



**PHASE I CULTURAL RESOURCE SURVEY OF THE PROPOSED
IMPROVEMENTS TO THE TVA SEQUOYAH NUCLEAR POWER
PLANT, HAMILTON COUNTY, TENNESSEE**

FINAL REPORT

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A handwritten signature in black ink, appearing to read "Larry McKee", with a horizontal line extending to the right from the end of the signature.

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Authored by J. Scott Jones and Ted Karypniec

October 2009

MANAGEMENT SUMMARY

Tennessee Valley Authority (TVA) proposes a series of improvements to the TVA Sequoyah Nuclear Plant in Hamilton County, Tennessee. These improvements consist of the construction of a new barge slip; the erection of a storage building measuring approximately 20 feet in height; and the replacement of steam generators near the Unit 2 Concrete Shield Building. In September of 2009 TRC Environmental Corporation (TRC) conducted a Phase I cultural resources survey designed to document and assess archaeological and architectural resources located within the project's Area of Potential Effect (APE). Archaeologically, the APE consisted of the three development areas measuring 2 acres (0.81 hectares) each for a total survey area of 6 acres (2.43 hectares). The APE for architectural studies included a 0.8-km (0.5-mile) area surrounding the areas of the proposed improvements, as well as any areas where the project will alter existing topography or vegetation in view of a historic resource. Viewsheds to and from the project area were terminated where topography and vegetation obstructed lines of sight. The survey was conducted to document and assess archaeological resources located within the project's APE pursuant to their National Register of Historic Places (NRHP) eligibility status. The survey was conducted in compliance with Section 106 of the National Preservation Act (as amended) and its implementing regulations at 36 CFR 800.

Prior to conducting fieldwork, TRC conducted a preliminary records search at the Tennessee Division of Archaeology (TDOA) and the Tennessee Historical Commission (THC), located in Nashville, Tennessee. The purpose of the records search was to identify previously recorded archaeological sites and architectural properties listed on, or eligible for inclusion in the NRHP. No previously recorded sites are present in the areas of investigation. In addition, a review of THC survey records revealed no previously recorded architectural resources located within the APE of the current project.

On September 10, 2009, a TRC crew conducted the archaeological survey of the proposed improvements to the TVA Sequoyah Nuclear Plant. No archaeological resources were identified within the APE. No further archaeological investigations are recommended.

TRC conducted a historic architectural survey of the APE on September 18, 2009, which resulted in the identification of no previously unrecorded architectural resources. Based on current project plans, no further investigation of aboveground properties is recommended in connection to the proposed undertaking.

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TRC would like to thank Erin Pritchard of TVA for providing information and maps regarding the project in a timely manner. At TRC, Jared Barrett and Scott Jones conducted the archaeological survey. Senior Preservation Planner Ted Karpynek conducted the architectural survey and co-authored the report. Larry McKee served as Principal Investigator and provided technical edits of the report.

I. INTRODUCTION

TVA proposes a series of improvements to the TVA Sequoyah Nuclear Plant in Hamilton County, Tennessee. These improvements consist of the construction of a new barge slip, the erection of a storage building measuring approximately 20 feet in height, and the replacement of steam generators near the Unit 2 Concrete Shield Building.

In September of 2009 TRC conducted a Phase I cultural resources survey designed to document and assess archaeological and architectural resources located within the project's APE. The survey was conducted to document and assess archaeological resources located within the project APE pursuant to recommendations in regard to NRHP eligibility status. The survey was conducted in compliance with Section 106 of the National Preservation Act (as amended) and its implementing regulations at 36 CFR 800.

Archaeologically, the APE consisted of the three development areas measuring 2 acres (0.81 hectares) each for a total survey area of 6 acres (2.43 hectares). The APE for architectural studies included a 0.8-km (0.5-mile) area surrounding the areas of the proposed improvements, as well as any areas where the project will alter existing topography or vegetation in view of a historic resource. Viewsheds to and from the project area were terminated where topography and vegetation obstructed lines of sight.

Prior to conducting fieldwork, TRC conducted a preliminary records search at the TDOA and the THC, located in Nashville, Tennessee. The purpose of the records search was to identify previously recorded archaeological sites and architectural properties listed on, or eligible for inclusion in the NRHP. The review found no previously recorded archaeological resources in the areas of investigation. In addition, TRC review of THC survey records revealed no previously recorded architectural resources located within the APE of the current project.

On September 10, 2009, a TRC crew conducted the archaeological survey of the proposed improvements to the TVA Sequoyah Nuclear Plant. The survey identified no archaeological resources within the APE. TRC recommends no further archaeological investigations in regard to the plant improvements project.

TRC conducted a historic architectural survey of the APE on September 18, 2009, which resulted in the identification of no previously unrecorded architectural resources. Based on current project plans, no further investigation of aboveground properties is recommended in connection to the proposed undertaking.



Figure 1. Excerpts of the Snow Hill, TN USGS 7.5" Quadrangle illustrating the location of the proposed project areas.



Figure 2. Aerial map depicting the proposed improvements at the TVA Sequoyah Nuclear Plant.

II. ENVIRONMENTAL SETTING

PROJECT SETTING

The TVA Sequoyah Nuclear Plant is located along the Tennessee River roughly between river miles 485 and 486. The plant is located on an upper terrace at the base of the surrounding uplands. The lower floodplain has been inundated.

PHYSIOGRAPHY, TOPOGRAPHY, AND GEOLOGY

The project area lies within the Cumberland Plateau physiographic province (Figure 3). The Cumberland Plateau is a portion of the Appalachian Plateaus Physiographic Province, which is a region of elevated tablelands that extend from western Pennsylvania to northeastern Alabama (Fenneman 1938). The Cumberland Plateau, considered a peneplain, likely formed as the result of the presence of a thick, highly resistant, caprock of interbedded shale, siltstone, and sandstone conglomerates of Pennsylvanian age represented by the Rockcastle Conglomerate and Fentress. These are in contrast to the much less resistant Mississippian limestones to the west, underlying the Eastern Highland Rim, which have been much more eroded. The Pennsylvanian-age conglomerates of the Cumberland Plateau have impeded erosional processes (Miller 1974). The general elevation of the Plateau is approximately 1,840 feet AMSL and its erosional resistance has produced topography of rolling tablelands cut by a dendritic pattern of deeply incised valleys and narrow river channels.

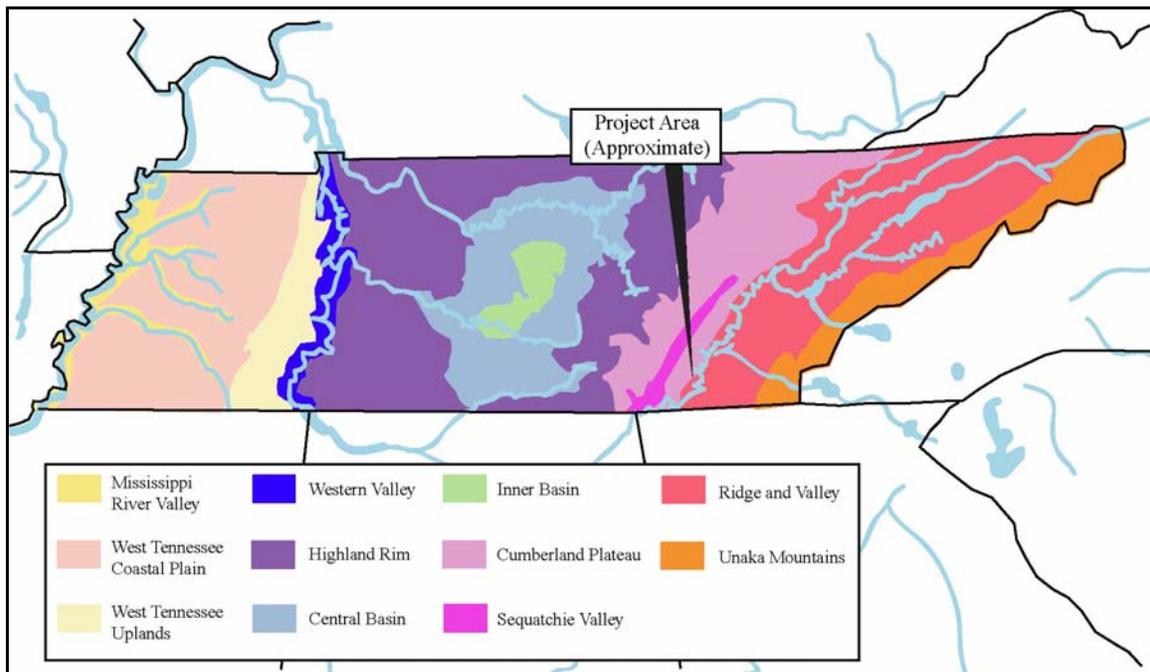


Figure 3. Generalized physiographic map of Tennessee and location of project area.

HYDROLOGY

The TVA Sequoyah nuclear plant is located on the Tennessee River, which has been inundated in the vicinity to form Chickamauga Reservoir.

SOILS

The majority of the soils in the project area have been removed or developed and no longer reflect the original soil composition. The Hamilton County Soil survey (Jackson 1982) classifies the soils in the Sequoyah Nuclear Plant as Colbert-Urban land complex.

CLIMATE

The climate in Hamilton County, Tennessee consists of cool winters and hot summers. The average winter temperature is 41⁰ F and the average summer temperature is 77⁰ F (Jackson 1982). Average annual precipitation is 52 inches.

FLORA AND FAUNA

The project area lies within the Mississippian Plateau section of the Western Mesophytic Forest Region (Braun 1950). Vegetation in the project area includes open grasslands and pasture as well as mixed hardwood forest and secondary forest growth. Mesophytic, deciduous hardwood tree varieties are found throughout the region and are represented by bodoc (Osage Orange), hickory, walnut, white oak, tulip-poplar, basswood, sugar maple, hemlock, yellow birch, beech, and persimmon. Rather large stands of coniferous species such as cedars and pines also are present.

The project region is also part of the Carolinian Biotic Province (Dice 1943). Fauna in the study area is typical of that found throughout middle and eastern Tennessee. White-tailed deer, turkey, raccoon, opossum, skunk, squirrel, rabbit, and gray fox comprise the majority of modern-day mammals. Species that are no longer present but would have been hunted during initial European colonization and prehistoric inhabitation included black bear, elk, bison, and cougar. Waterways are inhabited by several varieties of fish (e.g., crappie, bass, catfish, and drum). Buzzard, red-tailed hawk, crow, quail, dove, killdeer, and several varieties of ducks and geese represent avian species.

III. CULTURAL HISTORY

Human occupation of the project area is likely to have occurred continuously since at least 12,000 years before present. Over the course of this vast period both major and minor changes have taken place in various aspects of human behavior including technology, settlement patterns, subsistence strategies, population density, and social organization. Understanding the broad patterns of these changes and their specific regional trends helps investigators analyze the recovered information. Through comparison with local and regional data, it is possible to assign dates to certain artifacts and features, and to evaluate the nature and significance of site deposits.

The following discussion provides a general overview of the currently accepted trajectory of human development in the region. For organizational purposes, these 12,000 years are divided into two primary categories, Prehistoric and Historic Occupations. The discussion of the Prehistoric Period includes four generally recognized divisions: Paleoindian, Archaic, Woodland, and Mississippian. The chapter concludes with a discussion of historic occupations of Hamilton County.

PREHISTORIC OVERVIEW

Prehistoric occupation of the region surrounding the project area has been studied through archaeological research since the late nineteenth century. The first large-scale excavations in the Gunter's Basin of the Tennessee River in the 1930s by the Works Progress Administration (WPA) and TVA provided detailed information on the long prehistoric sequence of the region (Webb and Wilder 1951). In Tennessee, the regional prehistory is understood largely based on intensive investigations in the Normandy Reservoir on the upper Duck River (Faulkner and McCollough 1973, 1974, 1977, 1978a, 1978b, 1982a, 1982b; McCollough and DuVall 1976; McCollough and Faulkner 1976) as well as excavations in the Tellico Reservoir (Chapman 1973, 1975, 1976, 1979, 1994; Davis 1990; Schroedl 1975, 1978). To a lesser extent, various archaeological projects undertaken to fulfill State and Federal environmental regulations have also contributed to our understanding of regional settlement patterns. The following discussion draws on these and other sources to provide a basic overview of the prehistoric period.

The Paleoindian Period (12,500–10,000 B.P.)

The chronology of the Paleoindian period has been the subject of much ongoing debate in recent years. Research on Paleoindian diagnostics for the Eastern Woodlands suggests that this period can be somewhat arbitrarily subdivided into three smaller subperiods, designated Early (ca. 12,500–10,900 B.P.), Middle (ca. 10,900–10,500 B.P.), and Late Paleoindian (ca. 10,500–10,000 B.P.) (Anderson 1990, 1995a, 1995b; Anderson et al. 1996). This tentative chronology is based primarily on changes in hafted biface morphology. In particular, these divisions coincide with occurrences of Clovis and eastern fluted lanceolate forms like Gainey or Bull Brook, fluted and unfluted lanceolate forms with modified bases such as Cumberland, Quad, and Parkhill, and typically

unfluted, notched, and unnotched lanceolate forms such as Dalton and Holcombe (Anderson 1995b; Morrow 1996).

Paleoindian adaptation throughout the region was likely characterized by small, highly mobile bands that moved from place to place as preferred resources were depleted and new supplies of resources were sought (Kelly and Todd 1988). During the Early and Middle Paleoindian periods these bands are thought to have hunted and gathered now-extinct megafauna, including mastodon (*Mammuth americanum*) and bison (*Bison antiquus*). The exploitation of Late Pleistocene faunal assemblages by the earliest inhabitants in the Southeast is attested by the Coates-Hines site (40WM31) in Williamson County, Tennessee, where mastodon remains were discovered in association with Paleoindian artifactual material (Broster and Breitburg 1995).

Paleoindian populations undoubtedly did not rely exclusively on megafauna for subsistence. Instead, they likely employed a mixed foraging strategy that included smaller terrestrial game, aquatic animals, and a variety of flora. As larger game animals began to suffer extinction as a result of intense hunting and rapid environmental changes, Late Paleoindian groups would have come to rely more on these other facets of their subsistence pattern.

South of the project area in Jackson County, Alabama, diagnostic Paleoindian artifacts were recovered from Russell Cave (1JA940) during excavations by the Smithsonian and National Parks Service (Miller 1957a, 1957b, 1965). Two preeminent Paleoindian sites in the region, Dust Cave and the Stanfield-Worley bluff shelter, are situated southwest of the current project area along the middle portion of the Tennessee River in Colbert and Lauderdale counties, Alabama. The Stanfield-Worley bluff shelter (1CT125) exhibits nearly 8,000 square feet of shelter floor and cultural material encompassing 8,000 years of aboriginal occupation, and has yielded radiocarbon dates as early as 9690±450 B.P. associated with Paleoindian artifacts (DeJarnette et al. 1962). Dust Cave (1LU496), a multicomponent habitation cave site near Florence, Alabama, has also yielded a stratified Late Paleoindian cultural assemblage dated from 10,500–10,000 B.P. (Driskell 1994, 1996).

Archaic Period (10000–2600 B.P.)

The Archaic Period is distinguished within the archaeological record by technological changes from the Paleoindian period. Most notably, the onset of the Archaic Period is distinguished by the cessation of fluted point manufacture, and the advent of numerous regional projectile forms and functions, as well as a variety of specialized artifact types. In general, the Archaic tradition is associated with environmental changes that occurred at the terminal Pleistocene/early Holocene transition, and the corresponding shift in adaptive strategies employed by human populations.

As the glaciers retreated northward, large game species became extinct or migrated north with the retreating tundra, and were replaced by modern faunal and floral species. Archaic populations adapted accordingly to rely on smaller mammals, including white-tailed deer, turkey, squirrels, rabbits, and fish. Subsistence strategies also shifted to

incorporate seasonal exploitation of vegetal resources such as nuts, berries, seeds, bulbs, and greens.

Intensive exploitation of local resources led to increased population growth throughout the Archaic Period in the Southeast, and a corresponding reduction in group territory size (Anderson and Hanson 1988). Archaic populations gradually became less mobile as villages began to be reoccupied annually. Intensive exploitation of food resources is reflected in substantial quantities of fire-cracked rock on many Archaic sites. This artifact class results from stone boiling techniques using skin bags or wooden bowls prior to the adoption of pottery (Goodyear 1988) and the construction of permanent, high-heat hearths at repeatedly used campsites.

The Archaic period is traditionally divided into three subperiods, based largely on temporal changes in projectile point types and styles. In addition to diagnostic hafted biface types, other markers provide means to subdivide the Archaic in the interior Southeast. These include types of ground stone artifacts, fragments of carved stone bowls, and various mortuary programs.

Early Archaic (10,000–8000 B.P.)

Early Archaic populations in northeastern Alabama continued to subsist in ways closely resembling those of earlier Paleoindian hunters and foragers. In contrast to Paleoindian adaptations, the Early Archaic appears to represent a shift to a more localized subsistence pool based on the seasonal harvest of plant and animal resources. Following the extinction of Pleistocene megafauna, Early Archaic populations hunted modern fauna such as white-tailed deer and wild turkey. Early Archaic sites, like Paleoindian occupations, tend to consist of light lithic scatters usually found in multi-component contexts. Diagnostic artifacts of the Early Archaic include chipped stone tools with side- and corner notched hafting elements such as Kirk Corner Notched, Palmer, Plevna, Lost Lake, Pine Tree, and some Big Sandy forms (Cambron and Hulse 1986).

Middle Archaic (8000–5000 B.P.)

The Middle Archaic is generally seen as a difficult time for prehistoric populations, coinciding with the warmer and drier Hypsithermal Interval. Beginning at about 8000 B.P. postglacial warming intensified, resulting in a series of environmental changes in parts of the East that influenced cultural developments. Local inhabitants throughout the Midwest and Midsouth may have experienced occasional long droughts during this period (Brackenridge 1984; Klippel and Parmalee 1982).

Middle Archaic material culture can be distinguished from the Early Archaic by an increase in ground stone tools, such as atlatl weights and notched “netsinkers,” and a more diverse stone tool kit. Supplemental use of shale, slate, quartz, and quartzite, in addition to non-local cherts, also characterizes Middle Archaic lithic assemblages. Diagnostic hafted bifaces of this period include Eva, Morrow Mountain (ca. 7500–6000 B.P.), Sykes/White Springs (ca. 6500–5500 B.P.), and Benton (ca. 5600–5000 B.P.) types.

Patterns of raw material use at late Middle Archaic sites trend toward locally available sources, and seem to reflect a reduction in territory size (Meeks 2000). The size and depth of the various Middle Archaic shell midden sites along the Tennessee, Tombigbee, and Green Rivers can be attributed to long-term or repeated seasonal occupation of the resource-rich, lower terrace formations (Meeks 2000). These sites probably served as seasonal meeting points for dispersed groups, habitation areas, and mortuary locations. Social aspects of seasonal aggregation likely also included trade, exchange of information, and taking marriage partners.

By the end of the Middle Archaic, there is overwhelming evidence of a complex late Middle Archaic trading/interaction network that likely extended from the Great Lakes to the Gulf Coast. This interaction network is adequately reflected in mortuary objects containing raw materials exotic to the region of final disposition (marine shell beads, nonlocal chert) and in the widespread occurrence of morphologically similar nonutilitarian artifacts (Deter-Wolf 2004a, 2004b). This phenomenon has been best documented for Northern Alabama by Johnson and Brookes (1989) and Peacock (1988), who describe a string of Benton phase sites in the upper Tombigbee drainage linked by the co-occurrence of Turkey Tails, oversized Bentons, and double-pointed bifaces manufactured from Fort Payne chert.

Late Archaic (5,500–3,000 B.P.)

During the Late Archaic, modern climatic conditions prevailed throughout North America. This environmental change resulted in increasingly moist conditions throughout the American Southeast, and a corresponding boom in local plant and animal life. Prehistoric peoples certainly took advantage of the new, lush conditions by living along major streams where water, plants, and animals were plentiful.

Hafted bifaces including Ledbetter, Wade, Little Bear Creek, and the Motley Cluster are considered diagnostic of the Late Archaic in the region. Other artifacts include large bifacial tools, ground stone tools (e.g., pitted manos and bannerstones), and steatite vessels. Exotic trade items including marine shell, copper, steatite, and distinctive chert appear in the archaeological record of the Late Archaic Southeast and suggest the beginnings of a complex regional trade network. Unfinished raw materials and utilitarian items (stone bowls and projectile points) were also widely exchanged.

Evidence of initial plant domestication is reflected in the appearance of cultigens in Late Archaic deposits throughout the Southeast. Evidence from sites in Illinois, Kentucky, and Tennessee demonstrates that squash, gourd, and sunflower were well established by 3,000 B.P. (Adovasio and Johnson 1981). Some of the earliest evidence of structural remains in the Southeast has been documented for the Late Archaic in the Upper Duck River valley, south of Nashville (Faulkner and McCollough 1974).

South of the project area along the Tennessee River, the Late Archaic period can be divided into two distinct cultural units or phases: the Lauderdale phase and the Bluff Creek phase. The Lauderdale phase represents the classic “Shell Mound Archaic” in this area, and may be in need of some refinement or subdivision as new data becomes

available. Along the western Middle Tennessee River, mussel beds provided abundant freshwater invertebrates for exploitation by prehistoric inhabitants. The Lauderdale phase shell mound sites in this vicinity are quite extensive, and are comprised of an organic midden of shell, cultural debris, and human interments accreted over many generations of successive occupation. Jenkins (1974) has suggested that these mound sites were occupied from early spring to early fall, when the local shellfish harvest would be optimum. Jenkins concludes that for the rest of the year, Lauderdale peoples would have moved into the uplands to exploit diverse game animals, plants, and nuts.

The Late Archaic Bluff Creek phase (3200–2500 B.P.) spans the traditional date of 3000 B.P. used to divide the Late Archaic from the subsequent Early Woodland period. The Bluff Creek phase is distinguished by fiber-tempered Wheeler series ceramics (ca. 3500–2800 B.P.) (Futato 1979; Walthall and Jenkins 1976). Ceramics first made their appearance on the Atlantic coastal plain in estuarial settings around 4500 B.P. However, it was not until quite later, around 3500–3000 B.P., that the Wheeler series made its debut in northern Alabama (Futato 1979; Jenkins 1975; Sassaman 2002).

Woodland Period (3000–1100 B.P.)

The Woodland period in the region is also divided into three sub-periods: Early (3000–2200 B.P.), Middle (2200–1650 B.P.), and Late (1650–1100 B.P.) Woodland. This period has been traditionally linked to sedentism, population growth, and organizational complexity as manifested in the intensive cultivation of crops, establishment of well-defined village settlements, the construction of ceremonial mounds, and the appearance of pottery. However, recent research has proven that all these traditionally Woodland cultural markers have more ancient roots dating back to the Archaic (see above for discussion of Wheeler ceramics; Fritz 1997; Sassaman 1993, 2002; Saunders et al. 1994). In this respect, the beginnings of the Woodland period in Alabama mark only a gradual transition from subsistence and settlement patterns of the Archaic. Undoubtedly this is because a similar deciduous forest environment was exploited throughout most of both periods. However, technological refinement and ideological changes clearly distinguish the Woodland period from its predecessor.

Early Woodland (3000–2200 B.P.)

This initial part of the Woodland period is more of a transitional time from the Late Archaic, as seen in the gradual adoption of ceramics and the shift in subsistence and settlement patterns (Anderson and Mainfort 2002). While a variety of indigenous cultigens had been exploited prior to 3000 B.P., the Early Woodland period saw the beginnings of intensive agriculture or horticulture (Watson 1989). Various plants, including goosefoot, maygrass, knotweed, sumpweed, little barley, and sunflower began to be systematically exploited, and in some cases show morphological variations suggesting the beginnings of domestication (Gremillion 1998, 2002).

The project area location along the Elk River is situated between two regional Woodland manifestations: The Watts Bar/Long Branch and Brickyard Phases of the Normandy Reservoir and the Alexander and Colbert Phases of the Middle and Upper Tennessee

River. In the Normandy region the earliest ceramics belong to the Watts Bar series, and appear around 2600 B.P. The Watts Bar phase (ca. 2700–2400 B.P.) is characterized by quartz tempered, fabric marked wares and rounded base (Adena) projectile points. The subsequent Long Branch phase (ca. 2400–2150 B.P.) is characterized by Limestone tempered fabric marked wares and triangular (McFarland-like) projectile points (Faulkner 1992).

In the area around the Tims Ford reservoir, an abrupt shift in artifact types and settlement patterns marked the onset of the Early Woodland (Faulkner 1968). It is possible that this dramatic shift corresponds with the movement of new peoples into the area bearing a fully developed Woodland culture. In the Tims Ford area this new Early Woodland manifestation is known as the Brickyard phase, and was defined by excavations at the type site (40FR13) located along the Elk River in Franklin County. Brickyard phase occupations utilize almost exclusively fabric-marked pottery, and exhibit little or no evidence for plant domestication (Faulkner 1968). Instead, these Early Woodland peoples probably engaged in intensive exploitation of the valleys and uplands reminiscent of earlier hunting and gathering economies.

Regional ceramic cultures identified for the Early Woodland along the Middle and Upper reaches of the Tennessee River include both the Alexander and Colbert Phases. Alexander ceramics (ca. 2500–2100 B.P.) are characterized as sand-tempered and may exhibit complicated decorative motifs (Heimlich 1952; Walthall 1973). Particularly characteristic of the Alexander tradition was the production of elaborately decorated incised, punctated, and noded pots. Lithic assemblages at Alexander sites include Flint Creek PP/Ks and numerous unifacially and bifacially flaked knives (Walthall 1980).

Diagnostic ceramic assemblages for the subsequent Colbert Phase (ca. 2300–1850 B.P.) include limestone-tempered plain, check-stamped, and fabric-impressed pottery types including Long Branch Fabric Impressed and Mulberry Creek Plain (Haag 1939, 1942; Heimlich 1952; Walthall 1980). Straight stemmed and medium triangular projectile point forms including the Upper Valley cluster also are associated with this phase. South of the project area along the Tennessee River, excavations at the Bellefonte site (1JA300) yielded two burials which contained large percentages of Long Branch Fabric Impressed and Mulberry Creek Plain ceramics (Futato 1977). Additional ceramics from Colbert deposits at that site included plain, fabric marked, and simple stamped examples of quartz and sand-tempered sherds. Temporally diagnostic PP/Ks from the Colbert occupation at Bellefonte included examples of the Copena Triangular, Camp Creek, Greenville, and Nolichucky types (Futato 1977).

Middle Woodland (2200–1650 B.P.)

The Watts Bar and Long Branch phases in the Normandy region are followed by the early Middle Woodland McFarland phase (ca. 2200–1800 B.P.). This geo-temporal unit subsumes the upper Elk and Duck River valleys on the Eastern Highland Rim (Faulkner 1988) and may also include areas along the upper Caney Fork River as well (Jolley 1979). Triangular projectile points similar to the Greenville and Camp Creek types occur with plain, simple stamped, and check stamped, limestone tempered pottery. A

wide array of non-local items found at McFarland phase sites include mica, copper, Flint Ridge chert, and non-local ceramics. Typical features uncovered at McFarland sites include earth ovens, large cylindrical storage pits, and circular pole living structures. Mortuary patterns consist of fleshed burials and cremations (Faulkner 1988). At 40CF5, a McFarland phase site in the Normandy Reservoir, a radiocarbon date of 2220 B.P. \pm 185 years was recorded for a pit feature containing a rectangular elbow pipe, atlatl handle, and a limestone tempered red filmed trade vessel (Bacon 1982).

The late Middle Woodland Owl Hollow phase along the upper Duck and Elk River valleys dates to ca. 1800–1300 B.P. and traverses the traditional Middle/Late Woodland division of 1650 B.P. The Owl Hollow phase was defined based on investigations of site 40FR7 in Franklin County (Faulkner 1968; Faulkner and McCullough 1973; Cobb and Faulkner 1978). Ceramic assemblages consisting almost exclusively of plain and simple stamped limestone-tempered ceramics provide the most effective indication of Owl Hollow phase occupations (Faulkner 1968). Lanceolate Expanded Stemmed and Lanceolate Spike cluster projectiles, as well as shallow side notched points are also distinctive of this phase (Faulkner 1988). An architectural complex of paired winter/summer houses allowing year-round occupations is associated with major occupation at the type site (Cobb and Faulkner 1978). Owl Hollow phase settlement at the type site consisted of a large circular midden ring, with earth lodges arranged around the periphery and summer dwellings on the interior arrayed around an open plaza area. The Old Stone Fort site in the Upper Duck River was maintained as a ceremonial center by Owl Hollow phase populations during the initial portion of the phase (Cobb and Faulkner 1978).

Excavations at 40FR7 indicated that Owl Hollow peoples exploited snails, mussels, and fish as a major part of their diet during the warm seasons of the year. Maize (corn) first appears at sites on the Highland Rim during the Owl Hollow Phase. At 40FR45, maize kernels from a large Owl Hollow phase storage pit were dated to B.P. 1520 \pm 60 years. At Eoff I in the Normandy Reservoir, maize was recovered from a large earth oven (Crites 1978). Samples from this feature returned a radiocarbon date B.P. 1535 \pm 60 years and an archaeomagnetic date of 1700 B.P. Along the Duck River at Shofner, maize excavated from a large refuse pit was dated to around 1500 B.P. While maize was probably known to earlier populations, evidence suggests that it was not intensively cultivated until the Owl Hollow phase.

The construction of earthen mounds, which had begun throughout the Southeast during the Middle Archaic period, saw rapid increase throughout the Middle Tennessee River valley during the Middle Woodland. South and west of the current project area, the Copena mortuary complex of the Middle Tennessee River valley features the greatest concentration of Middle Woodland burial mounds in the region (Anderson and Mainfort 2002).

Copena represents one of the most widespread Middle Woodland manifestations in the Southeast. Webb (1939) first described Copena occupations for the Wheeler Basin. Additional data arises from the Middle Tennessee Valley, where the Copena phase appears around 1,800–1,400 B.P. Copena is no longer regarded as a conventional cultural

phase, but rather a social-mortuary pattern shared by local social groups residing in the Middle Tennessee Valley (Cole 1981). Copena sites contain high frequencies of limestone-tempered, plain and carved, paddle-stamped ceramic sherds. Fabric-impressed, cord-marked, brushed, and rocker-stamped ceramics also occur, but less often.

Burial practices for Copena groups include accretional burials in earthen mounds, usually at some distance from the villages. Artifacts interred in Copena burials include copper ear spoons, bracelets, breastplates, greenstone celts, beads, marine shell cups and beads, and large steatite elbow pipes. Presumably, these finely crafted artifacts were placed with the dead as a means to note their achieved social rank. It is likely that the Copena mortuary cult peaked around 1600 B.P. (Walthall 1972). By around 1700 B.P., the Middle Woodland peoples of northern Alabama became increasingly isolated, as a result of an apparent breakdown in long-distance trade routes. By about 1500 B.P., Copena ways had vanished and the populations of northern Alabama were developing local economic adaptations and practicing less stylized burial ceremonialism.

Late Woodland (1650–1100 B.P.)

The Late Woodland period is less well defined in the region than earlier Woodland occupations. Traditionally, the Late Woodland has been seen as a time of turmoil, conflict, and cultural decline throughout the Midwest and Southeast (Dragoo 1976). However, recent research has indicated that Woodland cultural markers (i.e. ceramic production, mound building, intensive agriculture) in fact show no sign of retreat during the Late Woodland (Jefferies 1994; Nassaney and Cobb 1991; Wood and Bowen 1995).

Based on investigations at site 40FR8, Faulkner (1988) has suggested that members of a distinctive “Mason culture” may have inhabited portions of the eastern Highland Rim during the onset of the Late Woodland. Archaeological components dating to this era include the Hoover-Beeson rockshelter (40CN4), the Wiley (40PM90), Yearwood (40LN16), Mason (40FR8), and Hamby (40CF214) sites on the Elk River, and the Ewell III (40CF118) and Banks V (40CF111) sites in the Normandy region (Butler 1968, 1971; Childress and Buchner 1992; Cobb and Faulkner 1978; Faulkner 1968; Faulkner and McCollough 1974; McCollough and DuVall 1976).

Regionally, the Late Woodland seems to be a time of turmoil and conflict throughout the Midwest and Southeast. Evidence of regional interaction and trade as well as emphasis on burial ceremonialism cease, as cultural groups of this period apparently became more isolated and less complex (Dragoo 1976). Many late Woodland Villages appear to have been fortified. The shift from the larger projectile points of the previous periods to the smaller Madison and Hamilton types is thought to reflect the development of the bow and arrow during the Late Woodland.

Mississippian Period (1000–400 B.P.)

The Mississippian period has been the subject of much research throughout the Southeast. Its cultural manifestations began along the middle course of the Mississippi River between present-day St. Louis, Missouri and Vicksburg, Mississippi. Mississippian

culture underwent major development at the site of Cahokia in the American Bottom, and spread primarily along major river systems to all parts of the Southeast. From 1,000 B.P. until initial European contact about 400 years ago, Mississippian groups occupied local and regional territories along major rivers including the Tennessee, the Cumberland, and the Forked Deer Rivers.

Mississippian populations were substantial, and centered in permanent villages that far exceeded those of the Woodland period in size. These villages were primarily supported through the cultivation of maize in fertile alluvial valleys. The Northern Flint variety of maize seems to have been established in the region by around 1200 B.P. (Buikstra et al. 1988). In addition to maize, Mississippian populations relied on other domesticants, including beans and squash. Domesticated crops were further supplemented with wild foods that had contributed to aboriginal diets in the southeast for previous millennia, including wild plants and animals such as nuts, berries, greens, deer, turkey, and aquatic animals.

Maize floodplain agriculture was a leading factor in the trend towards a more sedentary life, and resulted in many social changes reflected during Mississippian times. The most evident change is the movement from an egalitarian society to a ranked, chiefdom-level society that peaked at the height of the Mississippian culture. In this system, control of subsistence resources likely fell under the monopoly of a few persons or lineages (Blitz 1993).

Ceramic traditions maintain some element of continuity from the Woodland Period to the Mississippian with the continuance of clay-tempered wares. However, the introduction of shell as an aplastic additive during the Mississippian Period ushered in a revolution in the manufacture of ceramic vessels. This process allowed for the construction of vessels with stronger, thinner walls that could be fashioned into a variety of never-before seen shapes (e.g., effigies, shouldered jars, and water bottles). By 1000 B.P., plain and surface-decorated shell-tempered ceramics were the dominant types in Mississippian assemblages.

Lithic assemblages during the Mississippian Period are much less complex than those of the previous cultural periods. This may result from an increased use of more perishable items such as bone, antler, and shell that typically do not survive well in the archaeological record. However, triangular points like Madison and Hamilton are prevalent as well as hoes manufactured out of both local and non-local chert. Mill Creek chert, native to central Illinois, was used in production of hoes that were apparently traded across wide regional boundaries. Other diagnostic artifacts include ground chunky stones, engraved shell items, mica, and galena.

The Mississippian Period saw a resurgence of shared regional religious icons similar to those manifested under Hopewellian influence during the Middle Woodland. This ideological assemblage is commonly referred to as the “Southeastern Ceremonial Complex” and is defined by a shared body of symbolism, artistic motifs, and artifact types (Waring and Holder 1945). Common motifs include the forked or weeping eye, the hand-eye, the bi-lobed arrow, the cross with a sunburst circle, and representations of

anthropomorphic beings. This iconography often appeared on shell gorgets, embossed copper and stone plates, pottery, stone maces, and a variety of other elaborate and specialized artifacts. While the structure of the Southeastern Ceremonial Complex centered on religious iconography and prestige goods, the complex seems to have also served the centralization of political authority in Mississippian cultures.

Status distinctions were also reflected in variation of Mississippian burials. Burials of higher status individuals usually occurred in conical mound earthworks. Distinctive stone box graves of the “Middle Cumberland culture” are considered regional markers of Mississippian mortuary activity (Dowd 2008; Smith 1992). These graves, lined with slabs of limestone, often include elaborate non-utilitarian funerary furniture and one or multiple human burials. Stone box graves also appear in earth mounds. These were apparently erected by arranging numerous stone box coffins in tiers or layers before piling up dirt to create a mound. Low status individuals were interred in family cemetery plots near their residences

South of the project area in Jackson County, Alabama, the Mississippian Period is well represented by sites such as Rudder (1JA180), located on a low ridge in the floodplain of the Tennessee River. Rudder includes two mounds, the larger of which (Mound A) revealed evidence of three large, rectangular wall trench structures and a large circular structure built on top of each mound construction stage. Twenty-four burials, most partially flexed, were recovered from this mound (Webb and Wilder 1951). Grave offerings included ceramic vessels, greenstone celts, and shell beads. The smaller mound (Mound B) yielded evidence of four-wall trench structures underlying the mound and 57 burials. Most of these burials were partially flexed, although four stone box burials were present as well. Grave offerings included shell- and sand-tempered ceramic vessels, greenstone celts, stone elbow pipes, sheet mica, galena, pearls, shell beads, and gorgets. The shell gorgets were engraved with Southeastern Ceremonial Complex motifs including the sun symbol, spider, pileated woodpecker, and eagle dancer (Futato 1979). Shell-tempered ceramic vessels recovered from Mound B include plain jars (some with strap handles), bowls, and bottles. Other vessels include a black-filmed bottle, opossum effigy bottle, and duck effigy bowl.

HISTORIC OVERVIEW

The earliest documented European incursion into the upper drainage of the Tennessee River was the de Soto expedition of 1540. The precise route of de Soto and his men has been the subject of controversy for years, but recent research by DePratter et al. (1985) and Hudson et al. (1985) has delineated a route that best appears to fit the available archaeological and historical data. According to their reconstruction, de Soto’s route tracked through Florida, southern Georgia, South Carolina, North Carolina, Tennessee, and finally northwest Georgia. The de Soto expedition crossed the Appalachians from North Carolina into Tennessee and arrived at the Indian village of Chiaha in late June or early July 1540. DePratter et al.’s (1985) and Hudson et al.’s (1985) research places the town of Chiaha on Zimmerman’s Island in the French Broad River close to Dandridge,

Tennessee. Chiaha was located at the northern border of the expansive chiefdom of Coosa.

The de Soto expedition moved south from Chiaha to the main town of Coosa (identified as the Little Egypt site near Carters, Georgia), a 12-day march for the army. Six days were spent in the village of Coste, probably located on Bussell Island. This was one of the largest aboriginal Dallas-phase towns on the upper Tennessee River. At least one other early Spanish expedition penetrated the upper drainage of the Tennessee in the sixteenth century. That expedition, led by Tristan de Luna in 1559–1561, visited many of the same sites as de Soto, including the Coosa site, but apparently did not travel as far north as the Little Tennessee confluence area.

Indian populations living in the region surrounding the project area at the time of European contact included both Cherokee and Yuchi groups. Like their Cherokee neighbors, the Yuchi lived in palisaded villages featuring ball fields, sweat houses, and domestic residences. In 1701 five Canadians visited the Taogria Yuchi town, located on an island in the lower Tennessee River near Muscle Shoals, AL (Buchner 1998).

Members of this group are believed to have moved up the Tennessee River during the early part of the eighteenth century. Their town, known to the Cherokee as Tsistu'yi, or “Rabbit place,” was located on the Hiwassee River. In the spring of 1714 at the instigation of white traders, a band of Cherokees destroyed this settlement. In the wake of this battle, the remaining Yuchi spread out and were assimilated into other tribes.

History of Hamilton County

The early historic period in Hamilton County revolves around a series of treaties and battles between expanding European settlement and the existing Cherokee populations. In 1776 the Cherokee leader Dragging Canoe and a band of followers moved to the Chattanooga area, where they settled a series of eleven towns. These were attacked and burned by the American Army under the command of Colonels Shelby and Montgomery in 1779 as revenge for supposed raids against North Carolina settlements (Goodspeed 1887). While much of the Cherokee population moved away following this incident, the towns of Tuskigi, Citico, and Chattanooga were reoccupied. In 1782 General Sevier led a party in a battle against Cherokee commanded by Wynca, on Lookout Mountain, and defeated them badly (Goodspeed 1887). In 1788 troops under General Martin fought a second battle, again badly defeating the Indians. The first mission in the region, known as Brainerd, was established in 1817. That same year the U.S. Federal Government executed the Hiwassee Purchase, in which they bought from the Cherokee Indians all the land between the Hiwassee, Little Tennessee and Big Tennessee Rivers lying west of the Smoky Mountains (Goodspeed 1887).

Hamilton County was created by an act of the General Assembly of the State of Tennessee on October 25, 1819 with lands taken from Rhea County. Only lands north of the Tennessee River were included in its boundaries. The area south of the Tennessee River remained part of the Cherokee Nation until 1835. The first county seat was located

at Poes Cross Roads. It was subsequently moved to Dallas in 1822, and to Chattanooga in the 1870's (Armstrong 1931).

By 1828, the Cherokee were broadly divided into two parties over relations with the American government and the question of land. The majority party followed John Ross, who served as the principal chief of the Cherokee Indians between 1828 and 1866. Ross was adamant in his refusal to sell additional Cherokee lands. A minority group favoring the sale of land was led by John Ridge. Rolater (1998) notes that Ridge spoke for approximately 10 percent of the Cherokee tribe.

After failing to deal with Ross, the U.S. Government held a meeting with the Ridge Party in December of 1835, in which they signed the Treaty of New Echota ceding all the remaining Cherokee Lands between the Hiwassee River and the Chattahoochee River in Georgia for the sum of five million dollars. The treaty further provided that the Indians vacate the land and move west to what was afterwards known as the Indian Territory. Ross and his followers considered the treaty an act of treason by the Ridge faction, and a number of those who had signed the treaty, including John Ridge, were subsequently assassinated (Ehle 1988).

The treaty of New Echota signed by the Ridge party was considered valid by the U.S. Government, and settlers began to enter the region in large numbers. However, John Ross continued to refuse to sanction the treaty, and it was not until May of 1836 that the document was finally ratified (Goodspeed 1887). U.S. Army troops were dispatched to the region beginning in 1836 to gather up the Cherokee prior to their removal in what is known historically as the Trail of Tears. The forced removal was begun in 1837, but not completed until December of the following year.

A military post was established at Ross's Landing in present-day Chattanooga in 1836 in anticipation of the removal of the Cherokee. The site, which was named after John Ross, had served as an important trading post for Cherokee prior to the Treaty of New Echota. In 1838, the name of the town was changed from Ross's Landing to Chattanooga (Armstrong 1931). In 1835, the Georgia Legislature had approved construction of a state-owned railroad north from what would become Atlanta. It was considered likely that Ross's Landing would be the northern terminus of this line, which became the Western and Atlantic Railroad in 1850 (Ezzell 1998).

By the beginning of the Civil War, Hamilton County was largely divided on the question of succession (Murray 1992). The Confederate Army controlled the region until late 1863, when a large number of Federal troops moved into the region and occupied Chattanooga.

Following the evacuation and surrender of Chattanooga, Union forces pushed their advantage only to be confronted and defeated by Confederate forces at Chickamauga on September 20, 1863. The Union forces retreated to Chattanooga, where they were surrounded. The Confederate Army of Tennessee, under the command of General Braxton Bragg, laid siege to the city (Rowland 2005). With the county already ravaged by foraging parties from both armies, and with only one supply line open, the Union

troops faced potential starvation. However, in October a second supply line was opened and plans were laid for the liberation of the city. On November 23–25, Union forces under the command of Generals Blair, Hooker, Grant, Howard, Sheridan, Sherman, Smith, Slocum, and Thomas were victorious against Bragg's poorly led and demoralized forces (Rowland 2005).

In defeat, the Confederate forces retreated towards Chickamauga Station and Dalton, Georgia. In order to cover the withdrawing wagon train, Confederate units staged a series of defensive maneuvers (Official Records of the War of Rebellion [OR] 1863). In the resulting engagement on November 16, two Confederate brigades and a field battery engaged the Federal brigades under the command of Samuel Beatty and Edward McCook. The Confederate forces were forced back across the Chickamauga River and fought another skirmish at Ringgold Gap before retreating to Dalton.

Following the November 1863 battle for Chattanooga, the area remained firmly under Union control for the remainder of the war. The union army established a number of camps throughout the region, including one at Blue Springs. The Blue Springs camp housed three brigades of the 1st Division of the IV Corps of the U.S. Army of the Cumberland in early 1864 (TDOA Site Files). These troops were headquartered at Forts Sedgwick and McPherson on the southern edge of the town of Cleveland (TDOA Site Files).

Reconstruction and the New South

During the period of Reconstruction, Chattanooga became the seat of government in Hamilton County, as well as being its center of population and industry. In 1870, Tennessee's General Assembly passed an act permitting a popular election on the subject of moving Hamilton County's seat, and the result was overwhelming in favor of a move to Chattanooga (Armstrong 1940).

Chattanooga did not suffer greatly from Radical Reconstruction, owing perhaps to its Union sympathies during the war. In 1876 a local politician, David Key, was the first Southerner and first Union officer appointed to a Federal post, that of postmaster. Native sons who had joined the Union army returned to the area and rigorously promoted the business advantages of Chattanooga. The coal and iron deposits of the surrounding hills were eagerly exploited. Reconstruction and improvement of the railroads and waterways leading to the city were begun. The first railroad in the northern part of the county was completed in 1880, linking Chattanooga with Cincinnati and stimulating growth in the area. Railroads served as a vital key in Chattanooga's growth into the twentieth century (Livingood 1981).

The growth of Chattanooga left the rural areas of Hamilton County feeling underrepresented, and even before the Civil War there was talk of creating a new county from outlying areas. When the county seat was moved from Harrison to Chattanooga in 1870, people in Harrison and Ooltewah voted to withdraw from Hamilton County. The eastern portion of Hamilton County and a portion of Bradley County were combined as James County in 1871. The boundary between Hamilton and James counties ran north

from Graysville, between Tyner and Ooltewah, to Harrison. James County was about 30 miles long and 5–6 miles wide along the bottomlands of the Tennessee River. Although Harrison had spearheaded the county's creation, Ooltewah was voted as the county seat. Located on the East Tennessee and Georgia Railroad, which was completed before the Civil War, Ooltewah had prospered in recent years, while Harrison had declined as river traffic decreased. The former courthouse in Harrison was torn down and the salvaged materials were used to build a new one in Ooltewah. This courthouse later burned down in 1913. From the beginning, James County's poor, rural population lacked the tax base to support the necessary infrastructure for the county such as roads and schools. Constantly struggling to remain solvent, the county finally went bankrupt in 1919 and decided to become a part of Hamilton County. At that time its population was only about 500 (Armstrong 1940; Livingood 1981).

Chattanooga's development during the last quarter of the nineteenth century paralleled that of many other southern cities as utilities, public transportation, and other civic improvements were promoted (Livingood 1981). As the city grew and transportation improved, outlying suburbs arose, including Highland Park, Orchard Knob, Orange Grove, Ferger Place, Oak Grove Park, and Ridgedale. Growth of the city south of the river was more rapid than to the north, due to more convenient access (Livingood 1981).

When it was found that the region's coal deposits were inadequate for the production of high-quality steel, local investors began a process of diversification that served to keep the local economy vital. Textile plants, insurance companies, and a Coca-Cola bottling franchise were all important industries (Livingood 1981).

The nation's growing demand for electric power, the huge potential of the Tennessee River to provide that power, and the need for transportation improvements on the river all combined to begin a new chapter in Tennessee history. Local congressman John A. Moon promoted the construction of a dam on the Tennessee River below the whirlpool rapids that had so long frustrated boat traffic. In 1913, the completion of the Hales Bar Lock and Dam (later improved by the TVA and renamed Nickajack Dam) marked the beginning of a long relationship between East Tennessee and hydroelectric power (Livingood 1981).

In 1932, Franklin Roosevelt promised relief from the conditions of the Depression; a cornerstone of his plan was the development of the Tennessee River. In 1933 he created the Tennessee Valley Authority, which promised to rebuild the region's depressed economy (Livingood 1981). The Chattanooga News announced that the "Tennessee Valley will be Exhibit A of the new America" (quoted in Livingood 1981). Plans were approved in 1935 for the construction of Chickamauga Dam, which was completed in 1940 at a cost of \$39 million. The construction of the dam contributed jobs in engineering, archaeology, construction, and maintenance, and created a vital recreation and tourism industry in the county (Livingood 1981).

All did not enjoy the benefits of dam construction equally. Entire towns, such as Harrison, as well as various farms along the Tennessee River, were inundated. Sixty thousand acres of prime agricultural land were purchased, and residents were forced to relocate. Roads had to be rerouted. Telephone, telegraph, and electrical lines had to be

moved. The displaced residents of Harrison founded an upland settlement, “New Harrison,” south of the original town (Armstrong 1940; Livingood 1981).

After World War II, power demands outstripped the hydroelectric plants’ ability to provide it, and the TVA began the development of coal-burning and nuclear power plants. These projects pushed the Chattanooga suburbs to the north, and the area has expanded rapidly. Despite these changes, the eastern part of Hamilton County remained primarily rural. In recent years the emphasis has shifted from small family farms producing corn, wheat, and cotton, to larger commercial farms specializing in poultry, livestock, and dairy products (Livingood 1981).

Over the course of the last century, Hamilton County has continued to grow in population and industry. Hamilton County and the city of Chattanooga have enjoyed a lasting economic and population boom that began in 1899, when that city became the first franchised bottling plant for the Coca-Cola Company. Chattanooga has also been the center of TVA activity for the region, and construction projects such as Chickamauga Dam have contributed greatly to the local economy and helped the region weather the Great Depression (Ezzell 1998). The 2000 Census recorded 309,510 residents in Hamilton County (United States Census Bureau 2000). Chattanooga is Tennessee’s fourth largest city, and in 2000 held a population of 155,554. A number of well-known food products, including the Krystal hamburger, the Little Debbie snack cake, and the Moon Pie, were all developed in Hamilton County. Colleges and Universities include the University of Tennessee Chattanooga, Chattanooga State Technical Community College, Southeastern University, and Tennessee Temple University (Wilson 1998).

IV. METHODS

BACKGROUND RESEARCH

Prior to initiating fieldwork, TRC conducted a background literature and records search in order to identify known historical and archaeological sites in the project area and to develop the historic context for the study area. The literature search included research at the state archaeological site files housed at the TDOA located in Nashville, TN. The purpose of the records search was to identify previously recorded archaeological sites listed on, or eligible for inclusion in the NRHP, according to the criteria set forth in Section 106 of the National Historic Preservation Act (as amended) and its implementing regulations at 36 CFR 800 (Code of Federal Regulations (CFR) 2008b).

ARCHAEOLOGICAL SURVEY METHODS

TRC personnel surveyed the entire archaeological APE through visual inspection and shovel testing. Shovel testing was limited in extent as the majority of the APE has been cemented over. Field notes were maintained on a daily basis. General views of the project area were taken with a digital camera.

ARCHITECTURAL SURVEY METHODS

The architectural/historical survey was conducted in accordance with guidelines contained in National Register Bulletin 24, *Guidelines for Local Surveys: A Basis for Preservation Planning* (Derry et al. 1985). Federal regulations define the APE as “the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist” (CFR 2008b). In regard to the proposed project, the architectural APE was determined to be 0.8 km (0.5 miles) along either side of the proposed substation right-of-way (ROW), encompassing a one-mile radius. The APE includes areas that have a visual link to the proposed project. Viewsheds to and from the proposed project ROW(s) were terminated where vegetation and/or topography obstructed lines of sight.

NRHP ELIGIBILITY CRITERIA

According to 36 CFR 60.4 (CFR 2008a), cultural resources eligible for listing on the NRHP are defined as buildings, structures, objects, sites, and districts that have “integrity,” and that meet one or more of the criteria outlined below.

- Criterion A (Event). Association with one or more events that have made a significant contribution to the broad patterns of national, state, or local history.
- Criterion B (Person). Association with the lives of persons significant in the past.

- Criterion C (Design/Construction). Embodiment of distinctive characteristics of a type, period, or method of construction; or representation of the work of a master; or possession of high artistic values; or representation of a significant and distinguishable entity whose components may lack individual distinction.
- Criterion D (Information Potential). Properties that yield, or are likely to yield, information important in prehistory or history. Criterion D is most often (but not exclusively) associated with archaeological resources. To be considered eligible under Criterion D, sites must be associated with specific or general patterns in the development of the region. Therefore, sites become significant when they are seen within the larger framework of local or regional development.

“Integrity” is perhaps the paramount qualification of NRHP eligibility, and can be related to any or all of the following (CFR 2008a: 322-323):

- Location: the place where the historic property (or properties) was/were constructed or where the historic event(s) occurred;
- Design: the combination of elements that create the form, plan, space, structure, and style of a property (or properties);
- Setting: the physical environment of the historic property (or properties);
- Materials: the physical elements that were combined to create the property (or properties) during the associated period of significance;
- Workmanship: the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;
- Feeling: the property’s (or properties’) expression of the aesthetic or historic sense of the period of significance; and
- Association: the direct link between the important historic event(s) or person(s) and the historic property (or properties).

For the purposes of archaeology, assessment of site integrity depends largely on the level of disturbance exhibited by archaeological deposits. The nature of deposits (intact, partially disturbed, obliterated, etc.) has direct bearing on the potential to view a site within the context of its past, and on the degree to which it can provide data based on the material record (NRHP 2002). In short, the integrity of a site (and thereby its potential for NRHP eligibility) is directly tied to its capacity to address research questions.

V. ARCHAEOLOGICAL SURVEY RESULTS

ARCHAEOLOGICAL RECORDS SEARCH

Prior to initiating fieldwork, TRC conducted a background literature and records search of the state archaeological files at the TDOA in order to identify the location and NRHP-status of all previously recorded archaeological sites within the APE. According to the site file research, no previously recorded sites are recorded within the three areas of investigation. One previously recorded site, 40HA20, also known as the McGill Site, was recorded within a one mile radius of the APE. The site is recorded as a Late Woodland/Early Mississippian mound complex (see Figures 1 and 4). The McGill site was tested in the 1930s prior to inundation of Chickamauga Reservoir (Lewis and Lewis 1995). Excavations indicate that the mounds are datable to the Hamilton Phase of the Mississippian Period of prehistory. Inundation of Lake Chickamauga and construction of the Sequoyah Nuclear Plant appears to have destroyed the mound complex. As the recorded site area is outside the project APE, TRC conducted no investigations at the specific location of 40HA20.

ARCHAEOLOGICAL SURVEY RESULTS

The archaeological survey was conducted on September 10, 2009. Figure 2 above shows the three areas investigated during the survey. The first area surveyed was the crane location in the midst of the main plant complex (Figure 5). Construction of the plant involved major grading of the original landform, which would have resulted in extensive disturbance to any archaeological deposits at this locale. The second survey area was the site of a proposed storage building and temporary storage yard (Figures 5 and 6). These two areas, on the north fringe of the plant footprint, have also been previously extensively disturbed and have no potential for archaeological deposits. No subsurface investigations could be conducted in these first two survey areas due to the presence of pavement.

The third survey area was the barge unloading site. The area, directly on the current shoreline of the reservoir, has been subject to extensive grading and is now paved with gravel. Shovel testing revealed that surface deposits here have been heavily disturbed (Figures 7 and 8), and no archaeological materials were recovered during this phase of the investigation.

No new archaeological sites were identified during the survey. No further archaeological investigations are recommended.



Figure 4. Aerial photograph of TVA Sequoyah nuclear plant and location of 40HA20.



Figure 5. Crane location and laydown.



Figure 6. New storage building location.



Figure 7. Temporary storage area next to storage building location.



Figure 8. Gravel covered area in barge unloading area.



Figure 9. Heavily disturbed soils in barge unloading area.

VI. ARCHITECTURAL SURVEY RESULTS

ARCHITECTURAL RECORDS SEARCH

Prior to initiating fieldwork, TRC conducted a background literature and records search of NRHP listings and pending files of architectural resources located at the THC in Nashville. The purpose of the records search was to identify the location and NRHP-status of all previously recorded architectural resources within the APE of the proposed improvements. Based upon information provided by the THC, no previously inventoried architectural resources are located within the APE of the project area.

ARCHITECTURAL SURVEY

On September 18, 2009, TRC conducted an architectural survey of the APE, which resulted in the identification of no previously unrecorded architectural resources. No further investigation of aboveground properties is recommended in connection with the proposed undertaking.

VII. SUMMARY AND RECOMMENDATIONS

This document reported on the Phase I cultural resources survey of areas of the Sequoyah Nuclear Plant scheduled for improvements in the near term. The proposed improvements consist of the construction of a new barge slip, the erection of a storage building measuring approximately 20 feet in height, and the replacement of steam generators near the Unit 2 Concrete Shield Building.

In September of 2009 TRC conducted a Phase I cultural resources survey designed to document and assess archaeological and architectural resources located within the project's APE. Archaeologically, the APE consisted of the three development areas measuring 2 acres (0.81 hectares) each for a total survey area of 6 acres (2.43 hectares). The APE for architectural studies included a 0.8-km (0.5-mile) area surrounding the areas of the proposed improvements, as well as any areas where the project will alter existing topography or vegetation in view of a historic resource. Viewsheds to and from the project area were terminated where topography and vegetation obstructed lines of sight. The survey was conducted to document and assess archaeological resources located within the project's APE pursuant to their NRHP eligibility status. The survey was conducted in compliance with Section 106 of the National Preservation Act (as amended) and its implementing regulations at 36 CFR 800.

Prior to conducting fieldwork, TRC conducted a preliminary records search at the TDOA and the THC, located in Nashville, Tennessee. The purpose of the records search was to identify previously recorded archaeological sites and architectural properties listed on, or eligible for inclusion in the NRHP. No previously recorded sites are present in the areas of investigation. In addition, a review of THC survey records revealed no previously recorded architectural resources located within the APE of the current project.

On September 10, 2009, a TRC crew conducted the archaeological survey of the proposed improvements to the TVA Sequoyah Nuclear Plant. As expected, previous construction at the plant involved extensive grading and other subsurface disturbances which have either destroyed or thoroughly obscured the presence of any intact archaeological resources within the APE. No archaeological resources were identified within the APE. No further archaeological investigations are recommended.

TRC conducted a historic architectural survey of the APE on September 18, 2009, which resulted in the identification of no previously unrecorded architectural resources. Based on current project plans, no further investigation of aboveground properties is recommended in connection to the proposed undertaking.

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