PHASE I

ARCHAEOLOGICAL SURVEY FOR ROAD WIDENING ALONG KY 1991, MONTGOMERY COUNTY, KENTUCKY

KYTC ITEM # 7-240.00

By:

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Division of Environmental Analysis
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Kentucky Office of State Archaeology Project Number:
FY14-7983

CDM Smith

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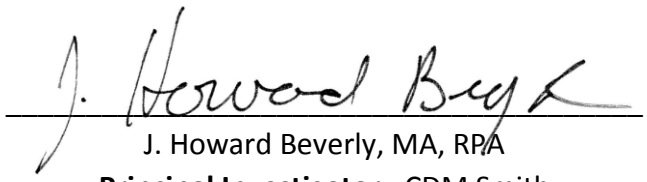

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Kentucky Office of State Archaeology
Archaeological Project Number: FY14-7983

Archaeology Report

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Abstract

This report describes the field and laboratory method and the results of a Phase I archaeological survey conducted at the request of the Kentucky Transportation Cabinet (KYTC) by archaeologists from CDM Smith to widen a portion of KY 1991 from Maysville Road to Midland Trail Industrial Park in Mount Sterling, Montgomery County, Kentucky (Item Number 7-240.00). The total APE measures 8.75 acres (3.5 ha). Field work was conducted on February 24th, 25th, and 28th, 2014.

Three previously unrecorded archaeological sites, 15MM225, 15MM226, and 15MM227, were identified. Site 15MM225 consists of eight non-diagnostic lithic debitage. Site 15MM226 consists of two non-diagnostic lithic debitage. Site 15MM227 consists of two pieces of historic ceramics and a small brick fragment and six non-diagnostic lithic debitage.

Site 15MM225 consists of a prehistoric lithic scatter. The prehistoric component is a short term limited activity occupation with no cultural or temporal affiliation. The limited artifact assemblage and lack of intact subsurface features indicates that the site has limited research potential and limited integrity. Therefore, Site 15MM225 has limited research potential and is not considered potentially eligible for listing on the NRHP under Criterion D.

Site 15MM226 consists of a prehistoric lithic scatter. The prehistoric component is a short term limited activity occupation with no cultural or temporal affiliation. The limited artifact assemblage and lack of intact subsurface features indicates that the site has limited research potential and limited integrity. Therefore, Site 15MM226 has limited research potential and is not considered potentially eligible for listing on the NRHP under Criterion D.

Site 15MM227 consists of a prehistoric component and a historic component. The prehistoric component is a short term limited activity occupation with no cultural or temporal affiliation. The limited artifact assemblage and lack of intact subsurface deposits indicates that the site has limited research potential and limited integrity. The historic component consists of a limited artifact assemblage and no evidence of intact sub-surface deposits which indicates the site has limited research potential and integrity. Therefore, Site 15MM227 is not considered potentially eligible for listing on the NRHP under Criterion D.

One previously recorded site, 15MM42, is located within the APE and was revisited. No additional cultural material was recovered and a portion of the site area has been disturbed. The majority of the previously recorded site is outside the APE. Therefore, no determination was possible on the potential eligibility for listing on the NRHP under Criterion D. However, the boundaries for Site 15MM42 should be reevaluated.

No further archaeological work is recommended within the APE.

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Acknowledgements

The Principal Investigator for the archaeological survey was Mr. J. Howard Beverly, MA, RPA. Field crew consisted of Dona R. Daugherty and Ann Shouse Wilkinson. Howard Beverly generated maps and formatted the report. Robert Ball and David McBride provided support in Lexington.

Section 1 -

Introduction

This report describes the field and laboratory method and the results of a Phase I archaeological survey conducted at the request of the Kentucky Transportation Cabinet (KYTC) by archaeologists from CDM Smith to widen a portion of KY 1991 from Maysville Road to Midland Trail Industrial Park in Mount Sterling, Montgomery County, Kentucky (Item Number 7-240.00). Field work was conducted on February 24th, 25th, and 28th, 2014.

1.1 Project Sponsor and Regulatory Authority

The state agency sponsoring this survey is the KYTC; the lead federal agency is the Federal Highway Administration. The survey was conducted in compliance with the guidelines established by the Kentucky Heritage Council Guidelines (Sanders 2006) and the National Historic Preservation Act of 1966 (P.L. 89-655; 80 Stat. 915, 16 U.S.C. 470 et seq), the National Environmental Policy Act of 1969 (P.L. 910190; 83 Stat. 852, 42 U.S.C. 4321 et seq), Procedures of the Advisory Council on Historic Preservation (36CFR800), Executive Order 11593, and the Protection and Enhancement of the Cultural Environment (16 U.S.C. 470; supp. 1, 1971).

1.2 Purpose and Scope of Work

A Phase I archaeological survey was conducted for the proposed widening of a portion of KY 1991 from Maysville Road to Midland Trail Industrial Park in Mount Sterling, Montgomery County, Kentucky (Item Number 7-240.00).

The archaeological surveyors were prepared to shovel probe areas of less than 15% slope, auger deeper soil deposits, and to visually inspect the entire area. The purpose of this work was to identify any archaeological resources which might have existed and to record their extent, significance, and the potential impact of the proposed project on these cultural resources.

1.3 Project Location and Description

This project is located along KY 1991 in Mount Sterling, Montgomery County, in the Kentucky Department of Highways District 7 (Figure 1-1, Figure 1-2, and Figure 1-3).

1.4 Area of Potential Effect (APE)

The area of potential effect (APE) is defined as the limits of the proposed right-of-way and proposed temporary construction easement. The total area is 8.75 acres (3.5 ha).

1.5 OSA Records Research

On February 26, 2014, the site files and survey records at the Office of State Archaeology (OSA) were accessed.

1.6 Principal Investigator

The principal investigator for the project was J. Howard Beverly, MA, RPA.

Figure 1-1. Project Location within Montgomery County.

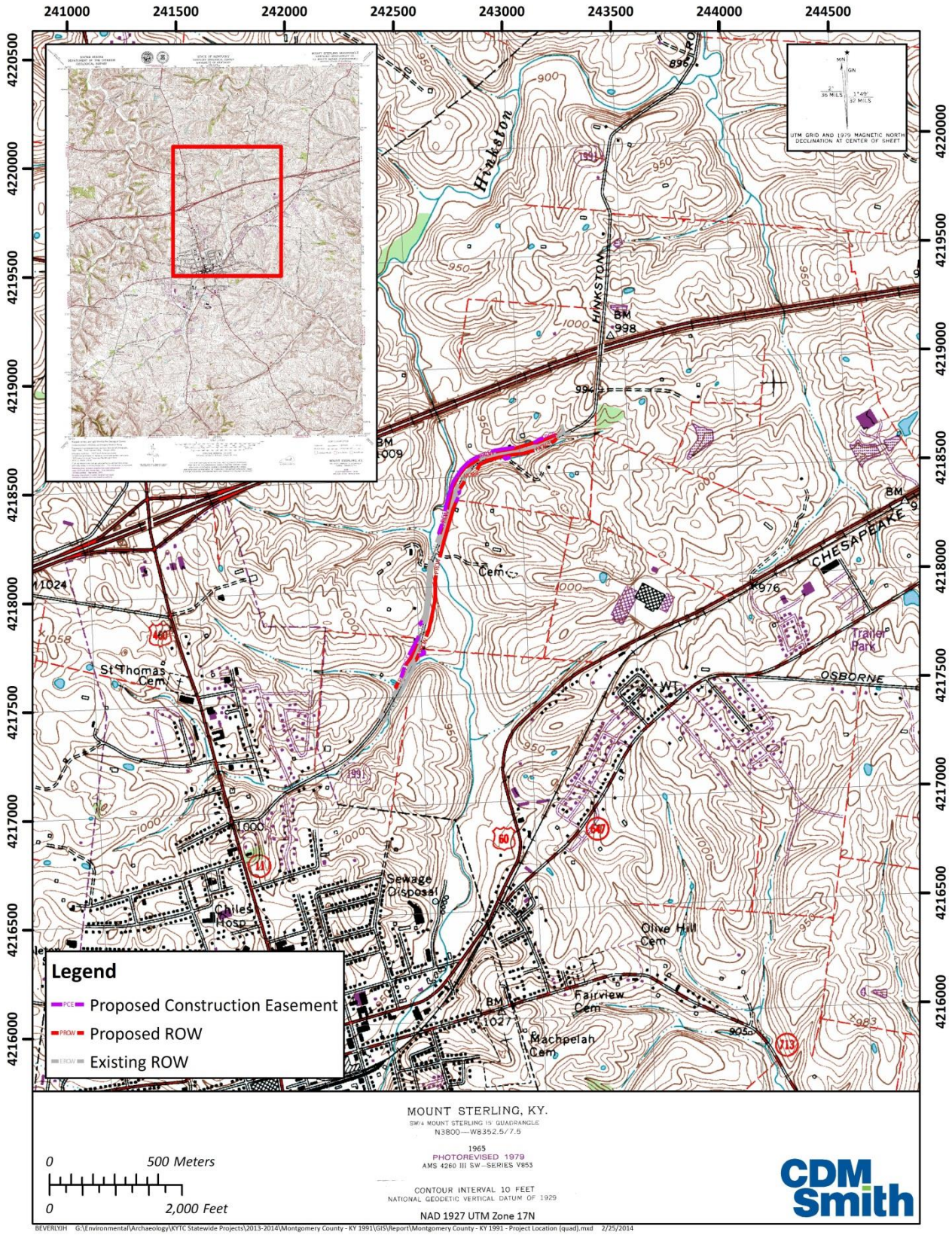

Figure 1-2. USGS Topographical Map showing Project Location.

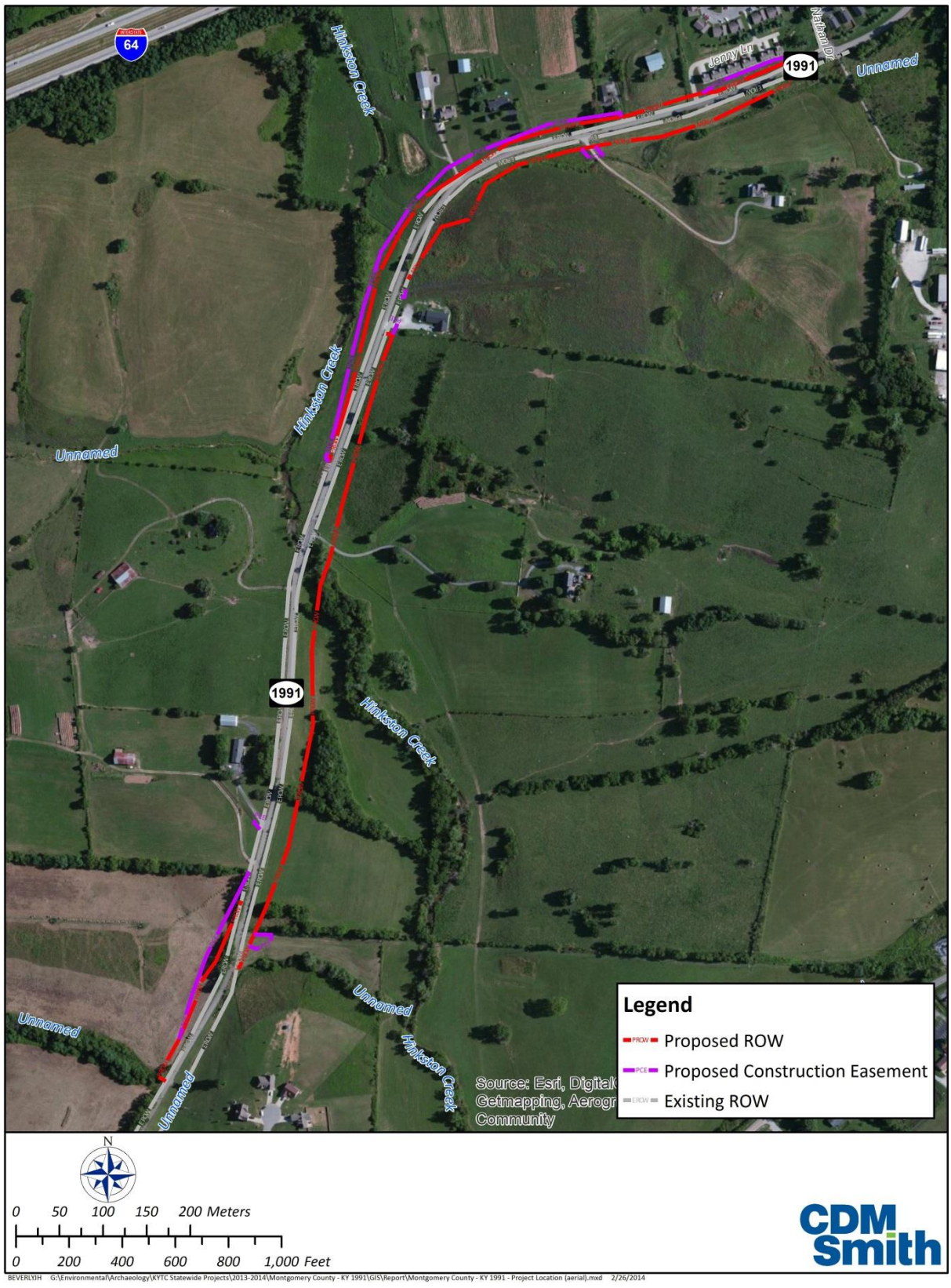

Figure 1-3. Aerial Map showing Project Location.

1.7 Field and Laboratory Crew

The field crew consisted of Dona Daugherty and Ann Wilkinson. Mr. Beverly served as the field director and planned, coordinated, and supervised all field activities. J. Howard Beverly, Jr., J. David McBride, and Ann Wilkinson prepared the final report, and J. Howard Beverly, Jr., prepared the maps and formatted the report. Laboratory analysis was coordinated by Dona Daugherty. Prehistoric and historic artifact analysis was conducted by J. David McBride.

1.7.1 Field Effort

The total number of hours expended during fieldwork was 18 hours or approximately 2 person days. Field work for the project was conducted on February 24th, 25th, and on February 28th, 2014.

1.7.2 Laboratory Effort

The total number of hours expended to wash, catalog, analyze, and write up artifacts was 35 hours. Identification of artifacts was conducted using available library references and by comparison with artifact collections at CDM Smith.

1.8 Maps and Figures

Maps and figures for this report were prepared using a combination of Microstation design files, GIS data overlays, and databases gathered from a number of different resources. Existing site information was provided by the Office of State Archaeology. Soil mapping was provided by United States Department of Agriculture online and printed resources. Landowner data and vegetation coverage were obtained from aerial photographs and field reconnaissance. All GIS work was conducted by J. Howard Beverly, MA, RPA, GISP.

1.9 Curation

All field notes, maps, forms, and artifacts will be curated at the University of Kentucky's curation facility, the William S. Webb Museum of Anthropology.

1.10 Summary of Investigations

A Phase I archaeological survey was conducted by archaeologists from CDM Smith at the request of the KYTC ahead of the proposed widening of a portion of KY 1991 from Maysville Road to Midland Trail Industrial Park in Mount Sterling, Montgomery County, Kentucky. The total APE measures 8.75 acres (3.5 ha). The survey identified three archaeological sites: 15MM225, 15MM226, and 15MM227. All three sites were determined to be ineligible for recommendation to the National Register of Historical Places (NRHP) under Criteria A, B, C and D. No further archaeological work is necessary within the APE. One previously recorded site, 15MM42, overlapped the project area, but the area when resurveyed produced no cultural material and a portion of the area was found to be disturbed. The majority of this site was outside the project area. Therefore, no determination was possible on the potential eligibility for listing on the NRHP under Criterion D. However, the boundaries for Site 15MM42 should be reconsidered. No further archaeological work is recommended within the APE.

Section 2 -

Environmental

Aspects of the natural environment often influence the development of prehistoric and historic communities. In this section, the environmental background of Montgomery County and the surrounding region is reviewed. Environmental data includes physiography, geology, hydrology, soils, climate, flora, and fauna.

2.1 Physiography and Topography

Kentucky can be divided into six primary regions: the Cumberland Plateau (Eastern Coalfields) in the east, the north-central Bluegrass Region, the northeast-central Knobs Region, the south-central and western Pennyroyal Plateau, the Western Coal Fields and the far-west Jackson Purchase. The Bluegrass Region is divided further into two regions - the Inner Bluegrass and the Outer Bluegrass.

Montgomery County lies within two physiographic area of Kentucky (Figure 2-1), the Outer Bluegrass Physiographic Region and the Knobs Physiographic Region of Kentucky. Most of Montgomery County lies within the Outer Bluegrass Physiographic Region and the southeastern part of the county is within the Knobs Physiographic Region. The topography of the county area is characterized by deeper valleys, with little flat land within the Outer Bluegrass and hilly with steep hillsides often isolated, cone-shaped hills in the Knobs Region (Kentucky Geological Survey 2012).

2.2 Geology

The geology underlying the Montgomery County consists of strata deriving from the Ordovician, Siluirian, Devonian, Mississippian, and Pennsylvanian (Figure 2-3). There are also alluviam deposits along Hinkston Creek (Froledge 1986).

The Outer Bluegrass Physiographic Region is underlined by Upper Ordovician rocks. This layer consists of interbedded fossiliferous limestone or dolomite and shale. The shale dominates some parts of the section, and limestone or dolomite in other parts (McDowell 1984). Rocks of both the Middle and Upper Ordovician were deposited in tropical latitudes in shallow marine water on a shelf that sloped gently northward (McDowell 1984). The project area is underlain by Calloway Creek Limestone with the Ordovician Ashlock Formation and alluvium nearby (Figure 2-3) (Weir 1976).

The Mount Sterling geologic quad indicates Boyle Dolimite in the Middle Devonian deposits and Brassfield Dolomite in the Silurian deposits (Weir 1976).

The Pleistocene and Holocene rocks consist of Alluvium. Most Alluvium is Holocene, but some is late Pleistocene in origin (McDowell 1984).

2.3 Hydrology

Montgomery County is drained by Hinkston Creek which flows into the South Fork of the Licking River in Bourbon County. The Project Area is located within the Licking River watershed. The project area is drained by the Hinkston Creek (Figure 2-4).

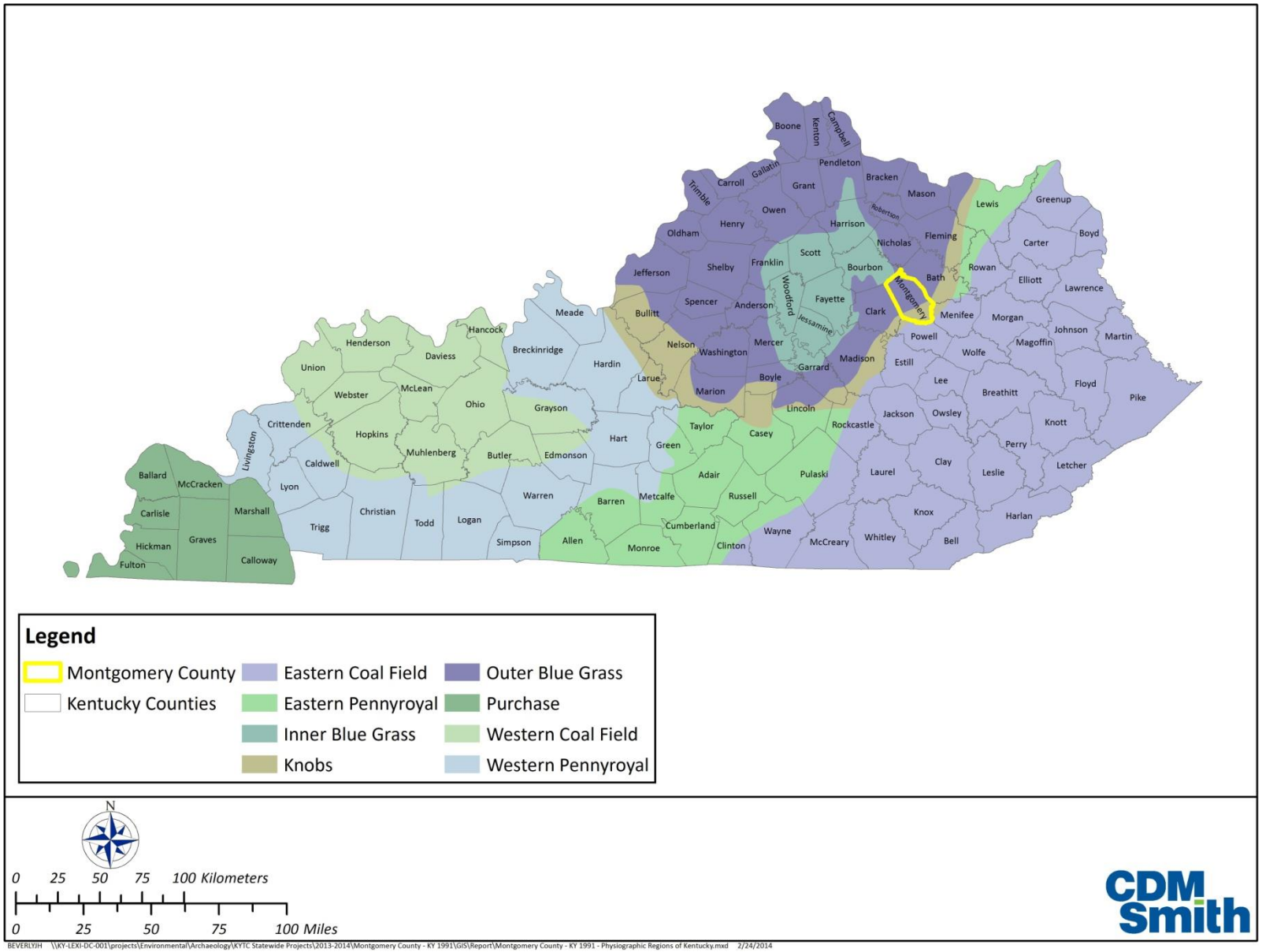

Figure 2-1. Physiographic Map of Kentucky.

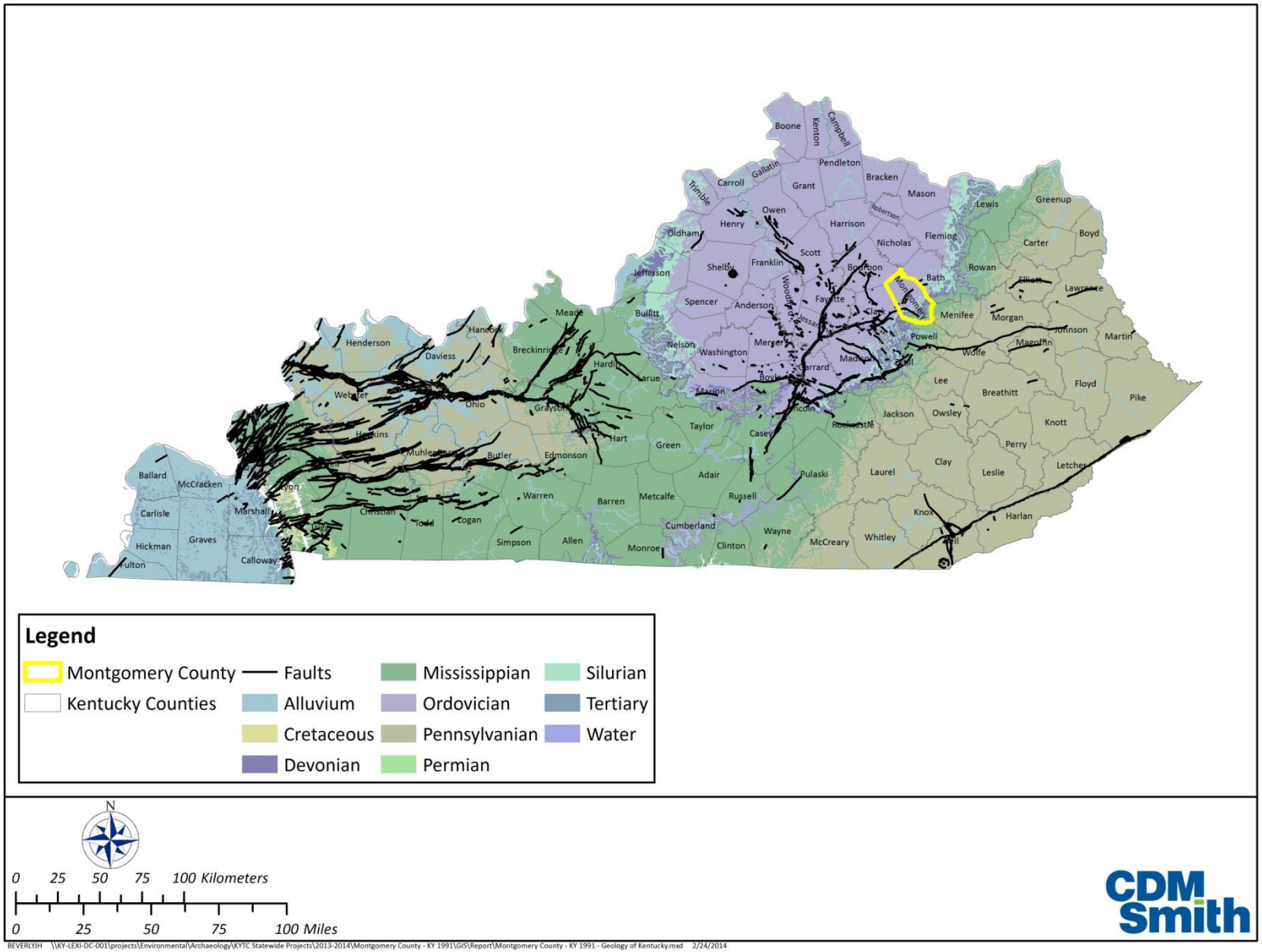

Figure 2-2. Geologic Map of Kentucky.

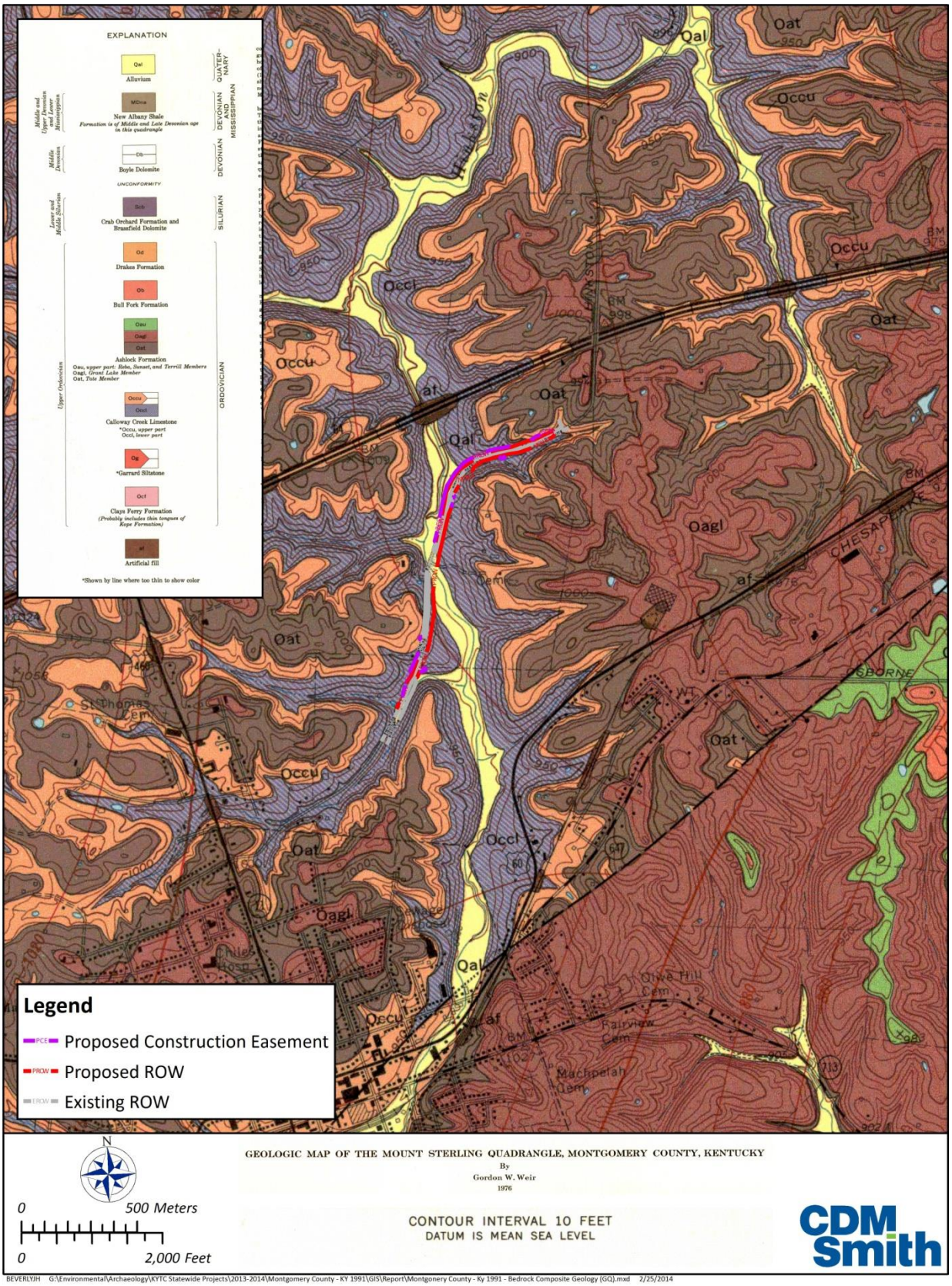

Figure 2-3. Geological Quadrangle.

2.4 Soils

Most of the soils found in Kentucky developed under the same formation processes and climate conditions. The differences in soils from one area to another are chiefly dependent on three factors: parent material, the topography where the soils are found, and the amount of time exposed to erosional forces.

There are five soil types found within the project area (Figure 2-5). They are described below.

Faywood-Lowell complex (FIE) consists of moderately deep Faywood soil and deep Lowell soil. The slope for the soil is between 12 and 35 percent. The soils are on hillsides. For the Faywood soils, the surface layer is a brown silt loam which is typically six inches thick. The subsoil is yellowish brown silty clay to a depth of 22 inches and a light olive brown silty clay with olive and brown mottles to a depth of 33 inches. Limestone bedrock is at a depth of 33 inches. For the Lowell soils, the surface layer is a brown silt loam which is 10 inches thick. The subsoil is a yellowish brown silty clay to 14 inched below surface, a yellowish brown clay to a depth 35 inches, and a light olive brown clay to a depth of 50 inches. Limestone bedrock is at a depth of 50 inches (Froledge 1986:25).

Faywood-Cynthiana complex (FcE) consists of moderately deep Faywood soil and shallow Cynthiana soil. The slope for the soils is between 15 and 35 percent. They are well drained soils on hillsides. For the Faywood soils, the surface layer is a brown silt loam which is typically six inches thick. The subsoil is yellowish brown silty clay to a depth of 22 inches and a light olive brown silty clay with olive and brown mottles to a depth of 33 inches. Limestone bedrock is at a depth of 33 inches. The Cynthiana soil consists of the brown silty clay loam surface layer which is four inches thick. The subsoil consists of a yellowish brown clay and extends to a depth of 11 inches and a light olive brown flaggy clay and extends to a depth of 17 inches. The limestone bedrock begins at a depth of 17 inches (Froledge 1986:25).

Crider silt loam (CrC) is deep and well drained. It is on narrow ridges and hillsides with slopes of 6 to 15 percent. The surface layer consists of a brown silt loam and extends to 10 inches below surface. The subsoil consists of a brown or strong brown silt loam which extends to 28 inches and a red and yellowish red silty clay loam which extends to 75 inched (Froledge 1986:21).

Huntington silt loam (Hu) is deep, well drained, and occasionally flooded. The soils on flood plains along major streams slopes are between zero and three percent. The surface layer consists of a dark brown silt loam which extends to 7 inched below surface. The subsurface layer consists of a dark brown silt loam which extends to a depth of 21 inches. The subsoil consists of a brown silt loam which extends to a depth of 65 inches (Froledge 1986:26).

OtB – Otwell silt loam (OtB) is deep and moderately drained. It is located on stream terraces along major streams on slopes of two to eight percent. The surface layer consists of a light olive brown silt loam which extends to a depth of eight inches. The upper part of the subsoil consists of a brownish yellow silt loam with yellowish brown mottles and extends to a depth of 18 inches. The subsoil consists of a yellow fragipan and a yellowish brown silt loam and extends to a depth of 48 inches. The lower part of the subsoil consists of a yellowish brown and light yellowish brown silt loam with brownish gray mottles and extends to a depth of 65 inches (Froledge 1986:33).

2.5 Cherts

Chert is found in the Boyle Dolomite and the Brassfield Dolomite within the Mount Sterling quad (Weir 1976).

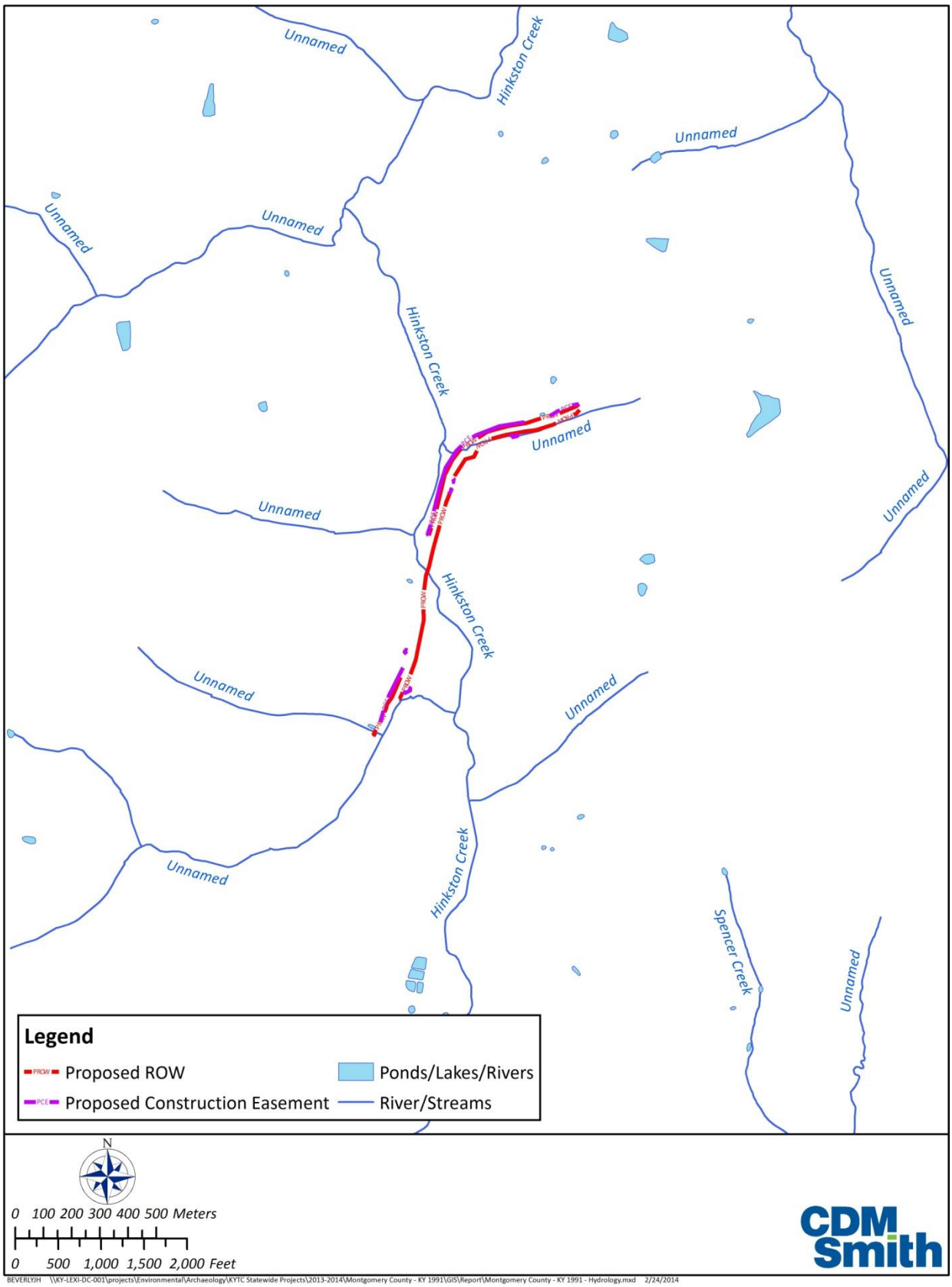

Figure 2-4. Hydrology.

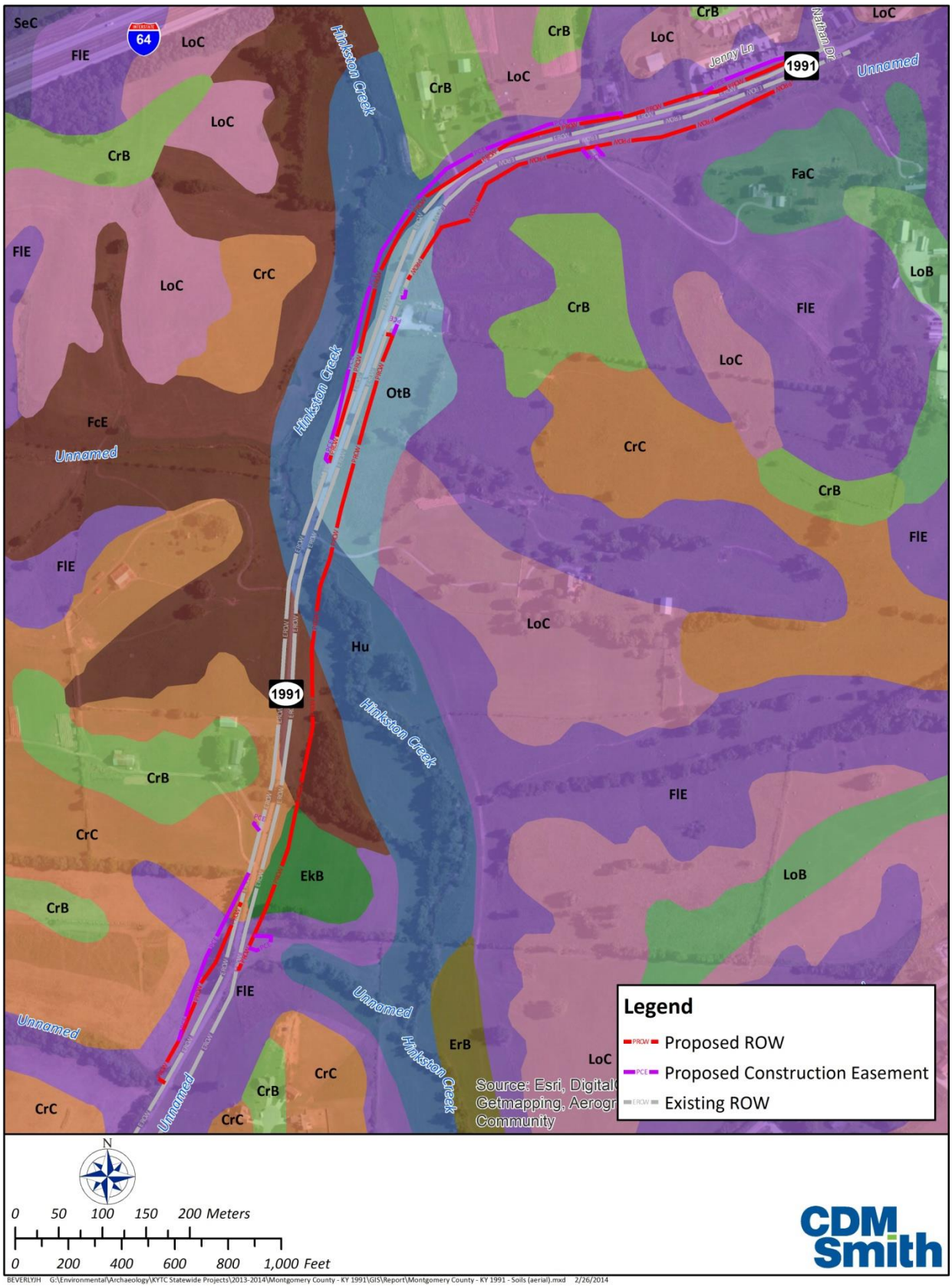

Figure 2-5. Soils in the Project Area.

2.6 Prehistoric Climate Conditions

The beginning of the Holocene Age, dating between 12,700 and 11,300 B.P., is believed to be associated with major and rapid warming temperatures, decreases in cloud cover, and generalized landscape instability (Delcourt 1979:270). Estimated temperature increases during this period are three times greater than later Holocene fluctuations. During the early Holocene, rapid increases in boreal plant species occurred on the Allegheny Plateau in response to the retreat of the Laurentide ice sheet from the continental United States (Maxwell and Davis 1972:517-519; Whitehead 1973:624). At lower elevations, deciduous species were returning after having migrated to the southern Mississippi Valley refugia during the Wisconsin advances (Delcourt and Delcourt 1981:147). The climate during the early Holocene seems considerably cooler than the modern climate, and extant species in upper altitude zones of the Allegheny Plateau reflect conditions most similar to the Canadian boreal forest region (Maxwell and Davis 1972:515-516).

Conditions at lower elevations were probably less severe and favored the transition from boreal to mixed mesophytic species. Middle Holocene (8,000 to 4,000 B.P.) climate conditions appear to have been consistently drier and warmer than twentieth century conditions (Delcourt 1979: 271; Wright 1968). The influx of westerly winds during this Hypsithermal climatic episode contributed to periods of severe moisture stress in the Prairie Peninsula and to an eastward advance of prairie vegetation (Wright 1968). Delcourt has identified Middle Holocene moisture stress along the Cumberland Plateau in Tennessee, but indicated that upland barrens did not expand appreciably as did the Midwestern prairies (Delcourt 1979:274). Changes in Archaic settlement patterns in both central and northern Missouri have been associated with possible decreases in upland resource availability during the Hypsithermal.

The earliest distinguishable Late Holocene climatic episode began circa 5,000 to 4,000 B.P. and ended around 2,800 B.P. This episode is associated with the establishment of modern deciduous forest communities in the southern highlands and increased precipitation across most of the mid-continental United States (Delcourt 1979:270; Maxwell and Davis 1972:517-519). Beginning around 2,800 B.P., warm conditions similar to the modern climate prevailed until the onset of the Neo-Boreal episode around 700 B.P. Fluctuations in this Late Holocene Pacific episode appear to have varied locally, with either increased or decreased temperatures and precipitation (Delcourt 2002). Certain fluctuations have been associated with adaptive shifts in midwestern prehistoric subsistence and settlement systems. An example is Struever and Vickery's (1973) suggestion of a possible correlation between the onset of a cooler and moister period circa 1,600 B.P. and increased use of polygonum species (smartweed) by Late Woodland groups in the Midwest (Struever and Vickery 1973:1215-1216). Researchers have inferred warmer temperatures for the Great Plains and drier conditions for the Upper Great Lakes during this same period (1,600-1,300 B.P.) (Delcourt 2002). Other fluctuations during the Pacific episode are similarly non-uniform across the mid-continental United States; however, the interfaces of all fluctuations are generally consistent.

Local paleoecological evidence is required to determine the kinds of climatic fluctuations Woodland populations experienced during the Pacific episode. Given evidence of fluctuations elsewhere, it is most likely that changes occurred circa 1,700 B.P., 1,300 B.P., and 900 B.P., with a possible fourth change around 2,300 B.P.

Studies of historic weather patterns and tree ring data by Fritts (1971) have indicated that climatological averages are "unusually mild" when compared with seventeenth and nineteenth century trends. His study suggests that winters were generally colder, weather anomalies were more common, and severe winters were more frequent between A.D. 1602 and 1899 than after 1900. These cooler,

moister conditions are associated with the Neo-Boreal episode, or Little Ice Age, which began around 700 B.P. and coincided with minor glacial advances in the northwest and Europe.

The effects of the Neo-Boreal episode, which ended during the mid- to late nineteenth century, have not been studied in detail for this region. Despite this, it appears that the area experienced less radical temperature decreases during the late Neo-Boreal than did the upper Midwest and northern Plains (Fritts 1971). Related changes in extant vegetation should therefore be more difficult to detect. It is probably safe to assume, however, that average temperatures were at least a few degrees cooler during the late Prehistoric and early Historic periods. The frequency of severe winters and average winter precipitation were probably greater as well.

2.7 Current Climate Conditions

Montgomery County has hot summers and moderately cold winters. The average summer temperature is 74^0 F and the average winter temperature is 36^0 F. On average, thunderstorms occur on about 50 days each year. Just over half of the annual precipitation falls between April and September. During winter, at least 12 days have at least one inch of snow on the ground, and the average snow fall accumulation is 18 inches (Froledge 1986:2).

2.8 Prehistoric and Present Flora and Fauna

The project area is included in the Western Mesophytic Forest Region, which is transitional between the extremely diverse Mixed Mesophytic Forest of the Appalachian Mountains and the Tall-Grass Prairies of the Midwest. The Western Mesophytic Forest contains a wide variety of vegetation climaxes and subclimaxes throughout its range, with oak and hickory as the dominant species. Trees commonly occurring in the project area include chinquapin, red oak, water maple, honey locust, elm, black cherry, hackberry, Kentucky coffeetree, walnut, shagbark and butternut hickory, basswood, sycamore, box elder, willow, and cedar. Common shrubs include sumac, blackberry, poison ivy, Virginia creeper, pawpaw, spicebush, plum, hornbean, redbud, wild grape, and buckberry. Some of the common native herbaceous plants are ironwood, milkweed, cane, nettle, white snakeroot, bloodroot, spring beauty, trillium, violets, cardinal flower, wild strawberry, goldenrod, and May apple.

These forest communities have produced and supported a wide variety of animals, such as white-tailed deer, red fox, raccoon, squirrel, rabbit, groundhog, other mammal species, birds, reptiles, amphibians, fish, and mollusks (Barbour and Davis 1974; Esarey et al 1992:4). During prehistoric times white-tailed deer was by far and away the most important animal resource. Other species were also exploited, including turkey, fish, waterfowl, and mollusks (Fenton et al. 1996).

2.9 Current Land Use

Present land use for the Archaeological APE was derived from the National Land Cover Database compiled in 2006 and based on the classification scheme developed by Homer et al. (2004), combined with reconnaissance, in-situ observations. The combined results are presented in Table 2-1, and described below.

The land cover classification data was created by a combination of Landsat imagery and ancillary data. The combined image data is then generalized to a 1 acre minimum mapping unit. An algorithm is then used to compare the pixel data against known values resulting in a product that identifies land cover type for the pixel.

Table 2-1. Land Use Classification for the Archaeological APE.

Land Classification	Acres	Hectares	Percentage
Developed, Low Intensity	0.06	0.03	0.7%
Developed, Open Space	5.00	2.02	57.3%
Deciduous Forest	0.64	0.26	7.3%
Pasture/Hay	3.02	1.22	34.6%
Total	**8.73**	**3.53**	**100.0%**

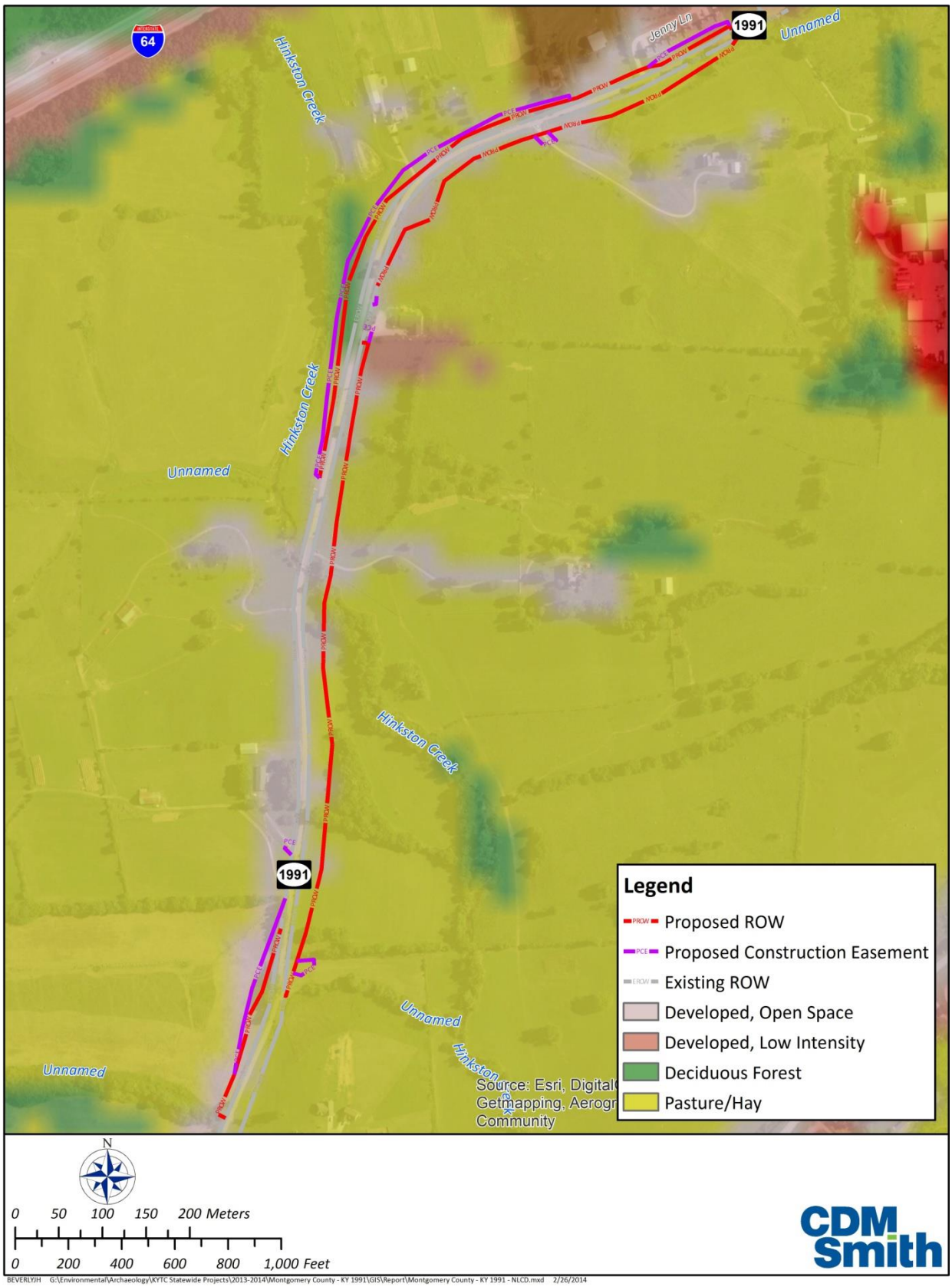

Figure 2-6. Existing Land Use, 2006.

Developed, Low Intensity (0.7%) includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20% to 49% percent of total cover. These areas most commonly include single-family housing units (Figure 2-7).

Developed, Open Space (57.3%) includes areas with a mixture of some constructed materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20 percent of total cover. These areas most commonly include large-lot single-family housing units, parks, golf courses, and vegetation planted in developed settings for recreation, erosion control, or aesthetic purposes (Figure 2-7 and Figure 2-8).

Deciduous Forest (7.3%) are areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75 percent of the tree species shed foliage simultaneously in response to seasonal change (Figure 2-9).

Pasture/Hay (34.6%) are areas of grasses, legumes, or grass-legume mixtures planted for livestock grazing or the production of seed or hay crops, typically on a perennial cycle. Pasture/hay vegetation accounts for greater than 20 percent of total vegetation (Figure 2-10).

Figure 2-7. Developed, Open Space and Developed, Low Intensity areas inside the Project Area.

Figure 2-8. Developed, Low Intensity use area inside the Project Area.

Figure 2-9. Pasture/Hay use area inside the Project Area.

Figure 2-10. Deciduous Forest use areas inside the Project Area.

Section 3 -

Cultural Context, Previous Investigation, and Summary of Known Sites

In this chapter, the culture history of Montgomery County and this region of Kentucky are reviewed. The research methodology used to develop this background and context involved archival research at the Office of State Archaeology, and research at the University of Kentucky's various libraries. Included within the culture history section are reviews of the known prehistory from the State Plan for this part of the Commonwealth (Applegate 2008; Jefferies 2008; Maggard and Stackelbeck 2008; and Pollack 2008) followed by a consideration of the major historic time periods and subperiods (McBride and McBride 2008). This general review of the culture history of the region is followed by a synopsis of the cultural resource management recommendations for sites already documented within the archaeological APE and within two km of it. These recommendations are in accordance with the Kentucky Heritage Council specifications (Sanders 2006).

The prehistoric cultural chronology of Kentucky is divided into a series of periods that generally correspond to major shifts in subsistence procurement strategies, social organization, technology, and settlement patterning. They are also linked to distinct material cultural styles, particularly in projectile point shapes and (in later times) ceramic vessel form and decoration. These periods form a convenient framework for the discussion of human societies in eastern North America.

Since the Late Pleistocene, humans have occupied all areas of the continental U.S., adapting to the regionally diverse ecosystems and the long-term changes brought about by human occupation. Only the past 500 years is historically documented in any fashion; most of the past 15,000 years can be documented only by the study of prehistoric sites. This period of prehistory is commonly divided into four major chronological periods, which are discussed below.

3.1 Prehistoric Period

This section examines general prehistory of the archaeological APE area. The prehistory of the archaeological APE area can be usefully divided into four major periods – Paleo-Indian, Archaic, Woodland, and Late Prehistoric. Each of these periods is discussed below.

3.1.1 Paleoindian Period

The Paleoindian period begins around 13,000 B.C. and continues to circa 8,000 B.C., coinciding with the end of the Pleistocene and the beginning of the Holocene. The earliest documented inhabitants of the continental U.S. crossed from Asia sometime before 13,000 B.C. and rapidly colonized all of North and South America. The arrival of humans in the region was probably linked to the movements of the Pleistocene glaciers. During the Paleoindian period, the last of these glacial advances and retreats, called Great Lakes Stadial (after 9,900 B.C.), occurred. Although the glaciers never actually extended south of the Ohio River, the climatic effects were felt. A cooler, moister climate affected the composition and distribution of floral and faunal communities (Delcourt and Delcourt 1982; Klippel and Parmalee 1982).

Clovis projectile points are the hallmarks of the early part of the Paleoindian period. The hafted bifaces are distinctively lanceolate-shaped and often fluted. In addition to the Clovis point, unifacially and

bifacially chipped tools such as knives, scrapers, spokeshaves, end scrapers with spurs, drills, and gravers have also been recovered. Archaeologists infer that artifacts and tools of wood, bone, and shell were used, although rarely preserved in the archaeological record. A number of these tools were manufactured for the killing and butchering of extinct fauna, including megafauna. For instance, at the Adams Mastodon site in Harrison County, Kentucky, the remains of a single mastodon were found in association with large limestone slabs and cut marks on the bones. The configuration of the skeletal remains, in addition to the above evidence, has been interpreted as possible human butchering (Duffield and Boisvert 1983; Walters 1988).

The Paleoindian period is poorly understood in Kentucky and in the Southeast as a whole. Much of the information concerning Paleoindian subsistence, settlement patterns, and chronology comes from information outside of Kentucky because dated Paleoindian material in the Bluegrass is limited. Seventy-one Paleoindian sites have been recorded for the Bluegrass Management Area. Eleven sites have been recorded in the Northern Bluegrass Section and none in Trimble County (Maggard and Stackelbeck 2008).

For example, archaeological research in various parts of the U.S. has documented large numbers of surface finds of fluted points diagnostic of this period. Far fewer Paleoindian sites with subsurface cultural materials have been documented. In a recent survey of Paleoindian sites in the U.S., Anderson (1990) reports very few sites in the Southeast. Of these, slightly more than 50 sites are known to retain more than surface scatters of lithic materials. Although few sites have been thoroughly excavated and reported, some information on Paleoindian lifeways is available. Recent analysis of Paleoindian tool assemblages has established chronologically significant tool types to identify three temporal subdivisions of the Paleoindian time period (Anderson 1990; Sanders 1983, 1988; Tankersley and Isaac 1990).

Despite a refinement of the chronology, the temporal range and spatial distribution of these point types is poorly understood. Some inferences may be drawn, however, from the frequent isolated finds and paucity of large Paleoindian sites in the Southeast. Meltzer (1988, cited in Anderson 1990) has suggested two models of Paleoindian settlement patterns, one appropriate to the Northern Tundra-Spruce Parkland zone, and one to the Southern Boreal-Deciduous Forest zone. Meltzer's model of Southeastern Paleoindians, cited in Anderson (1990), suggests they were generalized foragers, exploiting the diverse plant and animal resources of the Boreal-Deciduous forests. As a result of this foraging strategy, the dense accumulation of animal bone and lithic materials that characterize sites in the Western plains (e.g., Olson-Chubbuck, Colby), and some of the Northeastern sites (e.g., Delbert, Vail, Bull Brook), is absent. According to Anderson, under Meltzer's model, southeastern Paleoindian occupations are characterized by light lithic scatters, with some functional diversity in the tool assemblage. Although Meltzer's model of Paleoindian period settlement is reasonable, several large Paleoindian sites or site clusters have been documented in the Southeast (e.g., Adams site, Big Bone Lick, Pine Tree, Quad, Thunderbird, Well Creek Crater), although none has yet been intensively excavated (Anderson 1990; Sanders 1983, 1988; Tankersley and Isaac 1990). Current excavation at the Thunderbird site in Virginia may provide more detailed information on Paleoindian lifeways in the Boreal-Deciduous Forest zone.

3.1.2 Archaic Period

The Archaic period includes a long span of time during which important cultural changes took place. Because of the growing evidence for the existence of transitional cultural manifestations, it is agreed generally that Archaic cultures evolved from late Paleoindian expressions of the Southeast and Midwest

(Funk 1978:19). These manifestations probably occurred in response to environmental changes that took place at the close of the Pleistocene. The Archaic period is customarily divided into three sub-periods: Early (8,000-6,000 B.C.); Middle (6,000-4,000 B.C.); and Late (4,000-1,000 B.C.). As of 2008, 923 Archaic period sites had been identified in the Bluegrass Management Area (Jefferies 2008:214).

3.1.2.1 The Early Archaic Period

During the Early Archaic, the last glaciers retreated, and the arctic-like boreal forest began developing into the eastern deciduous forest. By the Middle Archaic, the environment was warmer and drier than it is today. In response to the changing environment, with its associated changes in plant and animal life, Late Archaic peoples developed a more diversified subsistence strategy based on local choices from a variety of subsistence options including hunting, plant food gathering, fishing, and in some areas, the beginnings of plant domestication in a planned seasonal round exploitation strategy. Caldwell (1958:6-18) has called this Archaic subsistence approach "primary forest efficiency." This strategy appears to have continued well into the Woodland period.

The limited amount of Early Archaic material found at most sites and the general absence of middens, features, and burials, suggests that most occupations were of short duration. Early Archaic social units were small, probably consisting of bands comprised of related individuals. The relatively high percentage of projectile points in Early Archaic assemblages made from non-local cherts suggests that social groups were highly mobile. Items manufactured from non-local chert would have been incorporated into tool kits when groups traveled near the source areas. Some tools manufactured from certain kinds of high quality chert were used and curated for an extended period of time and later discarded far from the source area (Binford 1979; Jefferies 1990:151).

Except for the adoption of new projectile point styles, Early Archaic tool kits are nearly identical to those of the Paleoindians. The fact that projectile point styles are found over a very large area suggests that little regional subsistence diversity occurred during the Early Archaic. Rather, subsistence strategies are believed to have been similar to those employed by Paleoindian peoples, although a greater variety of game was hunted. The scarcity of tools associated with the preparation of plant foods and fishing in the early part of the Archaic indicates that hunting was probably still the major subsistence activity (Dragoo 1976:II). Archaeological investigations at a number of deeply buried sites in the Southeast like the Longworth-Gick Site near Louisville, Kentucky (Collins 1979) have provided important information on Archaic lifeways and their changes through time.

3.1.2.2 The Middle Archaic Period

The environment during the Middle Archaic sub-period was dryer and warmer than modern conditions. By the beginning of the Middle Archaic period, environmental remnants of the Pleistocene had disappeared and animal and plant communities more closely resembled those present at the time of European-American contact. Pollen records from some parts of the region indicate that drier climatic conditions associated with the Hypsithermal interval reached their maximum around 6,500 B.P. (King and Allen 1977). The subsequent reduction of arboreal communities and the influx of grass and herb communities appear to have affected Middle Archaic settlement and population distributions (Conaty 1985; Janzen 1977; Jefferies 1983; Nance 1985).

Increasing regionalization of artifact inventories and the addition of new artifact classes and projectile point styles implies the development of extensive exploitation strategies. The Middle Archaic is marked by the introduction of groundstone artifacts manufactured through pecking, grinding, and polishing. A number of these groundstone tools, such as manos, mortars and pestles, and nutting stones, are

interpreted as plant food processing artifacts, indicating an increasing utilization of plant food resources during the Middle Archaic.

New projectile point styles appeared during this sub-period. Stemmed and comer notched points appear. A variety of bone tools, including antler projectile points, fishhooks, and gouges, suggests an improved efficiency in exploiting local resources. Middle Archaic sites tend to contain larger accumulations of materials than those of earlier periods, suggesting an increased group size and/or longer periods of occupation (Cohen 1977:191). Chapman (1975) has suggested that projectile points were probably used in conjunction with the atlatl, a device that increases the distance and accuracy of a thrown spear. The recovery of bone and groundstone objects (banner-stones) in Middle Archaic contexts that are interpreted as atlatl weights tends to support his suggestion (cf. Neuman 1967:36-53). Certain classes of chipped stone tool artifacts, such as scrapers, unifaces, drills, and gouges, indicate a continuation of their importance from the Paleoindian period.

In the middle Ohio Valley there appears to be at least two Middle Archaic horizons, although the second is not particularly well documented. The first is the North Carolina sequence, first defined by Coe (1964). The second Middle Archaic manifestation is represented by corner- notched and side-notched Brewerton-like points, which are typically thought of as Late Archaic points, but they may well have first appeared during the Middle Archaic (Hemmings 1977, 1985; Wilkins 1978).

3.1.2.3 The Late Archaic Period

The Late Archaic was a time of continued cultural expansion and growing complexity. Dragoo (1976:12-15) has discussed several Late Archaic traditions for the Eastern Woodlands. Their distinctiveness stems from varied regional responses reflected in material culture. Straight-stemmed, basal-notched, or contracted-base projectile point types characterize the Late Archaic. Judging from the greater number of sites that have been recorded, an increase in population can be postulated. Evidence of longer and more intensive site occupation suggests, in some cases, extended habitation within an area.

Aside from hickory nuts, a variety of other nuts, fruits, and seeds were exploited. The increased dietary significance of certain starchy seeds, such as goosefoot, marshelder, and knotweed, has been noted in the Eastern Woodlands (Cowan 1985:229-230). These seasonally available food resources were exploited at appropriate times during the social group's annual settlement/subsistence cycle. Group organization and movement were structured to efficiently accomplish these tasks. The occasional presence of native and tropical cultigens at some sites suggests that some Late Archaic groups were experimenting with horticulture (Chomko and Crawford 1978; Cowan et al. 1981; Watson 1985).

A series of related Late Archaic sites that serve to define the Skidmore phase in eastern Kentucky have been investigated in Rowan and Powell counties, adjacent to the Bluegrass. These include the Bluestone site complex (15RO35-36) (Brooks et al. 1979), and the Skidmore (15PO17) and Zilpo sites (Rolingson and Rodeffer 1968). Diagnostic projectile points of the phase have been referred to in a variety of ways, but these are generally broad-bladed with stubby, contracting stems. Turnbow and Jobe (1981) suggest a maximum age range of 2,400 to 1,650 B.C. for the Skidmore phase.

The Grayson site covered about 6 hectares (15 acres) of a broad second terrace overlooking the Little Sandy River near Grayson, Kentucky. Machine stripping and block excavation revealed a relatively discrete Maple Creek base camp that was occupied during the fall and winter. The site was far less substantial than the Maple Creek site described by Vickery (1976) for the Ohio River near Cincinnati. Diagnostic artifacts recovered included small Merom-Trimble points and absolute dates spanning the period from 1,700 to 1,250 B.P. Two rectangular pit houses with rounded corners were excavated.

These ranged from six meters x seven meters to 10 meters x 11 meters (20 feet x 23 feet to 33 feet x 36 feet) in size, and were constructed with unevenly spaced posts around an open area. A single large pit containing a small central hearth was found in each structure. The houses were surrounded by medium – to large – sized pits. Similar structures occur at Late Archaic sites (9WR4 and 9WRl1) in Warren County, Georgia (Ledbetter 1991).

Population increase and, in some parts of Kentucky, an inferred increase in mortuary ceremonialism, have led some to suggest that a more complex social organization was developing in some areas of the eastern United States. Along the Green River in west-central Kentucky, large shell mound sites such as Chiggerville (Webb and Haag 1939), Indian Knoll (Webb 1946), and Carlson Annis (Webb 1950) contain hundreds of human burials and evidence of complex mortuary practices and rich ceremonial life. The development of inter-regional trading networks is indicated by the recovery of copper, marine shell, and other non-local artifacts from Late Archaic burials (Winters 1968) which testify to the growing complexity of burial ritual and the interaction of many groups (Dragoo 1976:17).

The appearance of cultigens in Late Archaic contexts has been interpreted as evidence of early plant domestication and use of these plants as subsistence resources. Evidence of early cultigens has been documented at such sites as Koster in central Illinois (Brown 1977:168), at the Carlson Annis and Bowles sites along the Green River in west-central Kentucky (Marquardt and Watson 1976:17), and at Cloudsplitter shelter in Menifee County (Cowan et al. 1981).

Struever and Vickery (1973) have defined two plant complexes domesticated at the close of the Archaic, which continued in use into the Woodland period. One consisted of non-native plants such as gourd and squash, occurring sporadically but early, and corn, which did not become important in the Ohio Valley until circa A.D. 1000. The other was a group of native plants, such as Chenopodium, marsh elder, and sunflower. Recent research in Missouri, Kentucky, and Tennessee suggests that squash was under cultivation in the mid-south by the late third millennium B.C. (Adovasio and Johnson 1981:74), and that by the second half of the second millennium B.C., evidence from Illinois, Kentucky, and Tennessee demonstrates that squash, gourd, and sunflower were well established (Adovasio and Johnson 1981:74), although some view these plants as two different groups of cultigens: the East Mexican Agricultural complex and the Eastern United States Agricultural complex. The latter includes sunflower (Helianthus annuus), sumpweed (Iva annua), chenopod (Chenopodium sp.), may grass (Phalaris sp.), and knotweed (Polygonum sp.). The East Mexican Agricultural complex includes squash (Curcurbita pepo), bottle gourd (Lagenaria siceraria), and maize (Zea mays). Watson (1976), like Struever and Vickery (1973), suggests that corn, squash, and bottle gourd were domesticated in Mexico and imported into the eastern United States by way of the Gulf of Mexico and then up the Mississippi River and its tributaries. The native cultigens consist of local species whose seeds recovered from archaeological contexts are much larger than those which grow in a natural state; hence, cultivation is inferred.

Plant domestication was an important factor in Late Archaic cultural development. Recent research at Cloudsplitter shelter has documented early plant domestication. Desiccated squash rind was found in a Late Archaic deposit associated with a radiocarbon date of 3728 +/- 80 B.P. (1778+/- 80 B.C.)(UCA 2313- K) (Cowan et al. 1981:71). Seeds of the Eastern Agricultural complex (sunflower, sumpweed, may grass, and erect knotweed) are sparse in the Late Archaic levels in the site, but after 3000 B.P. (1050 B.C.), all members of the Eastern Agricultural complex underwent a sudden and dramatic increase in the rate at which they were being deposited in the site, perhaps indicative of a wholesale introduction of the complex into the region at this time. The Late Archaic and Early Woodland inhabitants of Cloudsplitter

seem to have followed a similar trajectory in cultivated plant usage experienced in several other river drainages in the East (Cowan et al. 1981:71).

The data from Cloudsplitter suggest that squash may not have diffused into the East or Southwest from Mexico as previously postulated by Struever and Vickery (1973), but that it may have evolved in situ from North American stock (Cowan et al. 1981:71). This interpretation seems to be substantiated by more recent investigations conducted throughout the southeastern and Midwestern United States.

There are a number of projectile point styles, considered to be terminal Late Archaic, that extend into the Early Woodland period, i.e., from about 2000-1500 B.C. to about 500 B.C. (see below). On the whole, they have been found in contexts without Woodland pottery, a situation that leads archaeologists to place them in the Late Archaic rather than Early Woodland. This may not be the case.

3.1.3 Woodland Period

Although initially there was very little difference between Late Archaic and Woodland period settlement, over the two millennia of the period, Woodland cultures in the Ohio Valley diverged sharply from their Archaic beginning. The Kentucky Bluegrass and the adjacent Knobs region shared in this development that produced burial mounds and earthwork enclosures, some of the more notable prehistoric monuments in the Ohio Valley of Kentucky. These went along with intensification in the earlier efforts at plant domestication present in the Archaic period, the development of fired clay ceramic containers (first used as ceremonial containers, later used more widely), and the intensification of trade with distant regions of the Midwest in materials used specifically as burial offerings.

The Woodland period is customarily divided into Early (1000 B.C. – 300 B.C.), Middle (300 B.C. – A.D. 400), and Late (A.D. 400 – A.D. 1000) sub-periods. Of these, the Early Woodland is the least known, but reflects its Archaic origins. During the Middle Woodland, the Bluegrass was characterized by large burial mounds and earthwork complexes that are termed “Adena” and have counterparts north of the Ohio River.

Towards the end of this sub-period, a few sites reflect the Hopewellian cultural fluorescence, best known again from Ohio in the major earthworks of the Scioto valley. During the Late Woodland, a distinctive cultural adaptation developed with similar variants throughout the Middle Ohio River valley. As of 2008, 659 Woodland period sites had been recorded for the Bluegrass Management Area (Applegate 2008:453).

3.1.3.1 Early Woodland

Some of the earliest known Early Woodland sites in the Bluegrass and in the adjoining Ohio Valley to the north include Peter Village in Fayette County (Clay 1984, 1985, 1987) and the West Runway site in Boone County (Duerksen et al. 1995). Quite different sites, Peter Village was an enclosure first surrounded by a post stockade, later by a ditch and internal bank, while the West Runway site was a campsite with multiple hearths, suggesting a series of short-term occupations. Radiocarbon dates place the occupation of West Runway possibly as early as 600 B.C. and Peter Village at about 350-400 B.C. While West Runway, in the types of features and their clustering in this upland location, is not that different from a Late Archaic site, the Peter Village enclosure marks a sharp break with Archaic settlement systems.

At both sites, that hallmark of the Woodland period occurs: thick and relatively crude ceramics representing quite large containers. First called Fayette Thick pottery from its occurrence at the Peter Village site (Griffin 1943), the pottery occurs widely, though sparsely, across the Bluegrass (cf. Clay

1980) with some variation suggesting different pottery – making groups. The type even occurs in small and early burial mounds, for example the Hartman mound in Boone County (Webb 1943) where it may date around 400 B.C. At the Peter Village enclosure, it is hypothesized by Clay (1987) that groups gathered to mine a source of barite and galena that was then fashioned into pigments and objects for personal use and for trading with other groups. The large ceramic vessels represented at the site may have been "feast containers" made to serve large work crews on the spot. The occurrence of thick pottery at the Hartman burial mound suggests also that the pots may have been made to serve funeral parties during the course of burial ceremonies, the first indication of customs that would become common in the Middle Woodland.

Outside of the few sites that have been excavated, artifacts belonging to the Early Woodland occur widely in the Bluegrass. Chipped chert bifaces are large and of a type known as Adena Stemmed. Polished, ungrooved stone axes were widely used. Finally, the existence of worked weights made from barite/galena suggests atlatl or throwing stick weights.

3.1.3.2 Middle Woodland

The Middle Woodland in the Bluegrass is marked notably by the construction of burial mounds that have been called Adena after a site in southern Ohio (Webb and Snow 1945; Webb and Baby 1957). Major mound excavations in the region of Fischer, Drake, Mt. Horeb, Morgan Stone, Wright, Ricketts, Camargo, and many others, have given archaeologists a detailed picture of burial customs during this time period (Clay 1986). Excavations at the small Auvergne mound in Bourbon County (Clay 1983) suggest that Native Americans from a larger area came together at the time of a death to feast at graveside.

Some of the large mounds, containing multiple burials, suggest that these groups often returned to the same mound to add more burials to the structure. At times the burial mound could, like the Wright mound in Montgomery County (Webb 1940), grow to imposing size.

Although we have considerable excavated evidence for burial customs, the total settlement system is not well understood (Clay 1998:13-19). Those responsible for the burial mounds may have lived widely dispersed throughout the Bluegrass in relatively small groups. Seen in this light, the elaborate burial sites (mounds) offered essential foci for scattered groups where they could meet and interact. There were also small, circular enclosures called ceremonial circles of which the Mount Horeb site in Fayette County (Webb 1941) is an excavated example. Late in the Middle Woodland, hilltop enclosures were constructed, such as Indian Fort Hill near Berea, Madison County, Kentucky. Still, daily domestic sites are very poorly understood, although examples dating to the time period have been found to the south on the Cumberland Plateau (Kerr and Creasman 1995). While hunting was always important, during the Middle Woodland, finds from rockshelters in the Knobs region adjoining the Bluegrass suggest the manipulation of native plants. Despite this, the additional food supply did not make significant changes in the way people lived.

3.1.3.3 Late Woodland

Defining the temporal parameters of the Late Woodland has not been an easy task, since clear boundaries have not been identified in the archaeological record, and diagnostic ceramic and lithic attributes, although widespread, show little temporal variability within this period. As a result, the transition from Middle to Late Woodland traditions was a gradual process and not an abrupt one, since no dramatic shifts in cultural practice or in styles of tools or ceramics occurs (Pollack and Henderson 2000). Changes that occurred between the Middle and Late Woodland are probably linked to changes in

plant subsistence strategies, hunting technologies, long-distance trade networks, and the degree of ritual expression (Pollack and Henderson 2000:615).

While Pollack and Henderson's study demonstrates continuity in material culture, analysis of some site data suggests that population increase or at least localized aggregation occurred, which over time may have led to a smaller number of larger settlements, or increased inter-community violence. In other words, population cycles may have impacted lifeways and contributed to some changes in subsistence, settlement organization, and the duration of a particular settlement. A recent survey of available radiocarbon-dated sites in Kentucky and adjacent parts of West Virginia reveals some trends during the Middle and Late Woodland that support (in part) a population increase, and possibly some subsequent population declines.

The above discussion has highlighted the fact that a large number of sites are assigned to the Late Woodland period, and that many have been dated. These dated sites suggest that the Late Woodland period, as Pollack and Henderson (2000) among others have suggested, can be subdivided into at least two sub-periods. This apparent division may reflect some cyclicity in population expansion, changes in subsistence, settlement re-organization, or the introduction or incorporation of new technologies such as corn agricultural and the bow and arrow into pre-existing cultural complexes. While these data provide a substantive framework that identifies some temporal parameters, recent syntheses, along with earlier studies of the Late Woodland period, suggest that within the region of southern Ohio, northern and central Kentucky, and extreme southern Indiana, a single cultural complex or phase was present: the Newtown tradition. In the following paragraphs, the culture history of this region between about A.D. 400 and A.D. 800 is examined to build a case for the interpretation of the cultural complex at Dreaming Creek as an early Late Woodland Newtown component. Griffin (1956:187), working on artifacts from the Turpin site in Ohio, recognized a previously undocumented cultural complex which he named "Newtown," and which he considered to post-date the Middle Woodland Hopewell tradition and to pre-date the Fort Ancient tradition in the Middle Ohio Valley. Although he could not discern the length of the period during which this Late Woodland culture flourished, he did suggest that little cultural progress was made during this period (Griffin 1952). Owing to the paucity of Late Woodland archaeological data, Griffin was unable to characterize the Newtown culture or ascertain if distinctive regional variations existed (1952, 1956).

More archaeological data has been gathered since Griffin's groundbreaking research, but considerable debate on the temporal and geographic extent of Newtown and other Late Woodland cultures still exists (e.g., Clay and Creasman 1999; Davis et al. 1997). Site assemblages throughout the region are linked by the occurrence of the ceramic complex known as Newtown Cordmarked, a type described by McMichael (1968) in the 1960s and characterized by large jars with thickened, angular shoulders. More recent research (e.g., Pollack and Henderson 2000; Seeman and Dancey 2000) indicates that while a thickened, angular shoulder may be a characteristic of some Newtown vessels, some site assemblages are considered Newtown even though they lack ceramic vessels with this particular characteristic.

Recent archaeological investigations at several sites in the region have revealed additional traits about Newtown phase assemblages (e.g., Ahler 1988; Dancey 1988, 1991, 1992; Henderson and Pollack 1985; Kreinbrink 1992; Railey 1984, 1990). Typically, Newtown lithic assemblages are characterized by Steuben, Lowe, or Chesser notched variety projectile points (see Justice 1987), thick stone bifaces, and small, triangular, shaped celts. The ceramic assemblage includes ceramic jars with incurvate to direct rims, flattened lips, and vertical cordmarking on their outer surfaces. Personal adornment, highly developed in the preceding Middle Woodland period, was apparently limited in the Late Woodland, as

Newtown assemblages are distinguished by a lack of decorative and personal ornaments. Seeman and Dancey report "...Late Woodland societies created virtually nothing that can be considered artistic..." (2000:598). The few documented artifacts showing artistic style include some stone and bone gorgets, bone pins, small mica sheets, limestone elbow pipes, and stone and shell beads.

Pollack and Henderson's recent review of the Late Woodland period in Kentucky offers current data on what the term "the Newtown phase/complex/tradition" (2000:625) means in Kentucky, while Seeman and Dancey's review of southern Ohio Late Woodland traditions incorporates discussion of some northern Kentucky sites (2000:595). Pollack and Henderson focus their study on either side of the Falls of the Ohio, which serves to demarcate two regions of Kentucky that appear to differ culturally, and which may have maintained distinct cultural traditions for a long period of time. Seeman and Dancey use the Ohio River and its tributaries as an organizing principal. In this review, Pollack and Henderson's geographic model is used, although mention is also made of Seeman and Dancey's findings where appropriate.

One of Pollack and Henderson's sub-regions is downstream of the Falls of the Ohio, and occupies the western portion of the state; the second sub-region, and the one which is more the focus of this review, is upstream of the Falls and is in the eastern portion of the state. This eastern region encompasses the Middle Ohio River valley, the Central and Inner Bluegrass region, and the Knobs and mountains of Eastern Kentucky. Major rivers in the region include the Ohio, as well as its Kentucky tributaries (Kentucky, Licking, and Big Sandy), all of which are deeply entrenched with narrow flood plains. Within this region, only one cultural complex is well documented for the early Late Woodland subperiod: the "Newtown phase/complex/tradition" (Pollack and Henderson 2000:625). Components associated with this phase are noted at several important Kentucky sites such as the Dreaming Creek site in Madison County, Hansen and Bentley sites in Greenup County, and the Pyles site in Mason County, as well as numerous smaller sites in the Bluegrass (e.g., Shelby Lake, Froman, and sites in the Cumberland Plateau such as Rock Bridge and Haystack rock shelters). Other Late Woodland cultural traditions (e.g., Beal's Run) in this region are only now being examined, since this period has typically been understudied (e.g., Pollack and Henderson 2000), so additional variation may be present that is only recently being documented.

3.1.4 Late Prehistoric Period

The Late Prehistoric archaeological complex of the middle Ohio Valley is Fort Ancient, which spans the time period from approximately A.D. 1000 to about A.D. 1700. Geographically, Fort Ancient extends from western West Virginia to southeastern Indiana and from south-central Ohio to north-central and northeastern Kentucky (Griffin 1978:551). In the Bluegrass, Fort Ancient is divided into the early Osborne Phase (circa A.D. 950 – A.D. 1200), Middle Fort Ancient (A.D. 1200 – A.D. 1400) and Madisonville Horizon (A.D. 1400 – A.D. 1700). The Osborne Phase is known in the Bluegrass from the Muir and Dry Run sites (Sharp 1984) in Jessamine and Scott counties. Middle Fort Ancient sites include Buckner, Gilfoil, and Florence (Fassler 1987).

The development of Fort Ancient and its relationship to Late Woodland cultures has been a debated issue. Two hypotheses have been offered in explanation for the relationship between Fort Ancient and Late Woodland cultures. One hypothesis suggests that Fort Ancient represents the fluorescence of an indigenous Late Woodland culture (Graybill 1980:55-56; Rafferty 1974). Others (e.g., Essenpreis 1978:154-155) suggest that Fort Ancient represents an influx of Mississippian peoples from the lower Ohio River Valley. Although the question has yet to be resolved, it is entirely possible that each of these hypotheses may be correct, depending upon the data set and region employed to address the problem.

Essenpreis (1978), for example, has suggested that these two hypotheses are appropriate for explaining Fort Ancient manifestations at different times during the Late Prehistoric. In this scenario, Fort Ancient is viewed as a fluorescence of Mississippian-influenced Late Woodland culture during the early phases (Baum, Anderson, and Feurt) and as an influx of Mississippian peoples during the later Madisonville phase (Essenpreis 1978:164).

Fort Ancient reflects an elaboration of Late Woodland subsistence activities and social organization. Settlements were much more nucleated, as evidenced by large village sites (Mayer-Oakes 1955). Village sites tend to be situated in valley bottoms along the main stems of the region's larger drainage (Graybill 1978, 1979). On the other hand, smaller sites tend to be located throughout tributary drainage and are thought to represent seasonal camps and resource procurement activity stations. A number of sites along the Ohio River, or close to it, were fortified; and many have central courtyards or plaza areas (Griffin 1978:552).

Fort Ancient subsistence is characterized for the first time by a reliance on the cultivation of maize, coupled with beans and squash. Despite the increased importance of horticulture, hunting provided an important source of food. Deer was the main meat source; at some sites it made up to 80 percent of the game consumed (Griffin 1978:552). The cultural material assemblage included elaborate ceramic styles (usually tempered with crushed mussel shell, although limestone and grit-tempered ceramics also occurred), triangular arrow points, mussel shell tools (e.g., knives, scrapers, and hoes), and bone tools (e.g., bone reamers), which also serve to distinguish Fort Ancient cultures from Late Woodland occupations.

Although Fort Ancient subsistence, like that of Mississippian populations, was based on the cultivation of corn and other cultigens, other aspects of Fort Ancient clearly distinguish it from the contemporary Mississippian occupations: Fort Ancient sites lack large ceremonial centers and earthworks, although Early and Middle Fort Ancient sites (through circa A.D. 1250) exhibited burial mounds. For example the Rowena Site, flooded by Lake Cumberland, was described as a small Mississippian regional center, possibly occupied from A.D. 1300-1400 (Weinland 1980: 133). The artifact assemblage indicated the site was influenced strongly by eastern Tennessee cultures throughout most of its history, especially the Dallas cultures (Weinland 1980:131). Other Mississippian sites along the Cumberland, like Crowley-Evans (Jefferies 1995; Jefferies and Flood 1996), were built around low platform mounds on which the house of a local chief was constructed. However, the complex settlement hierarchy found in the Mississippian, some sites having mounds, others with none, does not occur in Fort Ancient. Villages and hunting camps have been the only Fort Ancient site types defined thus far.

There were 523 Fort Ancient site in the Bluegrass Management Area. Ninety-one percent of the sites are open habitations without mounds. Ninety-two Fort Ancient sites were recorded in the Northern Bluegrass Area (Henderson 2008:808).

3.2 Historic Period

3.2.1 Exploration and Early Settlement (ca. 17th Century-1820)

It is not exactly known when the first Europeans entered Kentucky, but early explorers like Marquette and Jolliet certainly witnessed the western portion of Kentucky as they traveled the Mississippi and it's possible that La Salle may have visited the Ohio Valley. British exploration of the New and Holston rivers and stories from Native Americans led them across the mountains (Alvord 1920). What is known is that the Native American tribe that was first contacted by Europeans in Kentucky was probably the Shawnee. It has been traditionally and historically maintained that the earliest routes into Kentucky followed buffalo and game trails frequented by Native Americans (Boisvert 1984:46-49, Brown 1929:4). It was quickly discovered by European Americans that these early trails were easy to follow and that they invariably led to salt and water.

The region in which the study area lays, the Outer Bluegrass, is a large and diverse cultural landscape, encompassing varying soil types, minerals, navigable rivers, and overall terrain. The land was suitable for homesteaders and farmers eager to start a new life in the trans-Appalachian West. The Native Americans of Kentucky and Tennessee were important to Europeans mainly because of Europe's insatiable desire for animal skins and furs. White traders became a common sight along Kentucky and Tennessee's Indian trails after 1673 (Bergeron 1999). French traders operated from posts along the Mississippi and may have ventured into the Ohio Valley, although no posts or forts are documented during this early period. The Ohio Valley during the time of the French in the Mississippi Valley was mostly abandoned of large Native American settlements. The first English traders were from the Virginia colonies, but overall, Kentucky and Tennessee were explored by traders, surveyors, and explorers from both Virginia and North Carolina (Bergeron 1999). By the late 1720s, groups like the Shawnee and Delaware returned to the valley and traded fur with the British and Iroquois. By the mid-eighteenth century, British traders were located at Lower Shawneetown and Pennsylvanian traders and trading houses were present in the larger Indian villages. Traders George Croghan and William Trent established one trading house on the Kentucky side of the Ohio River (McBride and McBride 2008:906-907).

The exploration of Kentucky began in 1750 when Dr. Thomas Walker explored some of eastern Kentucky. His party reached the confluence of the Red and Kentucky rivers. He was followed in rapid succession by a number of other Englishmen: Christopher Gist in 1751 and John Finley in 1752. Walker was a surveyor and employed by the Loyal Company to locate tracts of land for settlement in eastern Kentucky, as well as southwestern Virginia. Working for the Ohio Company, Gist journeyed down the Ohio River as far as the Kentucky River where he was warned about proceeding further on to the Falls of the Ohio because of the threat of the Indians who grew increasingly allied with the French (Rice 1975:9-11).

With the conflict between France and Britain leading to the French and Indian War, the Shawnee and most other Indians in the valley sided with the French. The Pennsylvania traders were forced to abandon the valley as the French entered into the Forks of the Ohio area and in 1757 established a fort (Fort Ascension, later Massac) in Illinois on the north side of the river. Although there was little conflict in Kentucky during this war, the French controlled all trade in the Ohio Valley at this time. However, this was short lived when the fall of a strategic fort (Fort Duquesne), located in western Pennsylvania, greatly lessened French dominance in the upper valley. Before the Treaty of Paris in 1863, most of the French abandoned the upper and much of the central valley (McBride and McBride 2008:908-909).

With the French gone, exploration of Kentucky by the British began in earnest. Land speculators and settlers wasted no time in moving into the area, but were temporarily halted by the Proclamation of 1763 and Pontiac's Uprising of 1763-1765. This did not stop the "Long Hunters", however, who had already entered into Kentucky during the mid-eighteenth century. These hunters came from the eastern United States via the Cumberland Gap and traveled in hunting groups of three to four, collecting elk and buffalo hides (Rice 1975:21-22). In 1769, the most famous Long Hunter, Daniel Boone, first entered Kentucky (Rice 1975:24).

With pressure on British and Colonial officials to shift the Proclamation line further west, a new treaty (Treaty of Lochaber in 1770) and acceptance of an error which shifted the Donelson Line further west in 1771, the new western boundary limiting settlement became the Kentucky River. Surveyor John Donelson had originally thought he had marked the new line on the Big Sandy, but the error was obscured by the inaccurate maps of the day. When the error was eventually revealed, it was too late because of the overwhelming pressure of the speculators and settlers (Rice 1975:34). In 1772, all of Kentucky and the parts of Virginia south of the New and Kanawha rivers became part of a new county, Fincastle. The formation of Fincastle County foreshadowed the inevitable advance into Kentucky (Rice 1975:47).

Both the overland and water routes were considered dangerous during the eighteenth century due to intermittent Indian attacks. Daniel Boone, negotiating with the Cherokee, built the Wilderness Road, which became the primary overland route through Kentucky from 1775 to 1818 (Ison et al. 1991:11). Settlers from North Carolina and southwestern Virginia generally chose this route. Those entering Kentucky via the Ohio River were from Pennsylvania, Maryland, and western Virginia. Travelers' accounts of seeing Kentucky for the first time spoke of great canebreaks with stalks often twelve feet high on the Kentucky side of the river. Further west was vast grassland, mostly cleared by the Indians, and referred to as the "Barrens." It was more expensive to travel by river and few people could afford the price; however, river travel was faster (Rice 1975:19; McBride and McBride 2008:911). Most of these early settlers were heading for the Bluegrass of Kentucky.

The first permanent settlements in Kentucky were in central Kentucky and included Harrodstown (now Harrodsburg, county seat of Mercer County) and Boonesborough. Boone established Boonesborough in what is now Madison County, and most of its settlers came through the Cumberland Gap. Harrodstown was settled by people who came down the Ohio River, however. It predates Boonesborough by one month, having been established by James Harrod on June 16, 1774 (McBride and McBride 2008:911). The McAfee brothers along with James McCoun and Samuel Adams in 1773 explored along the Salt River in present day Mercer County, and returned with their families to the area in 1779 to build McAfee Station. Robert McAfee was a pioneer of flatboat operation who navigated the Salt River to the Ohio River and there down to New Orleans until his death in 1795 (Kleber 1992).

By 1780, there were three clusters of settlements in Kentucky. These included one at the Falls of the Ohio and Beargrass Creek where George Rogers Clark established Fort Nelson, one northeast of the Kentucky River including Lexington and Bryan's Station, and a third located south of the Kentucky River which included the areas of Harrodstown, Danville, and Logan's Fort. This rapid growth of population combined with threat of Indian attacks led the settlers to demand more county division. Virginia granted their request and Kentucky was divided into three counties: Fayette, Jefferson, and Lincoln. All of these settlements were located around forts and stations which varied from a single fortified cabin or blockhouse to what was almost a fortified town with numerous cabins surrounded by stockade (i.e. Bryan, Ruddles, or Strode stations) (McBride and McBride 2008:911).

Unfortunately for the first settlers, the Revolutionary War was beginning and most of the Ohio Valley Indians were allied with the British. The Shawnee in particular were given incentive to attack any new American settlement. The result for many of these new settlements was their abandonment temporarily and settlement only progressed slowly throughout the war until its end in 1783. After 1783, however, this changed and the rush for new lands, particularly of central Kentucky, once again commenced (McBride and McBride 2008:911-12). Most of these settlers came from the piedmont and valley of Virginia, but some also from Maryland and North Carolina. They were not restricted to the lower or middle classes, as some gentry were settlers too. These gentry brought with them their slaves, establishing large plantations in the Bluegrass with slave labor and ideas of social hierarchies practiced back in Virginia where they were considered the social elite.

In 1792 Kentucky finally became a state. Statehood brought state-funded transportation improvements. Besides road developments, improvements and regulation in river transportation included the first passenger boats in 1799 and ferry crossings on rivers or larger creeks.

Montgomery County was formed in 1796. The soils in the county are good for raising tobacco, corn, and hay. It is also good for raising livestock. The town of Mount Sterling was established by the Kentucky Assembly in 1792. Mount Sterling developed into a retail center, which was related to its location at the junction of roads to Lexington, Olympian Springs, and Virginia (Boyd 1992:658).

3.2.2 Antebellum (1820-1861)

From the 1780s and into the early nineteenth century, an agricultural surplus of tobacco, corn, and whiskey in Kentucky served as important commercial commodities. Shipment of these products was tied to the rivers of Kentucky.

Connecting to these waterways, several networks of state turnpikes and county roads linked the communities of central and northern Kentucky with the international market in New Orleans (Dunaway 1996). The Ohio River was the main corridor of trade in the early settlement period, linking settlements on both sides of the river, and carrying livestock droves and trade goods to distant markets.

The first two decades of the nineteenth century in Kentucky underwent significant changes in settlements, agriculture, social and economic structure, and political organization. Growth and speculation occurred and an economic boom in the 1810s led to an increase in commercialization of farming and growth in slave plantations. An increase in industrialization led to river improvements and the arrival of the steamboat in 1815 opened the Ohio River on a new level and led to a dramatic increase in the already thriving river trade (McBride and McBride 2008:918). Shipments of goods in and out of the area of Mercer County also increased with the construction of a series of five locks on the Kentucky River from 1836 to 1842, making the river more consistently passable for steamboats and creating a reliable route to markets and for passenger transport (Ellis in Kleber 1992:510).

By the mid-1820s, Kentucky and most of the country was recovering from the depression. River steamboat traffic was increasing on the Ohio River and cultural and economic ties between Kentucky and the rest of the country were greatly improved. According to McBride and McBride (2008:922), this time was “truly the age of the river town, or city, in Kentucky.

During the Antebellum period the industries associated with small towns were agriculturally based and included flour and grist mills, tobacco factories, hemp factories, leather shops, woolen mills and distilleries (McBride and McBride 2008:927).

3.2.3 Civil War (1861-1865)

Kentucky's status as a border state not fully joining the Confederacy but yet still allowing slavery brought division within the population. The Union Army headquarters for Kentucky were at Louisville and Camp Nelson in Jessamine County which was a large quartermaster depot and African–American recruitment center that operated from 1863 to 1865. The fort employed over 2,000 civilian employees, and housed between 900 and 5,000 troops at any time (McBride et al. 2003). This large and significant regional operation was located only twelve miles upstream from Pleasant Hill.

The Battle of Perryville, the largest Civil War battle to occur in Kentucky, was fought just south of the Mercer County line, near Perryville in Boyle County. On October 8, 1862, the battle ensued, involving 16,000 Confederate troops and 58,000 Union troops. The Confederate force was defeated and they retreated to Tennessee, and the three-month long Confederate effort to secure Kentucky was halted. (Kleber 1992).

In Montgomery County, there were numerous clashes and guerrilla activity between 1862 and 1864. The courthouse was burned by Confederate Cavalry in 1863. The war inflicted crop losses and disrupted slavery (Boyd 1992:644).

The economic effects of the Civil War were probably more significant to people in Kentucky than the physical devastation. Many farmers and merchants were hurt by the curtailment of trade with the south (McBride and McBride 1990:609). The hemp industry, which was already declining in the 1850's, lost its most significant domestic market, the southern cotton producers (Hopkins 1998:68). There were also transportation system disruptions due to war damage or to Union control.

The three largest factors in the deterioration of Kentucky's agriculture and industry during this time were the loss of the labor force, the loss of the market at New Orleans, and the major drought across the region that lasted from 1860 to 1863. About 100,000 Kentucky men entered the Union Army and up to 40,000 entered the Confederate Army (McBride and McBride 1990:610). Almost one third of those enlisted died. With the help of individuals like Delia Webster, slaves escaped across the Ohio River in the early years of the war. In 1864 the U.S. Government granted freedom to any slave that enlisted in the U.S. Army. The male slaves also brought their families to the encampments (McBride et al. 2003).

3.2.4 Postbellum Industrialization (1865-1914)

There were changes in social and economic systems that greatly affected Kentucky during the Postbellum period (McBride and McBride 1990:615). During this period the state began to deal with the emancipation of African-Americans and their role in the society. The agricultural system began to change with the introduction of white burley tobacco (McBride and McBride 1990:615). There were significant developments in communication and transportation, growth in industry and commerce and increased urbanization (McBride and McBride 1990:615). In Mercer County, the completion of High Bridge in 1877 was an important transportation factor as well as a local landmark, as it was the highest railroad bridge in the world at that time. It was a popular tourist destination.

After the war, agriculture and manufacturing recovered and expanded. Former slaves took agricultural or industrial jobs for pay. Many hamlets grew up around farms and also in urban areas that were populated by the recently freed African-Americans. Markets in the south opened up again. The hemp industry revived after the war and again became a major crop and industry (Hopkins 1998). However, the production of tobacco gradually increased and would eventually overtake hemp as the most important cash crop in Kentucky.

Despite all these hardships, by 1870, Kentucky was first in hemp production, third in the production of mules, fifth in the production of swine, and eight in the production of corn, wheat, and flax (Axton 1975; Tapp and Klotter 1977). Tobacco production increased more than 70% from 1870 to 1900 in Kentucky (Tapp and Klotter 1977). Kentucky benefited from the fact that less damage occurred within the state in comparison to other states during the Civil War.

Mass production and a growing desire for consumer goods stimulated retail trade and the growth of most cities and towns throughout Kentucky during this period. The availability of mass-produced goods led to a general decline in local manufacturing and the consolidation of small manufacturing operations. The decline in local industries also may have resulted in the rural to urban migration (McBride and McBride 2008:948).

3.2.5 Twentieth Century

The beginning of this period was very similar to the previous period. Kentucky was still a leader among the southern states in agricultural products and a continued production pattern in industrialization and manufacturing also occurred.

The Great Depression and World War II were two of the most important events of the Twentieth Century. For many, the onslaught of the Depression was not apparent until the stock market crashed in October 1929. For farmers, however, hard times began much earlier. Agricultural prices had been depressed for nearly a decade before the crash and remained so until World War II.

The Great Depression affected every facet of American life, sapping energy from the economy and draining the citizenry's ability to build. Although no unemployment figures were kept, it is generally thought that the jobless rate hovered around 12 percent in Kentucky.

New Deal programs put together by the Roosevelt administration in the 1930s changed the face of Kentucky. Born of economic desperation of the Great Depression, the New Deal implemented work programs that provided paying jobs for the unemployed. The Civilian Conservation Corps (CCC), Works Progress Administration (WPA), Public Works Administration (PWA), Civil Works Administration (CWA), and Resettlement Administration put to work many of the Kentucky unemployed.

Mechanization of agriculture and the general decline in farming as a way of life, continued urbanization, major improvements in roads, and a decline in river traffic all occurred at this time. There were also increases in stores and access to consumer goods (McBride and McBride 2008:967). Kentucky's population increased during the period, but at a slower rate than the rest of the Southeast (McBride and McBride 2008:967). The population in Montgomery County has increased from 7,082 in 1800 to 26,902 in 2010 (Table 3-1).

During the twentieth century railroads and better roads expanded into Montgomery County. The economy became based on the local tobacco-livestock agricultural system. There was rapid growth in the county in the 1960s with the completion of I-64 and the construction of new factories (Boyd 1992:644).

Table 3-1. Population Changes for Montgomery County, Kentucky.

Census Year	Total Population
1800	7,082
1810	12,975
1820	9,587
1840	9,332
1860	7,859
1880	10,566
1900	12,834
1970	15,364
1980	20,046
2010	26,902

3.3 Historic Map and Aerial Photography Research

USGS maps available were the 1952, 1959, 1965, and the 1965 (photorevised 1979) 7.5 minute topographic maps for the Mount Sterling, KY quadrangle. Also available were a 1937 *Highway and Transportation Map of Montgomery County, Kentucky* (Kentucky Transportation Cabinet 1937) and the 1954 *Rural Highway Series Montgomery County, Kentucky* (Kentucky Department of Highways 1954). and the 1950, 1960, 1964, 1969, and 1975 aerial photos used by the United States Department of Agriculture and the 1972 U.S.G.S. Mount Sterling Quadrangle Geologic Map (Weir 1976) were also used.

3.4 Previous Archaeological Research

The survey report files at the Office of State Archaeology (OSA) were consulted on February 26, 2014. There were fifteen prior archaeological surveys recorded within a 2 km radius of the archaeological APE (Figure 3-1). Two of the surveys, Allen 1977 and Anderson 2000, overlap the archaeological APE.

On July 26, 1977, Roger Allen with Archaeological Services, Inc. of Kentucky conducted a Phase I survey ahead of construction of an expansion to a wastewater treatment facility in Mount Sterling, Kentucky, and two associated sewer line systems (Allen 1977). The construction footprint of the plant's expansion occupied 7 acres, while lines to the north and west extended three miles along Hinkston Creek and two of its tributaries. A single line to the west extended 1.5 miles and was visually discerned to be completely disturbed. Surface collection was the survey method utilized. In total, four sites were identified as a result of the survey. All four of these lie within two kilometers of the present project area and are described in the following section. None of the sites were considered significant and no further archaeological work was recommended for the project (Allen 1977).

A cultural resource assessment was performed by Cultural Resource Analysts, Inc., (CRA) on August 17 and 28, 1990, across the 100 acre project area for the proposed Woodland's Industrial Park near Ewington, Montgomery County, Kentucky. The project area was situated on a hilltop and gentle side slopes in the Hinkston Creek drainage, between 900 and 1020 ft. AMSL, overlooking I-64 to south and KY 60 to the east. The survey identified an old sinkhole near the center of the project area. The majority of area was in pasture, offering zero visibility- this large portion was strip plowed in transects 15 m apart. Some dirt borrow areas were present which offered high ground surface visibility. Three sites-

Figure 3-1. Locations of Previous Archaeological Investigations.

15MM109, 110, and 111- were identified within the project area. Only Site 15MM110 lies within two kilometers of our current project area and the reader can find its description in the following section. Site 15MM109 and 111 each consisted of a heavy scatter of lithic material confined to the plow zone. These likely represent Late Archaic lithic workshops but no diagnostic artifacts were recovered. Both were disturbed due to agricultural plowing and some erosion, 15MM109 had also been subjected to dirt borrowing. All three sites were considered to have little research potential beyond the level of the Phase I recordation, and no further archaeological work was recommended (Hand et al. 1990).

A Phase I survey of the proposed Little Mountain Industrial Park in Mount Sterling (Montgomery County), Kentucky, was conducted by Archaeological Services, Inc., of Kentucky in May of 1978 (Allen and Pollack 1978). The survey covered 280 acres across rolling hills in an area transected by several intermittent streams. Utilizing shovel probes, surface collection, and backhoe trenching, a total of fifteen archaeological sites were newly identified, delineated, and recorded. These sites (15MM46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, and 60) all lay within two kilometers of our present survey and are described in the following section.

Archaeologists with CRA conducted a Phase I survey for a proposed bank location near Mount Sterling, in Montgomery County, Kentucky, on July 13, 1994. The survey covered less than one acre of an urban lot in mown grass, between US 60 and KY 647. Neighboring lots belonged to newly developed residential and community tracts. A total of 13 shovel probes were excavated across the lot, none produced cultural resources, and most displayed a sterile intact stratigraphy beneath a layer of modern fill. No further archaeology was recommended for the project (Anslinger 1994).

CRA conducted a Phase I assessment of approximately 2 acres (0.8 ha) on a knoll near the intersection of I-64 and KY 460 on March 7 and 21, 1995. The survey was conducted as part of a proposed hotel development survey near Mount Sterling in Montgomery County, Kentucky. Systematic strip plowing and subjective shovel probing were utilized and resulted in the identification of three previously unrecorded archaeological sites: 15MM127, 128, and 129. Sites 15MM127 and 128 were prehistoric lithic scatters of light to moderate density; 127 produced Early Woodland and Woodland period diagnostics as well as some historic artifacts while 128 produced Early and Late Archaic as well as Early Woodland diagnostic artifacts. 15MM129 was a twentieth century historic site surrounding an extant house (built in 1904) and two standing outbuildings. Sites 15MM127 and 129 were deemed inventory level sites, unlikely to produce information valuable to researchers. After a second visit to 15MM128, during which the entire site was plowed and intensively collected, it was determined that it, too, offered little research potential and so none of the three sites were recommended for nomination to the NRHP and no further work was recommended (Bradbury 1995).

On July 17, 1997, CRA archaeologists conducted a Phase I assessment along the 2.5 mile route (4.02 km) of proposed sewage lines, from the eastern end of the Mount Sterling Bypass at Osborne Road to the bypass' intersection with Upper Spencer Road, where additionally a 50 x 50 foot lot for a proposed pump station lot was surveyed as well. A total of 31 shovel probes and visual inspection of the entire area resulted in the determination that the areas were heavily disturbed from road construction and residential development, and no cultural resources were present within the project area. No further work was recommended (McKelway 1997).

Before proposed improvements to US 60 (KYTC Item Number 7-83.00), two alternates were subjected to a Phase I archaeological survey by James Hixon (KYTC archaeologist) in March and April 1998. Both alternatives begin 425 meters northeast of the intersection of US 60 and the Mount Sterling bypass, and travel 1.38 mi (2.22 km) northeast along US 60 and end at I-64 in Montgomery County, Kentucky. The

total area amounted to 13.2 acres (5.34 ha), and three archaeological sites (15MM142, 143, 144) and three single prehistoric lithic debitage isolated finds were identified. None of the sites were deemed significant and no further archaeological work was recommended (Hixon 1998). All three of the sites lie within our current project area and are described in the following section.

A Phase I assessment was conducted by CRA, between May 4th and 31st, 2000, of 25.6 acres along Hinkston Creek northeast of Mount Sterling in Montgomery County, Kentucky (Anderson 2000). This area included a 17 acre construction footprint for a proposed wastewater treatment plant, situated on a terrace and footridge above the creek, as well as 8.6 acres (18, 715 ft. long and 20 ft. wide) following proposed gravity sewer lines that paralleled the creek. The project area lay between 890 and 920 ft. AMSL. Shovel probing and surface collecting were the survey methods primarily utilized. A portion of the plant footprint was additionally subjected to backhoe stripping. In total four new archaeological sites were identified during this survey: 15MM149, 150, 151, 152. Site 15MM149 was the reason for backhoe stripping, it was a high-density site. All four of these sites are described in the following section.

Dr. Jack Schock of Arrow Enterprises surveyed 85 acres between August, 2002, and April, 2003. The work was conducted for the Woodlands Industrial Park in Montgomery County, Kentucky. Plowed strips, 20 meters apart, were surface collected after rains and shovel probes were strategically placed when sites were identified. These methods resulted in the identification, delineation, and assessment of nine sites: 15MM165, 166, 167, 168, 169, 170, 171, 172, and 173 within project area (Schock 2003). All nine sites lie within two kilometers of our present survey and are described in the following section.

From July 7th to September 19th, 2003, CRA performed an archaeological survey of the proposed KY 11 reconstruction project in Montgomery County, Kentucky, between US 460 north of I-64 to KY 11 south of Cecil Road (KY 1990). The project area totaled 168.72 acres (68.28 ha) and followed the proposed corridor of the Preferred Alternate, which was 9.75 km (6.06 miles) long and averaged 85 m (278.87 ft.) in width. The corridor traversed primarily pasture and cultivated fields on the area's rolling hills. The methods utilized were an intensive pedestrian survey and supplemental shovel probing. In all, 23 archaeological sites and six archaeological isolated finds were newly identified by the surveyors. To summarize, prehistoric sites numbered twenty, two sites produced both historic and prehistoric components, and one site was an historic site. Four sites- 15MM175, 182, 188, and 192- were recommended as potentially eligible for nomination to the NRHP, and additional work was recommended before the proposed construction impacts the sites adversely (Bundy 2005). Four of the sites identified by CRA are located within two kilometers of our current project area: 15MM174, 175, 176, 177. Descriptions of these sites can be found in the following section.

An archaeological survey of a proposed Verizon Wireless telecommunications tower site in Mount Sterling, Montgomery County, Kentucky, was conducted on August 10, 2005, by archaeologists from CRA. The project lease area measured 0.56 ha (1.37 acres) on a dissected upland location at 980 ft. AMSL, just 30 meters north of I-64. The entire project area was visibly disturbed and no cultural materials were identified. Thus no further work was recommended for this project (Anderson 2005).

From July 31st to August 17th in 2006, CRA conducted a cultural resource survey for the proposed Lowe's of Mount Sterling in Montgomery County, Kentucky. The survey involved 27.1 acres (10.95 ha) on the east side of KY 686 in Mount Sterling, 1.21 kilometers south of the intersection of that road with US 60. The survey resulted in the identification of an eligible historic structure resource (KHC MM-1) and the identification of one archaeology site, 15MM204, which is described in the following section since it lies within two kilometers of our current project area. The historic structure resource was deemed eligible and to be affected adversely if the construction were to proceed. Site 15MM204 was not deemed eligible

for nomination to the NRHP or likely to provide more information, thus no further archaeological work was recommended (McCurdy 2006).

Archaeologists with TRC, Inc., conducted a Phase I survey ahead of the proposed Wright Cellular Tower construction in Montgomery County, Kentucky. On March 31, 2008, the 0.53 acre (0.22 ha) project area was subjected to visual inspection, additionally five probes were excavated within the bounds of the tower site and six probes were excavated along the proposed access road. There were no cultural resources identified within the bounds of the project area and no further archaeological work was recommended (Barrett 2008).

A no-find Phase I archaeological survey occurred on March 18, 2010, across two acres (0.8 ha) of pastureland 0.4 km east of KY11, near the intersection of Augusta and Pine Hurst Drives near Mount Sterling, Montgomery County, Kentucky. The work was conducted by CRA archaeologists, and was divided between 366 m (1200 ft.) of adjacent sections of three parallel existing natural gas lines, and four work spaces covering 0.8 ha. A total of 15 shovel probes were excavated in areas not visibly disturbed, which the majority of the project was due to surface grading, residential development, and pipeline installation (Arnold 2010).

The University of Alabama's Office of Archaeological Research conducted a Phase I survey for the proposed KY 11 relocation in Mount Sterling, Montgomery County, Kentucky, between October 2011 and February 2012. The survey involved shovel probing, surface collecting, and otherwise visually inspecting a total of 15.6 acres (6.3 ha) divided between a 5.5 acre (2.2 ha) proposed storage yard, two smaller workspace areas, and a proposed pipeline route 880 m (2886 ft.) long and varying between 50 - 215 m (164 - 705 ft.) wide. These areas were situated on moderate to steeply rolling upland, and open fields with high surface visibility was the dominant setting. The area of the proposed storage yard was graveled and utilized as a dumping ground. One site was newly identified during the survey, 15Mm219, and one previously recorded site was revisited, 15MM176. Both sites lie within two kilometers of our current survey area and are described below, in the following section. No further work was recommended for the project area since the area was moved to avoid 15MM219 (Gage 2012).

3.5 Known Archaeological Sites

The site files at the OSA were consulted on February 26, 2014. One previously recorded archaeological site, 15MM42, was documented within the project area, and fifty other sites had previously been recorded within a two-kilometer radius of the APE. These sites – 15MM1, 2, 5, 37, 38, 39, 40, 41, 43, 44, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 110, 127, 128, 129, 142, 143, 144, 149, 150, 151, 152, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 204, 219 – are described below.

Site 15MM1 is a mound "opened" by Mr. Clell Cockrell and recorded in 1924 by Webb and Funkhouser. The circular mound was located on city property. It was measured to be 20 feet in diameter and eight feet high with an elm tree growing on the top. The mound is recorded as an "old Negro cemetery" (Site Form 15MM1).

Site 15MM2, Duff Mound, is a "small mound" located in a cultivated field owned by C.E. Duff of Mount Sterling, Kentucky (Site Form 15MM2).

Site 15MM5 is Gaitskill Mound, a "fine large mound" associated with the Adena culture and after which the city of Mount Sterling was named. There is no survey date on the OSA site card, but the surveyors are given as M.A. and J.O. Tyler. Surface materials recovered from the site include "charcoal and wood ashes under which were numerous artifacts and human bones". Pot-hunting holes excavated by the Tyler

brothers produced one clay tablet and one stone tablet. The site form continues to say that "a large portion of this mound still remains undisturbed and doubtless represents one of the best depositories of archaeological material in the state". The mound is described in Webb and Baby's 1957 book, The Adena People (Site Form 15MM5).

Sites 15MM37, 15MM38, and 15MM39 are located a mere 120 meters north of Gaitskill Mound. They were reported by McGraw and Turnbill in February of 1976 after a survey for which a report was not submitted to the OSA. The setting for the site is a pasture in the rolling hills of Montgomery County. The artifacts produced by 37 and 39 consisted of indeterminate prehistoric lithic assemblages. Site 15MM38 was revisited in February of 1978 by Jack Schock, during which survey were collected one endscraper, one Adena Stemmed projectile point, and 391 chert flakes, thus identifying the site as having Archaic and Late Archaic components. It was Dr. Schock's assessment that the known extent of 15Mm38 had been destroyed by construction of an access road to the Mount Sterling Bypass, but that a possibility remained for a portion of the site to exist intact east of the access road on a hilltop (Site Form 15MM37, Site Form 15MM38, Site Form 15MM39).

Site 15MM40 is a village site located on an east-west running ridge top, and covers an area 600 ft. by 500 ft. some 2500 ft. west of Hinkston Creek. This site is situated directly east of Gaitskill Mound (across US 460). The dominant component at the site is Adena (three Adena points), thus it can loosely be associated with the Gaitskill Mound construction and initial-use period. Two groundstone celts were also collected. Lesser components are represented by a single triangular point and two Archaic points. The surveyor, Charles Hockensmith, extrapolated that the site may extend to the north based on topography and landowner description of flakes seen on the surface (Site Form 15MM40).

Site 15MM41 was an indeterminate prehistoric scatter of low density spread across an area of 31, 250 square meters on a hillside at 1,000 ft. AMSL, above the head of a small tributary of Hinkston Creek (Site Form 15MM41). The site did not produce any diagnostic artifacts. Roger Allen stated in the 1977 associated professional report that Site 15Mm41 "may mark the periphery of a habitation site associated with the large Gaitskill Mound which is situated several hundred meters to the east".

Site 15MM42 was a high density, indeterminate prehistoric site situated across a low rise in the Hinkston Creek floodplain at 910 ft. AMSL. The site's area measured 30 m by 150 m and produced two edge modified flakes, one lithic reduction chunk, and 31 flakes—all nondiagnostic and all collected during systematic surface collection. It was determined that only the very edge of the site would be affected by the proposed project, thus not having a significantly adverse effect on the site. No further archaeological work was recommended (Allen 1977, Site Form 15MM42).

Site 15MM43 was identified outside the project bounds of a 1977 Archaeological Services, Inc., of Kentucky survey. The site was situated on a hill overlooking Hinkston Creek at 950 ft. AMSL. The surveyor utilized systematic surface collection to delineate the 100 square meter site area. The assemblage produced consisted of three flakes, one edge modified flake, and a single diagnostic artifact: a Middle to Late Woodland style projectile point. Since there was to be no adverse effect on the site in regards to the project in question at the time, no further work was recommended for the site (Allen 1977, Site Form 15MM43).

Site 15MM44 was a low density, indeterminate, prehistoric lithic scatter identified in a cultivated tobacco field on a hill at 970 ft. AMSL and 175 meters from Hinkston Creek. Only six flakes, one crude biface and one crude biface fragment- all non-diagnostic- were recovered from the site, though more lithics were visible out of reach under the tobacco crop. Disturbances to the site area were agricultural

and erosional. No further work was recommended at the site as it did not offer any potential for further research (Allen 1977, Site Form 15MM44).

Site15MM46 was a low density, indeterminate prehistoric site identified in a cultivated hillside at 970 ft. AMSL. The site was identified only in the plowzone with no associated subsurface features or diagnostic artifacts. The site was considered to have a very low potential for contributing to future research and no further work was recommended (Allen and Pollack 1978, Site Form 15MM46).

Site 15MM47 was identified as being outside the project impact area, but was recorded as an indeterminate prehistoric in a cultivated hillside at 950 ft. AMSL, and was considered an inventory site, not recommended for listing to the NRHP (Allen and Pollack 1978, Site Form 15MM47).

Site 15MM48 was a high density plowzone site that had been subjected to heavy erosion prior to recordation. This indeterminate prehistoric site was found in a cultivated field on a dissected upland ridge at 1000 ft. AMSL. The site was considered to have a low potential research value, was recorded as an inventory site, and the project was cleared within the site's vicinity (Allen and Pollack 1978, Site Form 15MM48).

Site 15MM49 was a high density plowzone scatter of cores, crude bifaces, and large flakes- indicators of tool manufacture and possibly of the Early to Middle Woodland though no diagnostics were recovered. The site's location is in a cultivated field at the top of a dissected uplands hill (990 ft. AMSL). The site area measured 50m by 25m and abutted a sinkhole at its eastern edge. In addition to probes and surface collection, four trenches were excavated and three produced a high density of lithics. Additional work was recommended for the site before any project activities impacted it, as there was considered to be potential for research value in the study of reduction sites (Allen and Pollack 1978, Site Form 15MM49).

Site 15MM50 was a low density plowzone scatter that produced 41 pieces of non-diagnostic lithic debitage from two non-contiguous concentrations. Concentration A was located at the top of a hill at 990 ft. AMSL, southeast of 15MM49. This portion of the site was identified through the excavation of positive shovel probes and was delineated by the excavation of three trenches, the site area totaling 30 by 20 meters. Concentration B was located south of Concentration A, and its 10m by 5 m area was aided in its delineation by the excavation of one trench. Ten flakes were the only artifacts produced from Concentration B. Site 15Mm50 was assessed to be an inventory site and no further work was recommended (Allen and Pollack 1978, Site Form 15MM50).

Site 15MM51 was a 100 m by 500 m area, high density, plowzone lithic scatter which produced diagnostics associated with the Early to Middle Woodland period. Situated on a ridge south of 15MM50 and west of 15MM52, at 1000 ft. AMSL, the site was surveyed in four sections. Section 1 produced the highest density of artifacts. A total of 548 flakes, 55 cores, 13 edge modified flake, 32 bifaces, 1 hammerstone, 3 projectile points, 3 projectile point fragments were collected from 15 positive shovel probes, 1 trench, and a systematic surface collection. The surveyors recommended that further archaeological work be conducted at the site if the project impact plans were to continue without change in the vicinity of the site (Allen and Pollack 1978, Site Form 15MM51).

Site 15MM52 was a low density, indeterminate prehistoric, lithic, plowzone scatter with two concentrations. Concentration A was 20 meters in diameter at 1000 ft. AMSL on a hillside pasture east of 15MM51. Surface Collection was utilized to define the concentration area and three trenches were excavated to further determine the site type, in total producing 62 flakes and 1 core. Concentration B had an area of 20m by10 m, and was surveyed using shovel probes and two trenches. Concentration B

produced one biface and 21 flakes. Due to the lack of diagnostic artifacts and subsurface features, the site was determined to have little significant research potential and no further work was recommended (Allen and Pollack 1978, Site Form 15MM52).

Site 15MM53 was an indeterminate prehistoric site identified as a low density lithic plowzone scatter with two concentrations. Concentration A was situated on a cultivated, dissected upland, hill southeast of 15MM52 and west of 15Mm54 at 1000 ft. AMSL. This portion of the site was delineated and assessed by surface collection, shovel probes, and three trenches, and measured 150 m by 60 m. Concentration A produced 72 flakes, 1 core, 2 bifaces, 1 edge modified flake, 1 scraper/graver. Concentration B was located south of Concentration A, similarly situated and surveyed by surface collection and one trench which together produced 91 flakes, 1 edge modified flake, 7 cores, and 2 bifaces. The site was determined to be an inventory site with little potential for further research. No further work was recommended (Allen and Pollack 1978, Site Form 15MM53).

Site 15MM54 was a large (300 m by 100m) area, high density, Late Archaic to Early Woodland site of potential significance to future research. The site was identified on a cultivated dissected upland ridge at 990 ft. AMSL, east of 15Mm53. The site area was surveyed in three sections, using six trenches and surface collection. The artifacts assemblage consists of 375 flakes, 8 edge modified flakes, 30 cores, 28 bifaces, 4 projectile point fragments, 7 projectile points (including diagnostics). The site was assessed to require further work before the project could proceed in its vicinity (Allen and Pollack 1978, Site Form 15MM54).

Site 15MM55 was considered a continuation of 15MM54. It is situated on an 80 m by 20 m area of a dissected upland ridge pasture at 970 ft. AMSL, south of 15MM54 and east of 15MM56 (see below). The low density site was disturbed to some degree across its entire area. After initial identification through surface collection ad probes, two trenches were excavated, producing in total one biface, two edge modified flakes, three cores, and 25 flakes. The site was assessed as an inventory site with little potential to produce more information, and no further archaeological work was recommended (Allen and Pollack 1978, Site Form 15MM55).

Site 15MM56 was an indeterminate prehistoric, low density, plowzone lithic scatter identified in a plowed field on a hill west of 15Mm55 and southeast of 15Mm53. Surface collection identified the bounds of the site and two trenches were excavated to help assess the site significance. The artifact assemblage consists of 24 bifaces, 3 edge modified flakes, four cores, and106 flakes. The site did not produce any diagnostic artifacts or any subsurface features. The site was deemed ineligible for nomination to the NRHP, and to have little research potential. Therefore no further archaeology was recommended (Allen and Pollack 1978, Site Form 15MM56).

Site 15MM57 was a low density indeterminate prehistoric lithic scatter located on a hillside (930 ft. AMSL) with an agriculturally and erosionally disturbed context, east of 15Mm54. This site was adjacent to a sinkhole, and was identified using shovel probes and further assessed with the excavation of two trenches. The artifacts collected were: one biface, one edge modified flake, and six flakes. The site was deemed to not have much research potential and no further archaeology was recommended (Allen and Pollack 1978, Site Form 15MM57).

Site 15MM58 was a low density, plowzone lithic scatter identified on a hillside pasture at 940 ft. AMSL, north of 15Mm59. Surface collection, one positive shovel probe, and two trenches were utilized to delineate site area and type. A total of four flakes were recovered and the site was determined to be

ineligible for nomination to the NRHP. No further work was recommended (Allen and Pollack 1978, Site Form 15MM58).

Site 15MM59 was a low density, plowzone lithic scatter. Located in a pasture at the top of a dissected upland ridge (970 ft. AMSL), northeast of 15Mm46 and east of 15Mm60 (see below), shovel probes and four backhoe trenches were implemented to delineate the 100 m by40 m area and assess the site. The excavations only produced 30 flakes and one core. The site was considered an inventory site and no further work was recommended (Allen and Pollack 1978, Site Form 15MM59).

15MM60 was an indeterminate prehistoric lithic scatter of moderate density recovered from a disturbed context at 980 ft. AMSL on a dissected upland ridge top. This site is west of 15Mm59, across the ridge from the sinkhole. The archaeologists utilized systematic surface collection and the excavation of two trenches to delineate the site and make determinations and an assessment. Recovered were three bifaces, one edge modified flake, seven cores, and 70 flakes. The site was listed as an inventory site and no further work was recommended (Allen and Pollack 1978, Site Form 15MM60).

Site 15MM110 represented a series of multicomponent workshops associated with the Early Archaic, Late Archaic, and the Late Prehistoric periods. The site was identified during a 1990 CRA Phase I survey, and was situated on an upland ridge pasture between 960 and 1,010 ft. AMSL— 700 m southwest of Salt Well Branch. The 216,000 square meter area of the site contained two artifact concentrations. The assemblage, produced from the site's plowzone context, consisted of 74 tools, 1,181 staged debitage, 674 pieces of shatter, and 74 tools- five of which are diagnostics: one Early Archaic St. Charles projectile point, one Late Archaic Merom-Trimble projectile point, one Late Archaic Brewerton Eared Notched projectile point, one Middle Woodland Robbins projectile point, and one Late Woodland Madison projectile point. Of the artifacts, 98 percent are made of local Boyle chert, and two percent are of Newman chert. It appears that two 'bipolar' reduction techniques were being practiced. Though the site offered a relatively high number of diagnostic artifacts, no intact subsurface features were encountered and it was recommended that the project continue without further archaeological work at the site (Hand et al. 1990, Site Form 15MM110).

Site 15MM127 was a light scatter of historic and prehistoric artifacts within a 1600 square meter area in Montgomery County, Kentucky. The site is situated on the western finger of a dissected upland knoll, at 1000 ft. AMSL. Diagnostics collected from the site indicated components belonging to indeterminate Woodland; indeterminate Early Woodland; and historic European-American, 1900's to the present. The site had been previously disturbed across more than 80 percent of its area, and was not recommended for listing to the NRHP, nor was any further work recommended (Bradbury 1995, Site Form 15MM127).

Site 15MM128 was a light to moderate density flake scatter with a few diagnostics (Kirk corner notched Cluster, Terminal Archaic Barbed Cluster, Dickson Cluster) indicating components associated with indeterminate Early Archaic, indeterminate Late Archaic, and indeterminate Early Woodland special activity areas. During excavations, no sub-plowzone features were found. The location of the site is on the northern finger of a knoll in the dissected uplands of Montgomery County, Kentucky, at 1000 ft. AMSL. After the initial survey by CRA, the archaeologists returned to the site to conduct a second plowing of the entire site area paired with an intensive surface collection in order to more confidently determine site significance. The site was less than 25 percent disturbed, but the site did not offer significant research potential and was not recommended for nomination to the NRHP, nor was any further work recommended (Bradbury 1995, Site Form 15MM128).

Site 15MM129 is a standing structure recorded as constructed in 1904, and two standing outbuildings. None of the structures were deemed eligible for nomination to the NRHP. No further work was recommended (Bradbury 1995, Site Form 15MM129).

Site 15MM142, identified by James Hixon with the KYTC in 1998 by surface collection supplemented with shovel testing, was an undetermined prehistoric open habitation site. The 4,500 square meter lithic scatter was heavily disturbed by railroad construction and lacked intact soils within the project area. It was determined that the site extends east beyond the project area. The site was determined to have limited research potential and was not recommended for nomination to the NRHP; no further work was recommended (Hixon 1998, Site Form 15MM142).

Site 15MM143, located on a knoll just outside Mount Sterling, was a prehistoric lithic scatter with an Archaic, or possibly Paleolithic, component. The site was identified by James Hixon with the KYTC in 1998; he noted heavy disturbance associated with the railroad. Even considering the heavy disturbance within the surveyed 60 m by 25 m site area, the site could have extended beyond the project survey bounds, thus further work was recommended if the site was to be impacted by future construction (Hixon 1998, Site Form 15MM143).

Site 15MM144, an indeterminate prehistoric lithic scatter was mapped entirely within the project area of the US 60 road improvements surveyed by Hixon in 1998. The scatter was of a low density across the 14 m by 10 m area and did not offer any subsurface features or integrity. The site was considered an inventory site and was not recommended for nomination to the NRHP, nor was any further work recommended (Hixon 1998, Site Form 15MM144).

Site 15MM149, a multi-component prehistoric lithic scatter produced the following diagnostic artifacts: three late prehistoric, Fort Ancient triangular points; one Lowe cluster Middle Woodland to early Late Woodland projectile point; and one Early Woodland stemmed projectile point. There were no sub-surface features identified during the survey, and likewise no fire cracked rock or prehistoric ceramic. Clearance for the project to proceed was recommended (Anderson 2000, Site Form 15MM149).

Site 15MM150 was a core reduction and tool production activity site situated on the terrace of Hinkston Creek at 910 feet AMSL. The site was a moderate-density site which, from 28 positive shovel probes, produced 56 flakes and 2 modified implements- including a Type I Small Triangular projectile point diagnostic of pre-A.D. 1200 Fort Ancient culture. There not any subsurface features identified and no further work was recommended (Anderson 2000, Site Form 15MM150).

Site 15MM151 was a light density prehistoric lithic scatter of 9 total flakes that failed to produce any diagnostic artifacts, fire cracked rock, prehistoric ceramics, or subsurface features. The three positive shovel probes and surface collection area were located on the floodplain of Hinkston Creek at 900 ft. AMSL. The site was not considered likely to produce more information valuable to potential research, and the project was cleared to proceed within its vicinity (Anderson 2000, Site Form 15MM151).

Site 15MM152 was an early stage lithic reduction site identified by a moderate density lithic scatter that produced 26 artifacts from a surface collection. Artifacts included lithic debitage, three bifaces, three modified debitage, and one core; no diagnostics, fire cracked rock, ceramics, or subsurface features were encountered. Plowing and erosion were the only prior disturbances to the site area, situated at 900 ft. AMSL on a terrace of Hinkston Creek. The artifact scatter was seen to extend outside the project area, but the known extent of the site within the project area was not recommended for further work or

nomination to the NRHP, and the project was cleared to proceed in its vicinity (Anderson 2000, Site Form 15MM152).

Site 15MM165 was a multicomponent site, 260 m by 60 m in area, situated at 970 ft. AMSL on a long, east-west running ridge top that was plowed and surface collected. A spring was located at the base of the hill. The three site components were determined by the presence of the following diagnostic artifacts: two Late Archaic projectile points, one Early Woodland Adena projectile point, and one Late Woodland triangle point. Site 15MM165 was recommended for a Phase II investigation by the surveyor (Schock 2003, Site Form 15MM165).

Site 15MM166 was recorded during the same Arrow Enterprises survey in 2003 (Schock 2003). The site measured 400 m by 130 m in area and was situated at 970ft AMSL on a plowed hilltop. This multicomponent site produced 519 artifacts which can be grouped as follows: 433 waste flakes, 44 utilized flakes, 23 tools, and nine tools diagnostic of cultural/temporal groups— one Kirk serrated Early Archaic projectile point, one Kirk projectile point, one Early Archaic projectile point fragment, two Archaic expanding stem points, and four Late Woodland/Fort Ancient triangles. A Phase II investigation was recommended for this site (Site Form 15MM166).

Site 15MM167 was a multicomponent site with the predominant component being a residence from the first half of the twentieth century. The prehistoric component is considered indeterminate because the context of the two diagnostic projectile points (one Adena point, one Copena point) was historic and they were likely collected and brought to the historic site. The remaining 71 lithic artifacts were non-diagnostic. The site's setting was a ridge top at 930 ft. AMSL, and the site area measured 220 m by 60 m. The site was assessed as an inventory site ineligible for nomination to the NRHP and offering little potential research value, thus no further work was recommended for the site (Schock 2003, Site Form 15MM167).

Site 15MM168 was an indeterminate prehistoric site situated on a hillside at 960 ft. AMSL. The site area measured 130 m by 50 m and produced a lithic scatter of 55 artifacts: two biface bases, one biface fragment, six utilized flakes, one preform, and 45 waste flakes. There were no diagnostic artifacts recovered and no subsurface features encountered. The site was deemed to have little research potential, was not recommended for nomination to the NRHP, and no further work was recommended for the site (Schock 2003, Site Form 15MM168).

Site 15MM169 was a prehistoric site with Archaic and Late Woodland components in a low terrace and floodplain setting at 900 ft. AMSL. The site had been plowed as a survey method, but individuals not involved with the survey surface collected the area before Jack Schock was able to. Nonetheless, a high density of artifacts was recorded within the 70 m by 40 m area. The assemblage of 219 artifacts generated by the survey consisted of169 waste flakes, four cores, 32 utilized flakes, one flake scraper, one end scraper, three preforms, one biface tip, two biface fragments, four biface bases, one Archaic point, and one Late Woodland Jack's Reef Pentagonal point. The site was slotted to be part of a buffer zone for the particular proposed construction project, thus- since there would be no impact to the site- no further work was recommended. If construction plans were to change to potentially impact the site, then 15MM169 would be recommended for a Phase II investigation (Schock 2003, Site Form 15Mm169).

Site 15MM170 was an indeterminate prehistoric site that produced 110 artifacts (89 waste flakes, 19 utilized flakes, one core, and one biface tip, none of which provided a temporal or cultural association for the site. The site was situated on a hillside at 930 ft. AMSL, and covered an area of 5,600 square meters. No further work was recommended for 15Mm170 (Schock 2003, Site Form 15Mm170).

Site 15MM171 was a 2,000 square meter-area site that produced 24 non-diagnostic lithic artifacts from the lowest slope of a ridge, at 900 ft. AMSL, which had been plowed for the purpose of the 2003 Schock survey (Schock 2003). The site was only 10 meters east of a stream in an area slotted to be used as a floodplain buffer for the proposed industrial park, thus the site would not be impacted by the project. No further work was recommended (Schock 2003, Site Form 15Mm171).

Site 15MM172 was a multicomponent site identified during the Arrow Enterprises' 2003 survey in Mount Sterling, Montgomery County, Kentucky. The site was located on the lowest portion of a ridge at 900 ft. AMSL, east of a stream and in an area proposed to be used as a no-impact flood buffer zone for the industrial park project. Site 15Mm172 occupied a 50 m by 15 m area and produced 69 prehistoric lithic artifacts including a diagnostic projectile point from the Archaic period. Seventeen historic artifacts indicated an early nineteenth century domestic or dumping component at the site. The site was considered an inventory site with little potential to produce more information valuable to future researchers, and no further work was recommended (Schock 2003, Site Form 15Mm172).

Site 15MM173 was a multicomponent prehistoric site of moderate density. The site was situated at 950 ft. AMSL , occupying approximately 14,000 square meters of a dissected upland ridge. A total of 284 lithic artifacts were recovered during the Arrow Enterprise 2003 Phase I survey, including diagnostic projectile points associated with Fort Ancient, Woodland, Archaic, and Early Archaic peoples. There was some ground disturbance identified in the soil profiles and the site was deemed to have little research potential; no further work was recommended (Schock 2003, Site Form 15Mm173).

Site 15MM174 was an indeterminate prehistoric site and was classified as a short-term hunting camp by the CRA archaeologists. The Phase I survey was conducted along KY 11 in 2005. Situated on a dissected upland ridge at 988 ft. AMSL, this low density (12 artifacts in a 300 square meter area) lithic scatter displayed heavily mixed contexts and poor depositional stratigraphy. No further work was recommended (Bundy 2005, Site Form 15Mm174).

Site 15MM175, identified during the CRA Phase I survey along KY 11 as reported by Bundy in 2005, was a prehistoric lithic scatter with a very minor historic component (two artifacts). The site was situated on a broad, eastward sloping dissected upland ridge, at 995 ft. AMSL, being utilized at the time as a hay field. Forty-seven positive shovel probes delineated the site area which measured 0.44 acre (0.18 ha) or 60 m by 30 m. A total of 169 lithic artifacts were produced from the probes, and all but nine of the STPs had artifacts only in the plowzone context. Because the nine probes that produced flakes from below the plowzone contexts were also located in the area of highest artifact concentration for the site; and because the debitage analysis indicated the site could be primarily a tool production activity area, a Phase II level of investigation was recommended, and the NRHP eligibility was not assessed (Bundy 2005, Site Form 15Mm175).

Site 15MM176 was situated on a grassy slope and dissected upland ridge, at the crest of which (920 ft. AMSL) was a scatter of lithic debitage recovered from an exposed dirt track road and water line disturbance. Shovel probes were excavated across the ridge top, identifying a dense historic artifact scatter associated with a razed and burned structure dating from the early to mid-20th century to 1980, and delineating the site boundaries to an 888 square meter area. Previous negative impacts to the site included water line and erosional disturbances, as well as a heavily-impacting late 20th century occupation that left a lot of modern trash and few intact contexts from earlier occupations. No further work was recommended (Gage and Watkins 2012, Site Form 15Mm176). The site was revisited in 2005 during a Phase I survey along KY 11 conducted by CRA. They recovered an additional 1,063 historic artifacts, largely domestic and architecture related, that indicated a late nineteenth to twentieth century

occupation. The re-visit also considered the site inventory, without significant potential for further research, and no further work was recommended (Bundy 2005).

Site 15MM177 was an indeterminate prehistoric lithic scatter that also produced two historic artifacts. The 7,200 square meter area site was situated in a hay field on a dissected upland ridge at 960 ft. AMSL. The Phase I survey bounds of the proposed KY 11 reconstruction project did not fully encapsulate Site 15Mm177, which appeared to extend further to the east, according to the CRA site analysis (Bundy 2005). Forty seven positive shovel probes defined the site area and produced the artifact assemblage of 110 flakes, 9 shatter pieces, one biface, and three fragments of sandstone fire –cracked rock. The assemblage indicates a tool production and core reduction activity area and short term occupation, but the low density of the artifacts and the agricultural disturbance meant that there was little intact spatial patterning. Combined with the absence of any intact subsurface features, Site 15Mm177 was determined to have little to no research potential, was not recommended for listing to the NRHP, and no further work was recommended for the site (Bundy 2005, Site Form 15Mm177).

Site 15MM204 was recorded and delineated after Phase I and Phase II surveys performed by CRA ahead of a proposed commercial development in Mount Sterling, Montgomery County, Kentucky, in 2006. The high density site was determined to have intact subsurface deposits and a Phase II was conducted which involved 13 excavation units and 210 meters of mechanical stripping. During this phase it was discovered that the intact portion of the site was restricted to less than a five meter-square portion of the total area. Nonetheless, a large amount of debitage (1,715 flakes) was recovered from the 22,400 square meter site, and clearance for the proposed development was not recommended (McCurdy 2006, Site Form 15Mm204).

Site 15MM219 was a moderate density indeterminate prehistoric scatter on an upland ridge crest west of Hinkston Creek at 1,020 to 1,040 ft. AMSL. The site extended east to west across the ridgetop to cover 10,592 square meters. A systematic surface collection and 18 positive shovel probes produced lithic debitage and fire cracked rock. All debitage was of the locally available Boyle variety. The site was determined to be potentially eligible for nomination to the NRHP, and after changes were made to the project to completely avoid the site area and any negative impacts, no further work was recommended (Gage and Watkins 2012, Site Form 15Mm219).

Section 4 -

Methodology

In this chapter, the methods employed during the course of this study are described. These methods include the fieldwork activities, their application in different portions of the archaeological APE reflecting conditions encountered, and an evaluation of their effectiveness in conducting initial National Register evaluation of the archaeological site. Laboratory methods are discussed in the following section (Section Five) along with the site assemblage and a discussion of the associated contexts of recovery and interpretation. This section also presents an overview of the requirement for nomination to the National Register of Historical Places and concludes.

4.1 Implemented Field Methods

The field methods implemented for the Phase I investigations conform to the Kentucky Heritage Council's specifications for conducting a Phase I survey (Sanders 2006). The field methods included systematic shovel probes and visual inspection. Systematic shovel test probes (STPs) were excavated where possible. All soil excavated from the STPs was screened through ¼ inch mesh screens with the intention that any and all artifacts retained in the screen would be collected and bagged according to provenience. Areas of 15 percent or greater slope were visually inspected for surface remains and potential rock shelters.

Fifty-nine (59) STPs were excavated. The location of all the shovel probes on USGS quadrangle maps are shown in Figure 4-1 though Figure 4-4, and on an aerial photograph in Figure 4-5 though Figure 4-8.

4.1.1 Field Conditions

The entire APE was subjected to visual inspection. Shovel probing was conducted across the entire APE where conditions allowed. Approximately eighty-six percent of the shovel tested portions of the APE were completely grown over in pasture grasses that offered zero ground surface visibility (Figure 4-9, Figure 4-10, Figure 4-11, and Figure 4-12).

4.1.2 Evaluation of Field Methods Used

Shovel testing and visual inspection were used to identify and define approximate site limits within the survey area. The methods were successful in identifying site location, delineating site boundaries, and obtaining a sample of cultural materials from the site.

4.2 National Register Evaluation of Archaeological Sites

Section 106 of the National Historic Preservation Act of 1966 requires federal agencies to take into account the effects of their undertakings on properties listed or eligible for listing in the National Register and to give the Advisory Council on Historic Preservation a reasonable opportunity to comment. While it does not require the preservation of such properties, it does require that their historic or prehistoric values be considered in weighing the benefits and costs of federal undertakings to determine what is in the public interest. Section 106 is invoked when “any project, activity, or program that can result in changes in the character or use of historic properties” (36 CFR Part 800) whether federal agency jurisdiction is direct or indirect.

Figure 4-1. Location of STPs on USGS Topographical Map, Page 1.

Figure 4-2. Location of STPs on USGS Topographical Map, Page 2.

Figure 4-3. Location of STPs on USGS Topographical Map, Page 3.

Figure 4-4. Location of STPs on USGS Topographical Map, Page 4.

Figure 4-5. Location of STPs on Aerial Photograph, Page 1.

Figure 4-6. Location of STPs on Aerial Photograph, Page 2.

Figure 4-7. Location of STPs on Aerial Photograph, Page 3.

Figure 4-8. Location of STPs on Aerial Photograph, Page 4.

Figure 4-9. Sloped Area and Apartments, Looking West.

Figure 4-10. Site 15MM225 Area, Looking North.

Figure 4-11. Hickston Creek Area, Looking South.

Figure 4-12. Disturbed Area, Looking South.

Figure 4-13. Yard, Looking West.

Pursuant to the October 1992 Amendments to the National Historic Preservation Act (Section 110 of NHPA 1980, amended 1992) an "undertaking" means a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including (A) those carried out by or on behalf of the agency; (B) those carried out with federal financial assistance; (C) those requiring a federal permit, license, or approval; and (D) those subject to state or local regulation administered pursuant to a delegation or approval by a federal agency.

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

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

Mere association with historic events or trends is not enough, in and of itself, to qualify under Criterion A-the property's specific association must be considered important as well. Often, a comparative

framework is necessary to determine if a site is considered an important example of an event or pattern of events.

In order to qualify under Criterion B, the persons associated with the property must be individually significant within a historic context. As with all Criterion B properties, the individual associated with the property must have made some specific important contribution to history.

To be eligible under Criterion C, a property must meet at least one of the following requirements: the property must embody distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction.

Criterion D requires that a property "has yielded, or may be likely to yield, information important in prehistory or history." Most properties listed under Criterion D are archaeological sites and districts, although extant structures and buildings may be significant for their information potential under this criterion. To qualify under Criterion D, a property must meet two basic requirements:

- The property must have, or have had, information that can contribute to our understanding of human history of any time period;
- The information must be considered important.

The use of Criteria A, B, and C for archaeological sites are appropriate in limited circumstances and have never been supported as a universal application of the criteria. However, it is important to consider the applicability of criteria other than D when evaluating archaeological properties. It is important to note that under Criteria A, B, and C the archaeological property must have demonstrated its ability to convey its significance, as opposed to sites eligible under Criterion D, where only the potential to yield information is required.

Section 5 -

Materials Recovered

In this section the laboratory procedures and analytic methods are discussed and the materials recovered are presented. The analytic methods involve the use of an artifact classification scheme that creates useful analytic categories for evaluating National Register eligibility. The artifact assemblages are also discussed with the site descriptions and results in Section Six.

5.1 Laboratory Methods

Artifacts recovered during field investigations were brought to the CDM Smith archaeology laboratory in Lexington, Kentucky, for washing, cataloging, and initial analysis. Materials were washed and sorted by general material type (e g., historic vs. prehistoric). All prehistoric specimens are classifiable into one class based on stage of reduction, tool form, and portion represented. A series of attributes and metric data were then collected for specific prehistoric artifact classes including size of debitage, cortex presence and absence, thermal alteration, and raw material type. Prehistoric lithic specimens were identified by J. David McBride. Historic artifacts were washed and sorted into major material categories. These were then cataloged according to the system of artifact-function association modified from South (1977). All artifacts were assigned to the functional groups (kitchen, architecture), then to a material class (e.g., ceramic, glass, metal), to a type (e.g., base of bottle, jar lip), and to a subtype (e.g., color, decoration type). Historic specimens were identified by J. David McBride.

In the following discussion, each of the major categories of artifacts is defined. Prehistoric artifact types are discussed first, followed by the standard classifications of historic artifacts developed by South (1977).

5.1.1 Prehistoric Artifact Assemblages

5.1.1.1 Prehistoric Lithics

The analyses included tool analysis, raw material analysis, and mass analysis. These different techniques provide complementary data and permit the extrapolation of stronger inferences about the organization of lithic technology at the four sites. One hundred percent of all surface-collected and excavated materials were subjected to these, except where noted below.

All debitage was macroscopically examined for evidence of retouch and/or utilization. Those artifacts displaying retouch and/or utilization were then separated from non-utilized debitage. Additionally, all chipped stone artifacts were analyzed for presence of primary geologic or secondary incipient cone cortex and macroscopic evidence of thermal alteration. A typology of specimens was developed using standard techniques and definitions employed throughout eastern North America (e.g., Callahan 1979; Crabtree 1982; and Odell 1996).

5.1.1.1.1 Bifacial Tools

Bifaces are generalized bifacially flaked artifacts which may be blanks or preforms for morphologically distinct bifacial tools, or finished tools in their own right. Types of bifaces are based on technological attributes including flake scar patterns, edge sinuosity, width/thickness ratio, and edge angles. Callahan's biface production stages (1 through 5) are followed in this analysis (1979). Nondiagnostic bifacial tools were measured and described in as much detail as possible. Lacking chronological

attributes, these specimens can only be assigned to function, and where possible by association with datable strata.

Projectile points are pointed bifaces with a haft element. A projectile point displays specific morphological characteristics to which a general temporal designation can be assigned. The attributes of each point were described and a regional term for that type was identified following Justice (1987) and Railey (1992).

5.1.1.1.2 Unifacial Tools

Unifacially flaked stone tools are made on flakes and retain the unmodified smooth ventral flake surface. Flakes these tools may be either debitage from bifacial reduction or may have been struck from cores with the intention of further modification. Blade cores, blades, multifacial flake cores, and the resultant unifacial tools are direct evidences of a unifacial tool manufacturing industry. Tools in this category include unifacial scrapers, burins, denticulates, drills, and gravers. Also included is debitage that has been utilized and/or minimally retouched for use on an expedient basis and then discarded.

5.1.1.1.3 Lithic Debitage

One of the most ubiquitous artifact categories on prehistoric sites is lithic debitage, which is considered to include all the material produced from the initial reduction stage to the use/reworking stage. Debitage is produced during all stages of reduction, but the representation of each class as compared to the other classes provides insight into the types of lithic use that occurred at a specific location. All flakes, blades, chunks/shatter were analyzed according to platform facet and dorsal scar counts, presence of cortex, and macroscopic evidence of thermal alteration and/or utilization.

Flakes are pieces of debitage with two faces, a dorsal and a ventral. The dorsal surface can be partly or totally covered by cortex, but normally shows the scars from removals that were made before the flake was removed from the core. The ventral surface contains only the features related to the detachment of the particular flake.

Flake debitage produced in bifacial and unifacial technologies is divided into three major categories including primary flakes, secondary flakes, and tertiary flakes, and several subcategories based on specific morphological attributes. These lithic reduction categories follow classification stages proposed by Collins (1974), Flenniken (1978), Boisvert et al. (1979), Magne and Pokotylo (1981), Magne (1985), Ebright (1987), and Bradbury and Carr (1995) with some modifications. A brief description of each debitage category is provided.

> *Primary flakes* (primary and secondary decortication flakes) are those produced during the earliest stages of lithic reduction and result from the removal of cortex from the raw material. *Primary decortication flakes* are usually large and cortex is present on over 50 percent of the dorsal surface. *Secondary decortication flakes* contain cortex on less than 50 percent of the dorsal surface.
>
> *Secondary flakes* (interior and thinning flakes) result from the reduction and shaping of the initial biface. Secondary flakes characteristically display a well-developed bulb of percussion, one or more flake scars on the dorsal surface, and may exhibit platform preparation. *Interior flakes* generally have large, double faceted platforms perpendicular to the orientation of the flake. *Thinning flakes* may have multi-faceted platforms at an acute or obtuse angle to the flake's orientation and may show signs of crushing or battering in preparation for flake removal from the parent material.

Tertiary flakes (late stage percussion and pressure flakes) result from the sharpening and/or reworking of tools or points. These flakes are generally very small with small striking platforms, often multifaceted and steeply angled. Tertiary flakes are usually underrepresented in artifact assemblages recovered with standard ¼ inch hardware mesh screens, as these flakes are frequently smaller than ¼ inch and pass through the screens.

Flakes struck from flake cores for further unifacial modification are generally indistinguishable from those produced in bifacial reduction. However, a formal, specialized unifacial technology is blade manufacture, which produces morphologically distinct artifacts.

Blades are specialized flakes with more or less parallel or sub-parallel lateral edges which, when complete, are at least twice as long as wide (Owen 1982: 2). Blades contain at least one dorsal crest but may contain two or more dorsal crests. Blades are associated with prepared cores and blade technique and are not produced randomly (Crabtree 1982: 16).

Debitage displaying some flake characteristics are classified as *undetermined flakes* if they are too fragmentary to determine flaking stage.

Chunks/shatter are pieces of usable raw material with at least one freshly broken surface. Blocky and angular fragments are usually produced in the initial stages of flint knapping as a result of removing unstable areas of material from the core or blank. Chunks/shatter are distinguished from cores by the absence of negative flake scars and striking platforms. Natural processes may produce a small proportion of chunk/shatter.

5.1.1.1.4 Raw Material Analysis

The determination of raw material type was accomplished with the aid of written descriptions (DeRegnaucourt and Georgiady 1998, Gatus 1980, 1982). All debitage and tools in the assemblage were macroscopically inspected to determine raw material type and compared with existing descriptions. Examining raw material procurement trends can yield data on settlement patterns, resource procurement strategies, and trade and exchange networks.

5.1.1.1.5 Mass Analysis

Mass analysis focuses on the variables of size, shape, and presence of cortex on aggregate batches of debitage as a means of distinguishing various forms and characteristics of reduction within a lithic artifact assemblage. Because there are several disadvantages in using reduction stage classification exclusively to analyze flaking debris, data obtained from mass analysis can be used to compare with those gained from reduction stage classification to provide more solid interpretations of the lithic artifact assemblage (Ahler and Christensen 1983, Ahler 1989, Bradbury and Franklin 2000). Two general theoretical observations regarding flintknapping underlie mass analysis and are relevant to the current study:

Flintknapping is fundamentally a reductive technology, and the nature of this technology places predictable and repetitive size constraints on the byproducts (and products) produced. Most flakes produced early in reduction should be larger, and most flakes produced late in reduction should be smaller. Similarly, the frequency of flakes with cortex should be highest in early reduction and lowest in late reduction.

Variation in load application in the flintknapping procedure produces corresponding variations in both size and flake shape. Experimental data shows that percussion flaking, on the whole, is capable of

producing flakes much larger in size than any produced by pressure flaking. Size grade distribution data provides a fairly direct measure of load application variation (Ahler 1989: 89-91).

For this project, all non-utilized debitage (flakes, flake fragments) were passed through a series of nested laboratory hardware cloth screens to sort by size. Size grades follow Stahle and Dunn (1982, 1984). The size grades are as follows:

Grade 0 includes specimens smaller than ¼ inch

Grade 1 includes specimens smaller than ½ inch but larger than ¼ inch

Grade 2 includes specimens smaller than 1 inch but larger than ½ inch

Grade 3 includes specimens smaller than 2 inches but larger than 1 inch

Grade 4 includes specimens larger than 2 inches

Flake debris from each provenience in each grade was weighed as an aggregate to the nearest tenth of a gram and then counted. One attribute, thermal alteration, was also recorded for the reduction debris. Thermal alteration is often intentional within the culture in order to change the properties of the chert in order to make the raw material more adept to tool production.

The presence of primary geologic cortex may indicate that the raw material was procured from outcrops, whereas secondary incipient cone cortex on the core surface suggests that raw material was procured from a stream context. Research has shown that reduction analysis insufficiently provides data on the stage during which a flake was removed. However, by comparing frequency of occurrence of cortex on flakes, research indicates that a higher percentage of flakes during the initial stages of lithic reduction will have cortex and a lower percentage will have cortex during the final stages of lithic reduction. In addition, the amount of the flake covered in cortex is also an indicator of the stage during which the flake was removed, again more coverage indicates removal during the initial stages, and less coverage indicates later removal. Thus flakes with cortex were evaluated according to the following criteria:

Grade 1 includes specimens with primary geologic cortex over greater than 50% surface

Grade 2 includes specimens with primary geologic cortex over less than 50% surface

Grade 3 includes specimens with secondary conical cortex over greater than 50% surface

Grade 4 includes specimens with secondary conical cortex over less than 50% surface

All of these methods compose mass analysis. When taken together, they can provide extensive data on the methods of tool production.

5.1.1.1.6 Materials Recovered

Sixteen pieces of lithic debitage (Table 5-1) were recovered from the three sites. The debitage consisted of thirteen undetermined flakes, one piece of shatter, and one secondary flake. The debitage was made from Boyle (n=12) and Brassfield (n=1). Nine flakes were Size Grade 1, three flakes were Size Grade 2, and four were Size Grade 0. Eight flakes were recovered from Site 15MM225, two flakes from Site 15MM226, and six flakes from Site 15MM227.

Table 5-1. Prehistoric Artifacts.

Site	Flake Type	Size Grade	Raw Material	Total
15MM225	Undetermined	1	Boyle	5
	Undetermined	1	Brassfield	1
	Secondary	2	Boyle	1
	Shatter	2	Boyle	1
15MM226	Undetermined	0	Boyle	1
	Undetermined	2	Boyle	1
15MM227	Undetermined	1	Boyle	3
	Undetermined	0	Boyle	3
Total				**16**

5.1.2 Historic Artifact Assemblages

In accordance with South (1977), artifacts are ascribed to functional groups reflecting their association with the dwelling (architecture) and food preparation, serving, and preserving (kitchen).

Three historic artifacts were recovered from Site 15MM227 (Figure 5-1).

5.1.2.1 Kitchen Group

This group consists of artifacts used in the preparation, consumption, and/or storage of foods and beverages. For the most part, this group comprises container glass and ceramics. As most of these are manufactured, there is significant variation in decorative style and manufacturing techniques over time. This chronological variation forms the basis for the assignment of individual sites to historic time periods.

15MM227 contained two Kitchen Group related artifacts consisting of refined ceramics (Table 5-2).

Table 5-2. Kitchen Artifacts.

Group	Type	Total
Kitchen	Whiteware	1
	Unidentified Refined Earthenware - Mochaware	1
Total		**2**

5.1.2.1.1 Ceramics

Domestic ceramics are one of the most important chronologically diagnostic artifact categories from archaeological sites. In addition, these materials offer important clues to functional and social status variation among sites and cultural or ethnic components. For this reason, the ceramics are described in detail in the following chapter. Typically, ceramics are divided into two major groups: refined and unrefined earthenware. Refined earthenware was primarily used as serving vessels, such as dinner and tea services, or toiletry items. Refined wares treated here included delft or Tin-enameled ware,

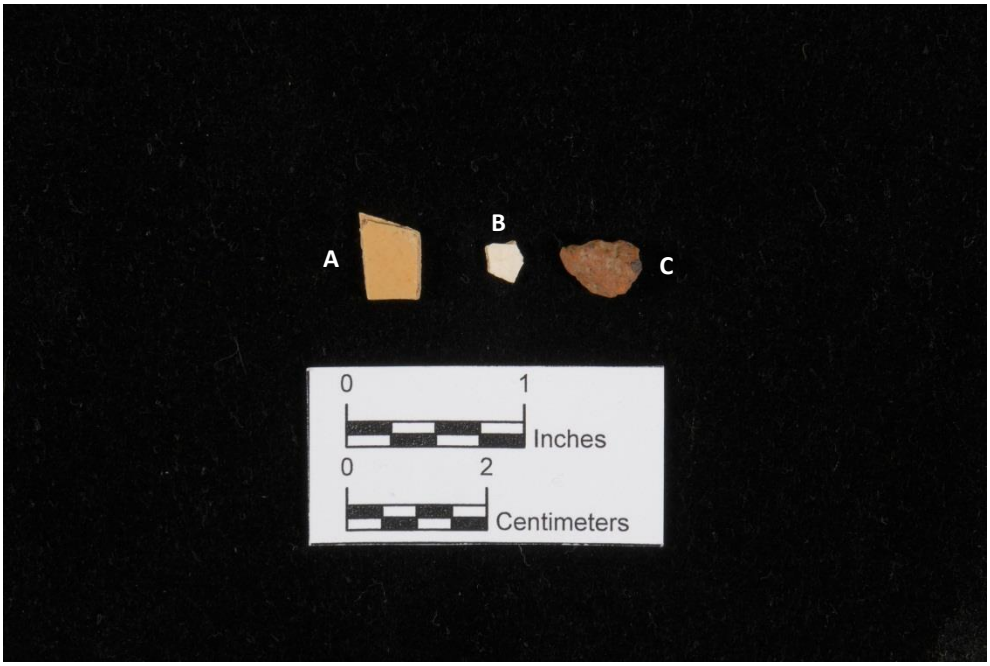

Figure 5-1. Artifacts from Site 15MM227: A) Unidentified Refined Earthenware - Mochaware; B) Undecorated Whiteware Sherd; C) Brick Fragment.

porcelain, creamware, pearlware, whiteware, and ironstone. Unrefined earthenware was used for storage and food preparation, such as mixing bowls, churns, and milk pans.

5.1.2.1.1.1 Whiteware

Whitewares are non-vitreous and semi-vitreous, white-paste earthenwares usually having a clear, colorless glaze. Whitewares were first manufactured in England circa 1800, had become popular by 1820, remained common throughout the 1800s, and are still being manufactured today. The period of greatest popularity of whiteware was 1830 to 1890 (Majewski and O'Brien 1987:119-125; Miller 1980:16-17; Noel-Hume 1969:130-131; Price 1982). Whiteware occurs in virtually every decorative type that was available in the nineteenth century, and decoration type and style can be used as relative temporal indicators.

Ceramics recovered from 15MM227 consisted one undecorated fragment of an undetermined whiteware vessel and one fragment of an undetermined possible mochaware decorated unidentifiable refined earthenware vessel (Figure 5-1 (B)).

5.1.2.1.1.2 Mochaware

Mochaware is a decorative style that occurs on Pearlware, Whiteware and possibly other refined earthenware. It occurs on ceramics from the late eighteenth century through the twentieth century (Gooden 1992:xvii).

One unidentified refined earthenware mochaware decorated sherd was recovered from Site 15MM227 (Figure 5-1 (A)).

5.1.2.2 Architecture Group

Artifacts assigned to this group include all items associated with construction and hardware furnishings. Specimens include bricks, mortar, cement, window glass, doorknobs, faucet parts, and various nails. The major categories of this group are described below.

One architectural artifact was recovered during this survey from site 15MM227.

5.1.2.2.1 Brick

One brick fragment was recovered from the excavations at CDMS#3 (Figure 5-1 (C)). The manufacturing of bricks changed from locally crafted, handmade varieties to machine-produced during the nineteenth century. With this chronological information in mind, bricks are classified according to method of manufacture (Gurke 1987). The nature of most brick fragments often precludes an accurate assessment of age. The brick recovered were too fragmentary to determine the method of manufacture. It weighted 0.4 grams.

Section 6 -

Results

Three archaeological sites, 15MM225 through 15MM227, were located within the APE. Their location is shown in Figure 6-1 and Figure 6-2. One previously recorded site, 15MM42, was revisited during the survey. The following is a description of the findings.

6.1 Site 15MM225

Site 15MM225 consists of a prehistoric component consisting of non-diagnostic lithic debitage. The APE is a relatively small area and the limits of the component outside the APE are unknown.

6.1.1 Location

Site 15MM225 can be found on the USGS Mount Sterling, Kentucky, 7.5' quadrangle map (Figure 6-3). The UTM coordinates (Zone 16 NAD 27) for the center of the site are N XXXXXXX, E XXXXXX. The site is located along KY 1991 in Mount Sterling, Montgomery County (Figure 6-4). The site's location on design sheets for KY 1991 is shown in Figure 6-5. The site measures 0.07 acre (0.03 hectare). Figure 6-6 though Figure 6-7 shows the site area.

6.1.2 Site Description

The site measures 10 by 80 meters and is located on the xxx side of KY 1991. The site area is level with grass. The APE is approximately 10 meters in width at the site. Hinkston Creek is about XXX meters to the west across KY 1991. Part of the site appears to be disturbed from utility line construction. Shovel test probes 16, 17, and 18 have mixed deposits with modern historic and prehistoric artifacts. The APE across KY 1991 and adjacent Hinkston Creek was also disturbed. The site may extend beyond the boundaries of the project area, but due to the limitations of the project area, it is uncertain.

A total of eight artifacts were recovered from five positive shovel test probes. All of the artifacts were lithic debitage. Modern artifacts, less than fifty years old, were recovered but discarded.

6.1.3 Stratigraphy

Site 15MM225 consists of five positive STPs with prehistoric artifacts. Two profiles are illustrated in Figure 6-8. The site is near Hinkston Creek and the soils may represent alluvial deposits.

6.1.3.1 STP 14

STP 14 was located on the xxx side of KY 1991 (Figure 6-8). The shovel probe consisted of two zones extending from the surface to 51 cmbs. Zone I consisted of a 10YR3/3 brown silt loam and extended from surface to 38 cmbs. Zone II consisted of a 10YR5/6 yellowish brown loamy clay and extended from 38 to 51 cmbs.

Three pieces of lithic debitage was recovered from STP 14 in Zone I.

6.1.3.2 STP 17

STP 17 was located on the xxx side of KY 1991 (Figure 6-8). The shovel probe consisted of one zone extending from the surface to 45 cmbs. Zone I consisted of a 10YR3/3 dark brown silt clay loam mottled

with 10YR4/4 silt clay loam and charcoal flecks and extended from surface to 45 cmbs. The STP was disturbed, possibly by utility line construction.

Figure 6-1. Location of Newly Recorded Archaeological Sites on USGS Topography Map.

Figure 6-2. Location of Newly Recorded Archaeological Sites on Aerial Photograph.

Figure 6-3. Location of Archaeological Site 15MM225 USGS Topography Map.

Figure 6-4. Location of Archaeological Site 15MM225 on Aerial Photograph.

Figure 6-5. Location of Archaeological Site 15MM225 on Design Sheet.

Figure 6-6. Site 15MM225, Looking North.

Figure 6-7. Site 15MM225, Looking South.

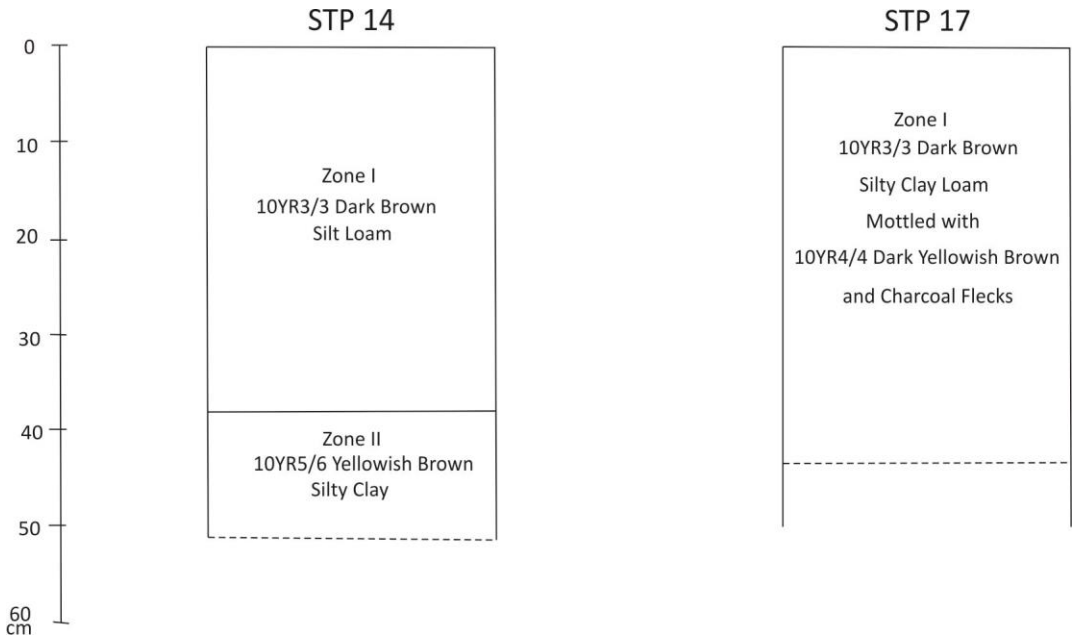

Figure 6-8. Shovel Test Probes from Site 15MM225.

Two pieces of lithic debitage was recovered from STP 17.

6.1.4 Materials Recovered

Eight prehistoric lithic artifacts were recovered from the site. All of the artifacts were non-diagnostic debitage. Six undetermined flakes, one secondary flake, and one piece of shatter were recovered. Seven of the artifacts were Boyle chert and one undetermined flake was Brassfield.

6.1.5 Features

No features were located during the Phase I archaeological investigations at Site 15MM225.

6.1.6 Prehistoric Interpretation

The prehistoric component consists of eight pieces of lithic debitage. The debitage is not temporally or culturally diagnostic. The limited number and range of artifact types indicates that the site was used briefly for limited lithic manufacture or maintenance activities.

6.1.6.1 Discussion

The limited number of artifacts and tools suggests the site was occupied for a limited period and there were a limited variety of activities which occurred there. The lack of midden and other features also suggests a limited duration and activity occupation. The area was disturbed by previous construction activities, perhaps an earlier utility line construction. Based on the limited data, the prehistoric component of Site 15MM225 is a limited activity, short term occupation with no cultural or temporal affiliation.

6.1.7 National Register Eligibility

Site 15MM225 consists of a prehistoric lithic scatter. The prehistoric component is a short term limited activity occupation with no cultural or temporal affiliation. The limited artifact assemblage and lack of intact subsurface features indicates that the site has limited research potential and limited integrity.

Therefore, Site 15MM225 has limited research potential and is not considered potentially eligible for listing on the NRHP under Criterion D.

6.1.8 Recommendations

No further archaeological work is recommended for Site 15MM225.

6.2 Site 15MM226

Site 15MM226 consists of a prehistoric component consisting of non-diagnostic lithic debitage. The APE is a relatively small area and the limits of the component outside the APE are unknown.

6.2.1 Location

Site 15MM226 can be found on the USGS Mount Sterling, Kentucky, 7.5' quadrangle map (Figure 6-9). The UTM coordinates (Zone 16 NAD 27) for the center of the site are N XXXXXXX, E XXXXXX. The site is located along KY 1991 in Mount Sterling, Montgomery County (Figure 6-10). The site's location on design sheets for KY 1991 is shown in Figure 6-11. The site measures 0.04 acre (0.02 hectare). Figure 6-12 shows the site area.

6.2.2 Site Description

The site measures 20 by 9 meters and is located on the xxx side of KY 1991. The site slopes to the south and is in pasture grass. The APE is approximately 25 meters wide at maximum. Part of the site appears to be disturbed and on the xxx side of KY 1991 it is also disturbed. Shovel test probes 53 and R5 have prehistoric artifacts. The site may extend beyond the boundaries of the project area, but due to the limitations of the project area, it is uncertain.

6.2.3 Stratigraphy

Site 15MM226 consists of two positive STPs with only prehistoric artifacts. One profile is illustrated in Figure 6-13.

6.2.3.1 STP 53

STP 53 was located on the west side of KY 1991 (Figure 6-13). The shovel probe consisted of two zones extending from the surface to 43 cmbs. Zone I consisted of a 10YR3/3 dark brown silt loam and extended from surface to 39 cmbs. Zone II consisted of a 10YR5/8 yellowish brown loamy clay with 10YR4/6 dark yellowish brown loamy clay and extended from 39 to 43 cmbs.

One piece of lithic debitage was recovered from STP 53.

6.2.4 Materials Recovered

Two prehistoric lithic artifacts were recovered from the site. All of the artifacts were non-diagnostic debitage. All of the debitage was Boyle chert. One piece of debitage was Size Grade 0 and one was Size Grade 2. All of the debitage was undetermined flakes.

6.2.5 Features

No features were located during the Phase I archaeological investigations at Site 15MM226.

6.2.6 Prehistoric Interpretation

The prehistoric component consists of two pieces of lithic debitage. The debitage is not temporally or culturally diagnostic. The limited number and range of artifact types indicates that the site was used briefly for limited lithic manufacture or maintenance activities.

6.2.6.1 Discussion

The limited number of artifacts and tools suggests the site was occupied for a limited period and there were a limited variety of activities which occurred there. The lack of midden and other features also

Figure 6-9. Location of Archaeological Site 15MM226 USGS Topography Map.

Figure 6-10. Location of Archaeological Site 15MM226 on Aerial Photograph.

Figure 6-11. Location of Archaeological Site 15MM226 on Design Sheet.

Figure 6-12. View of Site 15MM226, Looking North.

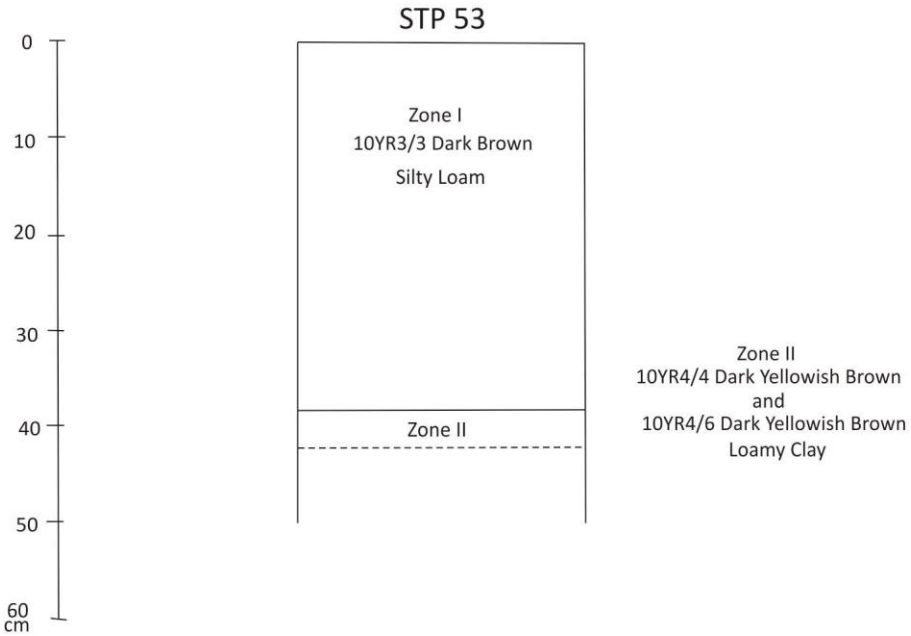

Figure 6-13. Shovel Test Probe from Site 15MM226.

suggests a limited duration and activity occupation. The area was disturbed by previous construction activities, perhaps an earlier utility line construction. Based on the limited data, the prehistoric component of site 15MM226 is a limited activity, short term occupation with no cultural or temporal affiliation.

6.2.7 National Register Eligibility

Site 15MM226 consists of a prehistoric component. The prehistoric component is a short term limited activity occupation with no cultural or temporal affiliation. The limited artifact assemblage and lack of intact subsurface deposits indicates that the site has limited research potential and limited integrity. Therefore, Site 15MM226 is not considered potentially eligible for listing on the NRHP under Criterion D.

6.2.8 Recommendations

No further archaeological work is recommended for Site 15MM226.

6.3 Site 15MM227

Site 15MM227 consists of a prehistoric component consisting of non-diagnostic lithic debitage and a small historic component. The APE is a relatively small area and the limits of the component outside the APE are unknown.

6.3.1 Location

Site 15MM227 can be found on the USGS Mount Sterling, Kentucky, 7.5' quadrangle map (Figure 6-14). The UTM coordinates (Zone 16 NAD 27) for the center of the site are N XXXXXX, E XXXXXX. The site is located along KY 1991 in Mount Sterling, Montgomery County (Figure 6-15). The site measures 0.04 acre (0.02 hectare). Figure 6-17 shows the site area.

6.3.2 Site Description

The site measures 20 by 10 meters and is located on the west side of KY 1991. The site is located in a flat area beneath a gently sloping hillside and is in pasture grass. The APE is approximately 25 meters wide at maximum. Part of the site appears to be disturbed and on the east side of KY 1991 it is also disturbed. Shovel test probes 52 have prehistoric artifacts and R 3 has historic artifacts. The site may extend beyond the boundaries of the project area, but due to the limitations of the project area, it is uncertain.

A well, cistern, or water main meter is located approximately xxx m north of the site area and could possibly associated with the historic component (Figure 6-18). It was capped with cement and the age was not determined.

6.3.3 Stratigraphy

Site 15MM227 consists of two positive STPs with prehistoric and historic artifacts. One profile is illustrated in Figure 6-19.

6.3.3.1 STP 52

STP 52 was located on the west side of KY 1991 (Figure 6-19). The shovel probe consisted of two zones extending from the surface to 53 cmbs. Zone I consisted of a 10YR3/3 dark brown silt loam and extended from surface to 48 cmbs. Zone II consisted of a 10YR3/3 dark brown silty clay loam and extended from 48 to 53 cmbs.

Four pieces of lithic debitage was recovered from STP 52.

The stratigraphy of STP 52 and R 3 suggest that the soil may have been disturbed. All of the historic artifacts were from STP R 3.

6.3.4 Materials Recovered

Six prehistoric lithic artifacts were recovered from the site. All of the artifacts were non-diagnostic debitage. All of the debitage was Boyle chert. Three pieces of debitage were Size Grade 0 and three were Size Grade 1. All of the debitage was undetermined flakes.

Three historic artifacts were recovered. One piece of undecorated whiteware, one piece of unidentified refined earthenware mochaware, and one brick fragment of unidentified manufacture were recovered.

Figure 6-14. Location of Archaeological Site 15MM227 USGS Topography Map.

Figure 6-15. Location of Archaeological Site 15MM227 on Aerial Photograph.

Figure 6-16. Location of Archaeological Site 15MM227 on Design Sheet.

Figure 6-17. View of Site 15MM227, Looking South.

Figure 6-18. Well, Cistern, or Water Main Meter north of Site 15MM227, near Site 15MM226, Looking East.

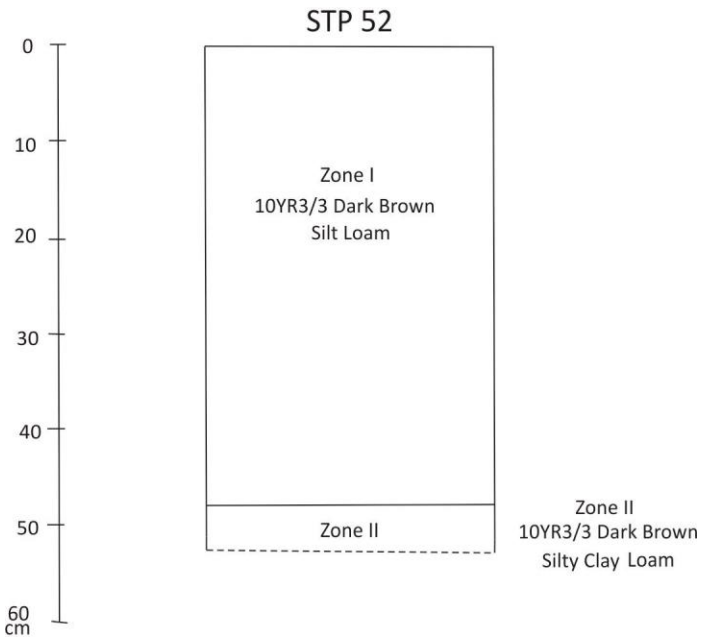

Figure 6-19. Shovel Test Probe from Site 15MM227.

6.3.5 Features

No features were located during the Phase I archaeological investigations at Site 15MM227.

6.3.6 Prehistoric Interpretation

The prehistoric component consists of six pieces of lithic debitage. The debitage is not temporally or culturally diagnostic. The limited number and range of artifact types indicates that the site was used briefly for limited lithic manufacture or maintenance activities.

6.3.6.1 Discussion

The limited number of artifacts and tools suggests the site was occupied for a limited period and there were a limited variety of activities which occurred there. The lack of midden and other features also suggests a limited duration and activity occupation. The area was disturbed by previous construction activities, perhaps an earlier utility line construction. Based on the limited data, the prehistoric component of Site 15MM227 is a limited activity, short term occupation with no cultural or temporal affiliation.

6.3.7 Historic Interpretation

The historic component consists of three artifacts. The assemblage consists of one piece of whiteware, one piece of mochaware, and one brick fragment. All of the artifacts were very small. There is also a well or cistern located approximately 70 m north of the site, which may be associated with the historic component. The 1952, 1965, 1964 (photorevised 1979) USGS 7.5 minute Mount Sterling, KY topographic quadrangle map shows a structure near the vicinity of the well or cistern. A barn is also located near the site area along the unnamed creek south of the site. The 1950, 1964, and the 1969 aerial photos used by the United States Department of Agriculture also show both the house and barn. The 1972 U.S.G.S. Mount Sterling Quadrangle Geologic Map (Weir 1976) also shows both structures. These structures are likely associated with the cistern or well and the historic component of the site. The ceramics have a manufacturing date of the mid-nineteenth century to the present. STP R 3 may have been disturbed by utility line construction, indicating a lack of integrity.

6.3.7.1 Discussion

The limited number of artifacts and tools suggests the site was occupied for a limited period and there were a limited variety of activities which occurred there. The lack of midden and other features also suggests a limited duration and activity occupation. The area was disturbed by previous construction activities, perhaps an earlier utility line construction. Based on the limited data, the historic component of Site 15MM227 is a limited integrity and limited research potential.

6.3.8 National Register Eligibility

Site 15MM227 consists of a prehistoric component and a historic component. The prehistoric component is a short term limited activity occupation with no cultural or temporal affiliation. The limited artifact assemblage and lack of intact subsurface deposits indicates that the site has limited research potential and limited integrity. The historic component consists of a limited artifact assemblage and no evidence of intact sub-surface deposits which indicates the site has limited research potential and integrity. Therefore, Site 15MM227 is not considered potentially eligible for listing on the NRHP under Criterion D.

6.3.9 Recommendations

No further archaeological work is recommended for Site 15MM227.

6.4 Site 15MM42

Site 15MM42 is a previously recorded high density, indeterminate prehistoric site situated across a low rise in the Hinkston Creek floodplain at 910 ft. AMSL. The site was recorded in 1977 by Roger Allen with Archaeological Services, Inc. of Kentucky during a Phase I survey for the expansion of a wastewater treatment facility in Mount Sterling, Kentucky and the construction of two associated sewer line systems. During the 1977 survey, it was determined that the proposed project would only affect a small portion of the site, causing no significant adverse effect, and no further work was recommended. The site overlaps a small portion the current APE, but the majority of the site is outside the project area. The revisit did not identify any cultural material. Two shovel probes were excavated, but both were negative. The remainder of the area was found to be disturbed. Buried cables were located in this area.

6.4.1 Location

Site 15MM42 can be found on the USGS Mount Sterling, Kentucky, 7.5' quadrangle map (Figure 6-20). The UTM coordinates (Zone 16 NAD 27) for the center of the site are N XXXXXXX, E XXXXXX. The site is located along KY 1991 in Mount Sterling, Montgomery County (Figure 6-21). The site measures about 1.1 acre (0.45 hectare). Figure 6-22 and Figure 6-23 shows the site area.

6.4.2 Site Description

According to the previous survey, the site measures 30 by 150 meters and is located on the east side of KY 1991 (Allen 1977). The site was located along a low rise in the Hinkston Creek floodplain (Allen 1977). Unfortunately, the GIS data provided by the Kentucky Office of State Archaeology and the sketch map within the original report vary in where the site is located (Allen 1977). However, the project area overlaps in what appears to be the same area. Originally, the site produced two edge modified flakes, one lithic reduction chunk, and thirty-one flakes. During the revisit, no cultural material was identified and a portion of the area was found to be disturbed. The majority of the site is outside the current APE.

Figure 6-20. Location of Archaeological Site 15MM42 USGS Topography Map.

Figure 6-21. Location of Archaeological Site 15MM42 on Aerial Photograph.

Figure 6-22. Location of Archaeological Site 15MM42 on Design Sheet.

Figure 6-23. View of Site 15MM42, Looking South.

6.4.3 Prehistoric Interpretation

No additional prehistoric material was recovered.

6.4.3.1 Discussion

No additional prehistoric material was recovered. The discrepancies between the GIS data provided by the Kentucky Office of State Archaeology and the sketch map within the report suggest the actual site boundaries may be uncertain (Allen 1977). In addition, the proposed boundaries for the previously recorded site only overlap a small portion of the APE and a portion of this area was found to be disturbed due to buried ground cables. Based on the survey results, Site 15MM42 does not extend into the current APE or has been disturbed since it was first identified.

6.4.4 National Register Eligibility

No additional prehistoric material was recovered. Therefore, no determination could be made on potential eligibility status for listing on the NRHP under Criterion D. However, the boundaries for Site 15MM42 should be reevaluated.

6.4.5 Recommendations

No further archaeological work is recommended for Site 15MM42 within the boundaries of the current APE.

Section 7 -

Recommendations and Summary

Recommendations

7.1 Site 15MM225

Site 15MM225 is a prehistoric lithic scatter. Eight non-diagnostic debitage flakes were recovered from five positive shovel test probes within the project area. The site area measured 10 by 80 meters. It is unknown if the site extends past the APE. Three of the five positive shovel probes indicated evidence of disturbance, possibly from utility line construction. The area across KY 1991 was also described as disturbed.

7.1.1 National Register Eligibility

Site 15MM225 consists of a prehistoric lithic scatter. The prehistoric component is a short term limited activity occupation. The limited artifact assemblage and lack of intact subsurface features indicates that the site has limited research potential. The site also has evidence of disturbance. Therefore, Site 15MM225 has limited research potential and is not considered potentially eligible for listing on the NRHP under Criterion D.

7.1.2 Recommendations

No further archaeological work is recommended for Site 15MM225.

7.2 Site 15MM226

Site 15MM226 consists of a prehistoric component. Two non-diagnostic debitage flakes were recovered from the prehistoric component. The site measured 20 by 9 meters.

7.2.1 National Register Eligibility

Site 15MM226 consists of a prehistoric component. The prehistoric component is a short term limited activity occupation with no cultural or temporal affiliation. The limited artifact assemblage and lack of intact subsurface deposits indicates that the site has limited research potential and limited integrity. The historic component consists of a limited artifact assemblage and no evidence of intact sub-surface deposits which indicates the site has limited research potential and integrity. Therefore, Site 15MM226 is not considered potentially eligible for listing on the NRHP under Criterion D.

7.2.2 Recommendations

No further archaeological work is recommended for Site 15MM226.

7.3 Site 15MM227

Site 15MM227 consists of a prehistoric component and a historic component. Six non-diagnostic debitage flakes were recovered from the prehistoric component and three historic artifacts were recovered. The site measured 20 by 10 meters. A well or cistern is located approximately xx m north of the site, and is possibly associated. The age of the well or cistern was not determined.

7.3.1 National Register Eligibility

Site 15MM227 consists of a prehistoric component and a historic component. The prehistoric component is a short term limited activity occupation with no cultural or temporal affiliation. The limited artifact assemblage and lack of intact subsurface deposits indicates that the site has limited research potential and limited integrity. The historic component consists of a limited artifact assemblage and no evidence of intact sub-surface deposits which indicates the site has limited research potential and integrity. Therefore, Site 15MM227 is not considered potentially eligible for listing on the NRHP under Criterion D.

7.3.2 Recommendations

No further archaeological work is recommended for Site 15MM227.

7.4 Site 15MM42 Revisit

Site 15MM42 is a previously recorded high density, indeterminate prehistoric site situated across a low rise in the Hinkston Creek floodplain at xxx ft. AMSL. The site was recorded in 1977 by Roger Allen with Archaeological Services, Inc. of Kentucky during a Phase I survey for the expansion of a wastewater treatment facility in Mount Sterling, Kentucky and the construction of two associated sewer line systems. During the 1977 survey, it was determined that the proposed project would only affect a small portion of the site, causing no significant adverse effect, and no further work was recommended. The site overlaps a small portion the current APE, but the majority of the site is outside the project area. The revisit did not identify any cultural material. Two shovel probes were excavated, but both were negative. The remainder of the area was found to be disturbed. Buried cables were located in this area. Unfortunately, the GIS data provided by the Kentucky Office of State Archaeology and the sketch map within the original report vary in where exactly the site is located (Allen 1977). However, the project area overlaps in what appears to be the same area. Originally, the site produced two edge modified flakes, one lithic reduction chunk, and thirty-one flakes.

7.4.1 National Register Eligibility

No additional prehistoric material was recovered. Therefore, no determination could be made on potential eligibility status for listing on the NRHP under Criterion D.

7.4.2 Recommendations

No further archaeological work is recommended for Site 15MM42 within the boundaries of the current APE. However, the boundaries of Site15MM42 should be reevaluated as no archaeological material was identified.

7.5 Summary

This report described the field and laboratory method and the results of a Phase I archaeological survey conducted at the request of the Kentucky Transportation Cabinet (KYTC) by archaeologists from CDM Smith to widen a portion of KY 1991 from Maysville Road to Midland Trail Industrial Park in Mount Sterling, Montgomery County, Kentucky (Item Number 7-240.00). Three sites, 15MM225, 15MM226, and 15MM227 were recorded. One previously recorded site, 15MM42, was revisited.

Site 15MM225 consists of eight pieces of debitage. The limited number of artifacts suggests the site was occupies for a limited period and there were limited activities. No evidence of intact sub-surface features was discovered. There was evidence of disturbance from previous construction activity. Based on the

limited data, the prehistoric component of Site 15MM225 is a limited activity, short term occupation. As a result, the prehistoric component at the site has limited integrity and research potential and is not considered potentially eligible for listing on the NRHP under Criterion D.

Site 15MM226 consists of a prehistoric component. The prehistoric component is a short term limited activity occupation with no cultural or temporal affiliation. The limited artifact assemblage and lack of intact subsurface deposits indicates that the site has limited research potential and limited integrity. Therefore, Site 15MM226 is not considered potentially eligible for listing on the NRHP under Criterion D.

Site 15MM227 consists of a prehistoric component and a historic component. The prehistoric component is a short term limited activity occupation with no cultural or temporal affiliation. The limited artifact assemblage and lack of intact subsurface deposits indicates that the site has limited research potential and limited integrity. The historic component consists of a limited artifact assemblage and no evidence of intact sub-surface deposits which indicates the site has limited research potential and integrity. Therefore, Site 15MM227 is not considered potentially eligible for listing on the NRHP under Criterion D.

One previously recorded site, 15MM42, is located within the APE and was revisited. No additional cultural material was recovered and a portion of the site area has been disturbed. The majority of the previously recorded site is outside the APE. Based on the survey results, Site 15MM42 does not extend into the current APE or has been disturbed since it was first identified. Therefore, no determination was possible on the potential eligibility for listing on the NRHP under Criterion D. However, the boundaries for Site 15MM42 should be reevaluated.

Section 8 -

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Appendix A -

Artifact Inventory

Table A-1. 15Me98 Prehistoric Ceramic Catalog.

cat	Unit	WT	Interior Color	analyzable (y=1)	CT	Exterior Color	Temper Type	Visible Inclusions	SurfaceTreat	body thick	comments
1	STP 1	2.5	gray brown	yes	1	brown	limestone	mica	smoothed	6.15	mid-late woodland all same vessel
1	STP 1	1.5	gray brown	yes	1	brown	limestone	mica	smoothed	6.19	mid-late woodland all same vessel
1	STP 1	0.8	gray brown	yes	1	brown	limestone	mica	smoothed	5.94	mid-late woodland all same vessel

Table A-2. 15Me98 Prehistoric Lithic Catalog.

Cat No.	Site	Unit	Depth	Tool Type	Subtype	Subtype 2	Deb SG	Deb Type	Raw Material	Cortex	HT	Weight	Number	Comment
2	15Me98	STP 3		Chipped	Debitage		1	Undetermined Flake	St. Louis	N	N	0.7	1	
3	15Me98	STP 7	0-27	Chipped	Debitage		3	Secondary Decordication	limestone	2	N	22.5	1	
3	15Me98	STP 7	0-27	Chipped	Debitage		1	Tertiary Flake	Brassfield	N	N	0.2	1	
3	15Me98	STP 7	0-27	Chipped	Debitage		1	Undetermined Flake	Local	N	N	0.2	1	
4	15Me98	STP 8		Chipped	Debitage		1	Undetermined Flake	Local	N	N	1	2	
4	15Me98	STP 8		Chipped	Debitage		2	Secondary Flake	Local	N	N	3.5	1	
9	15Me98	STP 13		Chipped	Debitage		1	Undetermined Flake	St. Louis	N	N	0.4	1	
10	15Me98	STP 14		Chipped	Debitage		1	Tertiary Flake	Boyle	N	N	0.4	1	
11	15Me98	STP 19	0-20	Chipped	Unifacial	Drill			Brassfield	N	N	0.7	1	drill tip fragment L 11.42; W 12.08; t 4.06
12	15Me98	STP 23		Chipped	Debitage		1	Undetermined Flake	St. Louis	N	N	0.3	1	
13	15Me98	STP 25		Chipped	Debitage		1	Undetermined Flake	Boyle	N	N	0.8	1	
14	15Me98	STP 26		Chipped	Debitage		1	Tertiary Flake	St. Louis	N	N	0.5	1	
14	15Me98	STP 26		Chipped	Debitage		1	Undetermined Flake	Local	N	N	0.3	1	
17	15Me98	STP 39	0-30	Chipped	Debitage		1	Undetermined Flake	Local	N	N	0.3	2	
17	15Me98	STP 39	0-30	Chipped	Debitage		1	Secondary Flake	Brassfield	N	N	0.6	1	
18	15Me98	STP 40	0-27	Chipped	Debitage		1	Tertiary Flake	Brassfield	N	N	0.1	1	
19	15Me98	STP 41	0-25	Chipped	Debitage		1	Undetermined Flake	Local	N	N	0.4	1	
20	15Me98	STP 43		Chipped	Debitage	Utilized	4	Chunk/shatter	Limestone	2	N	184.6	1	L= 71.38; W= 61.81; T=30.91
21	15Me98	STP 44		Chipped	Debitage		2	Chunk/shatter	Local	N	N	1.9	1	

Table A-3. 15Me98 "Other" Category Prehistoric Artifact Catalog.

Cat. #	STP/UNIT #	Feature	Level	Functional Group	Material Class	Type	Sub Type 1	Subtype 2	Subtype 3	#	Dimensions (cm)	Thick (mm)	Weight (gm)	Comments	Vessel
1	STP 1			Fuel	Biological	Charcoal				1			0.1		

Table A-4. 15Me98 Historic Artifact Catalog.

Cat. #	STP/UNIT #	Feature	Level	Functional Group	Material Class	Type	Sub Type 1	Subtype 2	Subtype 3	#	Dimensions (cm)	Thick (mm)	Weight (gm)	Comments
2	STP 3			Kitchen	Glass	Bottle/Jar	Body	Machine Made	Clear	1				embossed
3	STP 7		0-27cm	Activities	Metal	Machinery part				1			124.8	
3	STP 7		0-27cm	Architecture	Ceramic	Brick	Fragment	unid manufacture		1			587	
3	STP 7		0-27cm	Architecture	Glass	Window	Fragment		Aqua	1		1.44		
3	STP 7		0-27cm	Architecture	Glass	Window	Fragment		Aqua	1		1.69		
3	STP 7		0-27cm	Architecture	Glass	Window	Fragment		Aqua	1		1.69		
3	STP 7		0-27cm	Architecture	Glass	Window	Fragment		Aqua	1		1.44		
3	STP 7		0-27cm	Architecture	Glass	Window	Fragment		Aqua	1		1.65		
3	STP 7		0-27cm	Architecture	Glass	Window	Fragment		Aqua	1		1.7		
3	STP 7		0-27cm	Architecture	Glass	Window	Fragment		Aqua	1		1.93		
3	STP 7		0-27cm	Architecture	Glass	Window	Fragment		Aqua	1		1.66		
3	STP 7		0-27cm	Architecture	Glass	Window	Fragment		Aqua	1		1.62		
3	STP 7		0-27cm	Architecture	Metal	Nail	Wire	12d	unaltered	1				
3	STP 7		0-27cm	Architecture	Metal	Nail	Wire	8d	Pulled	1				
3	STP 7		0-27cm	Architecture	Metal	Nail	Wire	Proximal		2				
3	STP 7		0-27cm	Architecture	Metal	Nail	Wire	Distal		1				
3	STP 7		0-27cm	Architecture	Stone	Motar				2			1.7	
3	STP 7		0-27cm	Fuel	Biological	Coal	Fragment			5			16.6	
3	STP 7		0-27cm	Fuel	Other	Slag				7			23.2	
3	STP 7		0-27cm	Other	Metal	unid	Fragment			1			25.3	
3	STP 7		0-27cm	Other	Plastic	unid	fragment			1			0.1	thin piece of plastic blue on one side
4	STP 8			Architecture	Metal	Nail	Wire	Proximal		1				
4	STP 8			Architecture	Metal	Nail	Cut unid	Distal		1				
4	STP 8			Fuel	Biological	Coal	Fragment			3			4.3	
4	STP 8			Kitchen	Glass	Bottle/Jar	Body	unid manufacture	Amber	1				
4	STP 8			Other	Metal	Unid				1				wire?
5	STP 9			Activities	Metal	Staple				1				
5	STP 9			Activities	Plastic	Tape				1				
5	STP 9			Architecture	Ceramic	Brick	Fragment	unid manufacture		1			113.2	
5	STP 9			Architecture	Metal	Nail	Cut unid	Proximal	Pulled	1				
5	STP 9			Fuel	Biological	Coal	Fragment			2			11.8	
5	STP 9			Kitchen	Ceramic	Whiteware	Body	Undecorated		1				
5	STP 9			Kitchen	Glass	Bottle/Jar	Body	unid manufacture	Clear	2				
6	STP 10			Architecture	Ceramic	Brick	Fragment	unid manufacture		1			2	
6	STP 10			Architecture	Metal	Nail	Cut unid	Proximal		4				
6	STP 10			Architecture	Metal	Nail	Cut unid	Distal		1				
6	STP 10			Fuel	Biological	Coal	Fragment			2			1.4	

Cat. #	STP/UNIT #	Feature	Level	Functional Group	Material Class	Type	Sub Type 1	Subtype 2	Subtype 3	#	Dimensions (cm)	Thick (mm)	Weight (gm)	Comments
6	STP 10			Kitchen	Glass	Bottle/Jar	Fragment	unid manufacture	Clear	3				
6	STP 10			Other	Metal	Unid				1			0.8	
7	STP 11			Architecture	Metal	Nail	Cut unid	Distal	Pulled	1				
7	STP 11			Architecture	Metal	Nail	Cut unid	Distal		1				
7	STP 11			Kitchen	Glass	Bottle/Jar	Unid	unid manufacture	Green	1				
8	STP 12		0-30	Architecture	Ceramic	Brick	Fragment	unid manufacture		4			1.9	
8	STP 12		0-30	Fuel	Biological	Coal				1			0.2	
8	STP 12		0-30	Kitchen	Biological	Bone	Fragment			1			0.7	
9	STP 13			Kitchen	Glass	Bottle/Jar	Body	unid manufacture	other	1				Burned, amber?
9	STP 13			Other	Metal	unid				1			1.4	
10	STP 14			Architecture	Ceramic	Brick	Fragment	unid manufacture		13			58.1	
10	STP 14			Other	Plastic	unid	Fragment			1			0	thin piece of plastic
11	STP 19		0-20	Architecture	Metal	Nail	Cut unid	Distal		1				
13	STP 25			Arms	Biological	Cartridge	Fragment			1				Paper shotgun Shell fragment
13	STP 25			Fuel	Biological	Coal	Fragment			1			3.2	
13	STP 25			Fuel	Other	Slag				1			0.1	
14	STP 26			Architecture	Metal	Nail	Cut unid	Distal	unaltered	2				
14	STP 26			Architecture	Metal	Nail	Cut unid	Distal	Clinched	1				
14	STP 26			Fuel	Biological	Coal	Fragment			1			0.9	
14	STP 26			Other	Plastic	unid				1				Plastic Bag or wrap
15	STP 35			Transportation	Metal	Animal Shoe	Fragment			1			110.7	Horse shoe
16	STP 36			Architecture	Metal	Nail	Late Cut	Proximal		1				Very large fragment
17	STP 39		0-30	Kitchen	Ceramic	Creamware	Unid	Undecorated		1				small sherd
20	STP 43			Architecture	Ceramic	Brick	Fragment	unid manufacture		44			381.1	
20	STP 43			Architecture	Stone	Motar				49			107.3	
20	STP 43			Fuel	Biological	Coal	Fragment			21			75.8	
20	STP 43			Architecture	Stone	Slate	Fragment			2			2.8	
20	STP 43			Architecture	Glass	Window	Fragment		Clear	1		2.01		
20	STP 43			Furniture	Glass	Lamp Glass	Fragment			1				
20	STP 43			Kitchen	Ceramic	Whiteware	Body	Undecorated		1				
20	STP 43			Architecture	Metal	Nail	Unid	Distal	Pulled	2				
20	STP 43			Architecture	Metal	Nail	Unid	Distal	unaltered	1				
20	STP 43			Architecture	Metal	Nail	Late Cut	Distal	unaltered	1				
20	STP 43			Architecture	Metal	Nail	Cut unid	5d	unaltered	1				
20	STP 43			Architecture	Metal	Nail	Cut unid	Medial	unaltered	1				
20	STP 43			Architecture	Metal	Nail	Wire	9d	Pulled	1				
20	STP 43			Architecture	Metal	Nail	Wire	3d	unaltered	1				
20	STP 43			Architecture	Metal	Nail	Wire	4d	Pulled	1				

Cat. #	STP/UNIT #	Feature	Level	Functional Group	Material Class	Type	Sub Type 1	Subtype 2	Subtype 3	#	Dimensions (cm)	Thick (mm)	Weight (gm)	Comments
20	STP 43			Other	Plastic	unid	Fragment			1			0.1	
21	STP 44			Architecture	Ceramic	Brick	Fragment	unid manufacture		6			46.3	
21	STP 44			Fuel	Biological	Coal	Fragment			12			15.7	
21	STP 44			Kitchen	Glass	Bottle/Jar	Body	unid manufacture	Clear	2				modern glass
21	STP 44			Kitchen	Glass	Bottle/Jar	Body	unid manufacture	Light Green	1				