PHASE I

ARCHAEOLOGICAL SURVEY OF KY 480, BULLITT COUNTY, KENTUCKY

KYTC ITEM # 5-391.20

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Kentucky Office of State Archaeology Project Number:

FY14-8151

CDM Smith

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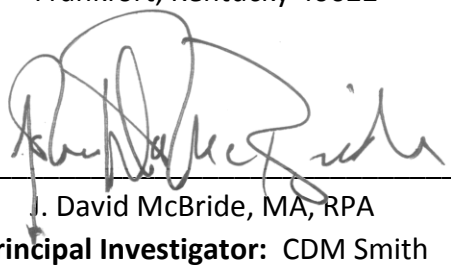

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Kentucky Office of State Archaeology
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Archaeology Report

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Abstract

At the request of the Kentucky Transportation Cabinet (KYTC), archaeologists from CDM Smith conducted a Phase I archaeological survey the widening of KY 480 (Item Number 5-391.20). The area around the Interstate 65 interchange at KY 480 was also surveyed. Part of the Simmons/Old Lee Cemetery was also surveyed. The area of potential effect (APE) consisted of 48.5 acres (19.6 ha). Field work was conducted between June 27, 2014 and July 15, 2014.

The APE included disturbed areas, areas of greater than 15% slope. The APE also included wooded areas, grass area, and agricultural cropland. The areas with zero ground surface visibility were surveyed using systematic shovel test excavation. Some of the agricultural cropland had ground surface visibility were surface collected. The cemetery area was also stripped with a backhoe. The entire APE was visually inspected.

Three isolated finds were identified within the project bounds. No evidence of graves was identified in the area of the Simmons/Old Lee Cemetery tested. The isolated finds and the Cemetery area tested were not potentially eligible for recommendation to the National Register of Historical Places (NRHP) under Criterion D.

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Acknowledgements

The Principal Investigator for the archaeological survey was Mr. J. David McBride, RPA. Field crew consisted of J. David McBride, RPA, Dona Daugherty, and Adam Newell. Howard Beverly generated maps and formatted the report. Robert Ball 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 the widening of KY 480 in Bullitt County, Kentucky (Item Number 5-391.20). Field work was conducted between June 27, 2014 and July 15, 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 the widening of KY 480 in Bullitt County, Kentucky (Item Number 5-391.20).

The archaeological surveyors were prepared to shovel probe areas of less than 15% slope, walk plowed fields, and to visually inspect the entire area. An area near a known cemetery was to be mechanically stripped to determine its limits. 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 480 in Bullitt County, in the Kentucky Department of Highways District 5 (Figure 1-1). The project area involves the widening of KY 480(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 48.5 acres (19.6 ha).

1.5 OSA Records Research

On July 1 and 7th, 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. David McBride, MA, RPA.

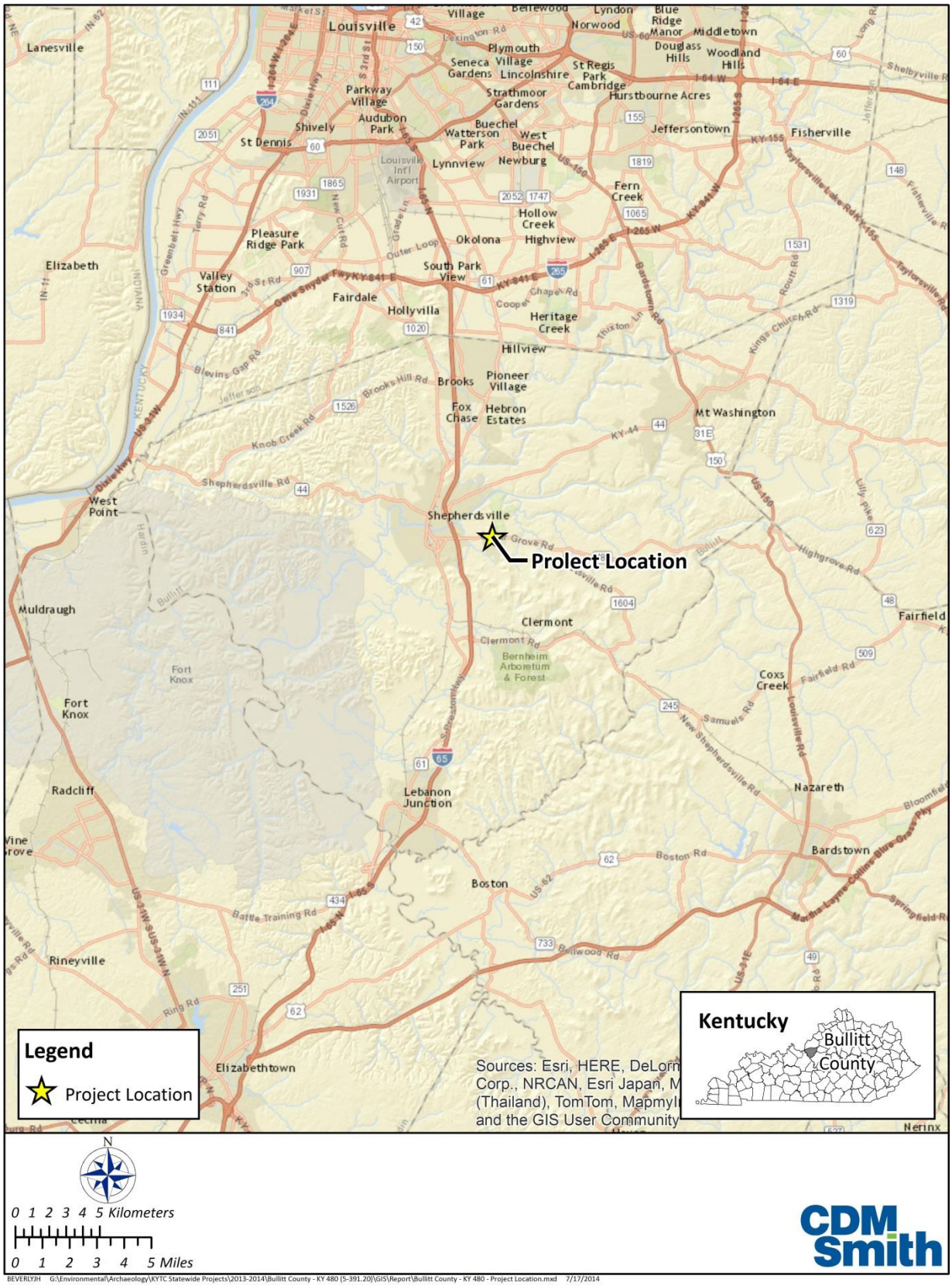

Figure 1-1. Project Location.

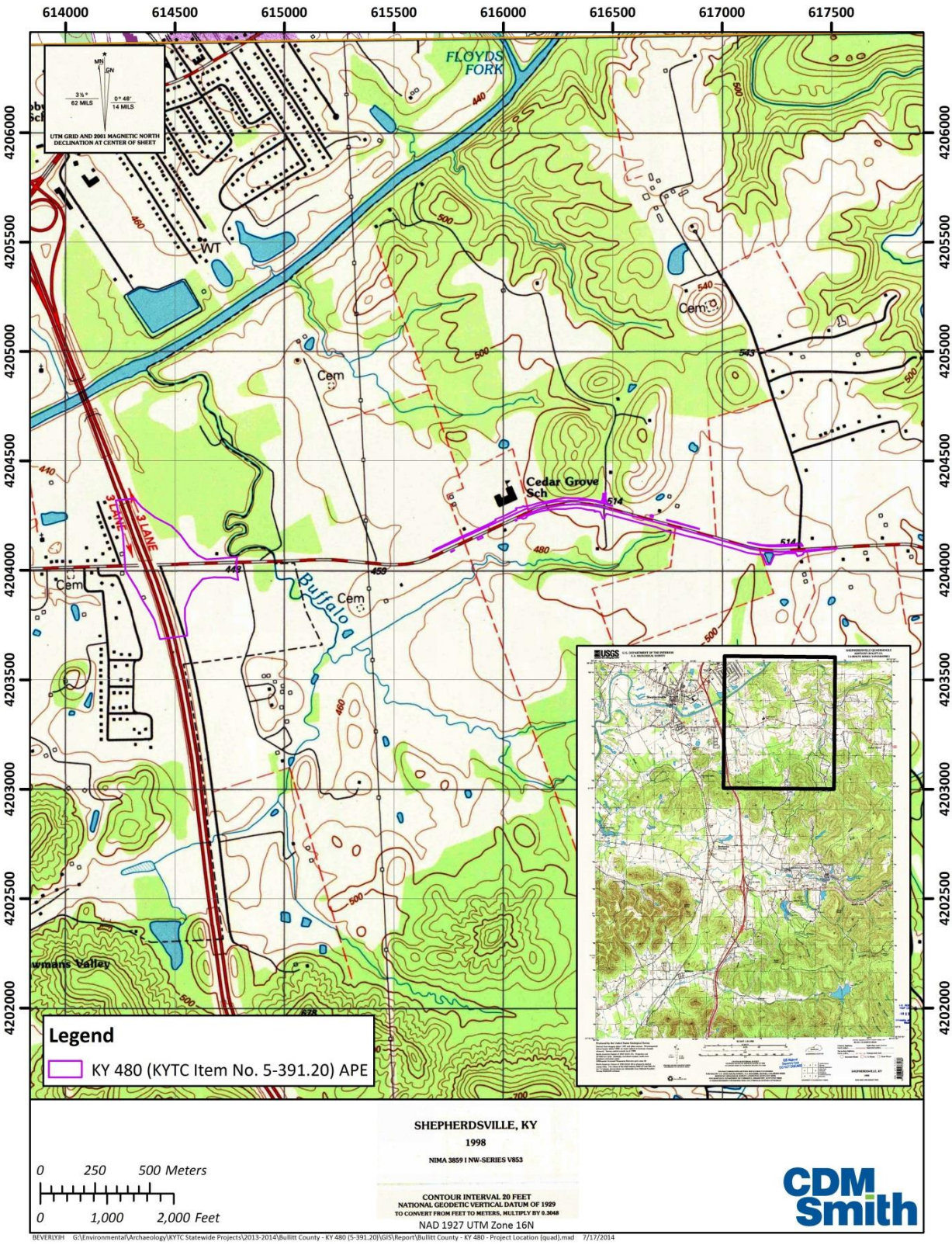

Figure 1-2. USGS Topographical Map showing Project Location.

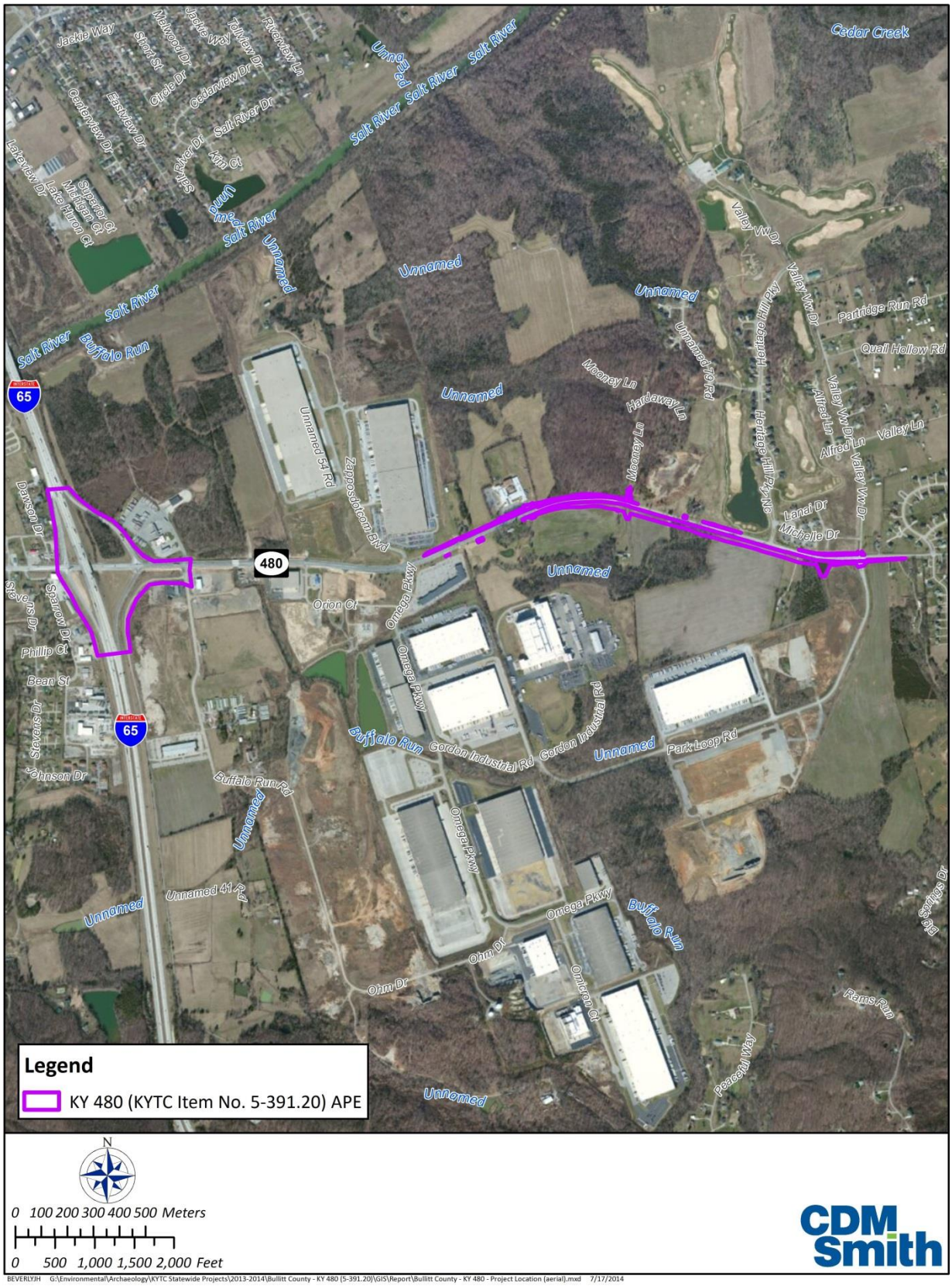

Figure 1-3. Aerial Map showing Project Location.

1.7 Field and Laboratory Crew

The field crew consisted of J. David McBride, Dona Daugherty, and Adam Newell. Mr. McBride served as the field director and planned, coordinated, and supervised all field activities. J. Howard Beverly, Jr., J. David McBride, and Dona Daugherty 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 35 hours or approximately 8.25 person days. Field work for the project was conducted on June 27, 2014 through July 15, 2014.

1.7.2 Laboratory Effort

The total number of hours expended to wash, catalog, analyze, and write up artifacts was 8 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 KY 480 in Bullitt County, Kentucky. The total APE measures 48.5 acres (19.6 ha). The survey identified 3 isolated finds and stripping of an area outside the fence of a known cemetery indicated that the cemetery did not extend past the fence. The isolated finds were not potentially eligible for recommendation to the National Register of Historical Places (NRHP) under Criterion D. No additional work is recommended.

Section 2 -

Environmental

Aspects of the natural environment often influence the development of prehistoric and historic communities. In this section, the environmental background of Bullitt 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 five primary regions: the Cumberland Plateau (Eastern Coalfields) in the east, the north-central Bluegrass 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.

Bullitt County lies within two physiographic area of Kentucky, the western Bluegrass region known as the Knobs and the Outer Blue Grass region. However, the APE is only located within the Outer Bluegrass region (Figure 2-1). Topographically, the Outer Bluegrass region is somewhat karst and gently rolling, but more rugged than the Inner Bluegrass (Pollack 2008). The region is situated on limestones, dolomites, and shales (Newell 2001). The Outer Bluegrass is bordered by the Ohio River to the north, to the east by the Pottsville Escarpment, to the south by the Inner Bluegrass, and to the west by the Knobs region. The Outer Bluegrass surrounds the Inner Bluegrass everywhere but to the south.

Bullitt County consists of rolling hills in the east, rugged uplands to the west, and in between, a broad, flat upland plain was developed (McGrain and Currens 1978). The plain developed on bedrock and wide, alleviated valleys (McGrain and Currens 1978). Within Bullitt County, elevations range from 117.4 m (385 ft) above mean sea level (AMSL) along the Salt River to 279.5 m (917 ft) AMSL near Brooks Hill (McGrain and Currens 1978).

2.2 Geology

The geology underlying the project area consists of strata deriving from the Upper Ordovician and the Pleistocene and Holocene (Figure 2-2 and Figure 2-3).

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 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 Lexington Limestone (Blade 1978).

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

2.3 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:

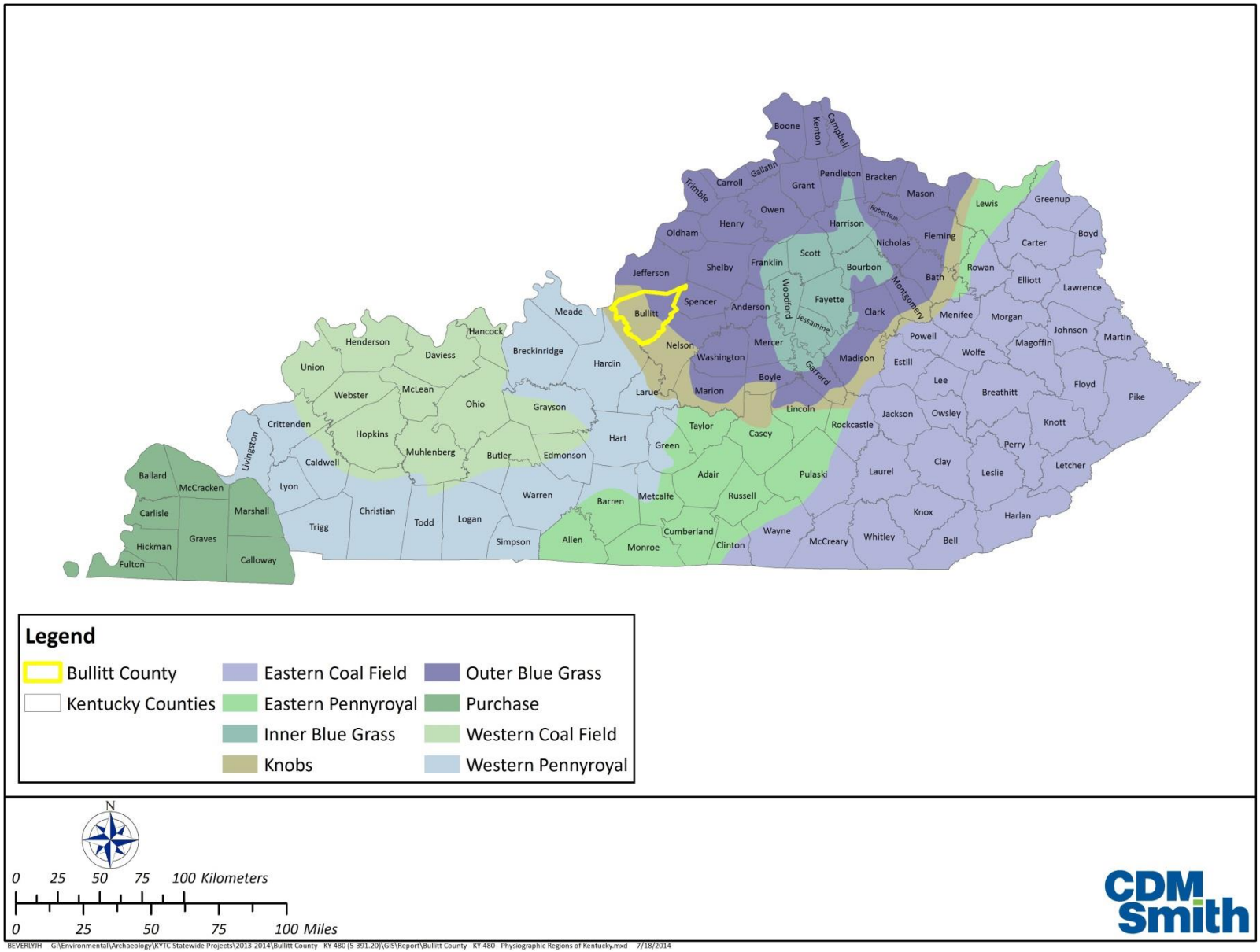

Figure 2-1. Physiographic Map of Kentucky.

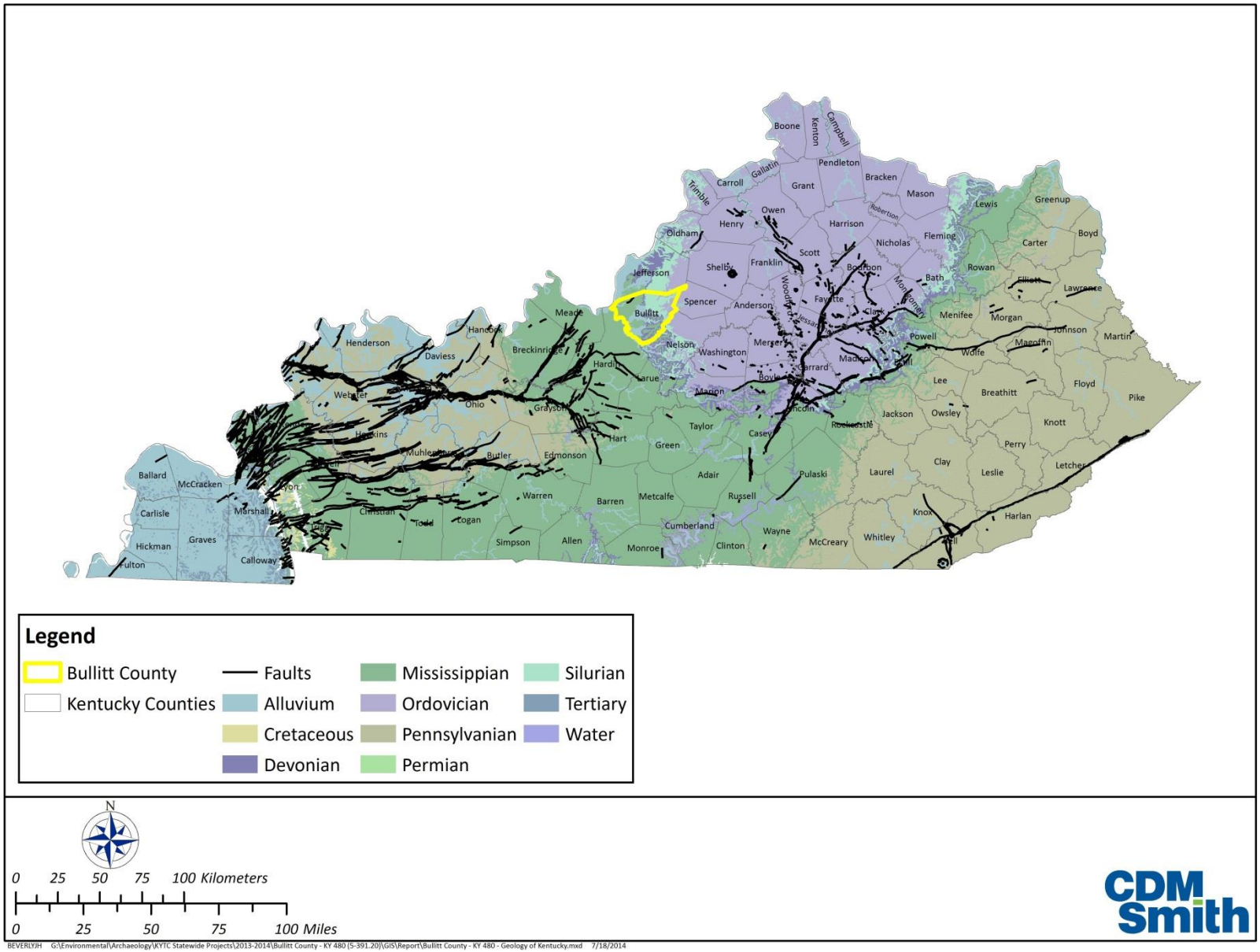

Figure 2-2. Geologic Map of Kentucky.

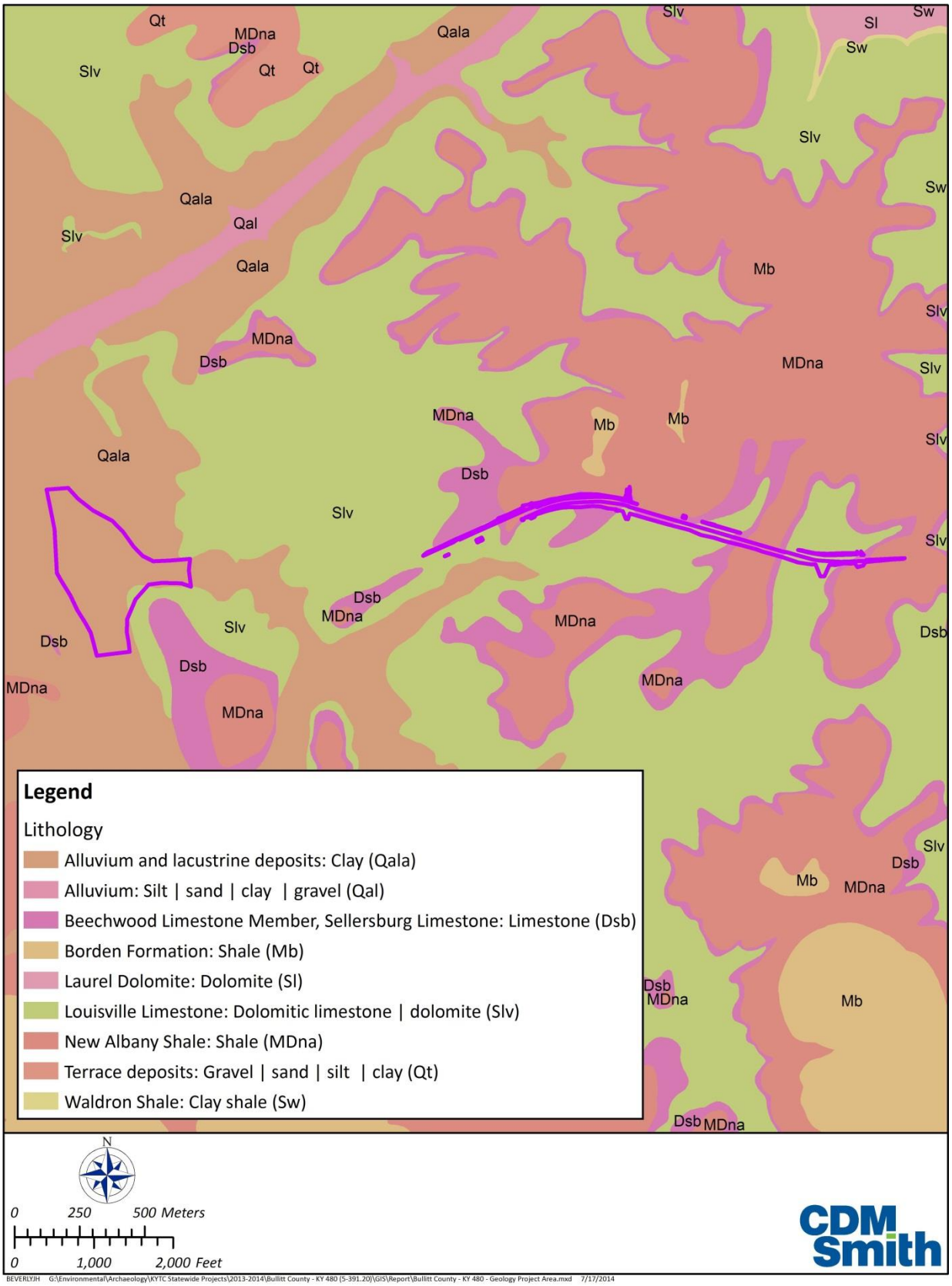

Figure 2-3. Geology of Project Area.

parent material, the topography where the soils are found, and the amount of time exposed to erosional forces.

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

The Cynthiana-Faywood (CnD) complex soils are very rocky and are on ridges and hillsides of 6 to 20 percent slopes. Cynthiana and Faywood soils are so intermingled that they could not be separated for the soil map. Cynthiana soils are shallow and well drained and Faywood soils are moderately deep and well drained. Cynthiana soils have a surface layer that consists of a dark grayish silt clay loam about 6 inches thick. The subsoil extends to 16 inches and consists of a yellowish brown silt clay. Faywood soils have a surface layer that consists of a brown silty clay loam about 7 inches thick and a subsoil which extends to 24 inches and consists of yellowish brown silty clay or clay (Richardson et al. 1982). The soils are suited to pasture, hay crops, and woodland. They are poorly suited to urban development (Richardson et al. 1982:18).

The Cynthiana-Faywood (CnE) complex soils are very rocky and are on hillsides dissected by many V-shaped hollows and on short hillsides bordering stream channels of 20 to 35 percent slopes. The descriptions of the stratigraphy are the same for the Cynthiana-Faywood (CnD) above. The soils are suited for woodland. They are poorly suited for pasture, hay crops, and urban development (Richardson et al. 1982:19).

Elk silt loam (EkB) is a deep well drained gently sloping soil on stream terraces. It has a slope of 2 to 6 percent. The surface layer consists of dark grayish brown silt loam about 8 inches thick. The subsoil consists of two layers. There is a brown silt loam to a depth of 13 inches and a brown, strong brown, and yellowish brown silty loam to a depth of 54 inches. The substratum consists of a yellowish brown silty clay loam that extends to a depth of 93 inches (Richardson et al. 1982:23). The soil is well suited to all locally grown crops, pasture, hay crops, and urban development (Richardson et al. 1982:23).

Faywood silt loam (FwC) is a moderately deep, well drained, soil on narrow ridges. The slopes are generally smooth at 6 to 12 percent. The surface layer consists of a dark grayish brown silt loam which extends 6 inches. The subsoil consists of a dark yellowish brown silty loam to a depth of 11 inches, a brown silty clay to a depth of 19 inches, a yellowish brown clay to a depth of 34 inches. Bedrock is at a depth of 34 inches (Richardson et al. 1982:26). It is suited for cultivated crops, woodland, and most urban uses. It is well suited for pasture and hay crops (Richardson et al. 1982:26).

Faywood silty clay loam (FyD) is a moderately deep, well drained, soil on narrow ridges. The slopes are generally smooth at 6 to 12 percent. The surface layer consists of a brown silty clay loam which extends 7 inches. The subsoil consists of a yellowish brown silty clay or clay to a depth of 24 inches. Substratum consists of a pale brown flaggy clay to a depth of 29 inches. Bedrock is at a depth of 29 inches (Richardson et al. 1982:26). It is poorly sited for cultivated crops and urban uses because of the slope. It is suited for pasture, hay crops and woodland (Richardson et al. 1982:27).

2.4 Hydrology

Within the Outer Bluegrass region, river bottoms are narrow, discontinuous, and confined by limestone cliffs and wooded slopes, but widen at their confluence with the Ohio Valley (Newell 2001). The Kentucky, Licking, Ohio, and Salt Rivers and their tributaries drain this region. Bullitt County is drained by the Salt River, and belongs within the Salt River Management Area. The project area is drained by an unnamed tributary of Buffalo Run and by Buffalo Run itself. Buffalo run empties into the Salt River.

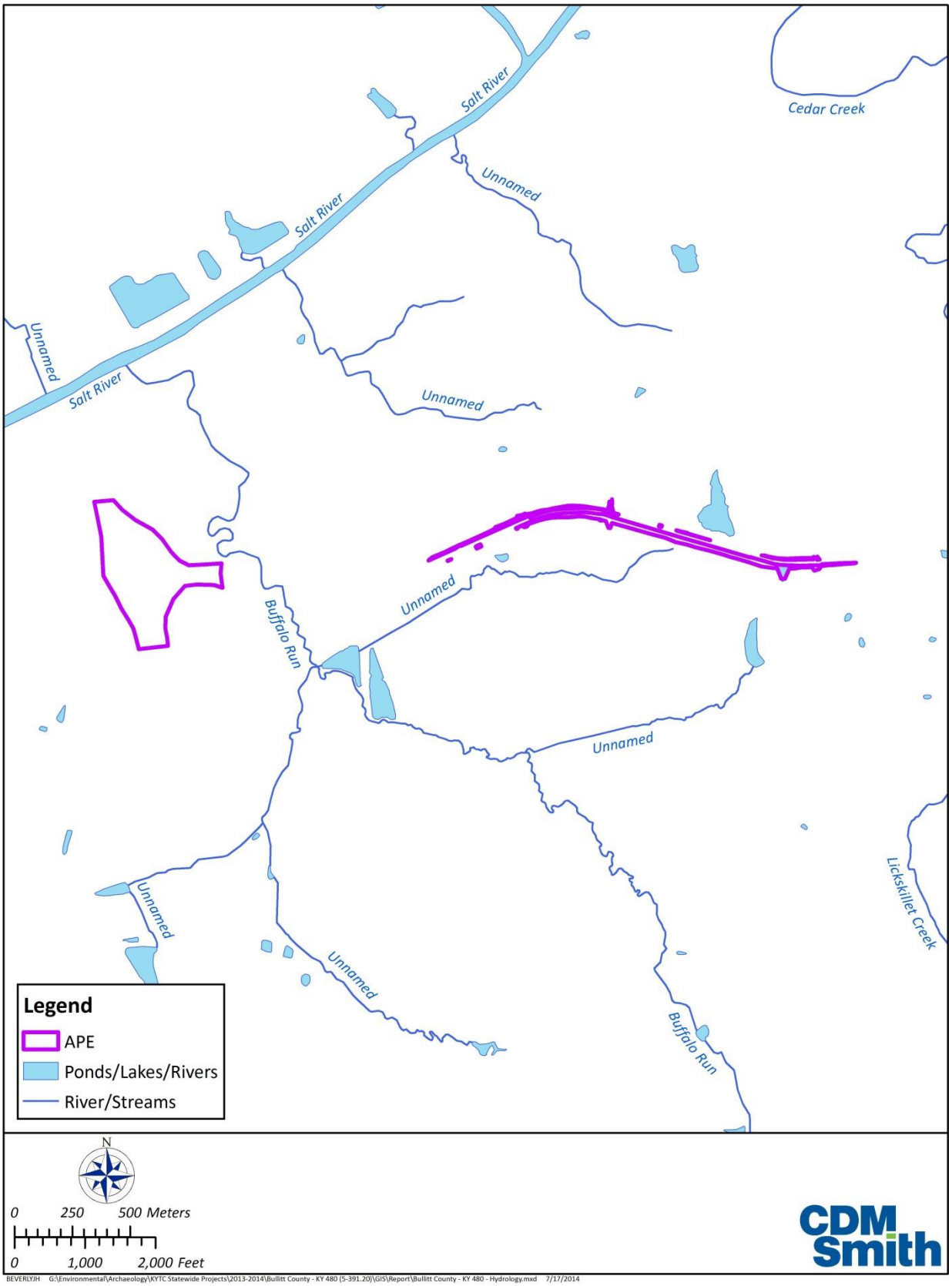

Figure 2-4. Hydrology.

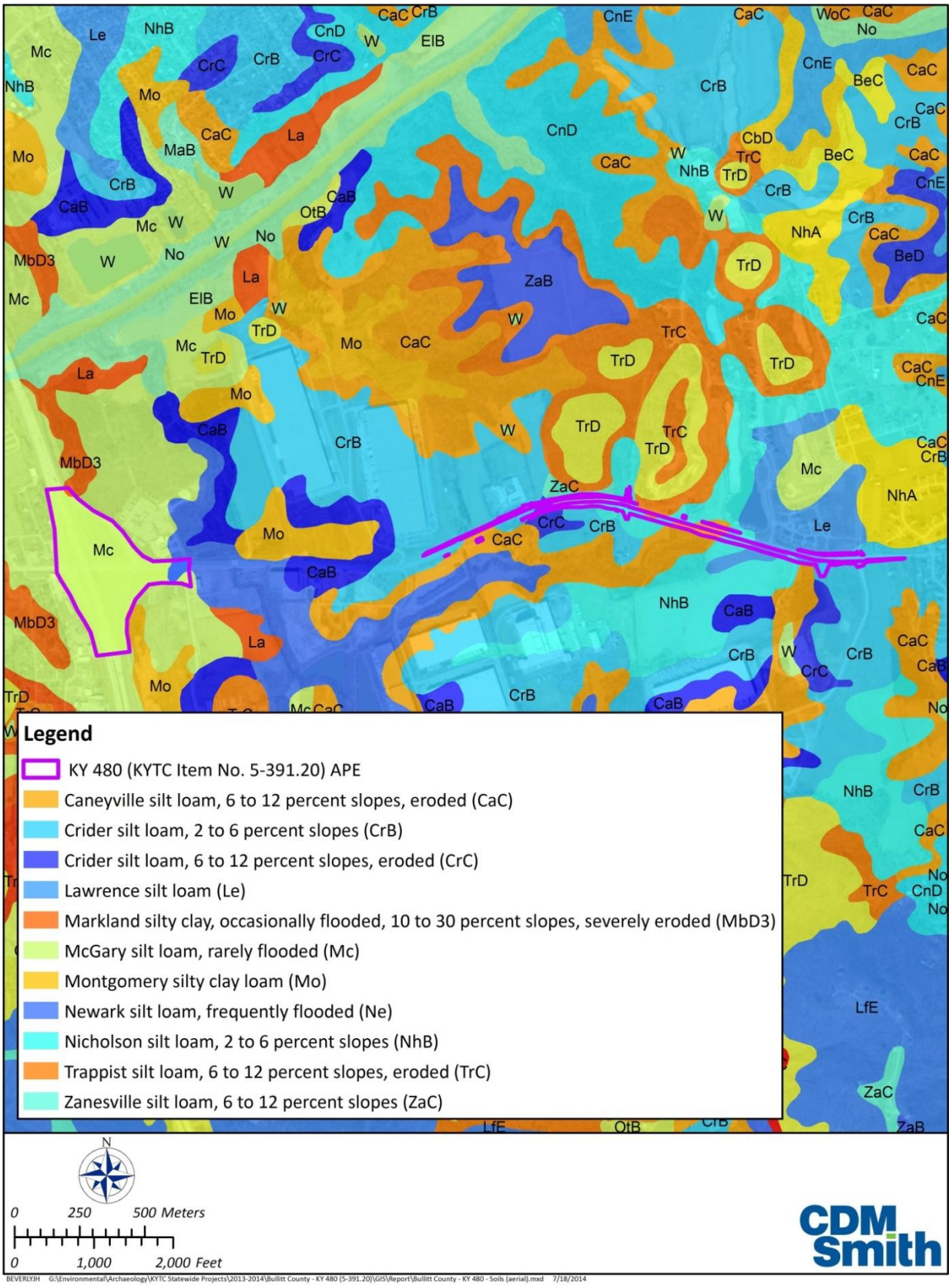

Figure 2-5. Soils.

McAfee silt loam (McC) is a moderately deep, well drained, soil on low lying hills and irregular side slopes in areas of karst topography. The slopes are at 6 to 12 percent. The surface layer consists of a dark reddish brown silt loam which extends 8 inches. The subsoil consists of a dark brown silty clay loam to a depth of 21 inches and a reddish brown silty clay to a depth of 32 inches. Limestone bedrock is at a depth of 32 inches (Richardson et al. 1982:26). It is well suited for cultivated crops and woodland. It is suited to most urban uses (Richardson et al. 1982:35).

Nolin silt loam (EkB) is a deep well drained, nearly level soil on flood plains along most streams. It has a slope of 0 to 2 percent. The surface layer consists of dark grayish brown silt loam about 9 inches thick. The subsoil consists of a brown silt loam to a depth of 49 inches. The substratum consists of a grayish brown silty clay loam that extends to a depth of 72 inches (Richardson et al. 1982:37). The soil is well suited to cultivated crops, pasture, and hay crops. It is poorly suited for most urban uses because of flooding (Richardson et al. 1982:23).

2.5 Cherts

Ste. Genevieve chert derives from the Ste. Genevieve/St. Louis Limestone beds (Swadley 1963) and is also found within the Paoli Limestone bed and alluvium. Swadley (1963) has suggested that Lost River Chert of Elrod may be located between the St. Louis and St. Genevieve limestone beds. Gatus (1980) describes Ste. Genevieve chert is generally a fine to medium-grained chert that is light to medium blue, olive gray to yellowish gray in color with occasional concentric zones beneath the cortex. Inclusions can include chalcedony and calcite. It occurs as nodules or tabular blocks and can be procured from outcrops of the Mississippian Ste. Genevieve Limestone Formation in eastern knobs, south-central and western Kentucky (Gatus 1980).

Muldraugh chert is a medium-coarse to medium, bedded, brown/light brown/grey variegated chert that occurs in the Border formation (Cantin 1994; Ray 2003:99; Shaver et al. 1986). Granger (1988:62) equates Muldraugh chert with “Knobs” Chert and appears to be a lateral equivalent of the Ft. Payne formation (Sable and Dever 1990:48-49).

The Brassfield limestone, Albion in age, is the oldest Silurian formation known in Indiana. It crops out on the Cincinnati Arch in the southeastern part of the state. It is greenish-gray to salmon-pink, mottled in color (Esarey and Bieberman 1942).

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

The current climate of Bullitt County has moderately cold winters and warm, humid summers. In January, the coldest month, the mean maximum temperature is 41.7 F degrees, and the min minimum is 21.1 degrees F. In July, the hottest month of the year, the mean maximum temperature is 88.7 degrees F, and the mean minimum is 63.1 degrees F. Temperatures often drop below freezing in the winter and rarely rise above 88 F degrees (31 degrees C) in the summer. Precipitation levels give an average of 9.4 cm (3.7 in) for October to 14.2 cm (5.6 in) for April, with total annual precipitation of 141 cm (55.5 in) (Whitaker and Waters 1986).

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 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. The land cover within the Archaeological APE is shown in Figure 2-6 and summarized in Table 2-1. Examples are shown in Figure 2-7 through Figure 2-10.

Developed, Open Space (19.3%) 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.

Developed, Low Intensity (37.6%) includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20-49 percent of total cover. These areas most commonly include single-family housing units.

Table 2-1. Current Land Use Inside APE.

Land Use Classification	Acre	Hectare	Percentage
Developed, Open Space	9.38	3.80	19.3%
Developed, Low Intensity	18.26	7.39	37.6%
Developed, Medium Intensity	13.88	5.62	28.6%
Developed, High Intensity	1.55	0.63	3.2%
Deciduous Forest	2.69	1.09	5.5%
Evergreen Forest	2.23	0.90	4.6%
Pasture/Hay	0.44	0.18	0.9%
Cultivated Crops	0.11	0.05	0.2%
Grand Total	**48.53**	**19.64**	**100.0%**

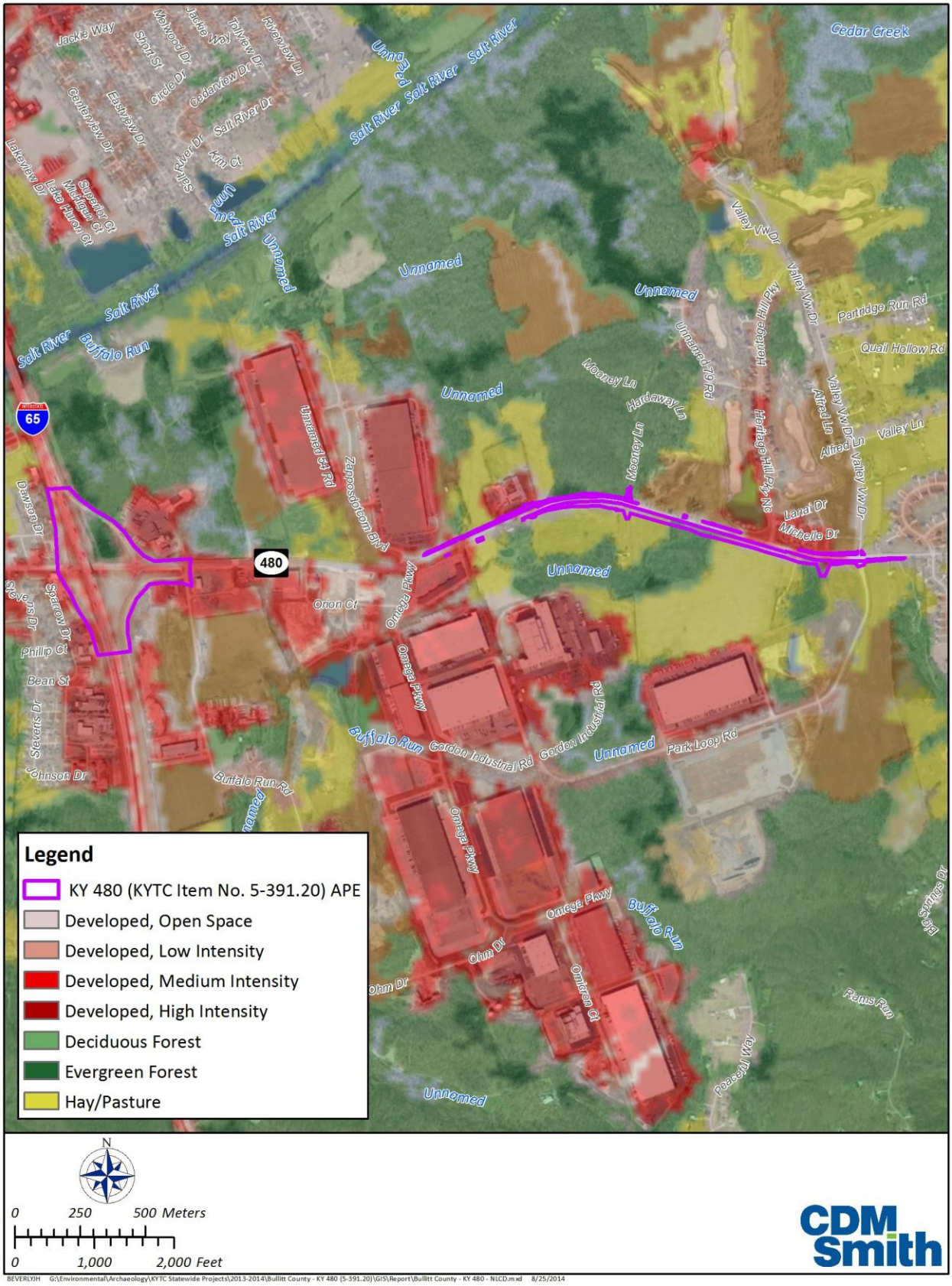

Figure 2-6. Existing Land Use, 2011.

Figure 2-7. Wooded area inside the Project Area.

Figure 2-8. Agricultural use area inside the Project Area.

Figure 2-9. Developed Light Intensity use areas inside the Project Area.

Figure 2-10. Developed Medium Intensity use areas inside the Project Area.

Developed, Medium Intensity (28.6%) includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50-79 percent of the total cover. These areas most commonly include single-family housing units.

Developed, High Intensity (3.2%) includes highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses and commercial/industrial. Impervious surfaces account for 80 to100 percent of the total cover.

Deciduous Forest (5.5%) 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.

Evergreen Forest (0.1%) 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 maintain their leaves all year. Canopy is never without green foliage.

Pasture/Hay (1.0%) 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.

Cultivated Crops (2.0%) are areas used for the production of annual crops, such as corn, soybeans, vegetables, tobacco, and cotton, and also perennial woody crops such as orchards and vineyards. Crop vegetation accounts for greater than 20 percent of total vegetation. This class also includes all land being actively tilled.

Section 3 -

Cultural Context, Previous Investigation, and Summary of Known Sites

In this chapter, the culture history of Bullitt 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 (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.

The Salt River Management Area has one of the highest numbers of Paleoindian sites in the state with seventy-three total. Of these, sixty-seven were open habitation sites without mounds, two are rockshelters, two caves, one a workshop, and one a cemetery. The sites were located mostly on

dissected uplands (n=27) or floodplains (n=20) (Maggard and Stackelbeck 2008). At the Longworth-Gick site, fluted points were recovered, demonstrating the potential for Paleoindian components to be recovered from buried floodplain deposits (Collins 1979; French 1998; Maggard and Stackelbeck 2008). The Danville Tank Site (15BO16), situated on an elevated hilltop in between the Outer Bluegrass and the Knobs, recovered a Late Paleoindian Plano Complex projectile point. After Phase III testing, the occupation was determined ephemeral. A projectile point survey was conducted in this area that documented 74 projectile points, including Clovis, Cumberland Quad, unfluted Plano Complex, Folsom and lanceolate-shaped points, fluted on only one face (Boedy and Niquette 1987:10; Maggard and Stackelbeck 2008).

Four sites are believed to belong to the Early Paleoindian period, and thirteen sites demonstrated Middle Paleoindian period components. Late Paleoindian period components have been noted at twenty Kentucky sites (Maggard and Stackelbeck 2008).

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 mid-2006, Kentucky had recorded 4,703 Archaic components with the majority (seventy percent) concentrated in the Green River, Salt River, and Bluegrass Management Areas (Jefferies 2008). In contrast, little is known about Archaic presence in the Upper Kentucky/Licking, Big Sandy, and Upper Cumberland Management Areas.

In the Salt River Management Area, site utilization types included open habitation without mounds (n=583), isolated finds (n=2), rockshelters (n=5), caves (n=2), a stone mound (n=1), earth mounds (n=4), workshops (n=4), specialized activity sites (n=14), and open habitation with mounds (n=2). Additionally, landform types most commonly used include floodplains (n=251), terraces (n=106), dissected uplands (n=122), and undissected uplands (n=63).

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.

The Office of State Archaeology records indicate that 2,920 Woodland period sites are documented in Kentucky. The Green River Management Area has 25.6% of these sites, and the Bluegrass Management Area has 22.6%. The Salt River Management Area has approximately 14% of all the Woodland sites in Kentucky. The sites include 9% unassigned, 24% Early Woodland, 18% Middle Woodland, and 15% Late Woodland components. The majority of Woodland sites within the Salt River Area are considered open habitations without mounds at 87%. Rockshelters, earth mounds and mound complexes, and specialized activity sites each account for 2% of the other Woodland site types. Very few mounds and a complete absence of non-mound earthworks are recorded in the management area, in contrast to the adjacent Bluegrass Management Area, which has a large number of these type sites (Applegate 2008).

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 period in the region is generally characterized by a Mississippian level of culture. Mississippian cultures are found primarily in the Mississippi Valley and parts of the Illinois and Ohio Valleys, although Mississippian influences are seen in a much larger geographic area. Prehistoric groups inhabiting these regions made shell-tempered pottery, constructed platform mounds, had settlements arranged in a hierarchical manner, were maize horticulturists, and had a political system that has generally been described as a chiefdom. Mississippian material culture is also characterized by artifacts associated with the Southern Ceremonial Complex (Jennings 1989:262-262). The origin of Mississippian groups has been viewed previously as migrations from a central heartland, such as Cahokia in the American Bottom of west-central Illinois (Smith 1984). More recently, Mississippian origins are increasingly seen as in situ developments (Smith 1984). Cultures with a similar level of development include Pisgah in the Appalachian Summit, Fort Ancient in the Middle Ohio River area, and the Plaquemine culture of the lower Mississippi River area. Although a Late Woodland level of society continued in the Midwest, the Great Lakes, the northeast and the piedmont, and coastal areas of the Middle Atlantic until European contact (Geier 1992:279-280), some contact is found at the boundaries between the Mississippian culture area and these regions. The Mississippian period is dated to 1,200 B.P. in the Middle Mississippi River Area. Between 1,100 and 650 B.P., independent Mississippian societies developed in the regions outlined above. These societies lasted until ca. 400 B.P.

Mississippian in Kentucky encompasses most of western Kentucky and southern Kentucky with the Fort Ancient culture covering the remainder. The Mississippian culture is well documented in western Kentucky with a well-established chronological sequence.

The Salt River Management Area includes sites that fall into both the Fort Ancient and Mississippian periods; however, the project area falls into the latter. Griffin (1978) and many other researchers believe that the Louisville area is the eastern border for Mississippian sites (Pollack 2008). Within the Salt River Area, Mississippian sites total 163, and 94.5 % of these sites were open habitations without mounds. Mississippian occupation of this area continued into the early 1400s (Pollack 2008).

Located on a terrace overlooking the Ohio River floodplain, east of downtown Louisville, the Eva Bandman Site (15JF668) consisted of a 30 cm-thick midden and eight burials within a 500 m^2 area, but only a small portion of the site was excavated. Burials were not fully exposed, but those partially exposed appeared to be in a flexed position. The midden deposits and burials suggest a small village. No evidence of stone boxes was documented. The site dates from ca. A.D. 1300 to possibly as late as A.D. 1450 (Henderson 2004; Henderson and Pollack 2004; Pollack 2008).

Mississippi Plain accounts for most of the ceramics recovered from the Eva Bandman site, but other types, such as Bell Plain, Kimmswick Fabric Impressed, and Kimmswick Plain were also noted. The ceramic artifact assemblage includes jars, bowls, and pans, but a low density of appendages were present. The few handles documented are parallel or convergent-sided strap handles. A large number of shallow bowls with outslanting walls and flat bottoms, some of which have annular ring bases were recovered (Henderson and Pollack 2004). The ceramic assemblage was classified as Fort Ancient, but both Mississippian and Fort Ancient ceramics were collected from the same midden and burial contexts. Therefore, either Fort Ancient households lived at Eva Bandman, or a network of trade existed between the Mississippian and Fort Ancient groups (Henderson 2004; Henderson and Pollack 2004; Pollack 2008).

The Shippingport Site (15JF702) has a very early and a later Mississippian component. The very early component consists of a small basin-shaped structure that measured about 3 m on a side, and had a central hearth and a few interior posts that do not seem to be set in a wall-trench. The only diagnostic material is that of a smoothed-over cordmarked pottery. A charcoal sample yielded a calibrated radiocarbon date of A.D. 1032-1256 (French et al. 2006). Fourteen structures define the later Mississippian component. The structures are much larger than the earlier one, but most have a central hearth. The more complete structures measured about 5 m on a side. Most of the structures had been set in shallow basins, and some were associated with wall-trenches. The radiocarbon dates from the later occupation suggest a date range of ca. A.D. 1300-1350 (Pollack 2008).

Madison projectile points, drills, scrapers, knives, and a Dover chert adze were all documented at the Shippingport site. Discoidals, pipes, and celts were also recovered. Mississippian ceramics dominate the ceramic assemblage, and jars, bowls, pans, plates, and bowls were all recovered. Fort Ancient ceramics were also present, indicating a Mississippian-Fort Ancient relationship (Pollack 2008).

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).

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.

The Salt Licks attracted people to the area where Bullitt County is today. Bullitt Lick was discovered by Captain Thomas Bullitt while surveying a 1,000-acre land grant for Col. William Christian of Virginia in 1773. At one time, Bullitt's lick was the only place settlers could obtain salt. By 1779, a salt-making operation had begun, preceding the Blue Licks salt works by five years. The salt was shipped by boat and pack train throughout Kentucky and the Illinois territory (Pack 1992). Salt was also manufactured at Long Lick, Dry Lick, and Parakeet Lick in Bullitt County. Figure 3-1 shows the Bullitt County area in 1794.

Bullitt County was formed in December of 1796 from parts of Jefferson and Nelson counties, and was named for Scott Bullitt, Kentucky's first lieutenant governor and the nephew of Captain Thomas Bullitt. Shepherdsville was founded in 1793. Today, Bullitt County is bordered by Jefferson, Nelson, Spencer, and Hardin counties.

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. The Bluegrass had the most plantations and slaves within Kentucky (McBride and McBride 2008:918). Growth in the 1810s also led to an increase in town speculation in western Kentucky, but some of these towns did not survive. New counties were being formed at this time (Figure 3-2). An increase in industrialization led to river improvements and the arrival of the steamboat in 1815 opened the Ohio River, leading to a dramatic increase in river trade. However, the recession following the Panic of 1819 would slow demand and trade of all products within the state well into the 1820s. Those areas located closer to major rivers, felt the blow less (McBride and McBride 2008:919-920).

Figure 3-1. Kentucky in 1794 (Russell).

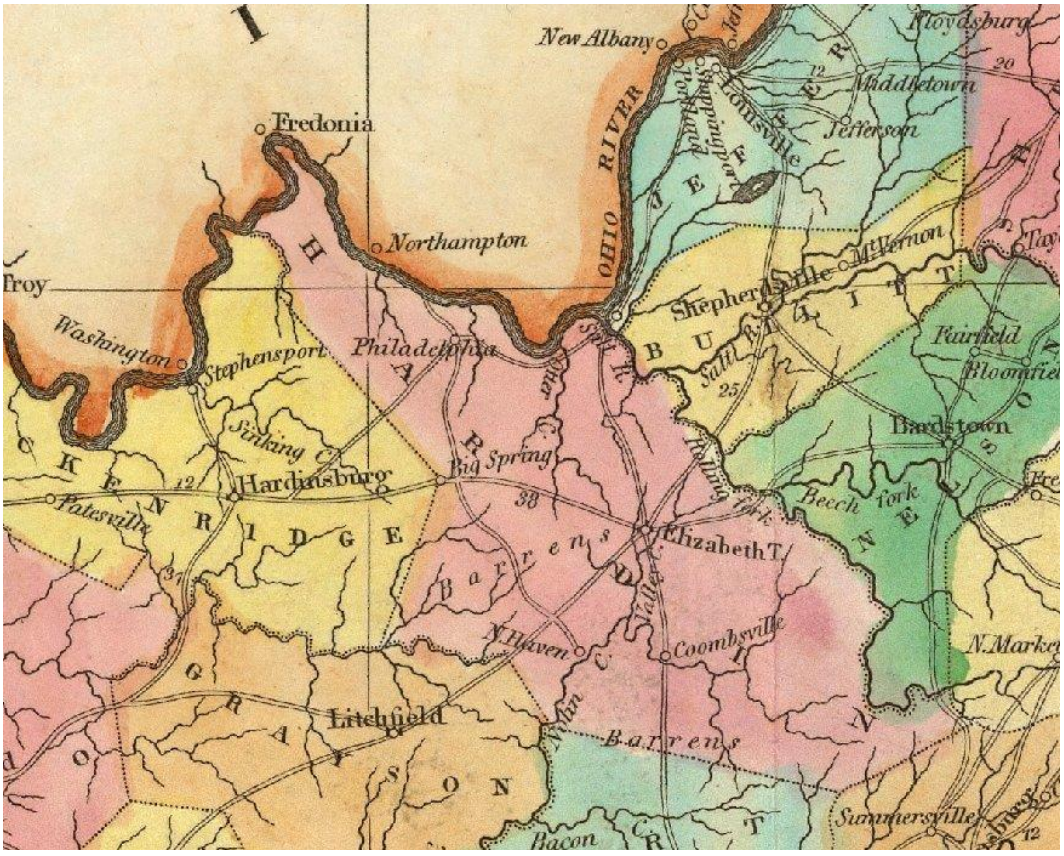

Figure 3-2. Kentucky in 1822 (Carey and Lea).

3.2.2 Antebellum (1820-1861)

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 of Kentucky with 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".

In 1818, Mt. Vernon, now called Mt. Washington, was established in Bullitt County. The city served as an important stagecoach stop on the Louisville to Nashville turnpike, and later became one of the larger cities within the county. In 1832, Pittstown, later Pitts point, was established at the junction of Salt River and Rolling Fork. In the 1940s, the town was absorbed by the Fort Knox military reservation (Pack 1992). Figure 3-3 shows Bullitt County in 1839.

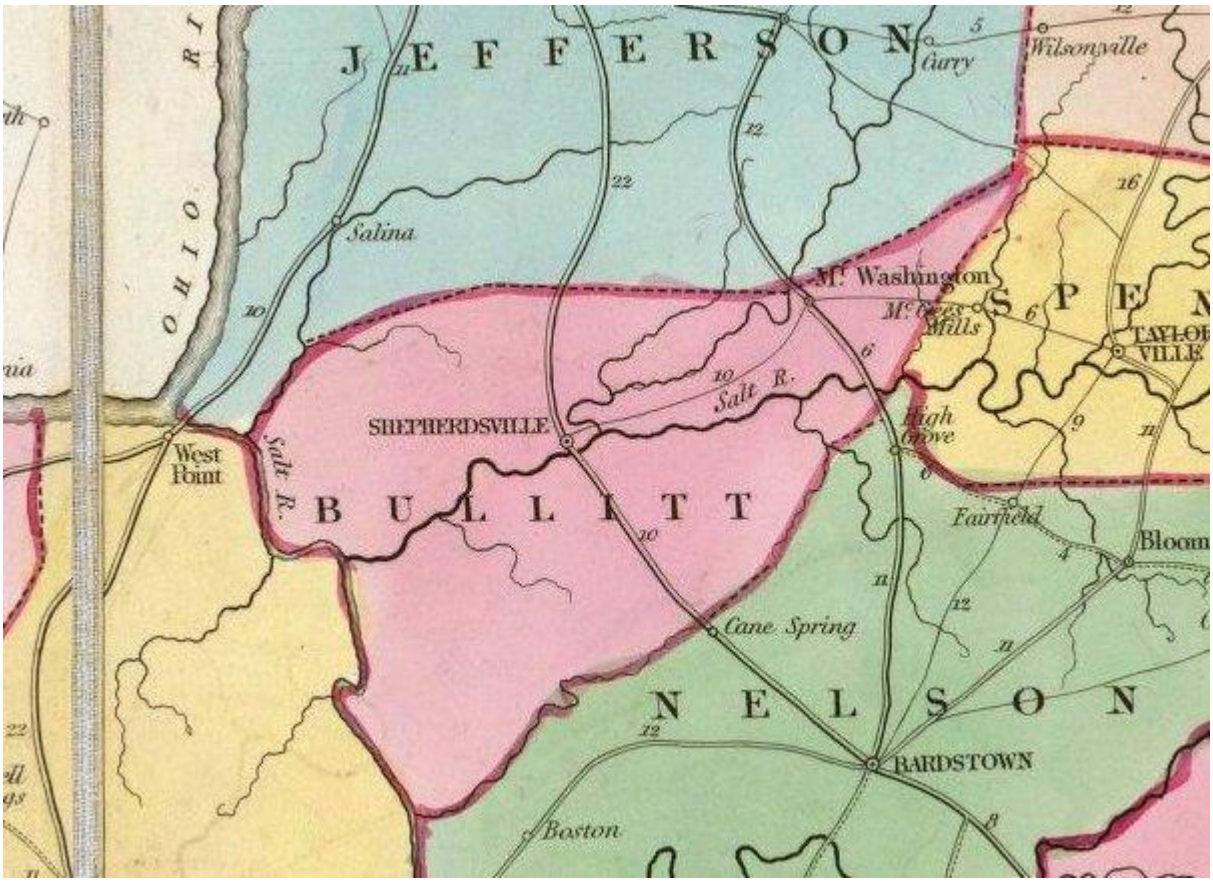

Figure 3-3. Bullitt County, Kentucky in 1839 (Burr).

In the mid-1850s, the Louisville & Nashville Railroad was constructed, and Lebanon Junction became a rail stop with a rail yard and a roundhouse for steam locomotives. As a result, Lebanon Junction became one of the county's largest cities, and in 1895, railroad expansion brought even more prosperity to the town. However, when the diesel engine replaced steam, the rail service became unnecessary, and the town declined.

During the following decades, Bullitt County continued to grow in population (Table 3-1). The number of slaves within the state also rose at this time, and they comprised nearly 25 percent of the total state population in 1830. This rise was directly related to an increase in agricultural commercialization throughout the state which in turn led to an increase in plantations in the Bluegrass and parts of the

Table 3-1. Population of Bullitt County from 1800 to 2000.

Census	Population
1800	3,542
1810	4,311
1820	5,831
1830	5,652
1840	6,334
1850	6,774
1860	7,781
1870	7,781
1880	8,521
1890	8,291
1900	9,602
1910	9,487
1920	9,328
1930	8,868
1940	9,511
1950	11,349
1960	15,726
1970	26,090
1980	43,346
1990	47,567
2000	61,236

(http://ukcc.uky.edu/census/21029.txt)

Pennyrile (McBride and McBride 2008:924). The larger farms and plantations occurred primarily in the Inner and Outer Bluegrass while smaller farms were more likely in the Knobs region of Kentucky (Raitz and O'Malley 1985). Major crops and livestock during this period were similar to the earlier period of settlement, but variation in the major crops grown increased and types of livestock raised changed between the different cultural landscapes in the state. In the Bluegrass Cultural Landscape, farmers and planters prospered, building finer homes (Davis 1927; McBride and McBride 2008).

3.2.3 Civil War (1861-1865)

During the Civil War, Bullitt County sent troops to both the Union and the Confederate forces. Merchants in Louisville continued to trade with the southern states throughout the Civil War. Union forces tried to stop the trade by checking goods that left the Louisville station, but to avoid the checks, goods were sent by wagon to Shepherdsville and then loaded on trains. In 1860, Confederate troops burned the railroad bridge over the Rolling Fork River, but left before Union troops arrived. In September of 1862, Confederate forces occupied Sheperdsville, destroying the railroad bridge over the Salt River. However, the Union forces regained Sheperdsville, and rebuilt the L & N bridge. In October of 1862, the battle of Perryville, Kentucky occurred. Union troops were pursuing Confederate troops camped near Bardstown. The Union troops were located near Louisville, and Major General

Don Carlos Buell sent one of his corps by way of Taylorsville, one by way of Mount Washington, and the third by way of Shepherdsville. The battle of Perryville is the bloodiest Civil War battle ever fought in Kentucky. Figure 3-4 shows Bullitt County during the Civil War.

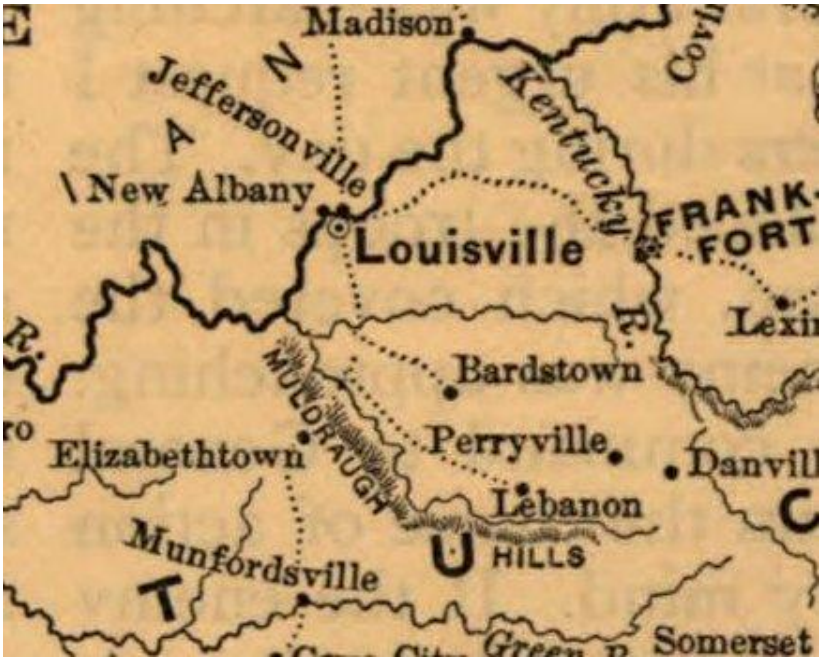

Figure 3-4. Bullitt County, Kentucky during the Civil War (Century Illustrated 1864).

After the Civil War, population growth remained the same in the county, and did not begin to show growth again until after 1870. During this time, huge developments in communication, transportation, production, and consumption occurred. Railroads and new roads were constructed, changing trade patterns and bringing the different regions of the state closer together (McBride and McBride 2008). 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). White burley tobacco was introduced to the state during this period, and grew particularly well in the Bluegrass. 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. Figure 3-5 shows Bullitt County in 1891.

3.2.4 Twentieth Century

Population in the county decline after 1920, but had rebounded by 1940. An important development in transportation for Bullitt County and the rest of Kentucky at this time were roads. Not until about 1920 did the state see improvements of existing roads and construction of new roads (McBride and McBride 2008:955-957). Some improvements occurred as a result of the Federal programs introduced during the 1930s, however.

Today, agriculture continues to be important to the area. Soybeans are a major crop. Beef and dairy cows and hogs are also raised. The Bernheim Forest is located in Bullitt County, and includes 10,000 acres of wooded land. The Fort Knox Military Reservation takes up 35,000 acres of the county. The major industries in the county include whiskey distilling, manufacturing, printing, and quarrying (Pack 1992).

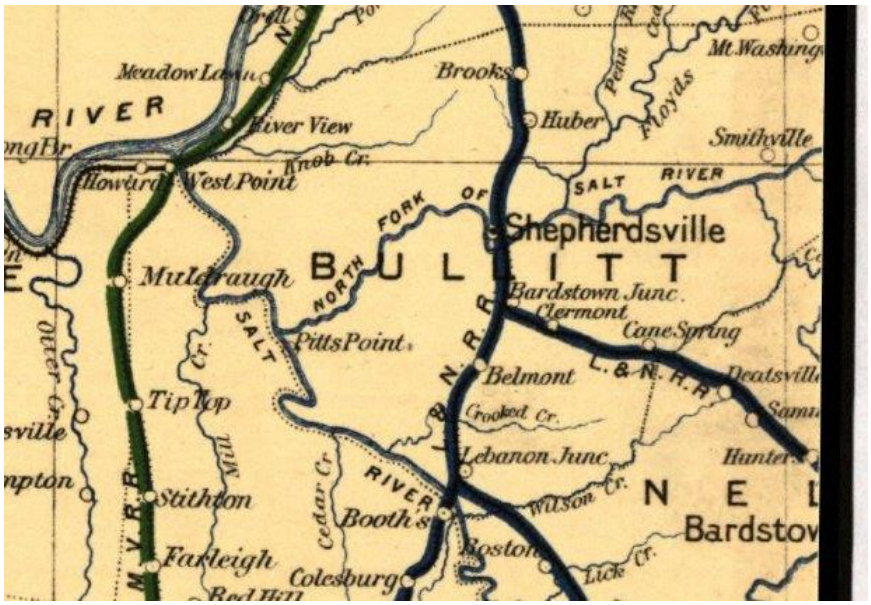

Figure 3-5. Bullitt County, Kentucky in 1891 (Hoeing).

3.3 Historic Map Research

USGS maps available were the 1949 and 1962 7.5 minute topographic maps for the Shepherdsville, KY quadrangle. Also available were a 1937 *Highway and Transportation Map of Bullitt County, Kentucky* map (Kentucky Department of Highways 1937,) and a 1955 *Rural Highway Series of Bullitt County, Kentucky* map (Kentucky Department of Highways 1955).

3.4 Previous Archaeological Research

The survey report files at the Office of State Archaeology (OSA) were consulted on July 3, 2014 and July 18, 2014. There were twelve prior archaeological surveys recorded within a 2 km radius of the archaeological APE, four of which overlapped to some degree with the current project area (****).

Joseph Granger performed a Phase I survey in Bullitt County, Kentucky, in mid-March of 1980. The survey covered a 10 foot wide ROW, that began five feet off the Old Long Lick, Salt Lick, and Cedar Grove Roads' existing shoulders ahead of a proposed Shepherdsville Interceptor Sewers extension with a connector to the then-new sewage plant. One portion of the corridor crossed a small, intermittent tributary to the Salt River. In the vicinity of this creek crossing alluvial deposits were deep, and modern artifacts were recovered from one meter below the surface. There were no archaeological surface features, artifacts, or deposits identified within the project area and no further work was recommended (Granger 1980).

In October of 1993, archaeologists with Wilbur Smith Associates conducted a Phase I archaeological reconnaissance survey of a proposed relocation of KY 480 from KY 61 to I-65, for Alternates 1-3 in Bullitt County, Kentucky. The proposed alignments began at the intersection of KY 61 and KY 2237 and proceeded northeast across farm land to intersect with the existing KY 480, extending a distance of about 2.18 km (1.35 miles). One multicomponent site was identified during the survey, Site 15Bu505 (George Maraman Farmstead). The site was located in the Alternate One/Three right-of-

Figure 3-6. Bullitt County, Kentucky in 1891 (Hoeing).

way, and this area was recommended for avoidance. The site was recommended for avoidance, but if the site could not be avoided, then Site 15Bu505 would require further investigation to determine its eligibility for nomination to the National Register of Historic Places (Huser 1993).

A Phase I survey was completed in January of 1995 by archaeologists with Cultural Resource Analysts, Inc., for the proposed extensions and improvements to two segments of water line along KY 61 in Bullitt County, Kentucky. The corridor survey area measured one mile wide by approximately 7.5 miles in length, and covered variable terrain including roadside ditches, steep sideslopes, floodplain, pasture, pine forest, and residential areas. Surface inspection and shovel probing were the methods utilized, resulting in the identification of one site— 15Bu536, an indeterminate prehistoric lithic scatter whose center on a toe-slope appeared to be outside of the survey area. The portion of the site identified within the APE was considered to have low research potential and no further work was recommended (McKelway 1998).

On April 8, 1999, a 10 meter wide corridor along I-65 in Shepherdsville, Bullitt County, Kentucky, was surveyed by archaeologists with Cultural Resource Analysts, Inc.. The project area lay between 420 and 490 ft. AMSL and the part of the terrain was grown up in two-year-old timber, part was open pasture, and part was disturbed by modern residential construction. There were no cultural resources identified within the project area and no further work was recommended (Anderson 1999).

A Phase I archaeological survey was conducted by Mindel, Scott & Associates in 1999 on a 420 acre (170 ha) project area for the proposed Cedar Grove Business Center in Shepherdsville, Bullitt county, Kentucky. A portion of this previous survey overlaps with the current survey area dealt with in this report. The survey was conducted upon request of the US Army Corps of Engineers and the Kentucky Heritage Council. Six sites were recorded within the project area. The Simmon's house and associated cemetery, 15Bu594, dated to the early 1820s. The house had been demolished before the survey and the area to the east and west of the house had been scraped below the A horizon. The cemetery had burials dating from 1828 until 1977. The site was not recommended for further work. Site 15Bu595 was a lithic scatter on a low ridgetop northeast of Buffalo Run and Site 15Bu596 was a lithic scatter of 13 flakes. Sites 15Bu597 and 15Bu598 were low density lithic scatters on a low ridgetop west of Buffalo Run. None of the lithic scatters were recommended for further work. Site 15Bu599 was a historic site with a foundation and limestone cistern. Artifacts included whiteware, bottle glass, window glass, a cut nail and wire nail. No further work was recommended (Harris 1999).

A Phase I survey for a proposed one mile-long water line and pump station installation was performed in Bullitt County by Arrow Enterprises on November 22, 2000. The northern half of the project area had been previously disturbed by pond construction. One southern quarter of the project area was in hay at the time of survey and 60 shovel probes were systematically excavated across this area. The remaining quarter of the project area involved slope and high ground, and merited ten judgmentally placed shovel probes. All probes were negative for cultural resources, there were no surface features identified within the area, and no further work was recommended (Schock 2000).

Cultural Resource Analysts, Inc., was responsible for a Phase I survey in Bullitt County that followed the proposed path of the Shepherdsville Waste Water Interceptor Line. The work occurred between September 23 and October 1, 2004, and covered a XX km (2.65 mi) long, narrow corridor. During the course of this survey, three previously recorded sites were revisited and three sites were newly recorded: Sites 15Bu268, 463, 466, 663, 664, and 665. All but 15Bu268 lie within two kilometers of our present survey and will be fully described in the following section. Four of the sites were deemed inventory sites with little potential for future research, and no further work was recommended for

those. Site 15Bu463 was considered to have potential for further research and was recommended for a Phase II level of investigation (Arnold 2004).

A Phase I survey was conducted in 2004 due to a proposed Project Adam Development Site in Bullitt County, Kentucky (Ezell 2004). A portion of this previous survey overlaps with the current survey area dealt with in this report. The project area involved low stream terraces and upland farm fields primarily being utilized as farmland, a small portion was wooded. Transects were plowed at five meter intervals for surface inspection while shovel probes were excavated at 20 m intervals. Two previously recorded archaeological sites were revisited within this project area: Sites 15Bu68 and 663. Additionally, eight sites were newly recorded as a result of the Cultural Resource Analysts, Inc., survey: Sites 15Bu666-673. All ten of these sites lie within a two-kilometer buffer of our current project area and are described in the following section.

ARCS Ventures, Inc. was responsible for a Phase I survey in 2005, conducted ahead of proposed work by the Heritage Hill Golf and Residential Development near Shepherdsville in Bullitt County, Kentucky. A portion of this previous survey overlaps with the current survey area dealt with in this report. The project area involved 30.5 m (100 ft.) -wide corridors on each side of 17 stream segments and water features, for a total of 50.34 acres (20.4 ha). Much of the project area had been previously disturbed by construction activities. There were no sites newly recorded as a result of this survey, but one historic cemetery and three previously recorded prehistoric sites located within the project bounds were re-visited, none of which lie within two kilometers of our present survey area. Two of the sites, 15Bu267 and 468 were recommended for further investigation, while 15Bu296 (a dual rockshelter complex) demonstrated signs of such extensive looting that is was not considered archaeologically significant (Granger and Smith 2005).

On November 5, 6, and 7 of 2007, archaeologists with CRA conducted a Phase I survey of 42.63 acres (17.25 ha) in Bullitt County prior to work associated with the proposed Park 480 Development. The project area topography consisted of level to gently sloping stream terrace and a narrow swath of Salt River floodplain, at elevations between 125 and 137 ft. AMSL. The area was primarily being utilized as pasture, with some wooded portions and shale fill on the western edge of the project area. A 5.25 acre (2.12 ha) portion had been surveyed previously, and the crew re-visited Site 15Bu674 in this area. New sites recorded as a result of this survey were 15Bu680 and 15Bu681 and one isolated find (flake). Both 15Bu674 and 15Bu680 lie with two kilometers of the current project area and are described in the following section. No further work was recommended at any of the sites of for the general project area (Anderson 2007).

Between April 28 and May 7, 2008, a Phase I survey of 160 acres (64.7 ha) near Shepherdsville in Bullitt County was completed ahead of the proposed Weller Farm Industrial Development. The work was undertaken by CRA archaeologists and involved pedestrian survey and shovel probing. A portion of this previous survey overlaps with the current survey area dealt with in this report. The project area elevation ranged between 480 and 600 ft. AMSL as the dissected upland terrain included valleys, sideslopes, and ridgetops with the higher elevations in woods and the lower elevations being utilized as pasture. The majority of the project area was strip plowed at 15 m intervals for surface inspection, increased in number to strips at 7.5 m intervals when sites were identified. Some of the sloping areas were shovel probed at 20 m intervals. These methods resulted in the identification of four previously unrecorded prehistoric open habitation sites (15Bu682-685) and six non-diagnostic prehistoric lithic isolated finds. All of the sites lay within two kilometers of the current project area and are described in

the following section. None of the finds were considered to have research potential and no further work was recommended (Arnold 2008).

A Phase I survey of 4.3 acres (1.74 ha) near the Salt River in Bullitt County was performed by Corn Island Archaeology on October 19, 2010, ahead of proposed wetland mitigation. The terrain was being utilized primarily as an agricultural field with woodlands adjacent. A previous survey had inspected 0.7 acres of the same area, and the archaeologists chose to re-examine this portion along with the rest; surface inspection and shovel probing were the methods employed. As a result of the survey, Site 15Bu711 was recorded. This site, an unassigned prehistoric lithic scatter, lies within two kilometers of the present APE and will be described in the following section. The site was not eligible for nomination to the NRHP, and no further work was recommended for this project (Wetzel 2010).

Archaeologists with CRA conducted a Phase I survey ahead of a proposed Crossdock Development project in Bullitt County between September 7 and 14 in 2011. The project area was 82 acres (33 ha) in size, crossing drains and hilltops ranging from 456 to 580 ft. AMSL. Open fields were strip plowed to allow for surface inspection and wooded areas were subjected to shovel probing. The survey resulted in the documentation of three previously unrecorded sites (15Bu730, 731, and 732) and two prehistoric lithic isolated finds. The sites all were located within two kilometers of the present APE, and are described in the following section. None offered potential for further research and no further work was recommended (Hopwood 2011).

3.5 Known Archaeological Sites

The site files at the OSA were consulted on July 3, 2014. There were not any previously recorded archaeological sites documented within the project area, but 35 sites had previously been recorded within a two-kilometer radius of the APE. These sites – 15Bu68, 249, 250, 463-466, 505, 594 - 598, 600, 663 - 674, 681 - 685, 711, 730 - 732– are described below.

Site 15Bu68 was recorded by Weinland and Wyss in 1978 and revisited by CRA surveyors in 2004 (Ezell and Hand 2004). The artifact assemblage collected from the 1978 surface inspection included a Lowe PPK (Woodland), a Madison PPK (Mississippian), and a ceramic sherd. The non-diagnostic artifacts included PPKs and flake debitage. The 2004 investigations refined the site area within their project boundaries to 47 acres (19 ha), and all in a plow zone context- they did not identify any sub plow zone cultural deposits. The assemblage from the re-visit amounted to 94 flakes, four hafted bifaces, three hammer bifaces, one hard hammer biface, one side scraper, one end scraper, and three cores. The hafted bifaces were diagnostic and could be assigned to Early Archaic, Middle Woodland and Late Prehistoric periods. Even though four diagnostic PPKs were recovered, due to the lack of subsurface deposits and the low-density of artifacts across the area this site was considered not eligible for recommendation to the NRHP and no further work was recommended.

Site 15Bu249 was recorded in 1978 by Hoehler. A minimal description was given: historic surface material was observed on a 110 m by 120 m area of floodplain 40 m north of the Salt River.

Site 15Bu250 was recorded in 1978 by Hoehler. A minimal description was given: historic surface material was observed on a 100 m by 120 m area of floodplain 75 m north of the Salt River.

Site 15Bu463, recorded in 1984 by Donald Janzen and re-visited by CRA in 2004 (Arnold 2004), was situated at 440 ft. AMSL on an alluvial terrace south of the Salt River north of Buffalo Run Creek. The original survey collected367 flakes, 13 scrapers, 28 ground or battered stones, 13 flint hammerstones, 36 hafted scrapers or drills, 9 drills, 504 bifaces and biface fragments, and 243 PPK's and PPK

fragments. At that time no site area was recorded. During the re-visit, which was limited to new project boundaries, the site area measured 15 by 200 meters (51,670 square ft.) within the newly surveyed area, but it was considered likely that the site extended west outside project bounds towards the river and creek. During its initial survey 1,213 artifacts were collected including 504 biface fragments, 367 flakes/cores, 243 PPKs, 36 scrapers, 28 ground/battered stones, and 13 hammer stones. During the re-visit 54 lithic artifacts were recovered from a surface context while 656 lithic artifacts were recovered form 49 positive shovel probes. Included were four diagnostic artifacts: two Late Archaic hafted bifaces and two Late Woodland hafted bifaces. Subsurface finds were associated with plow zone and B-horizon contexts; cultural deposits extended below the plow zone. The site was recommended for a Phase II level of investigation as it had a high potential to have significant intact deposits or features with research value.

Site 15Bu464 was recorded in 1984 by Donald Janzen as an indeterminate prehistoric lithic scatter representing an open habitation without mounds. The site was identified in an agricultural field on a terrace above the Salt River at 420 ft. AMSL.

Site 15Bu465 was recorded in 1984 by Donald Janzen as an indeterminate prehistoric lithic scatter representing an open habitation without mounds. The site was identified in an agricultural field on a slight ridge on a terrace above the Salt River at 440 ft. AMSL. A total of 216 artifacts were collected from the site whose area was not documented. The artifact assemblage consists of 155 flakes, two scrapers, one flint hammerstone, 11 PPKs or PPK fragments, one hafted scraper or drill, two drills, and 44 bifaces or biface fragments.

Site 15Bu466 was an unassigned prehistoric lithic scatter situated on a terrace above Buffalo Run Creek at 440 ft. AMSL. First recorded in 1984 by Donald Janzen, the site area was not measured but the assemblage consisted of 78 flakes, one hafted scraper/drill, two PPK fragments, and nine biface fragments. A small historic component included one whiteware fragment and one brown salt glazed stoneware fragment. The archaeological crew that revisited the site in 2004 used a ten-meter interval grid since their goal was not to identify but to refine the earlier defined site boundaries within their area of interest (AOI). Out of a total of nine shovel probes excavated in the site's vicinity, two proved positive; the area was additionally surface collected in transects. In all six flakes were the only artifacts recovered and the 2004 survey concluded that the portion of Site 15Bu466 within their AOI was low density and no further work was recommended (Arnold 2004).

Site 15Bu505 was recorded by Bill Huser of Wilbur Smith and Associates on October 8, 1993. The site was a low-density, multi-component site consisting of an unassigned prehistoric lithic scatter and an early-to-late 20th century farmstead. The prehistoric component was distributed over a 40m by 90 m area while the historic component includes a main residence, a tenant residence, and a complex of outbuildings over an area measuring 32,800 square meters. Other historic surface features include a well and a spring. Shovel probing in the yard surrounding the main residence revealed a midden layer and a possible pit feature west of the house. Additionally, a concentration of brick, nails, and other historic artifacts were located in a pasture 80 m west of the main residence. It was concluded that the prehistoric component was disturbed to an unknown degree by the historic occupation. The standing structures of the historic component were determined not eligible for nomination to the NRHP. Additional work was recommended before determination of the significance of the archaeological aspect of the historic component could be made. Because of the presence of subsurface deposits, there was a possibility that this aspect of the site could be NRHP eligible under Criterion D (Huser 1993; Site Form 15Bu505).

Sites 15Bu594 was an historic homestead (ca. 1823) with an associated cemetery, recorded during a Mindel, Scott, and Associates, Inc., Phase I survey in 1999 (Harris 1999) along with Sites 15Bu595-599. The site area measured 21,158 square meters across a low ridgetop. The former two-story frame and brick residence had been completely demolished and the structural footprint and subsurface graded by the time of the survey. No further work was recommended for this component of the site. The cemetery component contained 11 headstones representing 13 burials interred between 1828 and 1977, and three slave burials were located in a separate cemetery to the south of the larger group of burials. A construction/excavation buffer of 13,036 square meters was agreed upon for the cemetery area. The site was listed as an inventory site (Site Form for 15Bu594).

Site 15Bu595 was an approximately 52 acre (21 ha) prehistoric lithic scatter identified in 1999 (Harris 1999). It was situated on a slightly elevated area of a low, agricultural field ridgetop at 450-480 ft. AMSL. The area was grown up in secondary growth grasses. Out of 440 STPs excavated in its vicinity, 73 positive probes delineated the site area. Two main loci were located on the ridge top, where shovel probes produced 140 flakes, one modified flake, and one core from a plow zone context. Along the floodplain (below the two main loci on the ridge) were collected four flakes, one core, one biface, and one complete ppk. Additionally a scraped section of the site allowed for surface inspection, which produced 234 flakes, six bifaces, five projectile point/knife (ppk) fragments, and two complete ppk's. Ten trenches were also excavated that, like the shovel probes, revealed heavy agricultural disturbance and no intact subsurface features or deposits. Diagnostic ppk's were identified as being associated with Early Archaic to Early Woodland occupations. Because of the plow zone context of the site, 15Bu595 was determined to offer very little research potential and no further work was recommended (Site Form for 15Bu595).

Site 15Bu596, identified during the 1999 survey and reported by Allan Harris, was a small area (318 square meter), unassigned, prehistoric lithic scatter located on a hilltop at 483 ft. AMSL that was grown up in pasture grass. Three positive STPs produced 13 flakes, eleven of which came from one single shovel probe. Because of the small size of the site and due to the lack of intact subsurface deposit, no further work was recommended (Harris 1999; Site Form for 15Bu596).

Site 15Bu597 was a low density, unassigned prehistoric lithic scatter identified on a plowed ridgetop at 478-492 ft. AMSL. Six positive shovel probes aided delineation of the site area to 5,694 square meters, and produced eight flakes and one modified flake, total. The site was not deemed eligible for listing in the National Register of Historic Places in relation to Criterion D, and no further work was recommended (Harris 1999; Site Form for 15Bu597).

Site 15Bu598, one of six sites reported by Allan Harris in 1999, was a low-density, plow zone-context, unassigned prehistoric lithic scatter located on a plowed ridgetop at 492-494 ft. AMSL, and measuring 415 meters^2 in area. Four positive shovel probes produced six flakes. The site was not deemed eligible for listing in the National Register of Historic Places in relation to Criterion D, and no further work was recommended (Harris 1999: Site Form for 15Bu598).

Site 15Bu600 was a very light scatter of late 19th century historic artifacts and a concrete-lined well recorded by CRA in 2000 (there was no associated report). Situated at 440 ft. AMSL on a low terrace 80 mm from Buffalo Run Creek, the 30 m by 30 m area was defined by five positive shovel probes and surface collection areas surrounded by negative shovel probes excavated at 10 m intervals. The artifact assemblage was all recovered from a deep plow zone context, along with modern artifacts, and consists of porcelain, cinder-slag, coal, steel chain, container glass, brick, a small motor part, and window glass. The window glass dated to between 1884 and 1903. The site was heavily disturbed. At

the time of survey, an active logging operation was going on. From the mid-1980s to the late 1990s the site was occupied by a trailer and various features were added like a concrete driveway, blacktop, and a light pole (Site Form for 15Bu600).

Site 15Bu663 was a low-density prehistoric lithic scatter located across what was a level soybean field and moderately dense wooded terrace recorded along with Sites 15Bu664 and 665 during a CRA Phase I survey in 2004. The artifact assemblage consists of one surface-find flake, and five flakes recovered from four positive shovel probes. The site area measured 100 m^2 (1,076 ft^2) with 22 negative shovel probes contained in project area. No features or intact subsurface deposits were identified. The site was not deemed eligible for listing in the National Register of Historic Places in relation to Criterion D (Ezell and Hand 2004; Site Form 15Bu663)

Site 15Bu664 was a low-density unassigned prehistoric lithic scatter situated at 442 ft. AMSL on a slight ridge on a terrace above Buffalo Run Creek in what was at the time a soybean field. Four flakes were collected from the surface while three flakes were recovered from a single positive shovel probe. The site area was measured to be 50 m^2 (538 ft^2). No features or intact subsurface deposits were identified. The site was not deemed eligible for listing in the National Register of Historic Places in relation to Criterion D (Ezell and Hand 2004; Site Form for 15Bu664).

Site 15Bu665, a low density unassigned prehistoric lithic scatter, occupied 200 sq. m (2153 sq. ft.) on the floodplain of Buffalo Run Creek at 442 ft. AMSL. Three flakes were collected from the surface while four flakes were collected from three positive shovel probes. No features or intact subsurface deposits were identified. The site was not deemed eligible for listing in the National Register of Historic Places in relation to Criterion D (Ezell and Hand 2004; Site Form for 15Bu665).

Sites 15Bu666 through 15Bu673 were recorded during a CRA Phase I survey in 2004 (Ezell and Hand 2004). Site 15Bu666 was an unassigned prehistoric lithic scatter from a plow zone provenience. Located on a ridgetop at 460 ft. AMSL, strip plowing allowed for surface collection and shovel probing. Artifacts recovered included forty-two pieces of debitage, three bifaces, one uniface, and two cores. The material collected suggested tool production and core reduction activities and was possibly a habitation site. No features or intact subsurface deposits were identified. The site was not deemed eligible for listing in the National Register of Historic Places in relation to Criterion D (Ezell and Hand 2004: Site Form for 15Bu666).

Site 15Bu667 is an unassigned prehistoric open habitation site lacking temporally diagnostic artifacts. The site measured approximately 60 meters north to south x 60 meters east to west (3,600 m^2). The site was identified through surface collection and one positive shovel probe. The site consisted of a think scatter of lithic artifacts No features were identified within the site and the site is thought to not extend outside the suggested site boundaries. The lithic material suggested that the site was use for core reduction and tool production, using mostly non local chert sources. The only known disturbance to the site is that of mechanized plowing but no subsurface deposits or features were discovered and the artifacts encountered were mostly confined to the surface. The site was deemed not eligible for listing in the National Register of Historic Places under Criterion D (Ezell and Hand 2004: Site Form for 15Bu667).

Site 15Bu668 is a small open habitation site associated with the Early Archaic and Middle Woodland periods. The site consisted of a small lithic scatter in a fallow agricultural field, measuring about 90 meters north to south x 70 meters east to west (6,300 m^2). The site was identified through surface collection and all shovel probes excavated were negative for archaeological material. Seven pieces of

debitage, five bifaces, one tested cobble, and one core were collected. Two of the bifaces were hafted and were identified as an Early Archaic Thebes and a Middle Woodland Snyders cluster types. No features were identified during the survey. The lithic material suggested the site was used for both core reduction and tool production, but the low density of artifacts made it difficult to determine any specific activity for the site. The site was likely only used for a short-term occupation. The site was not deemed eligible for listing in the National Register of Historic Places in relation to Criterion D (Ezell and Hand 2004: Site Form for 15Bu668).

Site 15Bu669 is a small open habitation site consisting of a scatter of non-diagnostic lithic artifacts. The artifacts included 15 pieces of debitage and one biface, which could suggest core reduction and tool production. The cherts found were mostly non local types. The site was identified using surface collection and shovel probing. The only known disturbance was from mechanized plowing. No features were identified. The site was not deemed eligible for listing in the National Register of Historic Places in relation to Criterion D (Ezell and Hand 2004: Site Form for 15Bu669).

Site 15Bu670 is an open habitation site consisting of non-diagnostic lithic artifacts. The artifacts included 14 pieces of debitage and one unidentified hafted biface, which could suggest core reduction and tool production were done at the site. The site was identified using surface collection and shovel probing. The only known disturbance was from mechanized plowing. No features or intact subsurface deposits were identified. The site was not deemed eligible for listing in the National Register of Historic Places in relation to Criterion D (Ezell and Hand 2004: Site Form for 15Bu670).

Site 15Bu671 is a historic site dating to the late 19th or early 20th century. The site consists of a one story frame standing structure clad in weatherboard and a light scatter of historic domestic and architectural refuse. The artifacts consisted of five window glass fragments, two plain ironstone fragments, one handmade brick, one plain whiteware fragment, one canning jar lid liner, one clear glass fragment, one amber glass, and one BIM container glass. The site was identified through surface collection and shovel probing. However, only one shovel probe was positive for archaeological material. Archival research indicated the house once belonged to the Pope family. The house was in deteriorated condition at the time of the survey, which compromised the historic qualities of the design. Also, the house was not determined to be connected to any important local, state, or national history, or associated with an event or person of importance. The site was not deemed eligible for inclusion in the National Register of Historic Places under Criterion A, B, or C. A portion of the site is located outside of the project area and was not tested, but the portion of the site within the project area was not deemed eligible for listing in the National Register of Historic Places in relation to Criterion D (Ezell and Hand 2004: Site Form for 15Bu671).

Site 15Bu672 is a light density, multi-component site consisting of non-diagnostic prehistoric lithic artifacts. The prehistoric artifacts included 63 pieces of debitage, one biface, and five cores. The historic artifacts included two plain ironstone fragments and one canning jar lid liner. The site was identified using shovel probing and systematic surface collection. The prehistoric archaeological material suggests the site was possible used for core reduction and tool production, but the material is limited, so it's difficult to determine anything definite. The low density of the prehistoric material suggests it was used only short-term. No features or intact subsurface deposits were identified during the survey. The site was not deemed eligible for listing in the National Register of Historic Places in relation to Criterion D (Ezell and Hand 2004: Site Form for 15Bu672).

Site 15Bu673 is a multi-components site containing late 19th or early 20th century and an indeterminate prehistoric material. The site measures 85 meters north to south by 110 meters east to

west (9,350 m^2). The site was surveyed using both shovel probing and systematic surface collection. The site was deflated and eroded at the time of the survey. No features or intact subsurface deposits were identified. The site was not deemed eligible for listing in the National Register of Historic Places in relation to Criterion D (Ezell and Hand 2004: Site Form for 15Bu673).

Site 15Bu674 was an Early Archaic lithic scatter first surveyed in 2005. The site measures approximately 10 meters east to west by 20 meters north to south. Seven artifacts were recovered during the survey, which included six pieces of debitage and on fragment of a Kirk Corner Notched hafted biface. No features or intact subsurface deposits were identified during the survey. The site was not deemed eligible for listing in the National Register of Historic Places in relation to Criterion D (Site Form for 15Bu674; Arnold 2004). The site was revisited in 2007 and they previously recorded site boundary was expanded to about 60 meters northeast to southwest by 25 meters northwest to southeast. The site was resurveyed using shovel probing. The second survey recovered only 2 flakes and one piece of thermal shatter (Anderson 2007). No features or intact subsurface deposits were identified during the second survey. Again, the site was not deemed eligible for listing in the National Register of Historic Places in relation to Criterion D.

Site 15Bu681 was an indeterminate prehistoric lithic scatter consisting of seven flakes recorded by CRA in 2007 (Anderson 2007). Within an area 25 m by 35 m (82 ft. by 115 ft.) five positive shovel probes each produced a single flake. Terrain limitations and negative shovel probes defined the site area. There were no subsurface cultural layers or features identified. The low density and non-diagnostic quality of the scatter led to the site's classification as an inventory site for which no further work was recommended.

Sites 15Bu682, 683, 684, and 685 were recorded during a CRA Phase I survey in 2008 (Arnold 2008). Site 15Bu682 was a very low density prehistoric lithic scatter. The site measures 65 meters north to south and 80 meters east to west (5,200 m^2). The site was identified using shovel probing and systematic surface collection. In total, twenty four flakes, one late stage biface fragment, one fire cracked rock and one piece of unmodified cannel coal were recovered. Flake analysis concluded that reduction focused on late stage tool production or tool maintenance with some other stages represented. The material recovered also suggested a short-term occupation. No features or intact subsurface deposits were identified during the survey. The site was not deemed eligible for listing in the National Register of Historic Places in relation to Criterion D (Arnold 2008; Site Form for 15BU682).

Site 15Bu683 was a very low density prehistoric lithic scatter. The artifact assemblage from this site consists of 16 flakes and 1 piece of shale from all stages of reduction, suggesting a short-term occupation. No features or intact subsurface deposits were identified during the survey. The site was not deemed eligible for listing in the National Register of Historic Places in relation to Criterion D (Arnold 2008; Site Form for 15BU683).

Site 15Bu684 was a very low density prehistoric lithic scatter that produced six flakes as the total artifact assemblage. The site measures about 40 meters north to south by 15 meters east to west (6,458 m^2). The artifacts recovered consisted of six lithic flakes, suggesting a short-term occupation for the site. No features or intact subsurface deposits were identified during the survey. The site was not deemed eligible for listing in the National Register of Historic Places in relation to Criterion D (Arnold 2008; Site Form for 15BU684).

Site 15Bu685 was a very low density, unassigned prehistoric lithic scatter. The site measures about 130 meters north to south by 70 meters east to west (9,100 m^2). In total, the artifact assemblage consists of 18 flakes of all reduction stages, one piece of thermal shatter, and one piece of fire cracked rock. No features or intact subsurface deposits were identified during the survey. The site was not deemed eligible for listing in the National Register of Historic Places in relation to Criterion D (Arnold 2008; Site Form for 15BU685).

Site 15Bu711, an unassigned prehistoric lithic scatter recorded during a Corn Island Archaeology survey in 2010, produced five pieces of debitage, three pieces of shatter, and one utilized flake from surface inspection and four positive shovel probes across 80 square meters. The setting was a cultivated field at 440 ft. AMSL on a terrace of the Salt River. The surveyors deduced that the site likely extended to the east beyond their survey boundary. The site was not deemed significant nor eligible for nomination to the NRHP, and no further work was recommended.

Sites 15Bu730, 731, and 732 were identified during a 2011 CRA Phase I survey. Site 15 Bu730 represents a prehistoric open habitation site that could not be associated with any cultural or temporal group. Situated at 494 ft. AMSL on a slight rise in an open agricultural field, the very light lithic scatter was identified by surface inspection of strip-plowed transects at 10 m intervals and 23 shovel probes out of which only one was positive. The site area was measured to be 12,600 square meters, and the artifact assemblage consists of 13 flakes, one piece of thermal shatter, and one core. All artifacts were recovered from a plow zone context and none of the shovel probes produced subsurface features or cultural layers. The site was considered an inventory site with little research value and not eligible for nomination to the NRHP. No further work was recommended (Hopwood and Herndon 2011).

Site 15Bu731, an unassigned prehistoric open habitation site, was identified during a surface inspection of an agricultural field that had been strip plowed at 10 meter intervals and was situated at 506 ft. AMSL on a terrace of Salt Creek. The site consisted of a 5,000 square meter (53,820 sq. ft.) light lithic scatter. Shovel probes (twelve in total, three positive) were used to refine the site boundaries and test for subsurface deposits, of which none were found. The assemblage consists of 10 flakes. The plow zone context and low density of the site led to the site's being considered an inventory site and not eligible for nomination to the NRHP, thus no further work was recommended (Hopwood and Herndon 2011).

Site 15Bu732 was an indeterminate light prehistoric lithic scatter situated at 460 ft. AMSL and occupying 5,600 square meters (60,278 sq. ft.) of a terrace above Salt Creek grown up in scrub brush at the time of survey. Shovel probes placed at 20 and 10 m intervals delineated the site area. Nine positive probes produced 16 flakes and one biface fragment, all from a plow zone context. The subsurface cultural layers or features identified. The main concentration of artifacts was from probes in the southern section of the site. Some of the site's integrity had been compromised by logging activities approximately 40 years prior to the survey. The site was considered an inventory site and was not considered eligible for nomination to the NRHP, thus no further work was recommended (Hopwood and Herndon 2011).

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.

Areas that were in agricultural fields with 50 percent or better visibility were subject to pedestrian survey. Pedestrian survey intervals between archaeologists were less than twenty meters. Some agricultural fields with areas with less than 50 percent visibility were not shovel probed due to lack of permission. Several other areas were disturbed by construction or other activities and were not excavated. One property was not surveyed because entry permission was denied. The property was a private dwelling with a front yard in grass. Properties on both sides were surveyed and were negative.

A historic cemetery is located on KY 480 just outside the APE. In order to determine if the cemetery extended past the fence towards KY 480 CDM Smith archaeologists used shovel probes, core probes, and backhoe excavation. Three shovel probes and 10 core probes were excavated. An area approximately 100 square meters was excavated by a backhoe using a three-foot wide bucket.

An area around the I65 interchange at KY 480 was also surveyed. The nature of the landscape and the construction necessary for the interstate suggested the area was disturbed by construction. The excavation of 6 shovel probes in the area confirmed that it had been disturbed by previous construction activity.

A total of forty-three (43) STPs and ten (10) core probes were excavated. The location of all the shovel and core probes along with the cultivated areas walked and the mechanically stripped area on USGS quadrangle maps and aerial photographs are shown in Figure 4-1through Figure 4-7.

4.1.1 Field Conditions

The entire APE was subjected to visual inspection. Shovel probing was conducted across the entire APE. Approximately 100 percent of the shovel tested portions of the APE were completely grown over in pasture grasses, mowed lawns, or woods that offered zero ground surface visibility. Parts of the APE were in cultivated crops that allowed pedestrian survey. Other sections of the APE had been

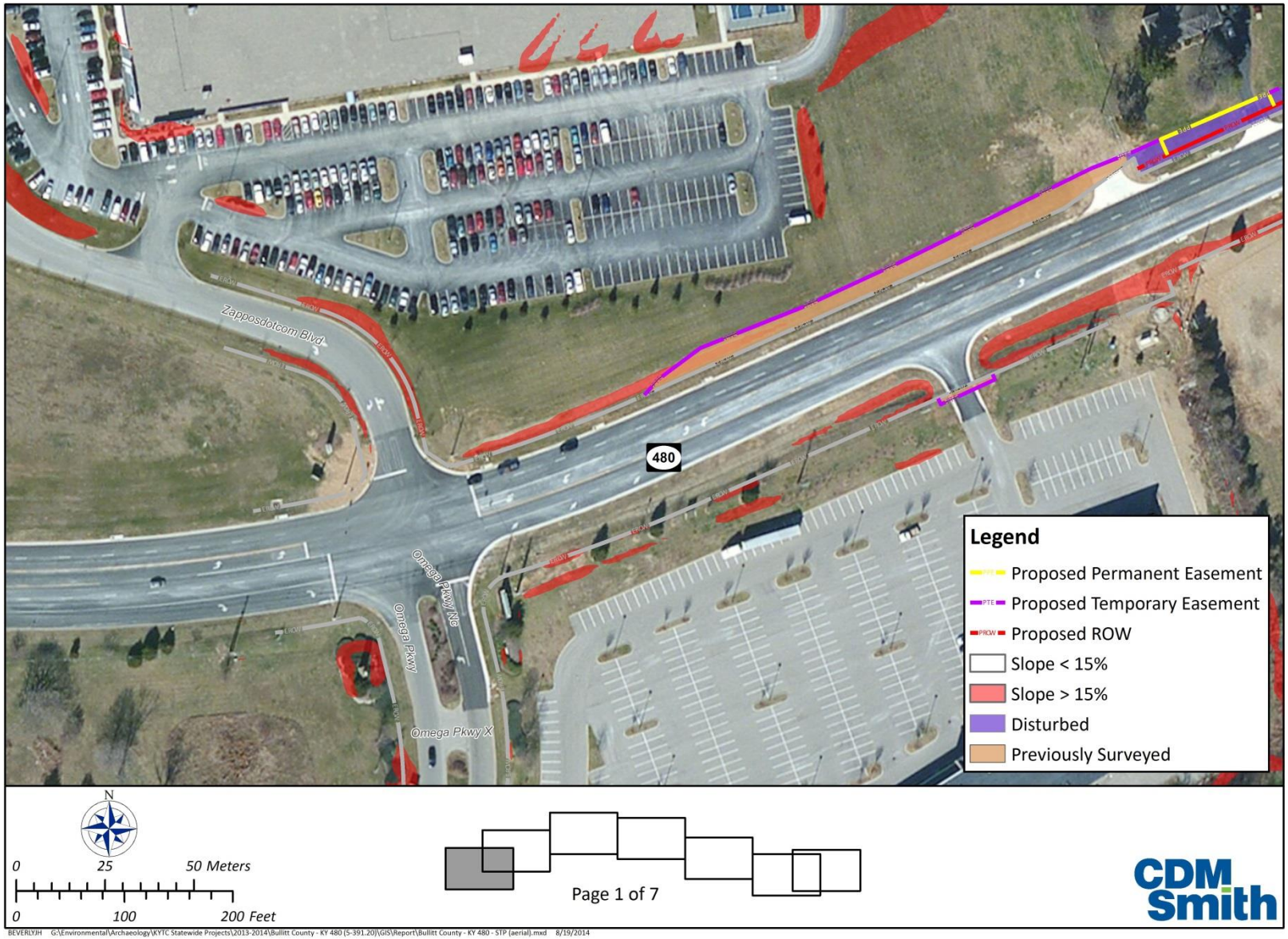

Figure 4-1. Location of STPs on Aerial Photograph, Page 1 of 7.

Figure 4-2. Location of STPs on Aerial Photograph, Page 2 of 7.

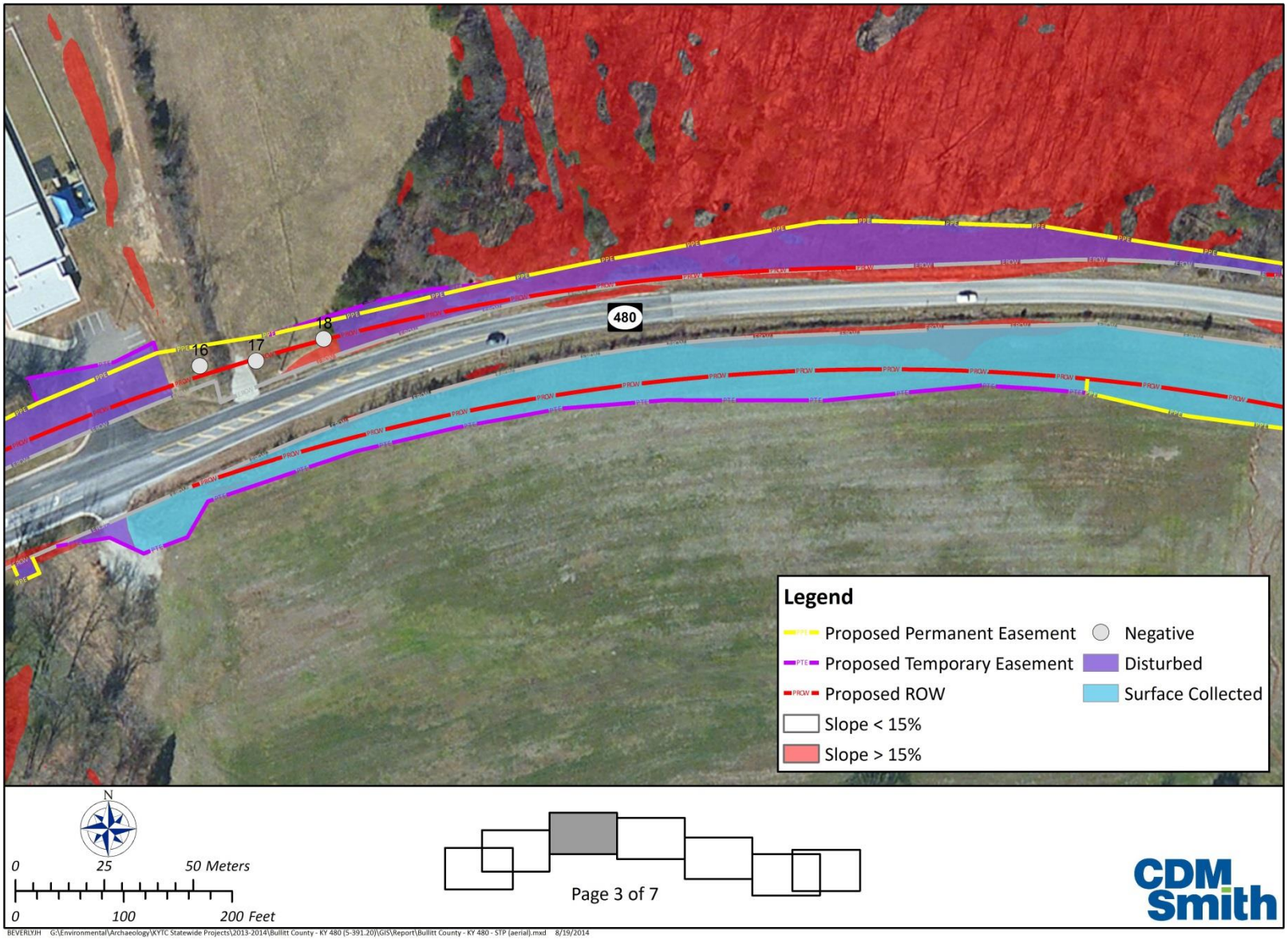

Figure 4-3. Location of STPs on Aerial Photograph, Page 3 of 7.

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

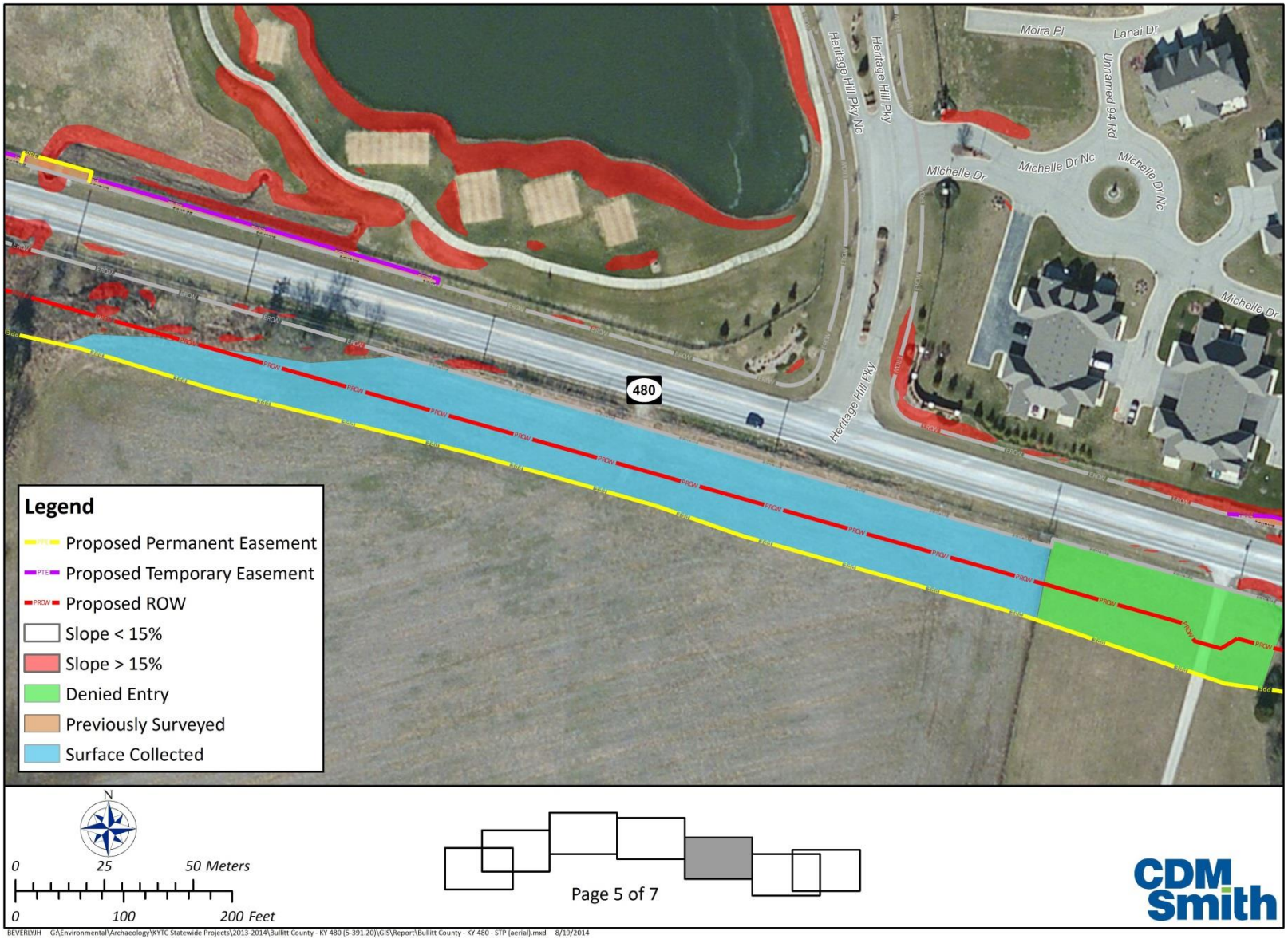

Figure 4-5. Location of STPs on Aerial Photograph, Page 5 of 7.

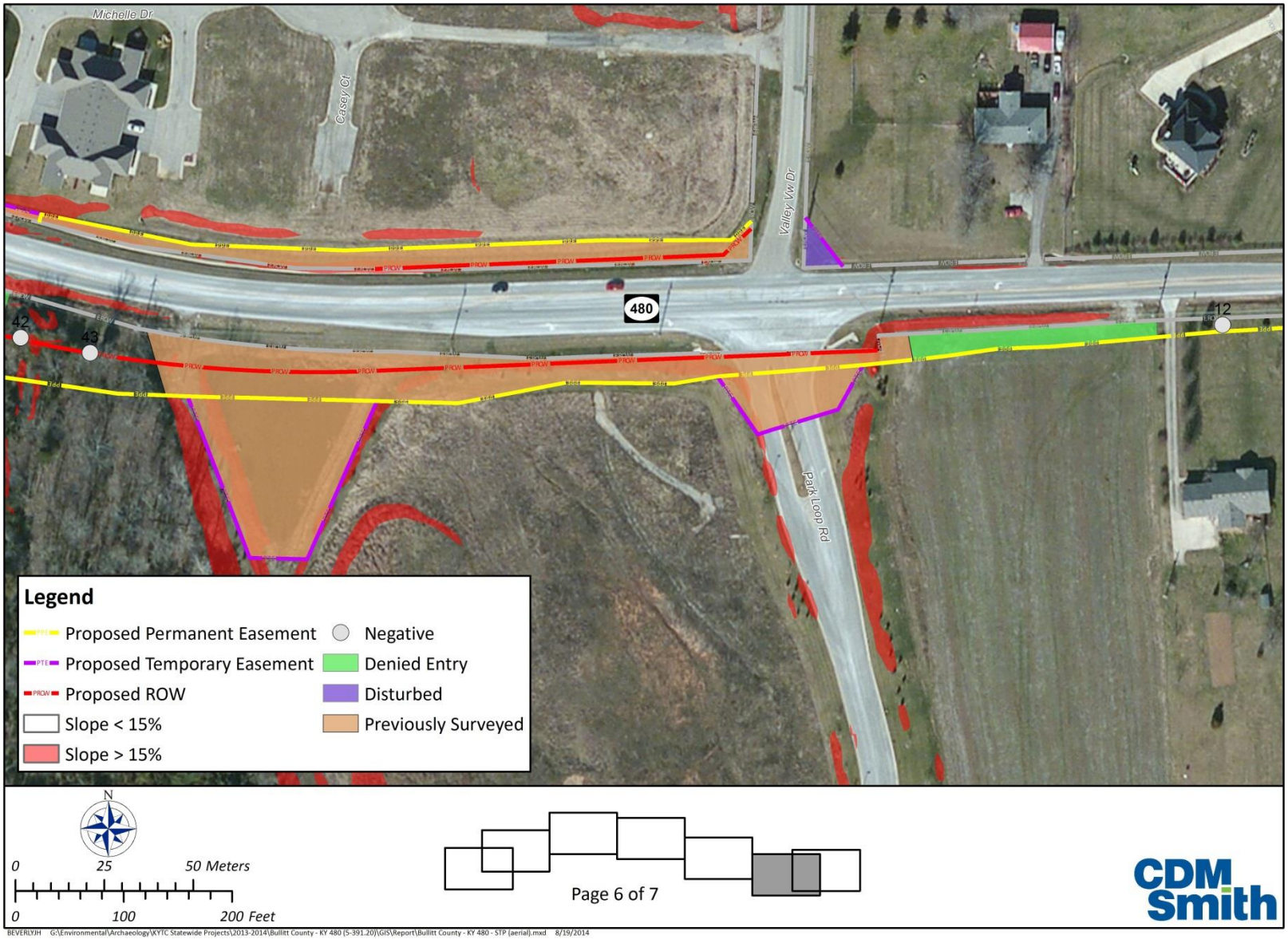

Figure 4-6. Location of STPs on Aerial Photograph, Page 6 of 7.

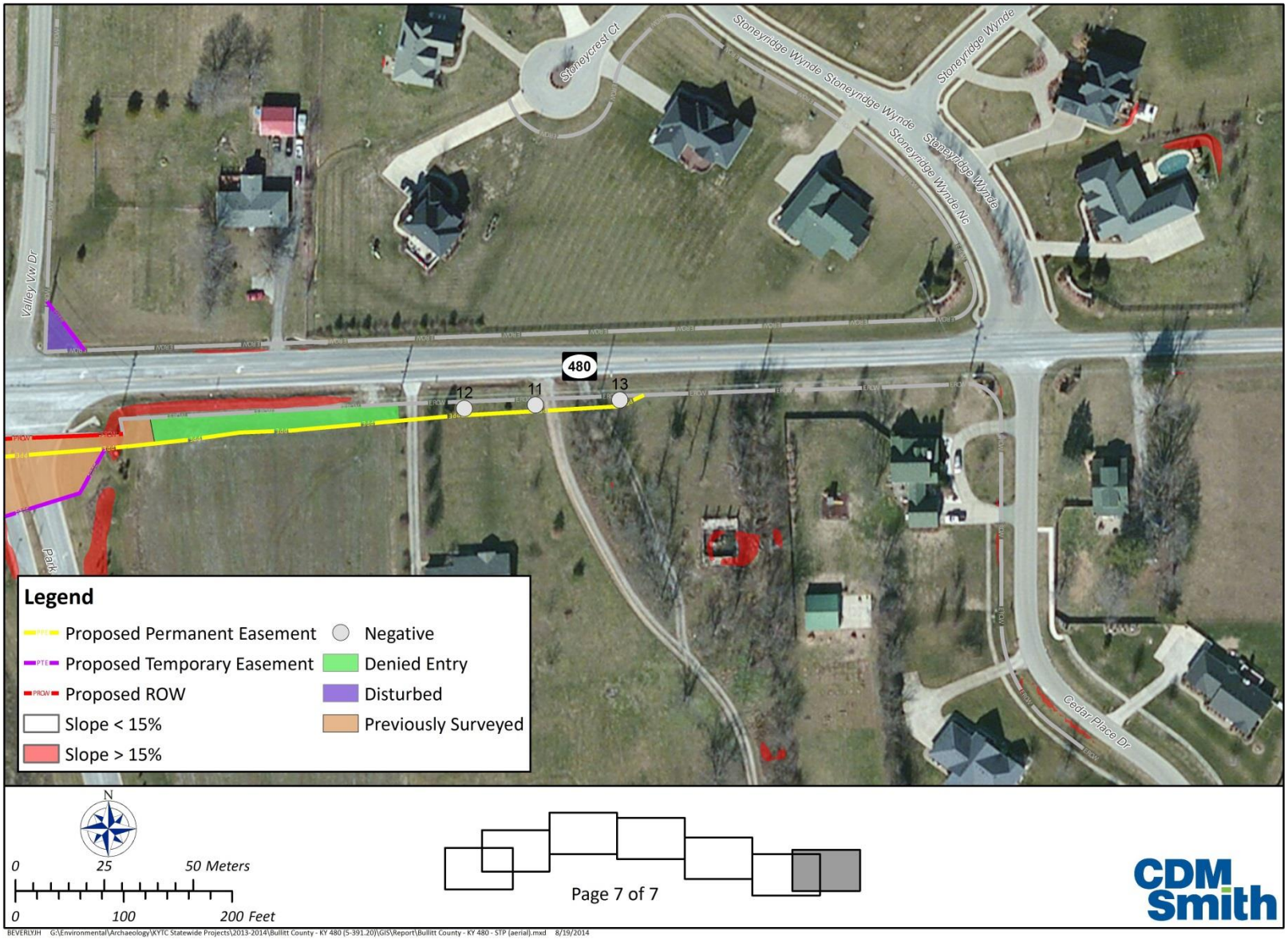

Figure 4-7. Location of STPs on Aerial Photograph, Page 7 of 7.

disturbed by construction activities. Still other sections of the APE had slopes greater than 15 percent (Figure 4-8 - Figure 4-14).

Figure 4-8. Survey Area along KY480 at cemetery, Looking WSW.

Figure 4-9. Disturbed Industrial section in Study Area along KY480, Looking WSW.

Figure 4-10. Corn Field and Grass within Study Area, Looking ESE.

Figure 4-11. Slopped and Disturbed Area, Looking WSW.

Figure 4-5. Cedar Grove Elementary School, Looking WSW.

Figure 4-12. Area along I65 Interchange, Looking NW.

Figure 4-13. Property along KY480 not allowed entry, Looking WNW.

Figure 4-14. Woods within Project Area along KY480, Looking E.

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.

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 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 flintknapping 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.

5.1.1.1.2 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.

5.1.1.1.3 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.

5.1.1.1.4 Materials Recovered

One piece of lithic debitage was recovered from Phase I investigations. Unfortunately, the piece of debatage was lost in the field. The debitage was unidentified in type and raw material. It was between Size Grade 0 and 1.

5.1.2 Historic Artifact Assemblages

In accordance with South (1977), artifacts are ascribed to functional groups reflecting their association with the dwelling (architecture); food preparation, serving, and preserving (kitchen); personal items; clothing items; furnishing; jobs/activities; arms; transportation; and finally fuel and miscellaneous categories.

Two historic artifacts were recovered from the Phase I investigations.

5.1.2.1 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.

One architectural artifact was recovered during this survey (Figure 5-1:A).

5.1.2.1.1 Brick

One brick fragment was recovered from the Phase I investigations. The fragment was too small to determine manufacture. 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 bricks recovered were too fragmentary to determine the method of manufacture

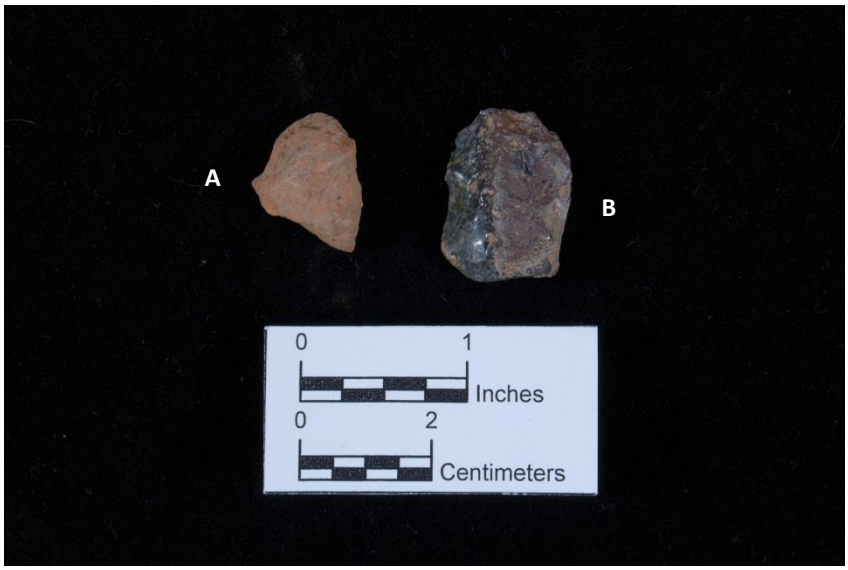

Figure 5-1. A) Brick Fragment; B) Slag.

5.1.2.2 Fuel Group

This category includes items such as coal, coal cinders, ash, slag, and charcoal. Coal was adopted as a primary fuel in the middle to late nineteenth century, prior to which firewood and charcoal were used both domestically and commercially as an energy sources.

One fuel artifacts was recovered from the survey. The fuel artifact was a piece of slag (Figure 5-1:B).

Section 6 -

Results

Three isolated finds were located within the APE. The isolated finds each consisted of a single artifact. An area between KY 480 and the fence marking a boundary of the Simmons/Old Lee cemetery was tested to determine if the cemetery extended past the fence. The following is a description of the findings.

6.1 Isolated Find # 1

Isolated Find # 1 (IF #1) consists of a small brick fragment recovered in grass area in front of the Simmons/Old Lee Cemetery along KY480.

6.1.1 Location

IF #1 can be found on the USGS Shepherdsville, Kentucky, 7.5' topographic map (Figure 6-1 and Figure 6-2). The UTM coordinates (Zone 16 NAD 27) for the center of the isolated find are N 4204160.460964, E 615918.658029. IF #1 is located to the south of KY480.

6.1.2 Description

IF #1 consists of an area that is relatively flat and is in grass. IF #1 consists of a small brick fragment.

6.2 Isolated Find # 2

Isolated Find # 2 (IF #2) consists of one slag fragment from a corn field along KY 480.

6.2.1 Location

Isolated Find 2 can be found on the USGS Shepherdsville, Kentucky, 7.5' topographic map (Figure 6-1 and Figure 6-2). The UTM coordinates (Zone 16 NAD 27) for the center of the isolated find are N 4204264.570302, E 616491.273304. IF #2 is located south of KY 480 in a corn field.

6.2.2 Description

IF #2 is in a corn field. The isolated find consists of a single slag fragment.

6.3 Isolated Find # 3

Isolated Find # 3 (IF #3) consists of a prehistoric flake. The flake was later lost. The flake type and raw material is undetermined. The flake was recovered from a corn field along KY 480.

6.3.1 Location

Isolated Find #3 can be found on the USGS Shephardsville, Kentucky, 7.5' topographic map (Figure 6-1 and Figure 6-2). The UTM coordinates (Zone 16 NAD 27) for the center of the site are N 4204232.958034, E 616607.004016. IF #3 is located along KY 480.

6.3.2 Description

IF # 3 consists of a prehistoric flake recovered from a corn field. No other prehistoric material was recovered from shovel probes.

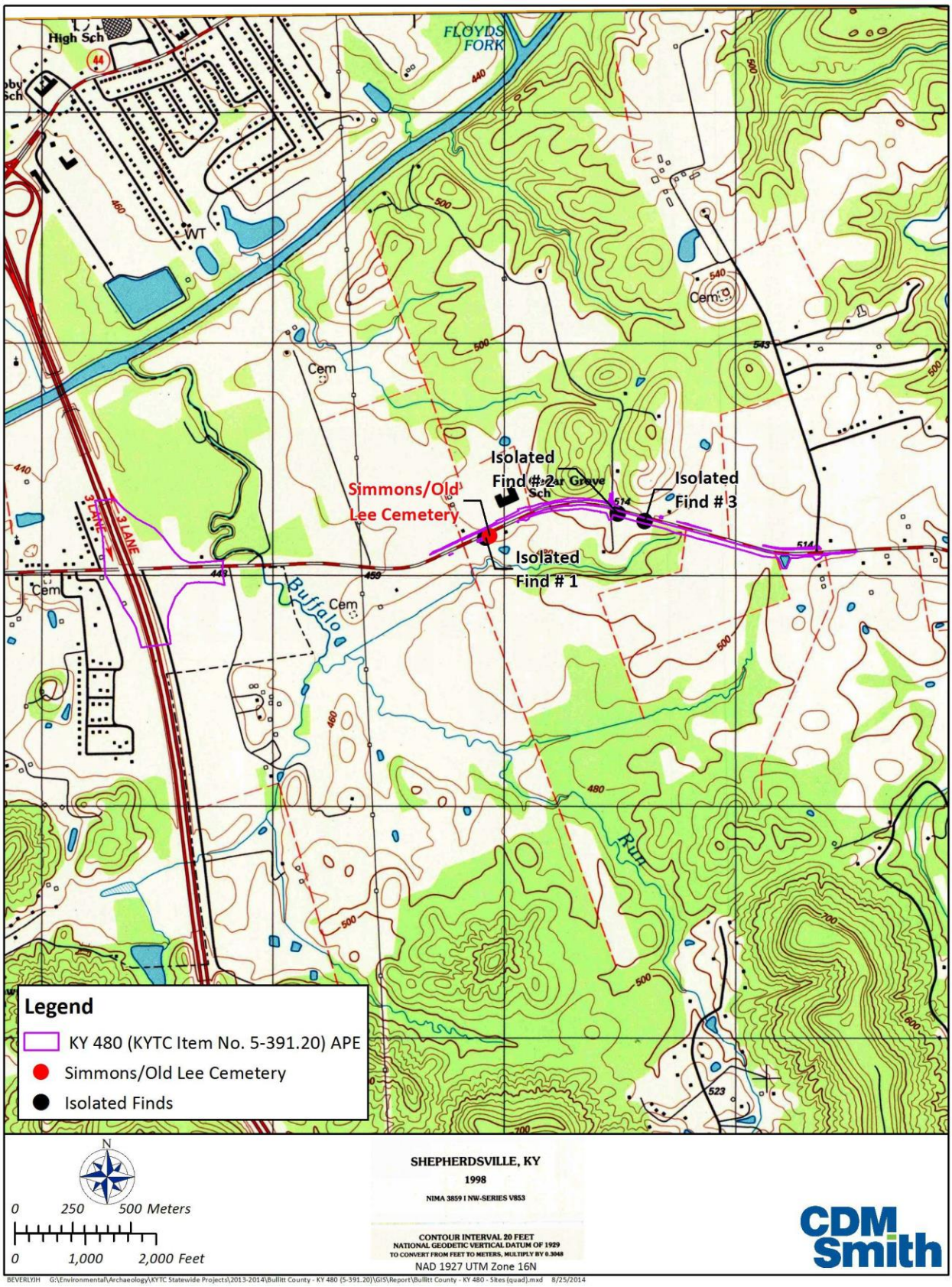

Figure 6-1. Isolated Finds and Simms/Old Lee Cemetery Location on USGS Topographical Map.

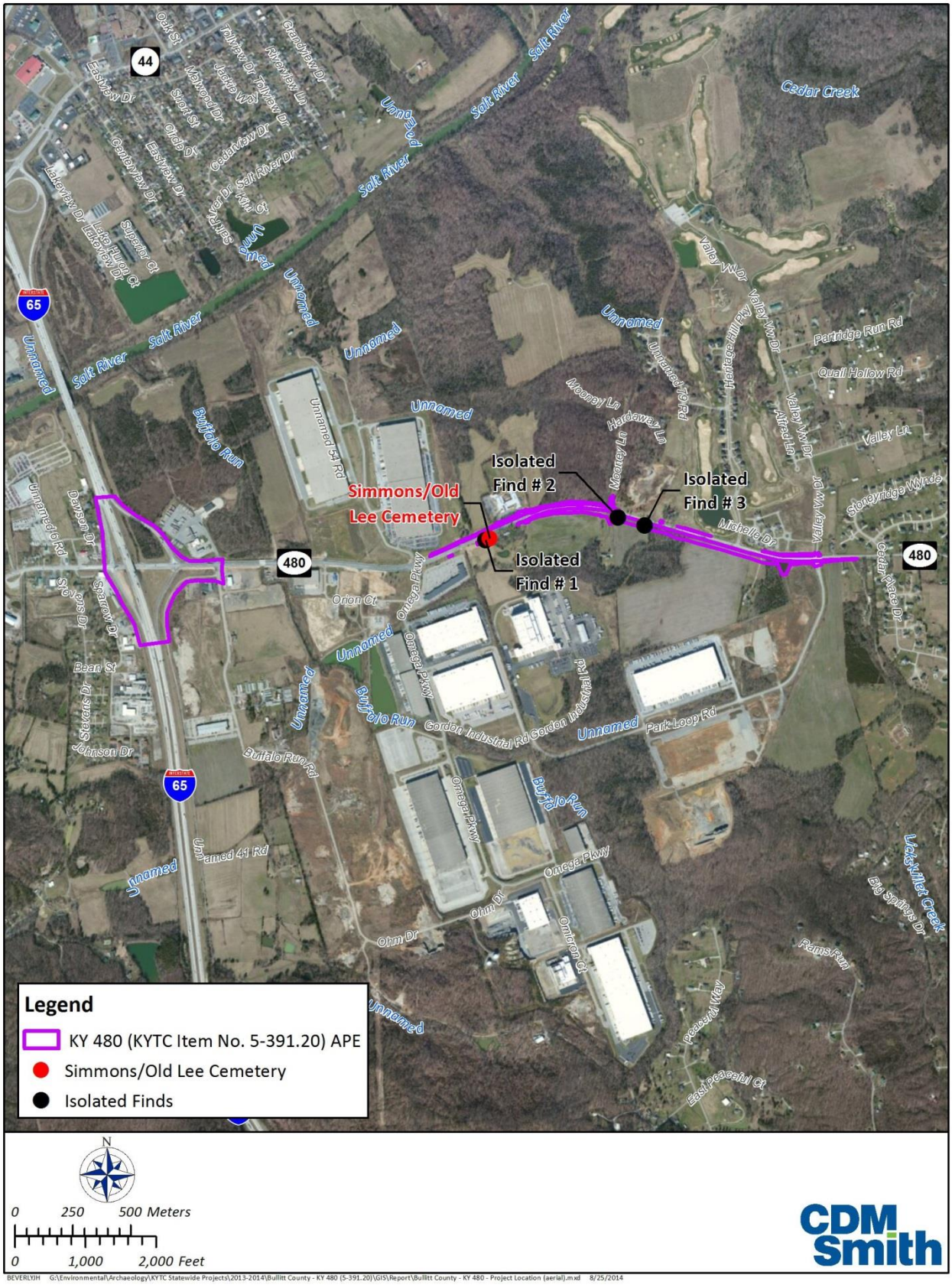

Figure 6-2. Isolated Finds and Simms/Old Lee Cemetery Location on Aerial Photograph.

6.4 Simmons/Old Lee Cemetery

The Simmons/Old Lee Cemetery is located along KY 480

6.4.1 Location

The Simmons/Old Lee can be found on the USGS Shepardsville, Kentucky, 7.5' topographic map (Figure 6-1, Figure 6-2, and Figure 6-3). The UTM coordinates (Zone 16 NAD 27) for the center of the find are N XXXXXXXX, E XXXXXXXX. The isolated find is located on the south side of KY 480 near the Cedar Grove Elementary School.

6.4.2 Description

The Simmons/Old Lee Cemetery is shown in Figure 6-3 with 14 possible grave sites and an area of 0.08 acres (0.033 ha.). In an early study of cemeteries in Kentucky, Tennessee, and Virginia, Johnson (1981) identified 20 graves. The surviving headstones were lying down and partially covered by grass (Figure 6-4 though Figure 6-7). Only three of the headstones were identifiable (Johnson 1981; Bullitt County History Museum). One headstone read Wife of Levi Simmons, born May 1769 and died April 11, 1829. Another headstone read Wm. Simmons, born March 1821 and died 1827. The third headstone read Sally Simmons, born May 1, 1801 and died August 10, 1833 (Figure 6-5). The area under study consisted of an area containing 0.02 acres (0.01 ha) and to the north of the property fence line. It was approximately 20 meters east to west and between two and four meters north to south. The area to the north of the study area and south of KY 480 has been disturbed by road construction and utility line construction (Figure 6-8).

6.4.3 History

Based on the dates from the identified headstones, the cemetery was used by the Simmons family in the 1820s and 1830s. The wife of Levi Simmons died in 1829 shortly before her 60th birthday and is buried in the cemetery. Levi Simmons is listed in the 1820 U.S. Federal Census in Bullitt County, Kentucky. He is listed as head of household with six other white people and 11 slaves. There is a Will for Levi Simmons dated April 9, 1824 in Bullitt County Will Book B on page 17. A copy of the Will of Levi Simmons was located on Ancestry.com:

> WILL: Will of Levi Simmons, 1824, Bullitt Co., KY
>
> Bullitt Co. KY Will Book B p. 17
> In the name of God Amen I **LEVI SIMMONS** of the County of **Bullitt** and State of Kentucky being weak in body but of sound and disposing mind, memory and understanding and considering the Certainty of death and the uncertainty of the time there of and being disirous to Settle my wordly affects and thereby be the better prepared to leave this world when it shall please god to Call me hence do therefore make and publish this my last will and testament in the manner and form following.That is to say:
>
> Item: I give and bequeath unto my Dear Wife **NANCY** the house and tract of land where on I now live Containing three hundred fourteen and a half acres together with all the house hold and kitchen furniture all the stock of horses, cattle, sheep and hogs, also all the pork and bacon and all the crop of corn, wheat rye and flax etc. that I may have on hand at the time of my decease. Also one waggon and gear, all the farming utensils of every description, one rifle gun and all the ---ments thereunto belonging to me belonging also the following named negroes towit: One man named JERRY, one man called DAVID, one woman called HENNY and her increase, one girl called LUCY (and her increase) to have the same during her natural life.

Figure 6-3. Location of Simmons/Old Lee Cemetery on Design Sheet.

Figure 6-4. Simmons/Old Lee Cemetery (right of fence) and Tested Area (left of fence).

Figure 6-5. Headstone in Cemetery.

Figure 6-6. Headstone in Tested Area, looking west.

Figure 6-7. Headstone in Tested Area, looking east.

Figure 6-8. Disturbed area between study area and road, looking west.

Item: I give and bequeath to my son **THOMAS** a Certain negro called JENNY (and her increase) and one hundred and seventy five dollars in Specie. also One feather bed and furniture. One horse Saddle and bridle One Cow and Calf and One Sow and her pigs that I gave some time ago to him said, THOMAS his heirs and assigns forever.

Item: I give and bequeath unto my daughter **SUSANAH** a certain negro boy called NED worth two hundred and fifty dollars in Specie. Also one feather bed and furniture, One horse Saddle and bridle, One Cow and Calf, One Sow and her pigs that I gave some time ago to her the said SUSANNAH her heirs legally begotten and assigns forever.

Item: I give and bequeath to my daughter **PATSY** a Certain negro girl called VILET and two hundred dollars Specie (and her increase) Also one feather bed and furniture, One horse Saddle and bridle, One Cow and Calf, One Sow and her pigs that I gave some time ago to her the said PATSY her heirs legally begotten and assigns forever.

Item: I give and bequeath to my son **GRIFFIN** a Certain negro boy called CIONS (?) or SI worth One hundred and Seventy five dollars in Specie . Also one feather bed and furniture, One horse Saddle and bridle, One Cow and Calf, One Sow and her pigs that I gave Some time ago to him the said GRIFFIN his heirs and assigns forever.

Item: I give and bequeath to my son **REASON** a Certain negro Girl called DELILA (and her increase) worth One hundred and fifty C--- dollars in Specie . Also one feather bed and furniture, One horse Saddle and bridle, the horse Saddle and bridle I gave Some time ago, One Cow and Calf, One Sow and her pigs to him the said REASON his heirs and assigns forever.

Item: I give and bequeath to my son **GREENBERRY** a Certain negro boy called ALFRED worth One hundred and fifty dollars in Specie . Also one feather bed and furniture, One Cow and Calf,One Sow and her pigs also One Saddle and bridle, that e I gave Some time ago, to him the said GREENBERRY his heirs and assigns forever.

Item: I give and bequeath to my son **WASHINGTON** a Certain negro Girl called HARRIET (and her increase) worth One hundred and fifty dollars in Specie . One Cow and Calf,One Sow and her pigs, fine decent broad cloth enough to make him a dress coat and also an horse Saddle and bridle, that e I gave Some time ago, to him the said WASHINGTON his heirs and assigns forever.

Item: I give and bequeath to my son **TILMON** a Certain negro Grl called AMERICA (and her increase) worth One hundred and fifty dollars in Specie , One horse saddle and bridle, One Cow and Calf, One Sow and her pigs, also fine decent broad cloth enough to make a set of dress clothes also decent cloth enough to make him a big coat and also a dear fur hat to him the Said TILMON his heirs and assigns forever.

Item: I give and bequeath to my daughter **MINERVA** a Certain Negro girl called LUCRETIA (and her increase) worth one hundred and twenty five dollars in Specie, One feather bed and furniture, One horse Saddle and bridle , One Cow and Calf, One Sow and her pigs and also fine decent cloth enough to make her a peleace to her the said MINERVA her heirs legally begotten and assigns forever.

Item: I give and bequeath unto my son **WASHINGTON** one feather bed and furniture to him the said WASHINGTON his heirs and assigns forever.

Item I give and bequeath to my son **TILLMON** one feather bed and furniture to him the said TILLMON his heirs and assigns forever.

Item: It may be possible that the negro girl allotted to my Son **TILMON** called AMERICA Should die before he should arrive to the age of twenty One years and if it should so happen it is my will and desire that he the said TILMAN should be paid One hundred and fifty dollars in Specie Out of the estate hereafter mentioned.

Item: I t may also be possible that the negro girl allotted to my daughter MINERVA may die before she should marry or arrive at the age of twenty one years and if So it is my will and desire that She shall be paid One hundred and twenty five dollars in Specie inlike manner and above.

It is also my will and desire that the residue of my negroes (namely) CHARLES, EADY, BEN, MILLEY (and their increase) should be sold at my decease and the proceeds there of equally divided among my children towit namely THOMAS, SUSANNAH, PATSY, GRIFFIN, REASON, GREENBERRY, WASHINGTON, TILMON and MINERVA in proportion with the before named property so that each One may have an Equal Share it is also my wish l that the above named negroes should be sold among my children and for Specie revoking and annulling all former wills by me heretofore made ratifyng and Confirming this and no Other to be my last will and testament in testimony where of I have here unto set my hand and affixed my Seal this **9th day of April One Thousand eight hundred and twenty four**. Signed, Sealed published and delivered by LEVI SIMMONS and the before named Testator as for his last will and testment in the presence of us who at his request and his presence and of oath other have subscribed our names as witnesses thereto.
(signed)

LEVI SIMMONS

In the presence of
GEO. W. SWEARINGEN
JOSEPH SWEARINGEN
BRITTON WHITE

Recorded 3 May 1824 Bullitt Co. KY Court

The Simmons/Old Lee Cemetery is currently located on the property number 43 on the Bullitt County-KY 480 (5-391.20) map. It is referred to as the Mary T. Hamilton Living Trust (Bullitt County Dead Book 561, page 108). The property belonged to Charles Lerue Hamilton and Mary Tyler Bell Hamilton. Deed research was unable to provide a chain of title for the cemetery area. The Mary T. Hamilton Living Trust involved various properties and also the children of Charles and Mary T. Hamilton and the deeds did not provide information on previous owners. Genealogical information on the Hamiltons may provide information for additional research.

Charles Hamilton was born in 1927 and died in 2005. His father was Henry Crist Hamilton, who was born in 1875 and died in 1962. In the *Wilderness Road Cemeteries in Kentucky, Tennessee, and Virginia,* Johnson describes the cemetery as the Old Lee Graveyard and located it on the Dr. Henry Crist Hamilton farm (1981:132).

6.4.4 Results

A preliminary site visit by KYTC archaeologists documented headstones within the cemetery boundaries and also outside of them (Figure 6-4 to Figure 6-6). The cemetery boundary to the north extended to the road (KY 480)(Figure 6-3). Part of the area north of the fence has been disturbed by road and utility line constructuioin (Figure 6-8). Shovel test probes and core probes in the area north of the fence did not identify any evidence of graves. The area to the north of the fence was stripped by a backhoe to determine if there was any evidence of graves. No evidence of graves was documented (Figure 6-9). One headstone was encountered outside the fence (Figure 6-6 and Figure 6-7). It was unmarked and not associated with a grave.

6.4.5 Recommendations

No evidence of graves was located in the area to the north of the fence line at the Simmons/Old Lee Cemetery. Therefore, no further work is recommended for the area to the north of fence.

6.5 Summary and Recommendations

Three isolated finds were discovered during the Phase I archaeological survey of the APE of KY 480. An archaeological survey of the area at the Interstate 65 and KY 480 interchange was also surveyed. No archaeological material was located. The Simmons/Old Lee Cemetery is located adjacent to, but outside of the APE for the KY 480 archaeological survey. KYTC requested that CDM Smith determine if there were any graves in the area to the north of the cemetery boundary near KY 480. Mechanical striping of the area did not locate any evidence of graves. Since isolated finds are not eligible for listing on the National Register of Historic Places and no evidence of the cemetery extended past the cemetery boundary to the north, no additional work is recommended.

Figure 6-9. Tested Area after stripping, looking east.

Section 7 -

Recommendations and Summary

7.1 Recommendations

The recommendations for the isolated finds and the Simms/Old Lee Cemetery are presented here.

7.1.1 Isolated Finds

The survey identified three isolated finds. IF #1 consists of a small brick fragment recovered in the area outside of the Simmons/Old Lee Cemetery along KY480. IF #2 consists of a historic slag fragment recovered in a corn field along KY 480. IF #3 consists of a lithic debitage fragment recovered from a corn field along KY 480. Isolated finds are not potentially eligible for listing on the NRHP under criterion D. Therefore no additional work is recommended.

7.1.2 Simmons/Old Lee Cemetery

The area north of the fence line of the Simmons/Old Lee Cemetery was investigated to determine if any graves were located in the the area. Mechanical stripping did not locate any evidence of graves in the area. The area is not considered part of the cemetery and not potentially eligible for listing on the NRHP under criterion D. Therefore no additional work is recommended.

7.2 Summary

At the request of the Kentucky Transportation Cabinet (KYTC), archaeologists from CDM Smith conducted a Phase I archaeological survey for the widening of KY 480 32 in Bullitt County, Kentucky (Item Number 5-391.20). The area of potential effect (APE) consisted of 48.5 acres (19.6 ha) along KY 480 and at the intersection of KY 480 and Interstate 65.The APE was visited by a CDM Smith archaeology crew between June 27 and July 15, 2014, at which time approximately 100 percent of the APE was either in pasture grasses or mowed lawns that offered zero ground surface visibility. The archaeological survey involved systematic shovel test excavation and visual inspection over the entire APE. The cemetery area involved shovel test excavation, core probe excavation, and mechanical stripping.

Three previously unrecorded isolated finds were identified within the project bounds. No graves were located during the mechanical stripping of the area north of the cemetery. Neither the isolated finds nor the stripped area were potentially eligible for recommendation to the National Register of Historical Places (NRHP) under Criterion D. No additional work is recommended.

Section 8 -

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