nineteenth century but is no more than a crossroads today.

Despite the limitations of the project boundaries, the archaeological sites identified along the survey corridors and within the project's APE reflect the full range of occupation of the project area. This snapshot provides a good view of the waxing and waning of populations and of the movement of people over the landscape over time.

Landscape Impacts and Implications

As noted above, the project area encompasses a relatively narrow stretch of land in the Piedmont paralleling the Broad River. The corridors cross numerous ridges and drainages, including the Pacolet River, but the corridors never actually enter the floodplain or lower slopes along the Broad River. However, even this somewhat limited and biased surface area provides an opportunity to explore this general setting from a landscape archaeology perspective. Landscape archaeology is

a relatively new approach to the interpretation of cultural resources. The broadest and simplest definition of the term encompasses any study of how people interacted with, and were influenced by, the land throughout dynamic cultural, spatial, and temporal contexts (Stine et al. 1997; Brass 2004). There are several competing theories and methodologies with regards to the specific types of landscape archaeology. The three main schools of thought include: 1) a focus on documentary (historic, cartographic, etc.) sources to analyze a given area, 2) an empirical study of field survey, and 3) a more theoretical approach to the re-interpretation of previous archaeological studies (Hicks and Metheny 2004).

The above theories may be combined in a practical manner in order to analyze the ways in which humans interact with and modify their surroundings. Using a combination of archival research and archaeological methods and techniques, we can then create a picture of human activity across a broader region. Using a landscape archaeology approach, we can examine land-use patterns, the effect of landscape changes on previous occupations and remains, function(s) of a site, and people and their possessions. Add to this the more traditional interpretation of artifacts and we might then learn more about ideology, technology, social stratification, urbanization, health and sanitation, terrain alterations, subsistence practices, diet, and even site formation.

Prehistoric Period

The early prehistoric occupations of the project vicinity were likely limited to small seasonal camps. These camps would presumably have minimal impact on the landscape as they would have required little, if any, modification of the surroundings. Also, the relatively short term of occupation of each camp would allow the landscape to recover between occupations. By the end of the Woodland Period, larger village sites began to be established. These villages would serve as long-term if not permanent settlements of larger groups of people. The increased population would require the exploitation of more resources for which there may have been increased competition. More and possibly larger camp areas would be cleared of vegetation. However, the predominate impact to the environment during the later prehistoric period would have been the clearing of fields for agriculture as corn and other cultivars became dietary staples. Clearing practices during the late prehistoric periods would have relied on the limited technology available and likely consisted largely of sequences of slashing and burning. That, in addition to the need for wood as fuel, would have resulted in the deforestation of the area. Such deforestation in both the floodplains and uplands would not only cause erosion but would increase the frequency of flooding from upland watersheds (Lopinot and Woods 1993). An unintentional result of clearing the land of trees is that other plants that prefer open, disturbed habitats (e.g., spurge, poke, maypop, and pines) could thrive. Gradually, the woods would be converted to weedy grasslands.

Native American trade networks were likely one of the driving forces behind the establishment of trails. The best example in the region being the Great Wagon Road that started out as a Native American trail. These trails, although not significantly damaging to the landscape in and of themselves, would have contributed to the overall impacts on the landscape by Native Americans.

Eighteenth Century

The majority of the Europeans moving into the project vicinity traveled by way of the Great Wagon Road, one of the many Native American trails converted to roads. These settlers would have focused on the fertile bottomlands for farming, many of which were likely already cleared of trees. Smith's Ford Farm, which dates to 1750 and once encompassed over 2,025 hectares (5,000 acres) stretching between the Broad and Pacolet rivers, is an example. The increased intensity of farming, as well as the new crops being introduced, further depleted the soil.

In the latter part of the eighteenth century mineral extraction, particularly iron, became an important economic activity in the area. The 1883 Colton and Colton map showing mineral resources in South Carolina shows that gold and copper mines were located near the northern portion of the project area (see Figure 3). Just north of the survey corridors iron, lead, silver, and marble were being extracted. The South Carolina state government encouraged the establishment of iron mills in the late 1700s to contribute to the Revolutionary War efforts (Ferguson and Cowan 1997). However, most of the ironworks in operation consisted of small furnaces or forges situated in isolated rural areas that primarily served local markets. These extraction activities would have taken a toll on the local environment. Excavation of the ores from which iron, gold, and copper were extracted left open adits and sometimes extensive tunnels through the uplands. Large amounts of wood were needed for fueling the operations, resulting in the further clearing of forests and even more rampant erosion. Evidence of these activities include site 38CK158, a possible prospect pit identified during the current survey.

As the "frontier" was moving further west and Native Americans were less of a threat, European settlers began settling in. Populations increased as the slave labor based plantation system became more entrenched. The plantation system was one of intensive agriculture. Clearing of land and poor land use practices depleted the soil fairly quickly contributing to the on-going erosion. The increase in population led to the expansion of road networks, and eventually railroad lines entered the project area. All of these actions led to further detrimental impacts to the surrounding landscape.

Nineteenth Century

Trimble (1974) identifies the most intensive period of soil erosion in the project vicinity as during the late antebellum period through the early twentieth century. The project area falls into his Region III and IV. Region III had high antebellum erosive land use continuing into the postbellum period. Region IV had low antebellum erosive land use increasing to high levels by 1920 due to cotton and mixed farming. Tenant farming became quite extensive after the fall of the plantation system and the breaking up of the larger landholdings.

It was during this time that the logging boom shifted to the Southeastern United States, creating extensive man-induced landscape modifications across South Carolina (Southerlin 2008; Southerlin et al. 2007). Commercial logging became common, as the remaining hardwood forests

were cut. Eventually old fields and pasture that had reverted back to woodlands were also exploited for lumber production. Finally, silviculture became the primary land use practice across much of the project area. Planted pines, which are grown specifically for the pulp wood industry, require prepared rows and furrows. Such preparation creates modifications to the soil stratigraphy. Harvesting of the pines also results in disturbance to the landscape and evidence of machine clearing of stumps and other debris is rampant in the project area.

Twentieth Century to Present

By the twentieth century the project area landscape had undergone numerous cycles of destruction and regrowth. Generations of land clearing had resulted in the conversion of hardwood forests to grasslands then to pine forests. The A horizon soils have been largely lost from the uplands (Oosting 1942) and active gullying due to the deforestation further impedes vegetation growth. Efforts to stem the erosion were made in the 1930s by the Civilian Conservation Corps who planted pines in select portions of Cherokee County (Jones 1962).

In 1910, the Ninety-Nine Island Hydro facility was constructed, bringing both electricity and jobs to the local area. This facility also resulted in modifications to the river course. The majority of the historic resources recorded in the project vicinity date to the early twentieth century. Nearly all were built between 1910 and 1930, possibly reflecting an increase in the local population, despite the fact that rural to urban migration was taking place throughout much of the country at this time.

Conclusions and Recommendations

The archaeological resources identified during this survey reflect human exploitation and settlement of the area for over 10,000 years. These sites represent use of local lithic resources by prehistoric peoples and of mineral resources by more modern settlers. From mining to farming to silviculture, historic land use practices have severely damaged the landscape and, consequently, the cultural resources remaining. The severity of the erosion along both survey corridors was extreme resulting in "deflated and truncated soil profiles on ridge tops and alluvial build-up in the narrow drainages" (Canouts 1981). Based upon such factors as topography, proximity to water, and soil drainage characteristics, we had initially defined the majority of both survey corridors as having high potential for the presence of archaeological sites. While we did identify numerous archaeological sites within the project corridor, the numerous landscape modifications discussed above have severely affected their integrity, and hence their significance in terms of NRHP evaluation. It is for this reason that none of the cultural resources identified during this investigation retain sufficient integrity to warrant preservation or further research. The single exception is the possible grave site (38CK172), which is not significant archaeologically but is protected under federal and state burial laws.

Similarly, architectural resources have been largely destroyed or modified. The circa 1750 Smith's Ford Farm and the circa 1810 Reid-Walker-Johnson Farm are good examples of large farmsteads in operation during the eighteenth and nineteenth centuries and are both Eligible for the NRHP. Neither of these resources will be directly affected by the proposed transmission lines construction; however, potential impacts to their viewsheds should be considered during project planning. The Ninety-Nine Island Hydro facilities are also Eligible for the NRHP but will not be adversely affected by the placement or construction of the proposed transmission lines. The remainder of the recorded historic resources do not meet NRHP and no further consideration of these resources is necessary.

References Cited

Adovasio, J. M. and Jake Page

2002 *The First Americans: In Pursuit of Archaeology's Greatest Mystery.* Random House, New York.

Adovasio, J. M., Pedler J. Donahue, and R. Struckenrath

1998 Two Decades of Debate on Meadowcroft Rockshelter. *North American Archaeologist* 19:317-41.

Alderman, Pat

1986 *The Overmountain Men.* The Overmountain Press, Johnson City, TN.

Anderson, David G.

1989 The Mississippian in South Carolina. In *Studies in South Carolina Archaeology: Essays in Honor of Robert L. Stephenson*, edited by Albert C. Goodyear and Glen T. Hanson, pp. 101-132. Anthropological Studies 9, South Carolina Institute of Archaeology and Anthropology, Columbia.

1996 Models of Paleoindian and Early Archaic Settlement in the Lower Southeast. In *The Paleoindian and Early Archaic Southeast*, David G. Anderson and Kenneth E. Sassaman, eds., pp. 29-57. University of Alabama Press, Tuscaloosa.

Anderson, David G. and Glen T. Hanson

1988 Early Archaic Settlement in the Southeastern United States: A Case Study from the Savannah River Basin. *American Antiquity* 53:262-286.

Anderson, David G. and Joe Joseph

1988 *Richard B. Russell Reservoir Technical Synthesis of Cultural Resource Investigation.* Russell Papers. Garrow and Associates, Atlanta, GA.

Aultman, Jennifer, Kate Grillo, and Nick Bon-Harper

2003 Digital Archaeological Archive of Comparative Slavery (DAACS) Cataloging Manual: Ceramics. Electronic document, http://www.daacs.org/aboutDatabase/pdf/cataloging/Ceramics.pdf, accessed November 2007.

Babits, Lawrence E.

2001 *Devil of a Whipping: The Battle of Cowpens.* University of North Carolina Press, Chapel Hill.

Bailey, Ralph, Andrew Agha, and Ed Salo
2007 *Cultural Resources Survey of the Proposed Lee Nuclear Station, Cherokee County, South Carolina.* Brockington and Associates, Inc., Charleston, SC.

Bergman, Christopher A and Gary Perkins
1995 *Phase I Cultural Resources Report for Trancontinental Gas Pipe Line Corporation's 14.92 Mile Natural Gas Pipeline Loop and Workspace Areas, Cherokee County, South Carolina.* 3D Environmental.

Bianchi, Travis L.
1974 *Archaeological Survey of the Duke Power Company's Proposed X-81 Plant Site.* South Carolina Institute of Archaeology and Anthropology Research Manuscript Series No. 58.

Blanton, Dennis B.
1983 *Lithic Raw Material Procurement and Use During the Morrow Mountain Phase in South Carolina.* Master's thesis, Department of Anthropology, University of Georgia, Athens.

Blanton, Dennis B. and Kenneth E. Sassaman
1989 Pattern and Process in the Middle Archaic Period in South Carolina. In *Studies in South Carolina Archaeology: Essays in Honor of Robert L. Stephenson*, edited by Albert C. Goodyear and Glen T. Hanson, pp. 53-72. Anthropological Studies 9, South Carolina Institute of Archaeology and Anthropology, Columbia.

Bonnichsen, Robson, Michael Waters, Dennis Stanford, and Bradley T. Lepper (editors)
2006 *Paleoamerican Origins: Beyond Clovis.* Texas A & M University Press, College Station.

Braley, Chad
1993 *Cultural Resources Surveys of Selected (FY91) Timber Harvesting Areas on Fort Jackson, Richland County, South Carolina.* Southeastern Archaeological Services, Athens, GA.

Brass, Mike
2004 How the concept of landscape archaeology has been applied to the Early Stone Age. *The Antiquity of Man*, http://www.antiquityofman.com/landscape_archaeology.html. Accessed July 14, 2009.

Brown, Ann R.
1982 *Historic Ceramic Typology with Principal Dates of Manufacture and Descriptive Characteristics for Identification.* Delaware Department of Transportation Archaeology Series 15.

Butler, James Robert
1965 Guide to the Geology of York County, South Carolina. *Geologic Notes* Vol. 9, No. 2.

Caldwell, Joseph R.
1958 Trend and Tradition in the Prehistory of the Eastern United States. *Memoirs of the American Anthropological Association* 88.

Canouts, Valetta
1981 *Predictive Modeling: An Archaeological Assessment of Duke Power Company's Proposed Cherokee Transmission Lines.* South Carolina Institute of Archaeology and Anthropology Research Manuscript Series No. 181.

Carlton, David L.
1982 *Mill and Town in South Carolina 1880-1920.* Louisiana State University Press, Baton Rouge.

Carrillo, Richard F.
1972 *Excavations at Pinckneyville, Site of Pinckney District, 1791-1800.* South Carolina Institute of Archaeological and Anthropology Notebook Vol. IV(1).

Carrington, Henry B.
1974 *Battles of the American Revolution 1775-1781: A Military History.* Promontory Press, New York.

Catawba Indian Nation (CIA)
2008 *Catawba Indian Nation.* Electronic Document. http://catawbaindiannation.com/Home_Page.php, Accessed March 6, 2008.

Chapman, Jefferson
1975 *The Rose Island Site and the Bifurcate Point Tradition.* Report of Investigations, No. 13, Department of Anthropology, University of Tennessee, Knoxville.

1977 *Archaic Period Research in the Little Tennessee River Valley.* University of Tennessee, Department of Anthropology Report of Investigations No. 18, Knoxville.

Charles, Tommy and James L. Michie
1992 South Carolina Paleo Point Data. In *Paleoindian and Early Archaic Period Research in the Lower Southeast: A South Carolina Perspective*, edited by David G. Anderson, Kenneth E. Sassaman, and Christopher Judge, pp. 242-247.

Cherokee County Development Board
2009 Electronic document. www.cherokeecounty-sc.org, accessed April 15, 2009.

Claggett, Stephen R. and John S. Cable (assemblers)
1982 The Haw River Sites: Archaeological Investigations at Two Stratified Sites in the *North Carolina Piedmont.* Commonwealth Associates, Inc. Jackson, MS.

Clan Scot Society, Inc.
2006 Common Scottish Surnames and Surname Organizations, Electronic document. http://www.clanscotsociety.org, accessed July 22, 2009.

Coe, Joffre L.
1964 The Formative Cultures of the Carolina Piedmont. New Series vol. 54, part 5. *Transactions of the American Philosophical Society*, Philadelphia, PA.

Colton, G.W. and C.B. Colton
1883 *Map of the State of South Carolina.* Rucker Agee Map Collection, University of Birmingham, KY.

County of Union
2009 *History.* Electronic document. http://www.countyofunion.com/history.html, accessed April 15, 2009.

Dillehay, T.D. (editor)
1997 *Monte Verde - A Late Pleistocene Settlement in Chile, Volume 2, The Archaeological Context and Interpretations.* Smithsonian Institution Press, Washington, D.C.

Do-it-101 (DI)
2009 Jadite History. Electronic Document. http://doit101.com/Collectibles/jadite.html, accessed April 22, 2009.

Driver, J.C.
1998 Human Adaptation at the Pleistocene/Holocene Boundary in Western Canada, 11,000 to 9,000 FP. *Quaternary International* 49:141-150.

Edgar, Walter B.
1998 *South Carolina: A History.* University of South Carolina Press, Columbia.

Facilities Planning & Siting (FPS)
2007 *Siting and Environmental Report for the William States Lee III Nuclear Station 230 kV and 525 kV Fold-In Lines, Cherokee and Unions Counties, South Carolina.* Document submitted to Duke Energy.

Feldhues, William J.
1995 Guide to Identifying and Dating Historic Glass and Ceramics. Manuscript on file, Archaeological Resources Management Service, Ball State University, Muncie, Indiana.

Ferguson, Terry A. and Thomas A. Cowan
1997 Iron Plantations and the Eighteenth- and Nineteenth-Century Landscape fo the Northwestern South Carolina Piedmont. In *Carolina's Historical Landscapes: Archaeological Perspectives*, Linda F. Stine, Martha Zierden, Lesley M. Drucker, and Christopher Judge, editors, pp. 113-144. University of Tennessee Press, Knoxville.

Gardner, William M.
1974 The Flint Run Paleoindian Complex: Preliminary Report, 1971-1973 Seasons. Catholic University of America, Department of Anthropology, Archaeology Laboratory, 7Occasional Publication 1, Washington, D.C.

1989 An Examination of Cultural Change in the Late Pleistocene and Early Holocene (ca. 9200 to 6800 B.P.). In *Paleoindian Research in Virginia: A Synthesis*, edited by J. Mark Wittkofski and Theodore R. Reinhart, pp. 5-52. Archaeological Society of Virginia.

Gates, William C. and Dana E. Ormerod
1982 The East Liverpool, Ohio, Pottery District: Identification of Manufacturers and Marks. *Historical Archaeology* 16(1-2).

Goldfield, David R.
1982 *Cotton Fields and Skyscrapers: Southern City and Region.* Johns Hopkins University Press, Baltimore, MD.

Goodyear, Albert C.
1982 Chronological Position of the Dalton Horizon in the Southeastern United States. *American Antiquity* 42(3):382-395.

2006 Evidence for Pre-Clovis Sites in the Eastern United States. In *Paleoamerican Origins: Beyond Clovis*, edited by Robson Bonnichsen, Bradley T. Lepper, Dennis Stanford, and Michael R. Waters, pp. 103-112. Texas A & M University Press, College Station.

Goodyear, Albert C. III, James L. Michie, and Tommy Charles
1989 The Earliest South Carolinians. In *Studies in South Carolina Archaeology: Essays in Honor of Robert L. Stephenson*, edited by Albert C. Goodyear and Glen T. Hanson, pp. 19-52. Anthropological Studies 9, South Carolina Institute of Archaeology and Anthropology, Columbia.

Greer, Ralph, Jr.
1968 *Pinckneyville of Old.* Sandlapper Press, Columbia, SC.

Griffin, James B.
1967 Culture Periods in Eastern United States Archaeology. In *Archaeology of Eastern United States*, edited by J.B. Griffin. University of Chicago, IL.

Gunn, Joel D. and William F. Stanyard
1999 *Neuse Levee: Excavation of a Late Archaic and Woodland Site in the Upper Neuse River Basin, Wake County, North Carolina.* TRC Garrow Associates, Inc., Chapel Hill, NC.

Hanchett, Thomas W.
1998 *Sorting Out the New South City: Race, Class, and Urban Development in Charlotte, 1875-1975.* University of North Carolina Press, Chapel Hill.

Hargrove, Thomas
1990 *An Archaeological Survey of Proposed Improvements on the Gastonia Sewer System Gastonia, Ranlo, and Spencer Mountain, Gaston County, North Carolina.* Robert J. Goldstein and Associates, Inc., Raleigh, NC.

Harvey, Bruce
2001 *Intensive Architectural Survey of the Gaston Shoals Plan and Ninety-Nine Islands Plant, Cherokee County.* Brockington and Associates, Inc., Charleston, SC.

Hastorf, Christine A and Sissel Johannessen
1994 Becoming Corn-Eaters in Prehistoric America. In *Corn and Culture in the Prehistoric New World*, edited by S. Johannessen and C. Hastorf. Westview Press, Oxford.

Hicks, Dan and Karen Metheny
2004 Created Spaces: Exploring Designed Landscapes. Paper presented at the 5th World Archaeological Congress, http://godot.unisa.edu.au. Accessed July 14, 2009.

Huff, Archie Vernon, Jr.
1995 *Greenville: The History of the City and County in the South Carolina Piedmont.* University of South Carolina Press, Columbia.

InterMountain Antiquities Computer System (IMACS)
2001 InterMountain Antiquities Computer System User's Guide. University of Utah, Salt Lake City.

Jackson, Damon and David Dellenback
2009 *Cultural Resources Survey of the Lee Utilities Corridor, Cherokee County, South Carolina.* Brockington and Associates, Inc., Atlanta, GA.

Jackson, L.E., F.M. Philips, K. Shimamura, and E.C. Little
1997 Cosmogenic 36C1 Dating of the Foothills Erractics Train, Alberta, Canada. *Geology* 125:73-94.

Jaeger Company, The
1991 *York County Historic and Architectural Inventory Survey Report.* South Carolina Department of Archives and History, Columbia.

Johnson, M. F.
1997 Additional Research at Cactus Hill: Preliminary Description of Northern Virginia Chapters –ASV's 1993 and 1995 Excavations. In *Archaeological Investigations of Site 44SX202, Cactus Hill, Sussex County, Virginia*, edited by J. M. McAvoy and L. D. McAvoy, Appendix G. Virginia Department of Historic Resources, Research Report Series No. 8, Richmond.

Jones, William E.
1962 *Soil Survey of Cherokee County, South Carolina.* United States Department of Agriculture, Washington D.C.

Keel, Bennie
1976 *Cherokee Archaeology.* University of Tennessee Press, Knoxville.

King, G. Wayne
1981 *Rise Up So Early: A History of Florence County, South Carolina.* The Reprint Company, Spartanburg, SC.

Klein, Rachel N.
1990 *Unification of A Slave State: The Rise of the Planter Class in the South Carolina Backcountry, 1760-1808.* University of North Carolina Press, Chapel Hill.

Kovacik, Charles F. and John J. Winberry
1987 *South Carolina: The Making of a Landscape.* University of South Carolina Press, Columbia.

Kovel, Ralph and Terry Kovel
1986 *Kovels' New Dictionary of Marks: Pottery and Porcelain 1850 to the Present.* Crown Publishers, Inc., New York.

Lopinot, Neal H. and William I. Woods
1993 Wood Overexploitation and the Collapse of Cahokia. In *Foraging and Farming in the Eastern Woodlands*, edited by C. Margaret Scarry, pp. 206-231. University of Florida Press, Gainesville.

Lounbury, Clarence, W.E. McLendon, and J.A. Kerr
1913 *Soil Survey of Union County, South Carolina.* United States Department of Agriculture, Washington, D.C.

Majewski, Teresita and Michael J. O'Brien
1987 The Use and Misuse of Nineteenth-Century English and American Ceramics in Archaeological Analysis. In *Advances in Archaeological Method and Theory*, Vol. 1, edited by Michael B. Schiffer, pp.257-314. Academic Press, New York.

May, J. Alan
1989 Archaeological Excavation at the Crowders Creek Site (31GS55): A Late Woodland Farmstead in the Catawba River Valley, Gaston County, North Carolina. *Southern Indian Studies* 38.

McAvoy, J. M. and L. D. McAvoy, editors
1997 *Archaeological Investigations of Site 44SX202, Cactus Hill, Sussex County, Virginia.* Virginia Department of Historic Resources, Research Report Series No. 8, Richmond.

McDonald, J. N.
2000 An Outline of the Pre-Clovis Archaeology of SV-2, Saltville, Virginia, with Special Attention to a Bone Tool Dated 14,510 yr B.P. *Jeffersoniana* 9:1-59. Contributions from the Virginia Museum of Natural History, Martinsville.

Meltzer, David J.
1988 Late Pleistocene Human Adaptations in Eastern North America. *Journal of World Prehistory* 2(1):1-52.

Meltzer, D.J., D.K. Grayson, G. Ardila, A.W. Barker, D.F. Dincause, C.V. Haynes, F. Mena, L. Nunez, and D. Stanford
1997 On the Pleistocene Antiquity of Monte Verde, Southern Chile. *American Antiquity* 44(1):172-179.

Mills, Robert
1825 [1979] *Mills' Atlas of South Carolina.* The Sandlapper Store, Inc. Lexington, SC.

Morgan, Mary
2006 Cherokee County. Electronic document. http://statelibrary.sc.gov/cherokee-county/, accessed April 9, 2009.

Moss, Bobby Gilmer
1972 *The Old Iron District. A study of the development of Cherokee County – 1750-1897.* Scotia-Hibernia Press, Blacksburg, VA.

Oliver, Billy L.
1985 Tradition and Typology: Basic Elements of the Carolina Projectile Point Sequence. In *Structure and Process in Southeastern Archaeology*, edited by Roy S. Dickens Jr., and H. Trawick Ward, pp. 195-211, University of Alabama Press, Tuscaloosa.

1992 *Settlements of the Pee Dee Culture.* Ph.D. dissertation, Department of Anthropology, University of North Carolina, Chapel Hill.

Oosting, H. J.
1942 An Ecological Analysis of Plant Communities of Piedmont, North Carolina. *American Midland Naturalist* 48:1-126.

O'Steen, Lisa
1983 *Early Archaic Settlement Patterns in the Wallace Reservoir: An Inner Piedmont Perspective.* Unpublished Master thesis, Department of Anthropology, University of Georgia, Athens.

1996 Paleoindian and Early Archaic Settlement along the Oconee. In *The Paleoindian and Early Archaic Southeast*, David G. Anderson and Kenneth E. Sassaman, eds., pp. 92-106. University of Alabama Press, Tuscaloosa.

Revels, Jennifer
2005 *Historical and Architectural Survey of Union County, South Carolina.* South Carolina Department of Archives and History, Columbia.

Sassaman, Kenneth E.
1993 *Early Woodland Settlement in the Aiken Plateau: Archaeological Investigations at 38AK157, Savannah River Site, Aiken County, South Carolina.* University of South Carolina, Columbia.

Sassaman, K.E., M.J. Brooks, G.T. Hanson, and D.G. Anderson
1990 *Native American Prehistory of the Middle Savannah River Valley: A Synthesis of Archaeological Investigations on the Savannah River Site, Aiken and Barnwell Counties, South Carolina.* University of South Carolina, Columbia.

South Carolina Archives and History Center
2008 *Districts and Counties 1769-1784.* Electronic Document. http://www.state.sc.us/scdah/guide/countymap2.htm, Accessed February 28, 2008.

South Carolina Department of Archives and History (SCDAH)
2005 *South Carolina Standards and Guidelines for Archaeological Investigations.* South Carolina State Historic Preservation Office, Columbia.

South Carolina State Highway Department (SCSHD)
1938a *General Highway and Transportation Map, Cherokee County, South Carolina.*

1938b *General Highway and Transportation Map, Union County, South Carolina.*

South Carolina State Library (SCSL)
2004 No Title, Electronic Document. http://www.state.sc.us/scsl/spar.html. Accessed October 26, 2004.

South, Stanley
1977 *Method and Theory in Historical Archaeology.* Academic Press, New York.

2004 *John Bartlam: Staffordshire in Carolina.* South Carolina Institute of Archaeology and Anthropology, Research Manuscript Series 231. University of South Carolina, Columbia.

Southerlin, Bobby
2008 Toward Development of an Archaeological and Historic Context for South Carolina's Sawmill, Timber, and Lumber Industry. *South Carolina Antiquities* 40:48-88.

Southerlin, Bobby, Dawn Reid, Rachel Tibbetts, MacKensie Cornelius, Carl Steen, and Gordon Watts
2007 *Occupation at Socastee Bluff: Data Recovery at the Singleton Sawmill Site (38HR490), Horry County, South Carolina.* Archaeological Consultants of the Carolinas, Inc., Clayton, NC.

Stanford, Dennis, Robson Bonnichsen, Betty Meggers, and D. Gentry Steele
2006 Paleoamerican Origins: Models, Evidence, and Future Directions. In *Paleoamerican Origins: Beyond Clovis*, edited by Robson Bonnichsen, Bradley T. Lepper, Dennis Stanford, and Michael R. Waters, pp. 313-353. Texas A & M University Press, College Station.

Stauffer, Michael E.
1994 *The Formation of Counties in South Carolina.* South Carolina Department of Archives and History, Columbia.

Stine, Linda F., Martha Zierden, Lesley M. Drucker, and Christopher Judge (eds.)
1997 *Carolina's Historical Landscapes: Archaeological Perspectives.* University of Tennessee Press, Knoxville.

Tippett, Lee and Michael Trinkley
1979 Archaeological Reconnaissance of the S-13 Project Corridor. Letter report on file at the South Carolina Institute of Anthropology and Archaeology, Columbia.

Townsend, Jan, John H. Sprinkle, Jr., and John Knoerl
1993 *National Register Bulletin 36: Guidelines for Evaluating and Registering Historical Archaeological Sites and Districts.* United States Department of the Interior, National Park Service, Washington, D.C.

Trimble, Stanley W.
1974 *Man-Induced Soil Erosion on the Southern Piedmont: 1700-1970.* Department of Geology, University of Wisconsin-Milwaukee.

Trinkley, Michael
1990 *An Archaeological Context for the South Carolina Woodland Period.* Chicora Foundation Research Series 22, Columbia, SC.

United States Department of Agriculture (USDA)
2009 *Web Soil Survey.* Electronic Document. http://websoilsurvey.nrcs.usda.gov/app/, accessed April 9, 2009.

Union Chamber of Commerce
2009 About Union. Electronic document. http://www.unionsc.info, accessed April 10, 2009.

United States Geological Survey (USGS)
1971 *Blacksburg South, SC* 7.5 minute topographic quadrangle.

1972 *Hickory Grove, SC* 7.5 minute topographic quadrangle.

1969 *Kelton, SC* 7.5 minute topographic quadrangle.

1971 *Kings Creek, SC* 7.5 minute topographic quadrangle.

1972 *Lockhart, SC* 7.5 minute topographic quadrangle.

1968 *Wilkinsville, SC* 7.5 minute topographic quadrangle.

Wallace, David D.
1961 *South Carolina: A Short History, 1540-1940.* University of South Carolina Press, Columbia.

Ward, H. Trawick
1965 Correlation of Mississippian Sites and Soil Types. *Southeastern Archaeological Conference Bulletin 3.*

1983 A Review of Archaeology in the North Carolina Piedmont: A Study of Change. In *The Prehistory of North Carolina: An Archaeology Symposium*, edited by Mark A. Mathis and Jeffery J. Crow, pp. 53-81. North Carolina Division of Archives and History, Raleigh.

Ward, H. Trawick and R.P. Stephen Davis, Jr.
1999 *Time Before History: The Archaeology of North Carolina.* University of North Carolina Press, Chapel Hill.

Appendix A. Artifact Catalog and PPK Report

Appendix B. Resume of Principal Investigator

BOBBY GERALD SOUTHERLIN

Archaeological Consultants of the Carolinas, Inc.
121 East First Street
Clayton, NC 27520
(919) 553-9007
Email: bobbysoutherlin@archcon.org

PROFESSIONAL POSITIONS

CEO, Archaeological Consultants of the Carolinas, Inc.
Senior Archaeologist, Principal Investigator, Field Director, Zooarchaeologist

AREAS OF SPECIALIZATION

Archaeological Field Investigation Methods
Material Culture Replication (lithics and ceramics)
Yemasee Indian Archaeology in South Carolina
Mississippian Settlement Patterns in the Etowah River Valley
Vertebrate Faunal Analysis

EDUCATION:

M.A. in Anthropology, University of Georgia, 1993.
B.A. in Anthropology, University of South Carolina, 1988.

PROFESSIONAL ORGANIZATION MEMBERSHIP

North Carolina Archaeological Society (Life Member)
North Carolina professional Council
Georgia Council of Professional Archaeologists
Society for Georgia Archaeology (Life Member)
Society for American Archaeology
Archaeological Society of South Carolina (Life Member)
Southeastern Archaeological Conference

CULTURAL RESOURCE SURVEYS (Phase I) and ARCHAEOLOGICAL SITE TESTING (Phase II)

- **Utility Corridors** for ANR Pipeline Company (Detroit), Georgia Power Company (Atlanta), Duke Power Company (Charlotte), Oglethorpe Power Corporation, and Transco Pipeline Company (Houston).

- **Transportation Corridors** for Georgia Department of Transportation (Atlanta), South Carolina Department of Transportation (Columbia)

- **Development Tracts** for Consolidated Government of the City of Columbus/Muscogee County (Georgia), Macon County (North Carolina), U.S. Corps of Engineers (Savannah and Mobile Districts), U.S. Forest Service (South Carolina), South Carolina Electric and Gas Company (Columbia), and various private developers (Georgia and South Carolina)

ARCHAEOLOGICAL DATA RECOVERY (Phase III)

- Yemasee Indian occupations at the Chechessee Old Field sites (38BU1605 and 38BU1609) for the Chechessee Creek Club
- Three prehistoric sites (38HR243, 38HR254, and 38HR258) in Horry County, South Carolina for Tidewater Plantation and Golf Club (Myrtle Beach, S.C.)
- Two Prehistoric sites (38LX50 and 38LX141) in Lexington County, South Carolina for the South Carolina Department of Transportation
- The Callawassie Burial Mound and Village site (38BU19) in Beaufort County, South Carolina
- Two prehistoric sites (9FL203 and 9FL206) in Floyd County, Georgia for the Georgia Department of Transportation

EXPERIENCE AT MILITARY FACILITIES

- Fort Jackson, SC; Camp Lejeune, NC; Robbins Air Force Base, GA; Fort Benning, GA; Hurlbert Field, FL; Coastal Systems Station Panama City, FL; Naval Air Station Pensacola, FL; Fort Buchanan, Puerto Rico; Milan Army Ammunition Plant, TN

FEDERAL ENERGY REGULATORY COMMISSION RELATED INVESTIGATIONS

- Georgia Power Company (Flint River Hydroelectric Project)
- Duke Energy (Shoreline Surveys at Lake James and Lake Norman North Carolina and Fishing Creek Lake, South Carolina)
- Crisp County Power Commission (Lake Blackshear, Georgia)

** A detailed listing of individual projects and publications is available upon request

Appendix C. Validation and Verifications Package

Package submitted in electronic format.