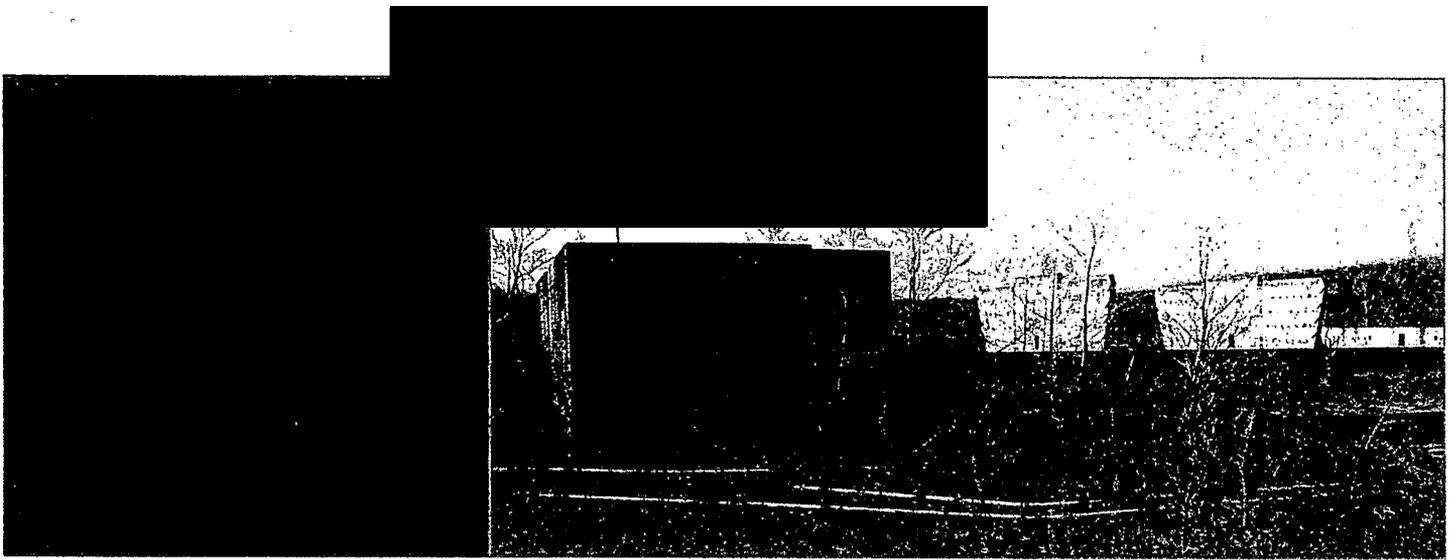


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Report submitted under 10 CFR 2.390(a)(3).

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Section 304 of the Archaeological Resources
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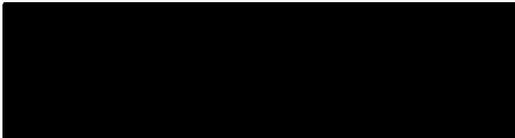


Cultural Resources Survey of the Proposed Lee Nuclear Station

Cherokee County,
South Carolina

Final Report

August 2007



Brockington
Cultural Resources Consulting



**Cultural Resources Survey of the Proposed Lee Nuclear Station
Cherokee County, South Carolina**

Final Report

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Abstract

Brockington and Associates, Inc., completed a cultural resources survey of Duke Energy's proposed William S. Lee III Nuclear Station (LNS) in March and April 2007. The survey was designed to assess the potential for the project to affect historic properties within the portion of the overall 2,000-acre tract that will be developed. This includes (1) the 750-acre former Cherokee Nuclear Station site, (2) a five-acre bluff on the Broad River for a proposed water intake, and (3) proposed road improvements within a 100-foot-wide and one-mile-long corridor along the existing Overlook Road. These three areas constitute the archaeological Area of Potential Effect (APE). We also conducted an architectural survey of the area within a one-mile radius of the two proposed water-cooling tower sites to assess potential visual effects to nearby historic properties. This constitutes the Architectural Survey Universe.

The 750 acres that constitutes the majority of the archaeological APE was extensively filled and/or graded during construction of the former Cherokee Nuclear Station in the early 1970s. Survey was limited to areas that were not previously disturbed, including the proposed water intake on a small knoll overlooking the Broad River and the Overlook Road that will be improved as part of the current project. We did not identify any archaeological sites or isolated finds during the survey.

During the architectural survey, we revisited the Ninety-Nine Islands hydroelectric facility (Resource 0042) that was previously determined eligible for the National Register of Historic Places. We also recorded 12 previously undocumented structures. The architectural resources documented during this project are summarized in Table 1 below. The new cooling towers and weather tower may be visible from the Ninety-Nine Islands Plant and Dam; however, they will not affect the design, workmanship, and materials of the plant, which are the crucial elements to its significance. Therefore, we recommend that the construction of the new cooling towers will have no effect on Resource 0042.

Construction and operation of the LNS will not affect any historic properties. Duke Energy is in the process of planning a service railroad corridor and transmission corridors for the project. Potential effects to historic properties for each of these projects will be assessed in separate survey reports that are forthcoming.



Table 1. Historic Architectural Resources Located in the Survey Universe.

Site	Description	Location	NRHP Status	Effect
0042.01	Ninety-Nine Islands Hydro Plant Dam	Broad River	Eligible	None
0042.00	Ninety-Nine Islands Hydro Plant	Broad River	Eligible	None
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	200 ft east of the intersection of McKowns Mountain Road & Hess Ln.	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED] 500 ft. east of McKowns Mountain Road	Not Eligible	None
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	McKowns Mountain	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	McKowns Mountain	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	McKowns Mountain Baptist Church shed	[REDACTED]	[REDACTED]	[REDACTED]



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Chapter I. Introduction and Methods of Investigation

Introduction

The William S. Lee III Nuclear Station (hereinafter referred to as the Lee Nuclear Station or LNS) site consists of approximately 2,000 acres east of Gaffney in Cherokee County, South Carolina. The tract is bordered to the east by the Broad River and to the south by McKowns Mountain Road. Duke Energy, Carolinas proposes to construct a nuclear power plant on approximately 750 acres of the property. Figure 1 presents the location of the tract on the USGS *Blacksburg South* quadrangle.

Brockington and Associates, Inc., conducted an intensive cultural resources survey of the tract in partial compliance with the National Environmental Protection Act (NEPA). The work was conducted to determine if the undertaking will affect historic properties (i.e., sites, buildings, structures, objects, and districts eligible for or listed on the National Register of Historic Places [NRHP]). Compliance will be administered by the regulatory programs of the Nuclear Regulatory Commission (NRC).

In 1974, Duke completed an archaeological survey of the 2,000-acre tract for the Cherokee Nuclear Station project. Bianchi (1974) recorded 15 sites in and around the tract (see Figure 1). Bianchi (1974) recommended three sites (38CK5, 38CK6, and 38CK8) potentially eligible for the NRHP. Due to the age of the previous study, we consider these sites to be unassessed. These sites were not within the 750-acre area proposed for the development of the Cherokee facilities, nor are they near the current Area of Potential Effect. The NRC issued a construction permit in 1975, and construction of the project was initiated. Extensive grading, filling, and construction were conducted on 750 acres of the tract until the project was canceled a few years later.

The current plans for development of the LNS facility call for using as much of the previous Cherokee development as possible; the proposed undertaking is almost entirely on the footprint of the former Duke Energy Cherokee Nuclear Station site. There are portions of the tract that were included and developed as part of the Cherokee project that are not part of the current plans. These areas include primarily creeks and surrounding lowland that were used to create impoundments for water control and reservoirs. Development of the LNS facility will be within previously disturbed areas with two exceptions: a five-acre water-intake area on a bluff overlooking the Broad River, and possible improvements to Overlook Road (see Figure 1). The

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750-acre former Cherokee site, the five-acre water intake, and 50 feet on either side of the existing Overlook Road for its entire length (approximately one mile) constitute the Area of Potential Effect (APE) (see Figure 1).

We also conducted a historic architectural survey of an area encompassed in a one-mile radius from the two proposed water-cooling towers to assess possible visual effects to any nearby historic properties. This area is the Architectural Survey Universe.

Duke Energy identified four small cemeteries on the property during its planning process for the Cherokee project. These include Moss Cemetery, J. H. Stroup Cemetery, McKown Family Cemetery, and an unnamed cemetery. Duke Energy subsequently had the location of each cemetery plotted and put on planning maps (see Figure 1). These cemeteries were left outside the perimeter fence for the Cherokee project and will remain outside the fence, preserved, and accessible to the public during the current project.

We did not identify any archaeological sites within the APE. The architectural historian recorded twelve previously undocumented historic architectural resources within the Architectural Survey Universe. We recommend these resources not eligible for the NRHP. The architectural historian also revisited the Ninety-Nine Islands Hydroelectric Plant (Resource 0042) that was previously determined eligible for the National Register of Historic Places. The new cooling towers and weather tower near the center of the tract may be visible from the Ninety-Nine Islands Plant and Dam; however, they will not affect the design, workmanship, and materials of the plant, which are the crucial elements to its significance. Therefore, we recommend that the construction of the new cooling towers will have no effect on Resource 0042.

Construction and operation of the LNS will not affect any historic properties. Duke Energy is in the process of planning a service railroad corridor and transmission corridors for the project. Potential effects to historic properties for each of these projects will be assessed in separate survey reports that are forthcoming.

Methods of Investigation

The following survey methods were discussed with the South Carolina State Historic Preservation Office (SHPO) in a meeting on 7 December 2006 and subsequently submitted by Brockington and Associates, Inc., to the SHPO as a formal Scope of Work, which was approved

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in February 2007. Federally recognized Indian tribes, including the Shawnee, the Catawba, and the Eastern Band of the Cherokee Nation, were asked to comment on the project; while none commented specifically as to the level of effort, the Eastern Band of the Cherokee Nation requested the opportunity to review the Draft Report. Field investigations were undertaken in March and April 2007.

Background Research

Background research for the project focused on a review of the Bianchi (1974) survey of the Cherokee Station tract, which covers most of the current project. We also reviewed previous cultural resources investigations on file at the South Carolina Institute of Archaeology and Anthropology (SCIAA) and the South Carolina Department of Archives and History (SCDAH), including Ferguson and Cowan's 1986 study of early ironworks of northwest South Carolina, Cable and Michie's 1977 reconnaissance of the Gaffney Bypass, and others.

Archaeological Survey of the APE

The majority of the project will be located on the footprint of the former Cherokee Station. This area has been extensively disturbed and does not warrant further investigations. We focused our survey on the proposed Broad River water intake and the proposed improvements to the Overlook Road. Each of these areas is discussed below.

Proposed Water Intake. The proposed water intake will disturb an approximately five-acre bluff overlooking the Broad River. The top portion of this bluff is cleared, but the majority of the land in this area is covered in mixed forest. The area is bordered to the north by the Broad River, to the east and west by wetlands, and to the south by the previous construction area where the intake will connect with existing pipes.

This portion of the Broad River is currently managed through an existing Federal Energy Regulatory Commission (FERC) permit for the Ninety-Nine Islands Hydroelectric Facility just downriver from the proposed intake; therefore, no underwater survey is necessary. The bluff where the intake will be located was surveyed during the current investigations. We excavated five, one-foot-diameter shovel tests across this landform in areas that had the least slope and least disturbance from previous road construction at the site. Shovel tests were excavated into sterile subsoil.

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Fill from each shovel test was screened through ¼-inch mesh hardware cloth. Information relating to each shovel test was recorded in field notebooks. This information includes the content (e.g., presence or absence of artifacts) and context (e.g., soil color, texture, stratification) of each test.

An archaeological site is a locale yielding three or more artifacts within a 100-foot radius. Locales that produce less than three contemporaneous artifacts are isolated finds. A map showing the location of each shovel test was prepared in the field. No sites or isolated finds were identified.

Proposed Improvements to the Overlook Road. Presently, there is a one-lane dirt road extending west from the plant entrance road and then north across the ridge of McKowns Mountain to an overlook point (see Figure 1). This road may be widened and paved as a part of the current project. We traversed one transect approximately 10 feet on either side of the existing road. We excavated shovel tests along each transect wherever possible, given the steep terrain in this part of the tract. Shovel tests were excavated in the manner described above.

Architectural Survey

Given the relatively low height of the cooling towers (70 feet) and meteorological tower (190 feet), their proposed location in the central portion of the tract, and the rural surroundings, the potential for the towers to visually impact nearby historic properties is low. However, we conducted an architectural survey of the area within one mile of the proposed cooling tower and weather tower locations. The survey consisted of a review of historic maps of the area, followed by a windshield survey of the one-mile-radius study area. We identified potential historic buildings and landscapes that may be eligible for the NRHP and that could be visually affected by the undertaking.

The survey included all aboveground historic resources and was carried out to meet the standards of Section 106 of the National Historic Preservation Act. The architectural historian performed a field review of and obtained a minimum level of photographic evidence of all historic resources greater than 50 years of age located within the Architectural Survey Universe. He documented the interrelationship of each resource with other elements of potential or designated historic districts. He prepared survey cards as required by the SHPO. Draft forms will be submitted to the SHPO with the Draft Report for review.



Assessing NRHP Eligibility

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

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

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

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

Determining the association of a resource with a historic context involves five steps (Savage and Pope 1998). First, the resource must be associated with a particular facet of local, regional (state), or national history. Secondly, one must determine the significance of the identified historical facet/context with respect to the resource under evaluation. A lack of Native

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American archaeological sites within a project area would preclude the use of contexts associated with the Pre-Contact use of a region.

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

The fourth step involves determining the specific association of a resource with aspects of the significant historic context. Savage and Pope (1998) define how one should consider a resource under each of the four criteria of significance. Under Criterion A, a property must have existed at the time that a particular event or pattern of events occurred, and activities associated with the event(s) must have occurred at the site. In addition, this association must be of a significant nature, not just a casual occurrence (Savage and Pope 1998). Under Criterion B, the resource must be associated with historically important individuals. Again, this association must relate to the period or events that convey historical significance to the individual, not just that this person was present at this locale (Savage and Pope 1998). Under Criterion C, a resource must possess physical features or traits that reflect a style, type, period, or method of construction; display high artistic value; or represent the work of a master (an individual whose work can be distinguished from others and possesses recognizable greatness) (Savage and Pope 1998). Under Criterion D, a resource must possess sources of information that can address specific important research questions (Savage and Pope 1998). These questions must generate information that is important in reconstructing or interpreting the past (Butler 1987; Townsend et al. 1993). For archaeological sites, recoverable data must be able to address specific research questions.

After a resource is associated with a specific significant historic context, one must determine which physical features of the resource reflect its significance. One should consider the types of resources that may be associated with the context, how these resources represent the theme, and which aspects of integrity apply to the resource in question (Savage and Pope 1998). As in the antebellum agriculture example given above, a variety of resources may reflect this context (farmhouses, ruins of slave settlements, field systems, etc.). One must demonstrate how these resources reflect the context. The farmhouses represent the residences of the principal



landowners who were responsible for implementing the agricultural practices that drove the economy of the South Carolina area during the antebellum period. The slave settlements housed the workers who conducted the vast majority of the daily activities necessary to plant, harvest, process, and market crops.

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



Chapter II. Cultural Setting

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

Pre-Contact Era

In South Carolina, the Pre-Contact era generally is divided into four principal stages: Paleoindian, Archaic, Woodland, and Mississippian. Specific technologies and strategies for procuring resources define each of these periods, with approximate temporal limits also in place. A brief description of each stage follows. Readers are directed to Goodyear and Hanson (1989) for more detailed discussions of particular aspects of these periods in South Carolina.

The Paleoindian Stage

The Paleoindian stage is a time in which small, highly mobile bands made their living through the hunting of now-extinct megafauna (Griffin 1967). Since the distinctive toolkit of the stage (fluted projectile points and a well-developed blade technology) is found in association with the remains of megafauna more commonly in the West and only occasionally in the East (Webb et al. 1984), current interpretations suggest that a more generalized subsistence program was in effect. Ward (1983:64-65) argues:

The seasonal round of resource utilization within a tightly scheduled procurement system cannot be substantiated and neither can the exploitation of late Pleistocene megafauna. Although it is difficult to tell what was hunted by the shape of the projectile point, the general typological continuity between the Hardaway, Palmer, and Kirk horizons appears to suggest less specialized activity than the exploitation of megafauna.



The material culture of the Paleoindian stage is dominated by fluted or semi-fluted projectile points, most commonly produced on high-quality cryptocrystalline material. Although fluted points are found in surface contexts across the South Carolina Piedmont, the Paleoindian (i.e., Clovis) stage is relatively poorly represented (Goodyear and Hanson 1989).

Artifacts and sites of the Transitional period (10000–7500 BC) are much more common in the region. It should be noted that there is disagreement regarding the placement of the Hardaway and Palmer phases, with the Palmer phase sometimes placed in the Paleoindian stage (e.g., Claggett and Cable 1982; Purrington 1983; Ward 1983). The interpretations of Ward (1983) are followed in this report.

The Hardaway complex includes semi-fluted/side-notched projectile points and a wide variety of formal scrapers (Coe 1964). It is best known from the Hardaway (type) site in Stanly County, North Carolina (Coe 1964), but other excavations also have yielded Hardaway and Hardaway-Dalton material (e.g., Claggett and Cable 1982). The following Palmer phase retains many of the same formal tool types, while the Palmer projectile point is a side-notched variety generally lacking basal thinning or fluting (Coe 1964).

In terms of settlement, there appears to be a dramatic increase in site frequency from Clovis to Hardaway. Hardaway and Palmer sites are present in a wide variety of environmental zones. If O’Steen’s (1983) model of Transitional-period settlement in the Georgia Piedmont can be applied to the South Carolina Piedmont, the major sites are expected near large rivers, particularly around areas of shoals or narrows.

The Archaic Stage

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

Early Archaic (8000–6000 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 appears to have been an emphasis on white-tail deer and nuts (Ward

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1983), and a collector strategy is suggested by regional researchers (Anderson and Hanson 1985; Blanton and Sassaman 1989; Chapman 1975; Claggett and Cable 1982; O'Steen 1983).

Middle Archaic (6000–3000 BC). This period is divided into the Stanly, Morrow Mountain, and Guilford phases, as defined by Coe (1964). Oliver (1985) views the Stanly projectile point type as technologically transitional 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 that 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 thought to have been enhanced by scheduling resource procurement in a tightly structured seasonal round.

Late Archaic (3000–1500 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). Mack projectile points, with broad blades and contracting stems, also are diagnostic of the Late Archaic period in the study region (Parler and Beth 1984; Goodyear et al. 1990).

Pottery was an important innovation during the Late Archaic. First developed in the Coastal Plain as a fiber-tempered form for direct-heat cooking, pottery later spread to the Piedmont. Thom's Creek sand-tempered wares are the first examples of pottery seen in the Piedmont (Sassaman et al. 1990).

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 both subsistence (including lithic resources) and nonsubsistence (including bannerstones) resources were traded interregionally.



The Woodland Stage

The Woodland stage in the Piedmont is marked by the widespread use of pottery and the use of smaller triangular projectile points, assumed to indicate the presence of the bow and arrow. The change in material culture represents a change in subsistence strategies and approaches to hunting and gathering. The Woodland is divided into three temporal periods (Early, Middle, and Late), marked by distinctive pottery types.

Early Woodland (1500–200 BC). The Early Woodland sequence defined by Coe (1964) has been only minimally revised in the past 39 years and is represented by the Yadkin complex. The early Yadkin complex is characterized by fabric-impressed or cord-marked pottery, decorative modes of apparently northern origin. Later, check stamping (a southern tradition) was added to the decorative modes (Caldwell 1958). Use of Thom's Creek pottery continued during the Early Woodland period (Sassaman et al. 1990). While horticulture was probably practiced during this period, apparently it was not emphasized. The Early Woodland is interpreted as a time of increased cultural dynamics as populations and ideas moved and spread through the greater Southeast (Trinkley 1990).

Middle Woodland (200 BC–AD 500). During the Middle Woodland period in the upper Piedmont of South Carolina, the Connestee ceramic series is prevalent. Connestee pottery includes brushed, cord-marked, simple-stamped, check-stamped, plain, and fabric-impressed decorations and is produced on a fine to medium sand-tempered body (Keel 1976). Sites apparently became larger, and dense middens, refuse/storage pits, permanent structures, and shellfish debris became more common. Villages of this period seem to be focused on major river floodplains, but the importance of maize horticulture is uncertain. Ward (1983:73) reports:

To summarize, maize agriculture was not important during the Early and Middle Woodland periods in the North Carolina Piedmont. In fact, corn does not appear to have had much importance before A.D. 1000 (Coe 1964:51). Although people were growing corn by Late Woodland times, they were still relying heavily on hunting and gathering.

Late Woodland (AD 500–900). Few cultural changes occurred in the South Carolina Piedmont during the Late Woodland period; people continued to use subsistence strategies similar to those used during the Middle Woodland (Trinkley 1990:22). Although maize agriculture became extremely important in surrounding contemporary Mississippian societies, corn never gained that level of significance in the South Carolina Piedmont during the Late Woodland period (Anderson 1989). Use of Connestee pottery continued during the Late Woodland period (Keel 1976).



The Mississippian Stage (AD 900-1550)

During the Mississippian stage, a number of changes occurred within the region including a more hierarchical form of social organization, increasing reliance on agriculture, and the establishment of population centers (villages/towns) with temple mounds (Ferguson 1971, 1975). A number of Mississippian mounds are present on the South Carolina Piedmont. These mound centers are always found on major river drainages, in locations which are suitable for agriculture (Anderson 1989:114). Agricultural products, especially corn, beans, and squash, are thought to form the economic basis of Mississippian society, although Ferguson (1971) indicates that wild-food procurement probably remained significant. By the end of the Mississippian stage, the Wateree-Catawba River area had become one of the major centers of the Mississippian society, dominated by a large chiefdom from the capitol town of Cofitachequi near the modern town of Camden (Anderson 1989; DePratter and Green 1990).

McDowell and Pisgah ceramic types are found throughout the upper Piedmont during the Mississippian stage (Keel 1976; Moore 2002). The McDowell series is tempered with medium sand, and decorations include burnishing and complicated stamping (Moore 2002). Pisgah ceramics are tempered with fine to medium sand or crushed quartz, and high mica content has been noted in Pisgah sherds. Decorations on Pisgah ceramics include complicated stamping and check stamping; plain Pisgah ceramics also are known (Keel 1976).

Contact and Post-Contact Eras

Early European Explorations

Hernando de Soto and his expedition explored the interior of the Southeast between 1540 and 1542 and visited the province of Cofitachequi (DePratter 1989; Hudson et al. 1984). Scholars have disagreed in the past on the exact location of this province, but it is now generally placed along the Wateree-Catawba River drainage, centered on the Mulberry site (38KE12) near Camden (DePratter 1989). Indian groups of the area were also contacted by the Juan Pardo expeditions during 1566 and 1567 (DePratter et al. 1983).

The borders of the Cherokee and the Catawba were located within the project region. The area around the Broad River was the eastern boundary of the Cherokee and the western boundary of the Catawba. These two groups were warring against one another and this area was a buffer zone. Few Native Americans were living in the area during the seventeenth and eighteenth centuries (Turner and Holt 2004).

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Prior to the mid-eighteenth century, the region around Cherokee County was lightly settled by small farmers. The major European presence was related to the deerskin trade with Cherokee groups. The Cherokee would receive coarse woolen cloths, hardware, glass beads, hatchets, hoes, and knives in exchange for furs and skins (Petty 1943:29). The English and Cherokee were allied against the Yamasee and the Creeks during the Yamasee War in 1715. The Cherokee continued to side with the English against the French and their allied native groups during wars throughout the eighteenth century (Milling 1940:149). In the mid-eighteenth century, frontier settlements such as Ninety-Six were established along major trading routes between the Coastal Plain cities and the Cherokee Nation.

Ties between the backcountry colonists and the Cherokee began to disintegrate during the middle 1700s due to continued encroachments by early settlers and frontiersmen. Abuses committed by traders and the resulting distrust between the two peoples compounded the problem until tensions escalated to war in 1760. Regular British troops coupled with local militias formed by farmers and frontiersmen repeatedly defeated the Indians and eventually burned all Cherokee towns in South Carolina (Richardson 1980:31). The Indian population was devastated by the war, as were several Middle and Lower Indian towns (Huff 1995). The Cherokee War has been described as a bitter conflict resulting in many innocent Native American and European casualties, "which impoverished South Carolina and staggered the Cherokee Nation" (Milling 1940:306).

The Colonial Period

Permanent European settlement in South Carolina began in the 1670s, with outposts at Charles Towne (Charleston) and the Port Royal vicinity. Most of these early settlers came either directly from Europe or England, or from England via a generation or two in the Caribbean island of Barbados. As the colony's prosperity increased and as the Native Americans were defeated by the 1710s and 1720s, more Europeans began streaming into the backcountry of South Carolina. Some of these settlers traveled up the rivers from the Lowcountry around Beaufort, Charleston, and Georgetown, while a larger number flowed into the backcountry from the north. People with a wide variety of ethnic backgrounds, including Scots-Irish, German, Welsh, and English, traveled down through the Shenandoah Valley of Virginia into the backcountry of North and South Carolina.

Early European exploration into what is now Cherokee County began in 1750, when an expedition of North Carolinians passed through the area. At the same time, settlers from the

[REDACTED]

Saxe-Gotha settlement near Columbia arrived seeking new land; they were followed quickly by Scots-Irish settlers (Moss 1972:1-2). Despite early attempts to establish trade and alliances with the Native Americans, conflicts arose almost immediately.

The new settlers made use of the Native Americans' trading paths to gain access to the new territory. Several of these paths crossed what is now Cherokee County, including the main route which crossed the Broad River south of Buffalo Creek, between the present locations of the Gaston Shoals Hydroelectric Plant and the Ninety-Nine Islands Hydroelectric Plant (Moss 1972:5). The colonial settlers also gained access to the area via the region's numerous waterways.

Despite the growing population in the backcountry, all important judicial functions were 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 this situation. Most of the leaders of the Regulator movement were commercial 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 the area. In 1769, the governor authorized seven districts throughout the colony. The project tract lay within Ninety-Six District which, when created in 1769, was bordered by Camden District to the east, Orangeburg District to the south, and Cherokee lands to the west.

Relations between the Native Americans and the colonial settlers remained contentious through the 1750s and 1760s, and the South Carolina colony had not yet acquired title to the land. Further attempts to wrest the land from the Cherokee coincided with the American Revolution and with attempts to put down signs of loyalty to the Crown in the backcountry. William Henry Drayton, a patriot leader in Charleston, traveled to the backcountry in order to consolidate support for the Revolution; at the time, the backcountry tended to remain loyal to Great Britain. Both the British and the Americans sought to win the support of the Cherokee, but in doing so they ventured more and more into Cherokee territory. In the spring of 1776, the Cherokee 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 Cherokee were ready to admit defeat. In May 1777, the Cherokee Indians ceded the territory

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that included what is now Greenville County, immediately west of Spartanburg District, in the Treaty of DeWitt's Corner (Huff 1995:20-26).

At the time of the Revolutionary War, the project area was inhabited by small subsistence farmers clustered around the new town of Spartanburg. The war had little impact on the area until after Charleston was captured in 1780. After that time the backcountry became the site of many skirmishes and battles, notably at Cowpens and Kings Mountain, in which the patriots were victorious.

While the Revolutionary War continued, the impetus to settle new lands was low. With the end of the war in 1781 and the ratification of the Treaty of Paris in 1783, however, white settlers became more interested in taking up the new lands. Surveys of the new territory and sales of tracts began in 1784. The population of the former Cherokee territory grew quickly, and the South Carolina General Assembly created Spartanburg District in 1785. The name Spartanburg comes from the Spartan Regiment of the South Carolina Militia, formed in 1776 to fight in the Revolution (South Carolina Writers' Project 1942).

The Antebellum Period

The South Carolina backcountry remained a contentious place through the late 1780s and 1790s, as conflicts with Native Americans lingered. By the late 1780s, settlers were setting up farms throughout Spartanburg District. Although there were several large plantations in the area, most settlers worked on small farms and practiced diversified agriculture, or what several recent historians have called "safety-first" farming (Ford 1988:72-75; Wright 1978:62-74). Small farmers, who constituted the majority in Spartanburg District, in particular sought to protect themselves from the risk of market fluctuations by producing enough subsistence crops to be largely self-sufficient. The increase in cotton production in the South Carolina upcountry was dramatic in the early nineteenth century; from 94,000 pounds produced in 1793, the state's annual output reached 50,000,000 pounds by 1810 (Ford 1985:262-263).

The most distinctive aspect of the area's economic history, however, is the rise of iron production. As Cowan and Ferguson (1997:115) have noted, the iron industry in what are now Cherokee, Spartanburg, Union, and York counties began in the 1770s. William Hill created the first substantial iron foundry in 1779 on Allison's Creek in York County (Cowan and Ferguson, 1997:117). More substantial plants emerged in the early nineteenth century, particularly along

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the Broad River near the project tracts. Jacob Stroup and Edward Fewell built an ironworks on King's Creek north of the Ninety-Nine Islands Plant in 1815, with a plant that included a gristmill and a sawmill in addition to the iron foundry. After a flood in 1822, they sold their plant to a group of New York investors in 1825, and Stroup then built another ironworks on the Broad River at Doolittle Creek. By 1830, his Cherokee Ironworks included 3,500 acres and comprised a furnace and forge, a blacksmith shop, grist and saw mills, and worker and slave quarters (Cowan and Ferguson 1997:120-121).

Stroup's operations gave way to the King's Mountain Iron Company. This was a very large operation covering approximately 9,000 acres on the east side of the Broad River in what is now Cherokee County, and it remained in business until at least 1859 (Cowan and Ferguson 1997:123). Competition quickly arose, however, with the creation of the Nesbitt Iron Manufacturing Company. Chartered in 1835, by the early 1840s the company had four furnaces located on the west side of the Broad River between People's Creek and Cherokee Creek, near the Ninety-Nine Islands section of the river (Cowan and Ferguson 1997:123). The Nesbitt Iron Manufacturing Company was even more extensive than its downriver neighbor, and included a puddling furnace, rolling mill, blacksmith shop, carpentry shop, wheelwright shop, reheating ovens, ore stamper, and the ubiquitous grist, flour, and saw mills. This complex drew power from the Broad River by way of a dam across the river which fed a canal (Cowan and Ferguson 1997:124).

As Spartanburg District increased in population and in agricultural productivity, there were calls to improve communications with the Lowcountry to the east and the new state of Tennessee to the west. The new town of Spartanburg was located in the center of Spartanburg District, and roads radiated from the town to all parts of the district and connected the county seat to the surrounding Greenville, Union, and Laurens districts. Robert Mills' 1825 map of Spartanburg District clearly shows this network of roads (see Figure 2).

In addition, Mills' map shows many mills, devoted either to lumber or grains. Few of these enterprises, however, signaled the formation of towns. The most significant impulse for the creation of towns was travel and resorts. Lowcountry planters often sought to escape their plantations during the hot season. Most left their plantations by early to mid-April, and did not return until early December. Many had homes in Charleston, while others maintained summer residences in the mountainous areas of North and South Carolina. In his overview of South Carolina, Robert Mills noted, for example, that Greenville was a summer resort for wealthy families "on account of the salubrity of the climate" (Mills 1972:573; see also Brewster 1947).

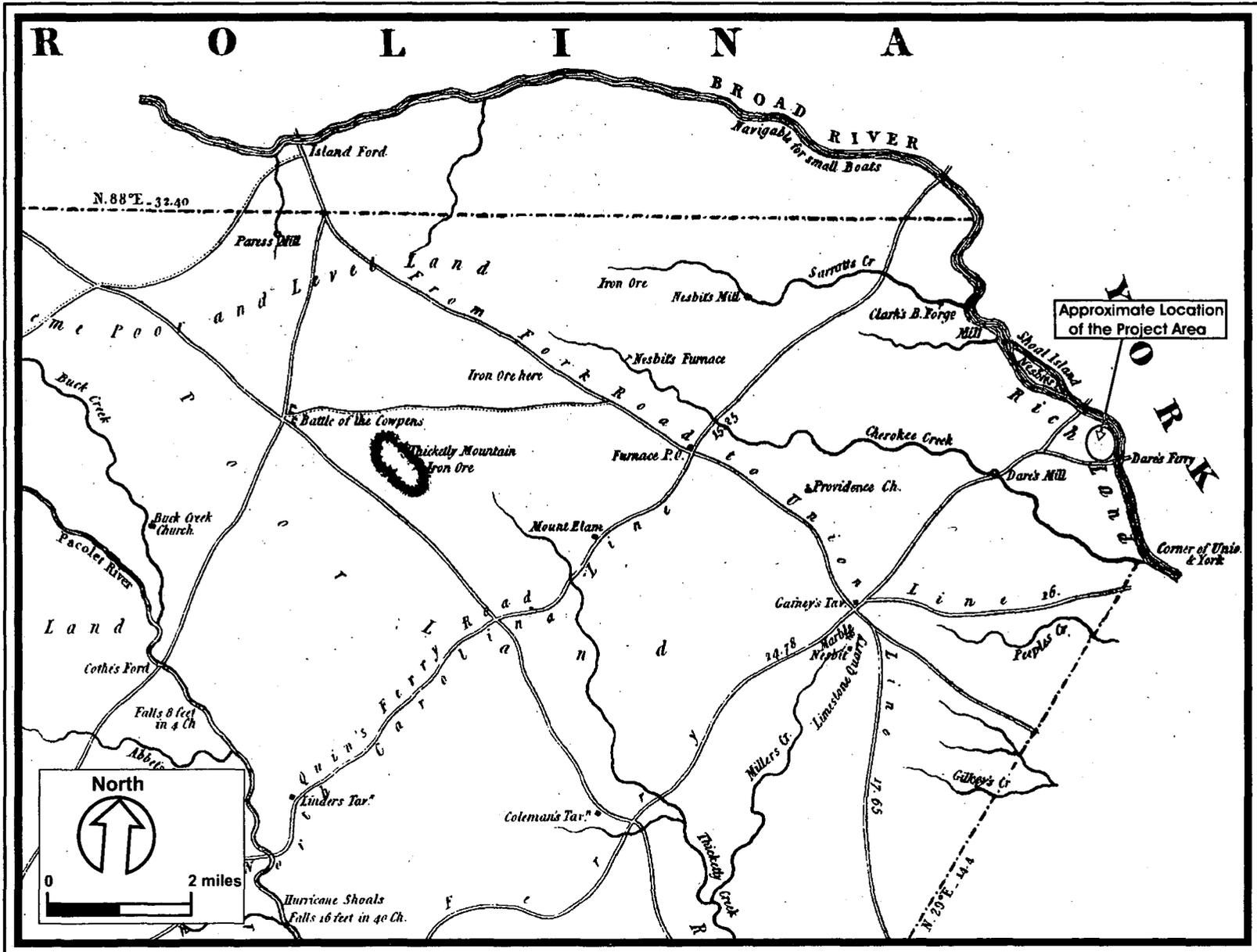


Figure 2. A portion of the Mills' Atlas map of Spartanburg District showing the project area (Mills 1979).



The closest resort to the project was Limestone Springs, which was created in approximately 1835. A Lowcountry company bought a tract with natural mineral-water springs and a large limestone outcrop. The company built a hotel for visitors and also created a lime kiln. While the hotel closed in the early 1840s, the community surrounding it continued to grow. The Limestone Springs Female High School was created in 1845, while other manufacturing enterprises soon joined the lime kiln (Moss 1972:103-105, 204).

Gaffney was the only other substantial settlement near the project. Michael Gaffney, an Irish immigrant, arrived at Smith's Ford on the Broad River in 1800, where his business partner had already established a trading post. Gaffney soon created another store where the Virginia-Georgia Road crossed the road from Tennessee to Charleston. The location of his store, sited to take advantage of the increasing commercial traffic along the region's new roads, became known as Gaffney's Crossroads and served as a tavern and a lodging house (Moss 1972:201-202). Its rail connections after the Civil War gave it the clear advantage over the town of Limestone Springs.

The Postbellum Period

The end of the Civil War brought vast changes to South Carolina, particularly to the upcountry. While the impact of emancipation in Spartanburg County was low relative to its impact on Lowcountry counties, other changes were more sweeping. In particular, new ways of doing business came to the fore, which placed a premium on the small but growing inland towns and their merchants. Two interrelated forces in particular spurred growth in towns such as Spartanburg in the late nineteenth century: railroads and textile manufacturing. Neither was completely new after the Civil War, but each drew upon its antebellum roots, which were strengthened in the new and relatively open economic and social conditions of the late nineteenth century (Hanchett 1998:19-28).

The region had its first railroad connection in 1859 with the Spartanburg and Union Railroad, which provided access to Columbia and, ultimately, to Charleston. During the Civil War, Union forces attested to the vital nature of the railroads in South Carolina by seeking them out and destroying them. When U.S. General William T. Sherman led troops against Columbia in February 1865, the railroads were a particular object of attention. All of Columbia's rail connections were destroyed, along with many depot and office buildings.



Recovery was swift, however. By the late nineteenth century, Spartanburg was a minor railroad hub for the northern part of South Carolina. Spartanburg was part of the Southern Railway line from Washington to New Orleans, which was opened in 1894; the Southern Railway also connected Spartanburg and Cincinnati by the end of the century (Kovacik and Winberry 1989:120).

There were few towns of any size throughout South Carolina 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. However, as railroads began to spread through the state in the 1850s, towns emerged as depots and commercial entrepôts.

The town of Gaffney emerged from its antebellum status as a crossroads tavern as a result of the railroads. The Seaboard Air Line railroad created a stop at Gaffney's Crossroads in 1873, prompting members of the Gaffney family to begin selling their land near the railroad. Tillman Gaines designed and laid out the new town, and Gaffney City was incorporated in 1875 (Moss 1972:208-209). With its traditions as a center of communication and travel combined with the new railroad connections, Gaffney soon became a commercial and manufacturing hub for the immediate region.

Like Gaffney, the town of Blacksburg began as a family settlement in the late eighteenth century. In 1872, the Seaboard Air Line created a depot near the family settlement, which was incorporated as Black's Station in 1876. The town had a brief period of prosperity in the late nineteenth century as a center for iron production and shipment. As the iron industry in South Carolina faltered in the late nineteenth century, however, the town of Blacksburg went into decline as well (Moss 1972:272-274).

Cherokee County was created in 1897 from portions of York, Spartanburg, and Union counties. The county has remained a predominantly rural area since its creation in the late nineteenth century. It was, however, in the center of a booming textile region. Next to the arrival of the railroad, perhaps the greatest influence on the development of the area was manufacturing. As early as the 1810s, many investors and entrepreneurs recognized the potential of the Piedmont region for the production of textiles. Mills' map of 1825, for example, shows two "cotton factories" on the Tyger River near the line between Spartanburg and Union districts. Most of these textile factories before the Civil War, however, were scattered and small in scale.

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Only after the Civil War was there an intense expansion in the manufacturing of textiles throughout the Piedmont area of the South.

The growth of cotton manufacturing was closely tied to other developments in the Piedmont after the Civil War. The emergence of new towns came in part through individuals who were able to take advantage of the new economic order, and who saw the intimate connections between the growth of their towns and the growth of their own fortunes. The access that these merchants had to Northern commercial centers through the railroads brought Northern business ideals and methods to the new towns, including an interest in manufacturing. With a combination of new local capital as a result of the new business climate and the migration of capital from Charleston, local and regional wealth prompted the initial organization of most of the backcountry's new cotton mills.

While the production of cotton increased rapidly throughout the upcountry, the price of cotton fell to new lows. Many small farmers found that they could not make a living and moved themselves and their families to the new towns to work in the mills. Early mill owners, seeking both to provide for their workers and to control them so that they would be a stable, undemanding workforce, 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 workers and their families.

The wave of the future for textile as well as all other forms of manufacturing was the use of electric power. By the late nineteenth century, several individuals and companies throughout the state had begun to see the possibilities in applying electric power to the production of textiles. Approval of the use of electricity was not universal, though, as many still feared for their safety in this pioneering era. Enough were convinced of the value of electricity, however, to begin to make substantial investments. The Upstate, which had both the majority of the state's textile plants and the greatest potential waterpower, soon became a focus of activities in developing hydroelectric power for the region's manufacturing enterprises.

Many of the earliest efforts at creating hydroelectric plants were strictly local in scale. Until the use of alternating current became widespread in the late 1890s, electric power could not be effectively sent over long distances. The textile plants using electric power, like those using waterpower, had to be located close to the source of electricity. As alternating current became more widespread, however, textile plants could be located farther from their source of power.

[REDACTED]

Durden (2000:54) notes that the long-distance transmission of electricity allowed textile plants to “be scattered throughout the countryside as the owners might choose.” This, he argues, “was one reason why industrialization in the Piedmont Carolinas did not immediately result in the urbanization that had occurred earlier in New England, for example, and even earlier in Britain” (Durden 2000:54).

The obverse of this argument is also true. With the widespread acceptance of long-distance transmission of electric power, the hydroelectric plants need not be close to the ultimate consumers. Earlier hydroelectric plants in South Carolina such as Columbia Mills and the plant in Anderson followed the tradition of keeping the power source close to cities and towns. By the early twentieth century, though, when the Gaston Shoals and Ninety-Nine Islands plants were built, they could be located in remote areas, far from established communities, wherever the river conditions were most favorable.



Chapter III. Results and Recommendations

Results of the Archaeological Survey

Proposed Water Intake

The proposed water intake consists of a small, eroded knoll overlooking the Broad River. A low saddle between this knoll and the steep slope to the south is also included in the intake area. We excavated four shovel tests across the knoll in areas that looked the most promising for soils other than exposed clay subsoil. Since this knoll has been used in the past for vehicle parking, it has been graveled and few trees exist on this landform.

Our shovel tests were placed mostly along the middle of the landform, which is roughly 60–75 feet across. Figure 3 presents a plan of the intake area showing the location of all the shovel tests. We excavated one shovel test in the saddle, even though some standing water was nearby. This test produced wet loamy clay and gravel from 0–10 cm below surface (bs). Our tests on the knoll revealed a profile of gravel and red clay from 0–10 cm bs, with hard clay subsoil below. No artifacts were recovered from any of the shovel tests. The slope on all sides of the knoll is quite steep and was not excavated on. We did look at the eroded slopes for artifacts and found none. Figure 4 presents views of the intake area during the field investigations.



The  a one-lane gravel and dirt road that extends 

  Along the southern portion of the road, the terrain is relatively flat, yet heavily eroded. Two transects were run 10 feet to either side of the edge of the road, and 47 shovel tests were excavated where possible. Figure 5 presents a plan of the road showing the location of the shovel tests. Figure 6 presents views of the road corridor taken during the field investigations.

Over half of the southern stretch of road runs along the property boundary, with a security fence lying 10 feet from the southern edge of the road. No shovel tests were excavated along this expanse; however, we were able to investigate along the north side of the road. In

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



View of the saddle and road south of the knoll.



View of gravel parking area, looking south.

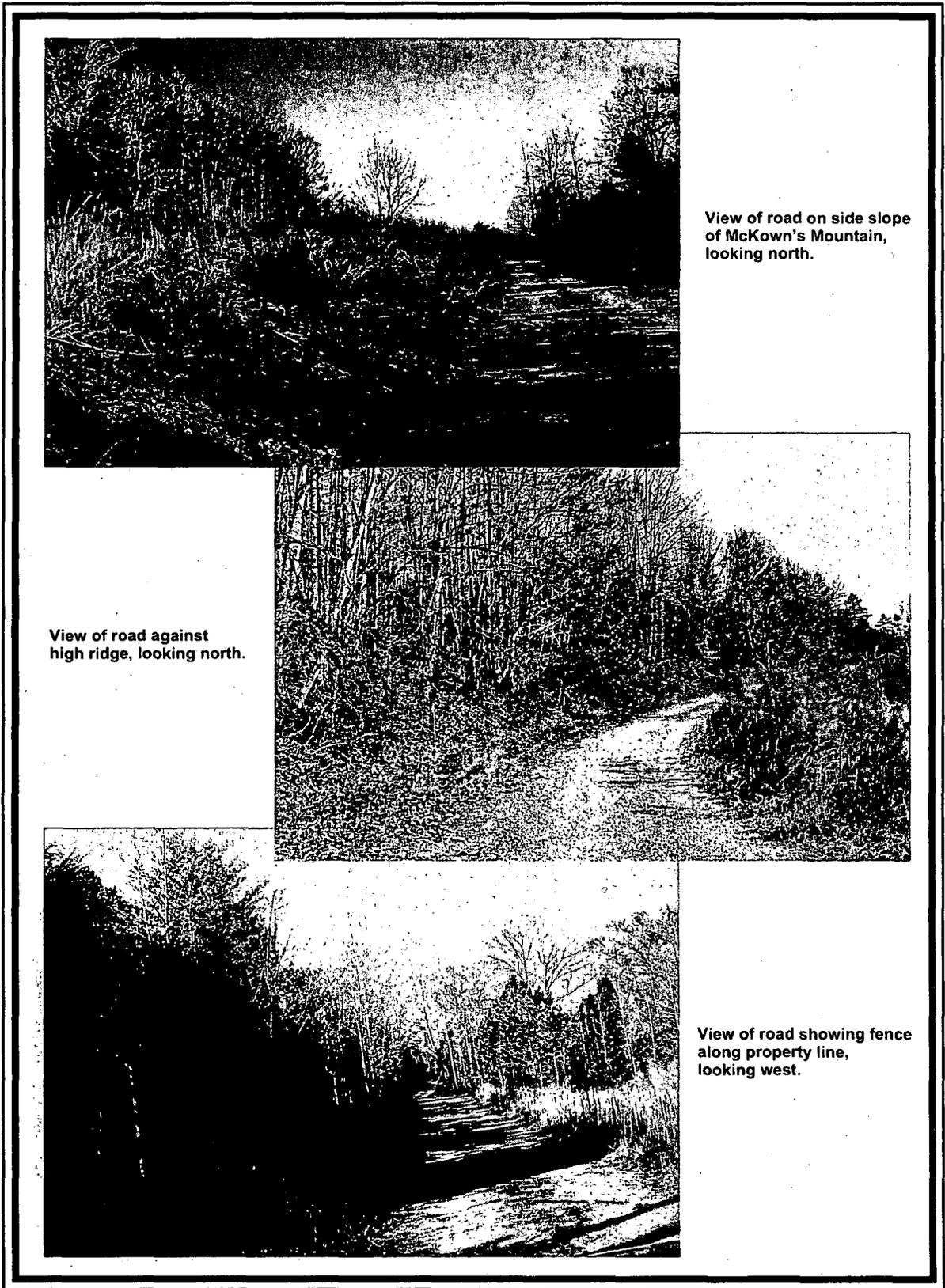


View of non-gravelled area on knoll, looking west.

Figure 4. Views of the water intake study area.

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

[REDACTED]



View of road on side slope of McKown's Mountain, looking north.

View of road against high ridge, looking north.

View of road showing fence along property line, looking west.

Figure 6. Views of the [REDACTED] study area.

[REDACTED]

other cases, the slope was greater on one side of the road, yet gradual on the other. Almost all soil encountered along the sides of [REDACTED] is the red clay subsoil defined above, with only a few instances of the brown loamy clay above subsoil. The lack of trees near the road has allowed for erosion.

The overlook at the northern end of the road was lightly landscaped when the recreational facility was built there in the 1970s, and a covered shelter and gravel parking areas remain there today. No screenable soil was encountered in this area.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Results of the Architectural Survey

The architectural historian identified 12 new historic architectural resources that are possibly over 50 years of age (Resources 0061–0068) within one mile of the proposed site of the cooling towers and weather tower (see Figure 1). In addition, we reassessed the effect of the proposed construction on the Ninety-Nine Islands Plant and Dam (Resources 0042.01 and 0042.02). Each of these resources is discussed below.

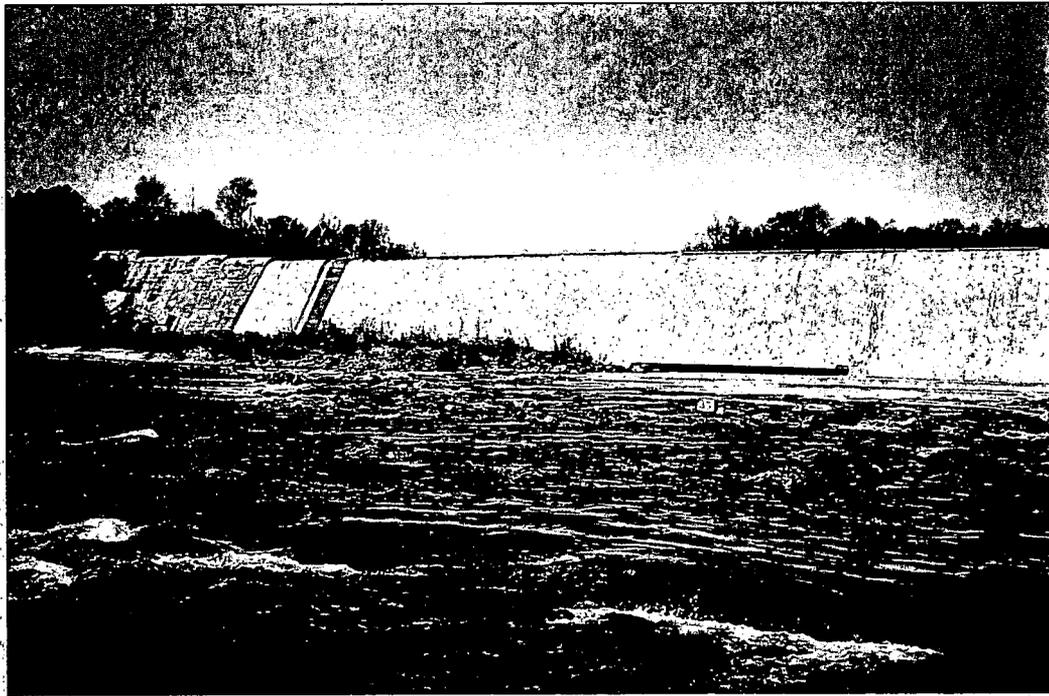
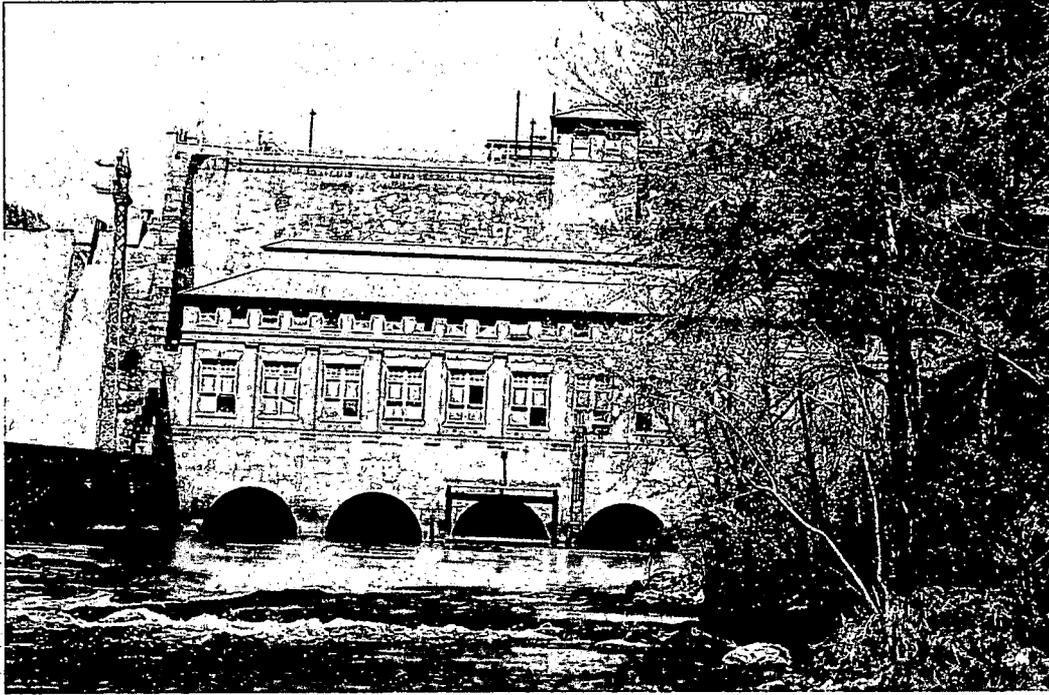


Figure 7. Resource 0042: powerhouse, looking northwest (top); and dam, looking west (bottom).

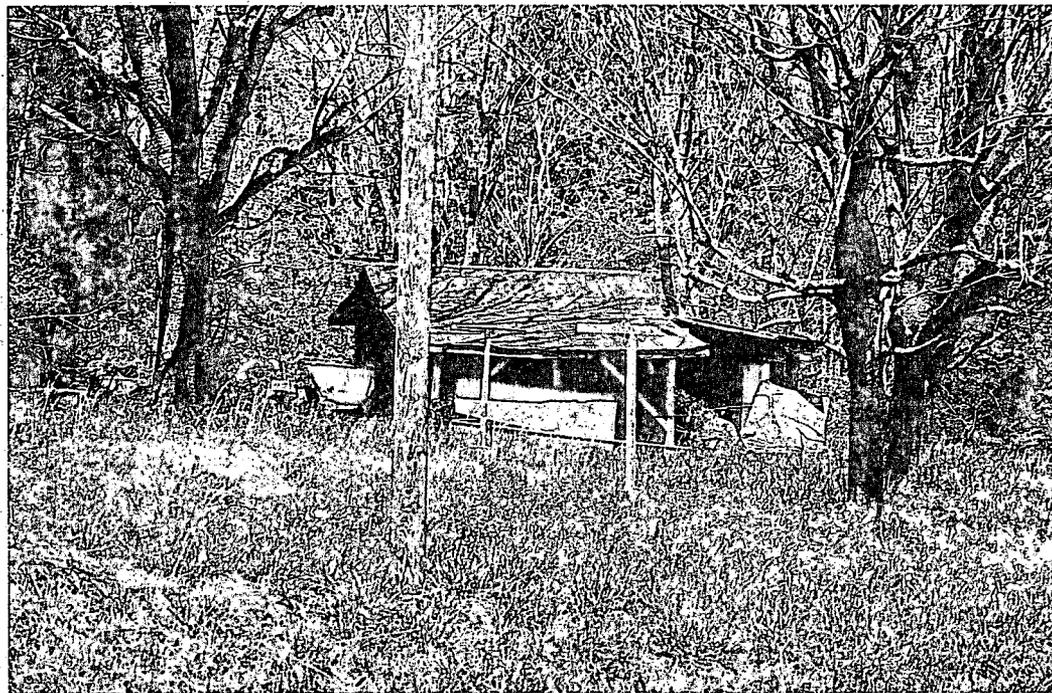
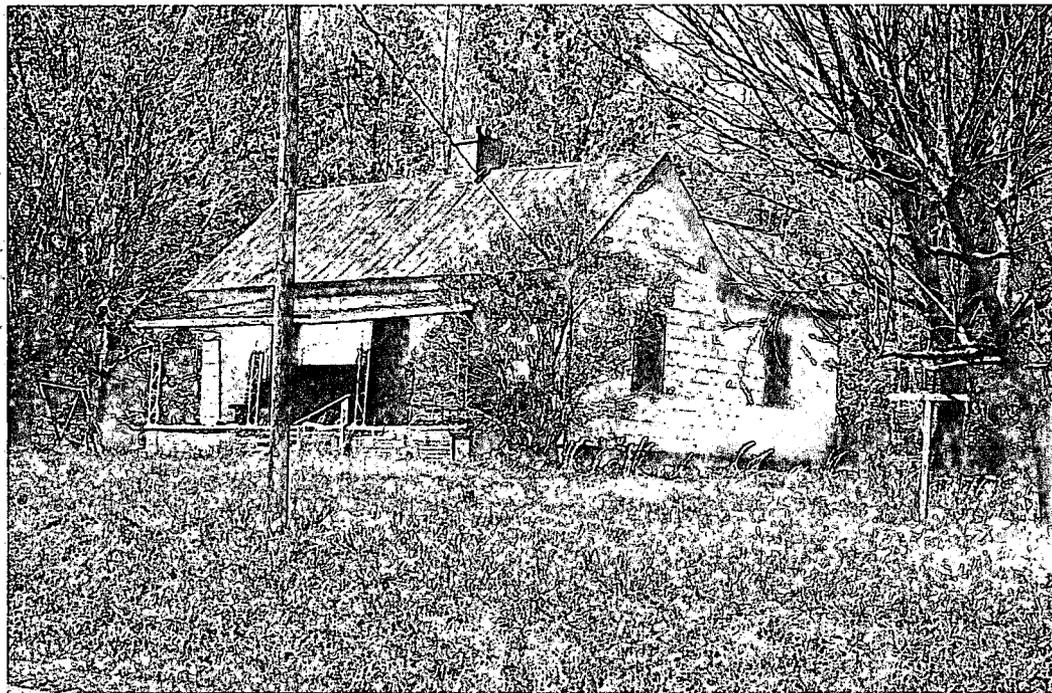


Figure 8. Resource 0061, looking north (top); and Resource 0061.01, looking south (bottom).



Figure 9. Resource 0062, looking northeast (top); and Resource 0063, looking northwest (bottom).

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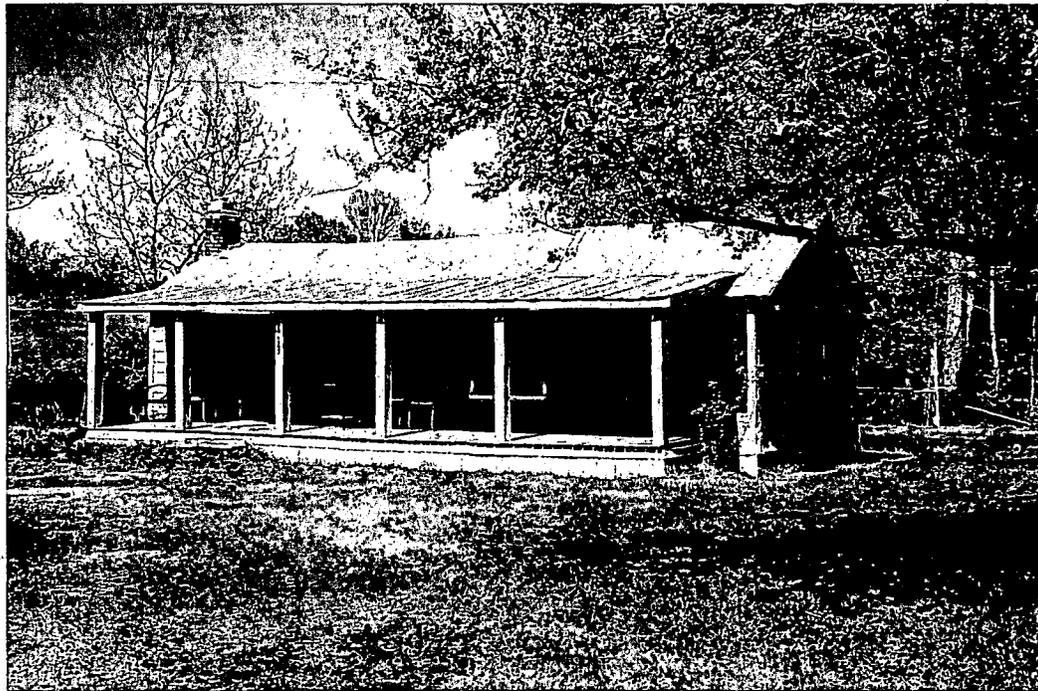


Figure 10. Resource 0064, looking south (top); and Resource 0065, looking southeast (bottom).

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[REDACTED]
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Figure 11. Resource 0066, looking northeast (top); and Resource 0067, looking northeast (bottom).

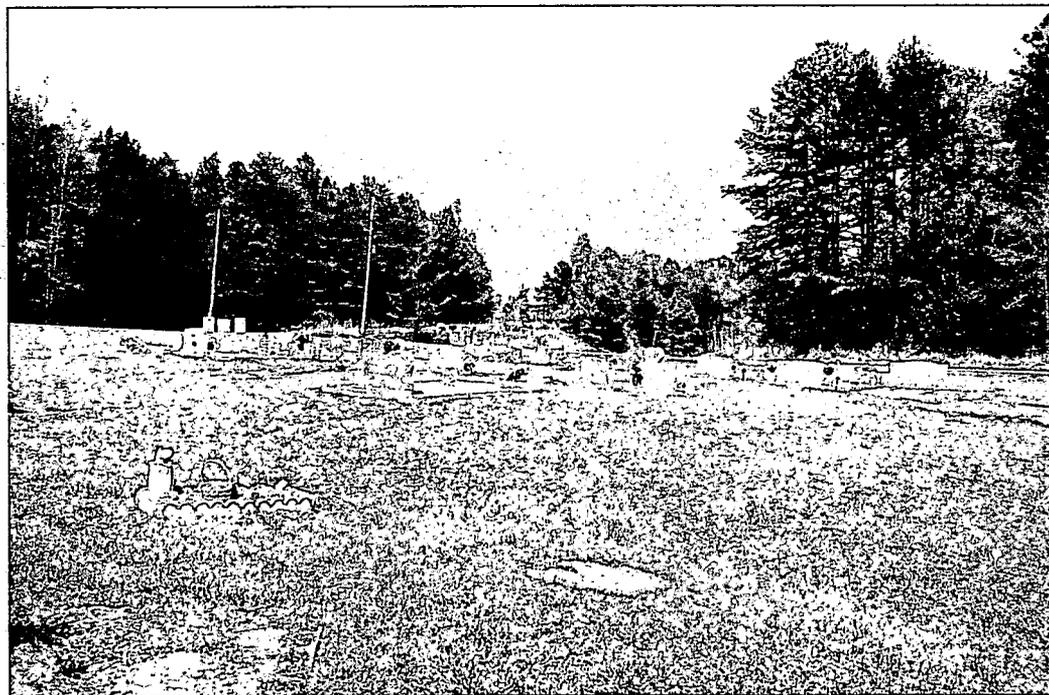


Figure 12. Resource 0068, looking southeast (top); and Resource 0068.01, looking east (bottom).



Figure 13. Resource 0068.02, looking northeast (top); and Resource 0068.03, looking northeast (bottom).



Summary and Management Recommendations

Brockington and Associates, Inc., completed a cultural resources survey of the proposed William S. Lee III Nuclear Station in Cherokee County, South Carolina, in March and April 2007. Reuse of the land and infrastructure already created for the Cherokee Station project of the 1970s has dramatically reduced the amount of undisturbed soils that will be developed for the project. Survey for this project was limited to a small water-intake area along the Broad River and a corridor along the existing Overlook Road that may be improved as part of the current project. We did not identify any archaeological sites or isolated finds in these areas.

We also conducted an architectural survey of an area encompassed in a one-mile radius from the proposed cooling towers and weather tower near the middle of the proposed facility. We recorded 12 historic architectural resources, which include twentieth-century houses as well as a church and associated outbuildings. We recommend all of these buildings not eligible for the NRHP. The Ninety-Nine Islands Plant and Dam, determined eligible for the NRHP, is located near the project. The project will not affect the design, workmanship, and materials of the plant, which are the crucial elements to its significance; therefore, we recommend that the construction of the new towers will have no effect on the Ninety-Nine Islands facility.

Construction and operation of the LNS will not affect any historic properties. Duke Energy is in the process of planning a service railroad corridor and transmission corridors for the project. Potential effects to historic properties for each of these projects will be assessed in separate survey reports that are forthcoming.



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